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1. STANDARDNE DIMENZIJE PROZORA I MOGUĆNOSTI OTVARANJA

Pri određivanju položaja prozora kao i kod određivanja veličine treba voditi računa o:

- aktivnosti koja se odvija u prostoru
- provetravanju
- toplotnim dobicima
- osvetljenju

Veće dimenzije prozora, koje nisu predviđene kao elementi solarnog sistema donose zimi samo veće toplotne gubitke, s obzirom na mnogo veći koeficijent prolaza toplote u odnosu na zid.

Pri određivanju veličine prozora mora se voditi računa o vrsti provetravanja koja će biti osigurana. Kod poprečnog provetravanja promena veličine jednog otvora ne utiče bitno na brzinu vazduha, naročito ako se povećava ulazni otvor, dok istovremeno povećanje oba otvora dovodi do povećanja brzine vazduha u prostoru.

Veličina prozora, koji su predviđeni da budu skupljači energije, direktno utiču na količinu energije koja se na taj način prikuplja. Njihovu površinu treba odrediti tačnim proračunima, jer prevelike kao i premale zastakljene površine izazivaju neracionalnost primenjenog sistema.

Tako, premali prozori ne omogućavaju prikupljanje dovoljne količine energije, a preveliki dovode do naglog pregrevavanja prostora u sunčanim razdobljima, pa su korisnici često primorani otvarati prozore ili koristiti zastore da postignu komforne uslove u stanu.

Pomicanjem prozora po dubini može se podesiti razdoblje kada sunčevi zraci prodiru u prostor. Bočni zidovi i nadprozornik tada igraju ulogu unakrsnog zamračenja.

Najčešće preporučena visina prozora je 140 cm, a balkonskih vrata 220 cm.

Kod fasadnih prozora i vrata omogućeno je otvaranje (obrtnje) oko vertikalne ose i delimično nagnjanje (kipovanje) oko horizontalne ose. Otvaranje je prema unutra za sve zemlje EU, osim Engleske.

Kod ulaznih vrata koje se primenjuju kod javnih objekata, otvaranje vrata je isključivo prema vani.

Osnovno pravilo za definiciju levih i desnih prozora je sledeće:

- iste posmatrati iznutra jer je prema prostoriji otvaranje
- ako su šarke na levoj strani (levi prozor)
- ako su šarke na desnoj strani (desni prozor)

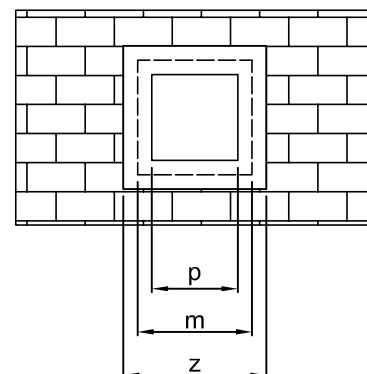
STANDARDNE DIMENZIJE

	z		61	81	101	121	121	141	141	161	181	201	
	m		60	80	100	121	120dk	140	140dk	160ss	180ss	200ss	
	p		59	79	99	119	119	139	139	159	179	199	
61	60	59											
81	80	79											
91	90	89											
101	100	99											
121	120	119											
141	140	139											
211	210	209											
221	220	219											

PROZORI I BALKONSKA VRATA

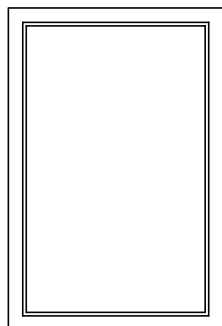
	z		221	241	261	
	m		220	240	260	
	p		219	239	259	
221	220	219				

KLIZNA VRATA

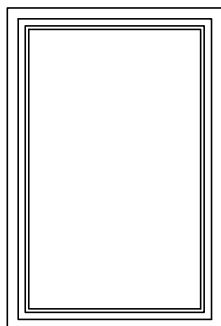


z - zidarske mere
 m - modularne mere
 p - proizvodne mere

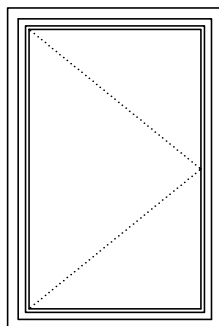
PRIKAZ PROZORA SA MOGUĆNOSTIMA OTVARANJA



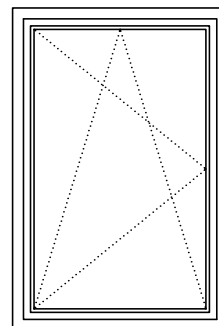
Nepokretan - fiks



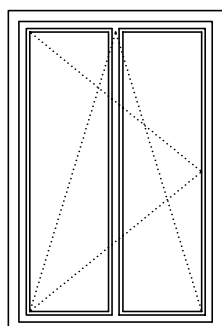
Nepokretan - fiks sa krilom



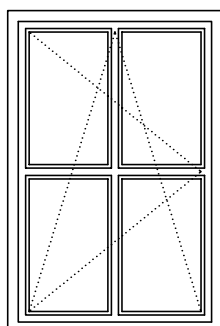
Bočno vertikalno - obrtni



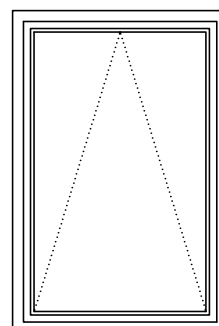
Obrtno - nagibni



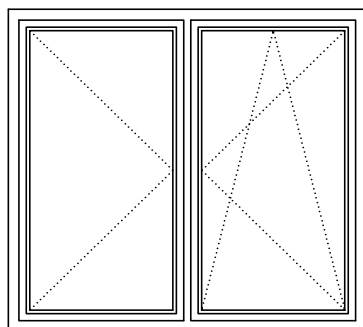
Obrtno - nagibni sa vertikalnom prečkom



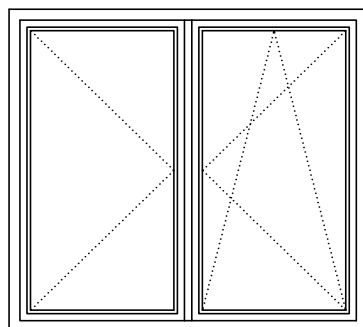
Obrtno - nagibni sa krstastom prečkom



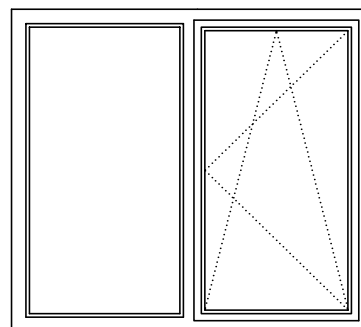
Nagibni



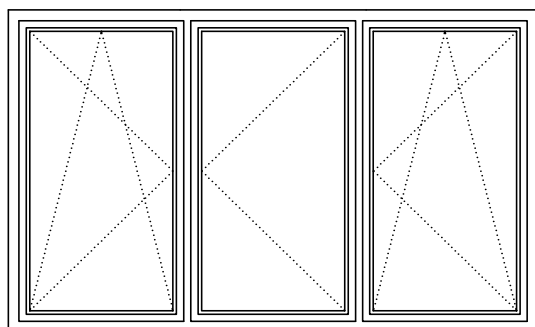
Dvokrilni sa stubom



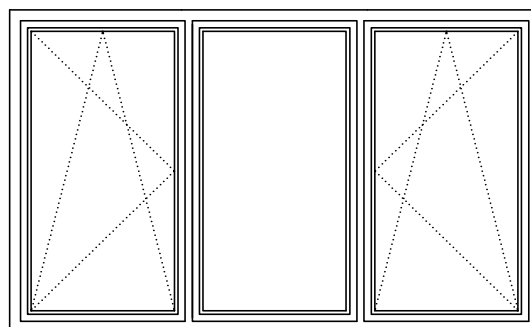
Dvokrilni sa preklopom



Dvodelni, fiks, obrtno - nagibni

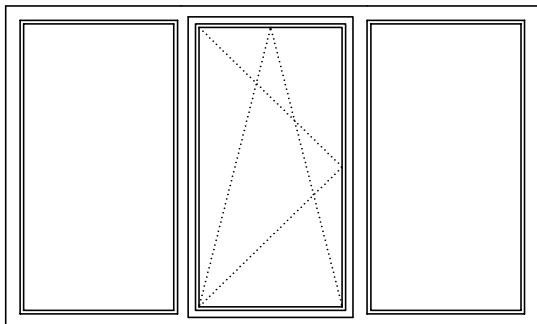


Višedelni, obrtno - nagibni, obrtni, obrtno - nagibni

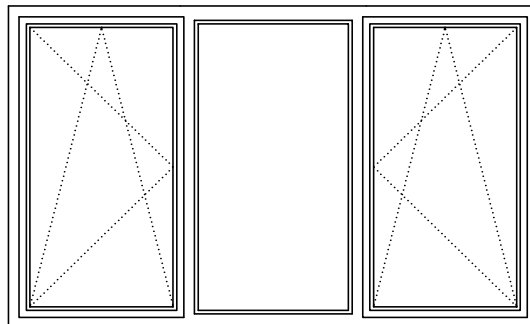


Višedelni, obrtno - nagibni, fiks sa krilom, obrtno - nagibni

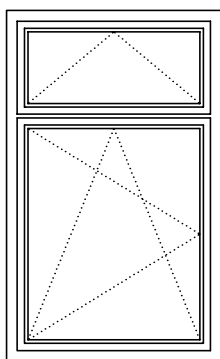
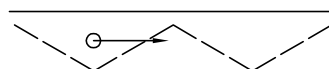
PRIKAZ PROZORA SA MOGUĆNOSTIMA OTVARANJA



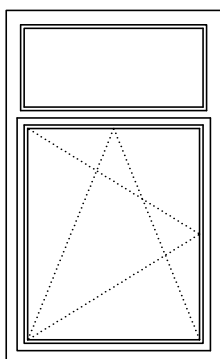
Višedelni, fix, obrtno - nagibni, fix



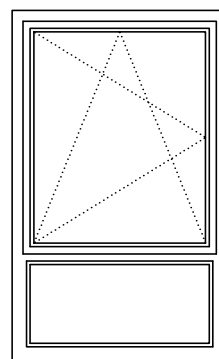
Višedelni, obrtno - nagibni, 'harmonika'



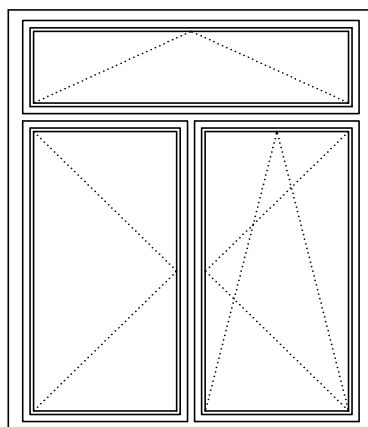
Obrtno - nagibni sa nagibnim nadprozornikom



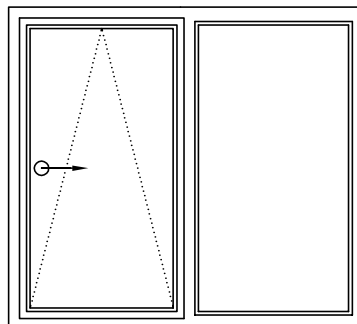
Obrtno - nagibni sa fix nadprozornikom



Obrtno - nagibni sa parapetom od panela

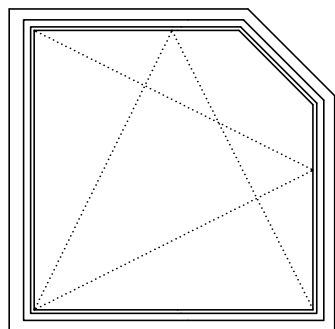


Dvokrilni sa nagibnim nadprozornikom

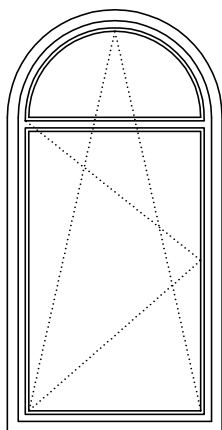


Horizontalno klizajući, nagibni sa fiksom

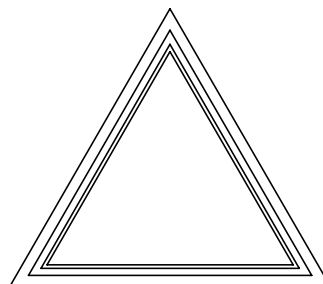
PRIKAZ PROZORA SA MOGUĆNOSTIMA OTVARANJA



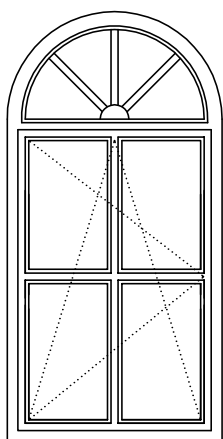
Obrtno - nagibni



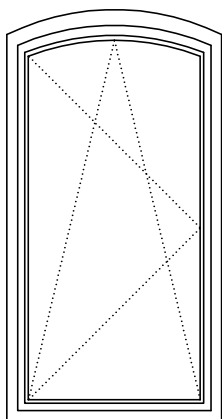
Lučno obrtno - nagibni



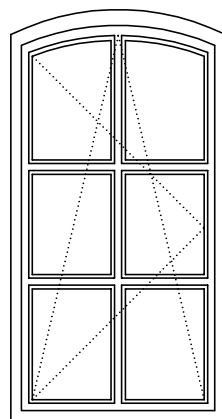
Nepokretan - fiks sa krilom



Lučno obrtno - nagibni sa fiks nadprozornikom

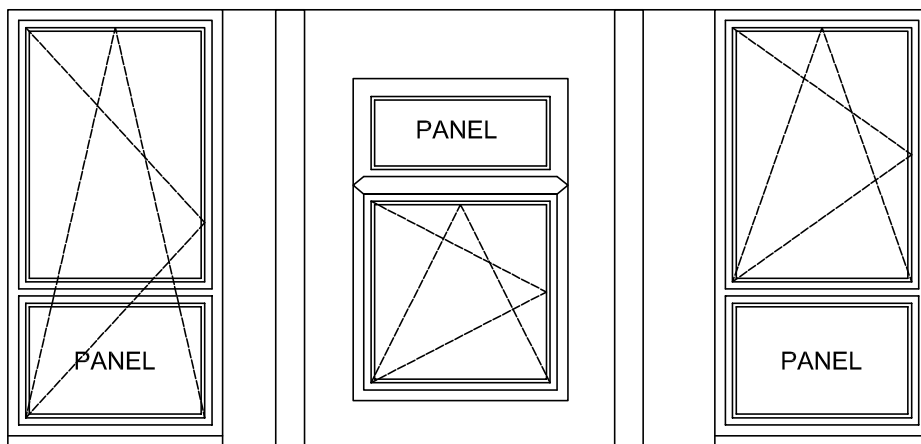


Lučno obrtno - nagibni

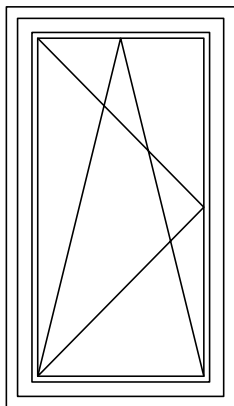


Lučno obrtno - nagibni sa prečkama

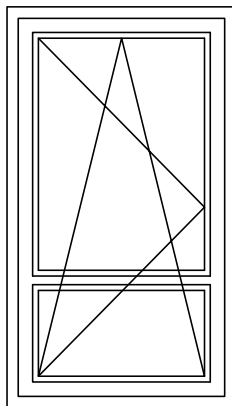
PANEL



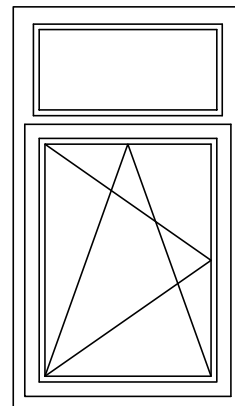
PRIKAZ BALKONSKIH VRATA SA MOGUĆNOSTIMA OTVARANJA



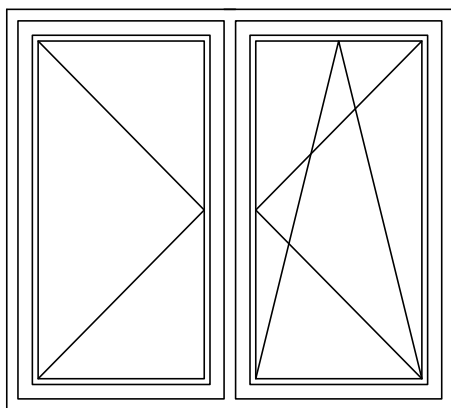
Obrtno - nagibna



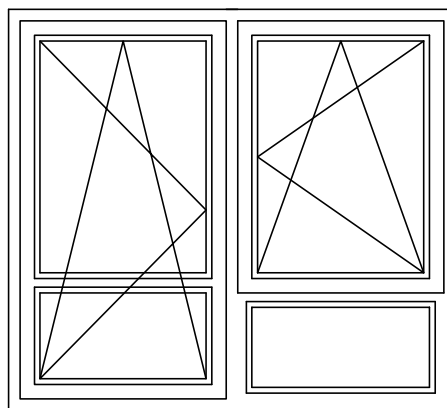
Obrtno - nagibna sa horizontalnom
prečkom



Obrtno - nagibna sa fiks
nadprozornikom

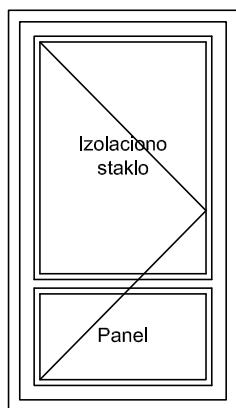


Balkonska vrata, dvodelna sa preklopom

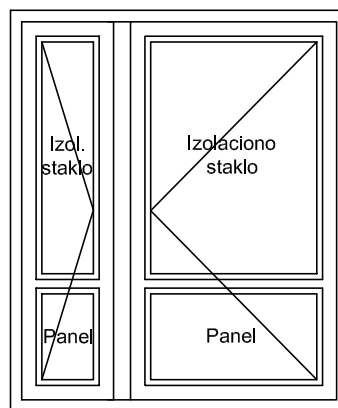


Balkonska vrata sa prozorom i fiks parapetom

PRIKAZ ULAZNIH VRATA SA MOGUĆNOSTI OTVARANJA



Jednokrilna vrata



Dvokrilna vrata

2. PROFILI ZA PVC STOLARIJU I NJIHOVE DIMENZIJE

PVC kao sirovi materijal

Polivinil hlorid (PVC) je termoplast koji je u svetu potpuno istražen. Prva industrijska sinteza je izvršena 1912. godine a komercijalna proizvodnja datira od 1931. godine. Danas je PVC jedna od glavnih plastika, druga posle polietilena

PVC je polimer vinil-hlorida koji je proizveden od nafte i soli. PVC se koristi za različite primene uključujući cevi, prozorske ramove, penaste profile, roletne, ploče, boce i film za pakovanje.

PVC opisan kao PVC-u je u saglasnosti sa zahtevima Internacionalne organizacije za standardizaciju za tvrdi PVC. PVC je najviše korišten termoplast u građevinskoj industriji, koja je u Zapadnoj Evropi potrošila oko 57 % PVC-a.

Važan aspekt PVC-u je njegov dug vek primene. Ispitivanja PVC-u prozora pokazuju da prozorski profili imaju zadovoljavajuće osobine i posle trideset godina korištenja. PVC-u se odlikuju trajnošću i preko trideset petogodišnje iskustvo pokazuje da je promena boje posebno belih profila veoma mala.

PVC-u za prozorske profile

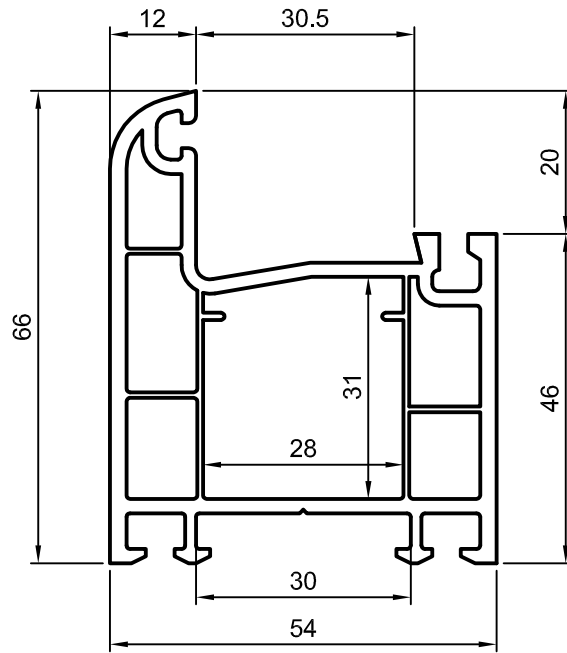
PVC-u formulacije za spoljne profile ima kombinaciju osobina koje se idealne za takve primene. PVC-u se odlikuje odgovarajućom žilavošću, otpornošću na udar na niskim temperaturama, otpornošću na vremenske uticaje, ne podržava gorenje i ima nisku toplotnu provodljivost. Ove osobine dozvoljavaju primenu sa dugim radnim životom sa efektivnom cenom koštanja.

PVC-u profili takođe imaju izvrsnu hemijsku otpornost prema širokom spektru materijala uključujući alkohole, sapune, razređene kiseline, alkalne rastvarače, deterdžente i naftu.

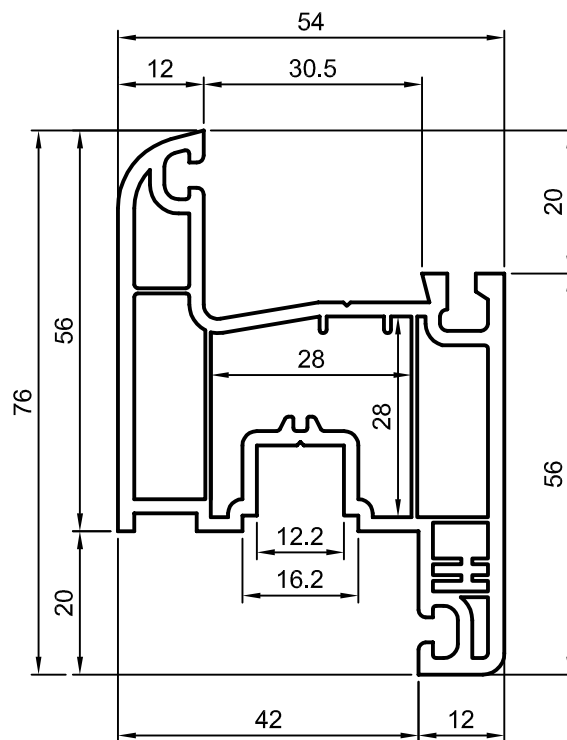
Od prozorskih profila se proizvode prozorski ramovi procesom toplog zavarivanja. Na ovaj način osobine termoplasta prave izuzetno visoki kvalitet zavara.

Iako je najviše prozorskih profila obojeno u belo, takođe se mogu proizvoditi profili u širokoj oblasti boja. U nekim slučajevima završne boje mogu biti takve kao što je zrnasto drvo, koje se dobijaju prevlačenjem profila sa folijom otpornom na vremenske uticaje. Drugi metod za proizvodnju trajno postojanih boja je koekstruzija gde se navlači tanki sloj plastike otporne na vremenske uticaje na površinu profila. Obojeni profili su pogodni u zemljama sa umerenim klimatskim uslovima.

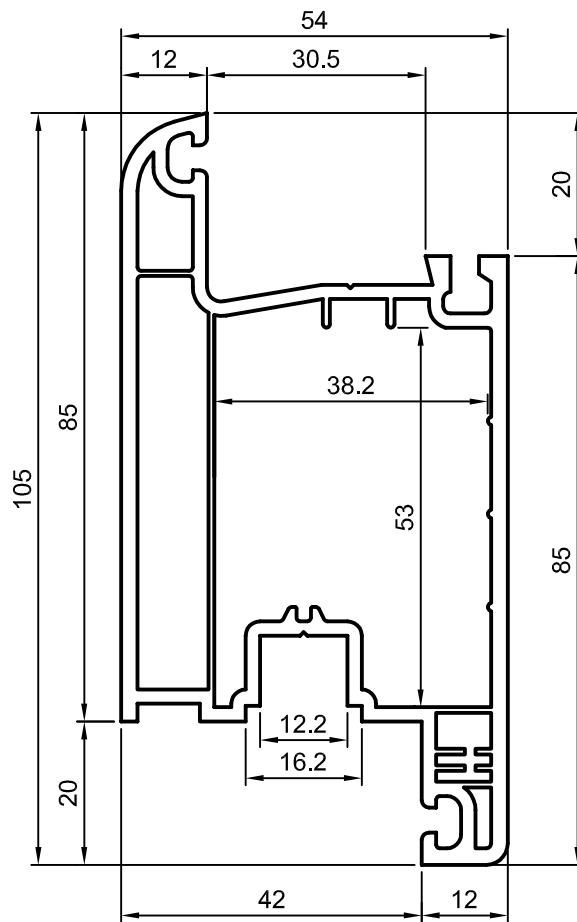
PROFIL RAMA 301



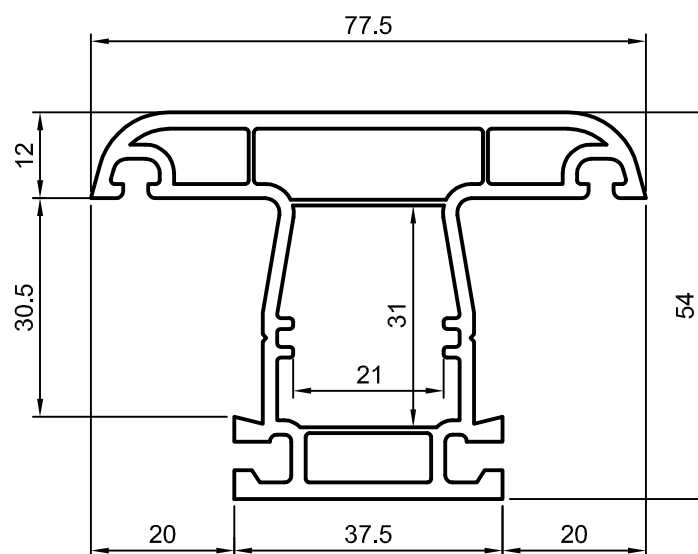
PROFIL KRILA 310



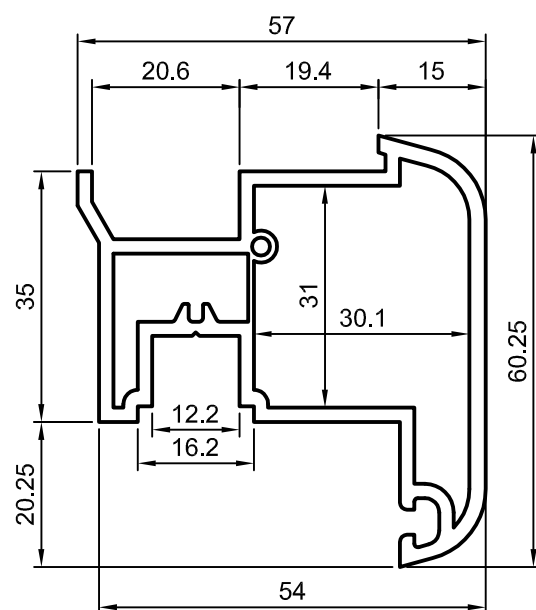
PROFIL KRILA ULAZNIH VRATA 311



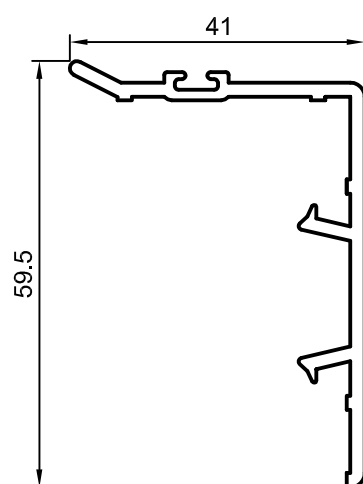
PROFIL STUBA 320



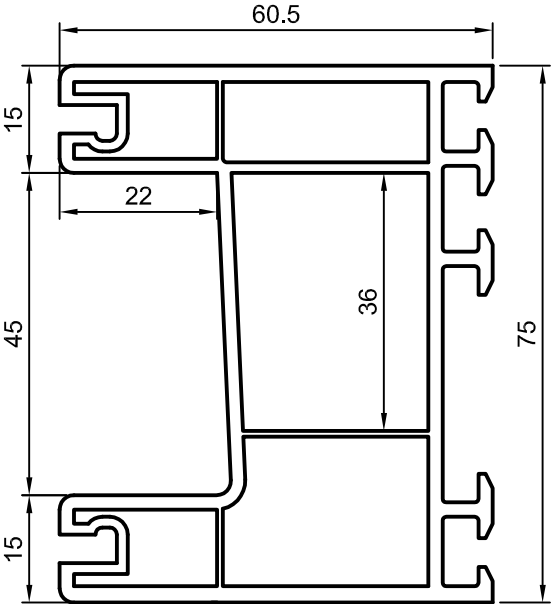
PROFIL PREKLOPA 321



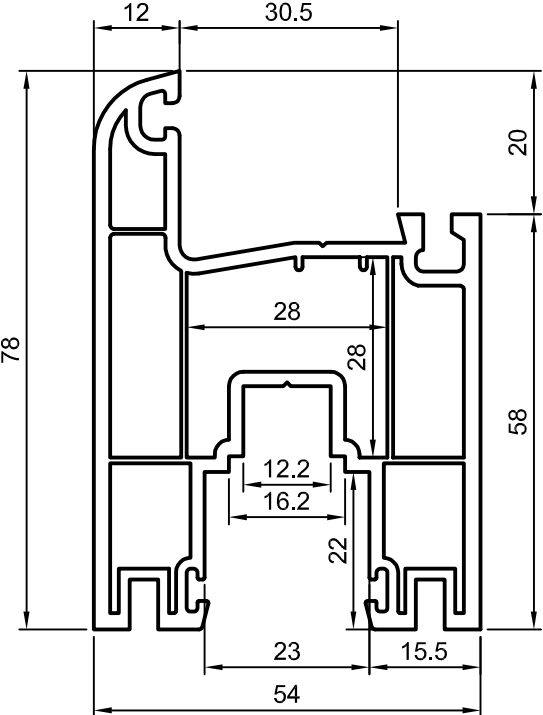
PROFIL "L" KLIZNI 820



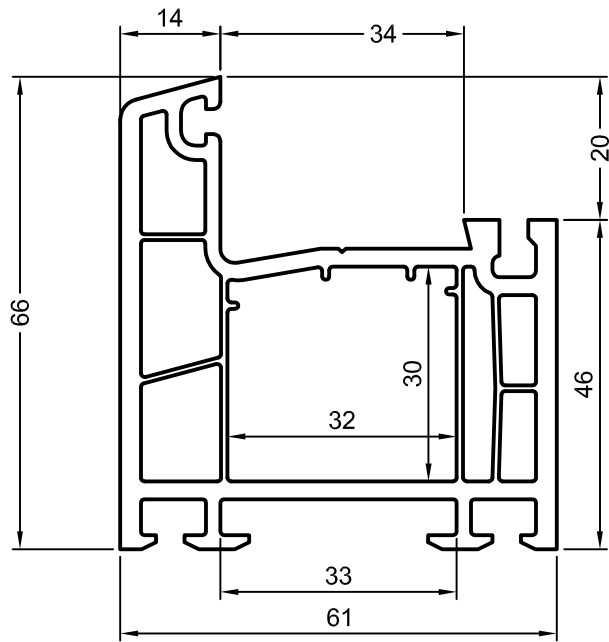
PROFIL RAMA 801



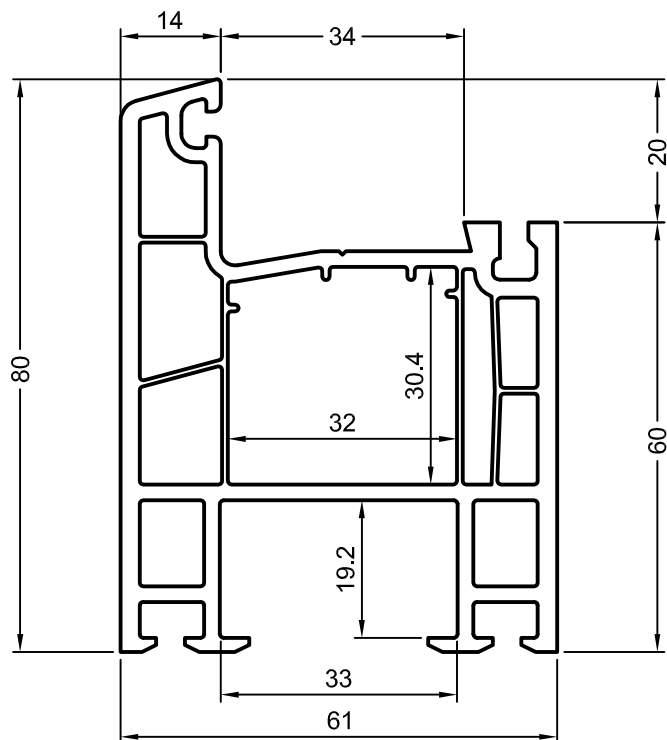
PROFIL KRILA 810



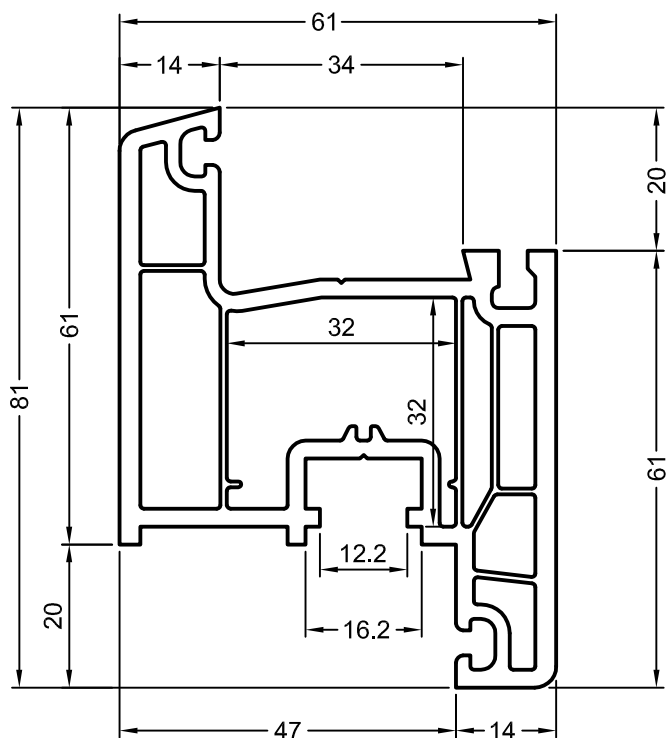
PROFIL RAMA 401



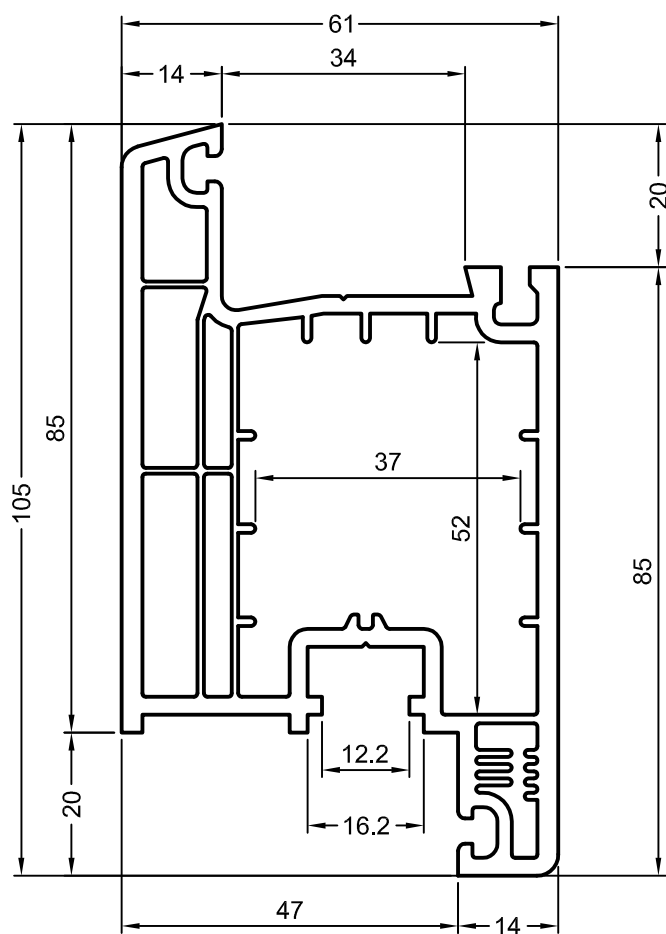
PROFIL RAMA 403



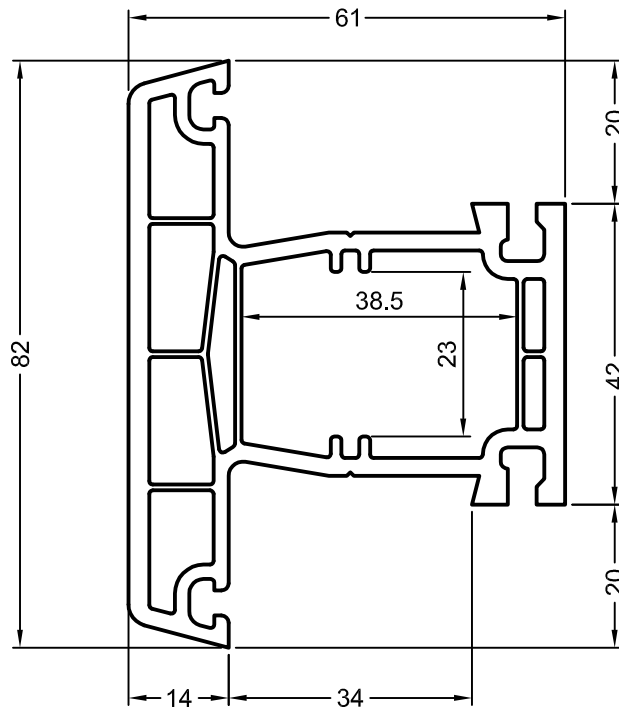
PROFIL KRILA 410



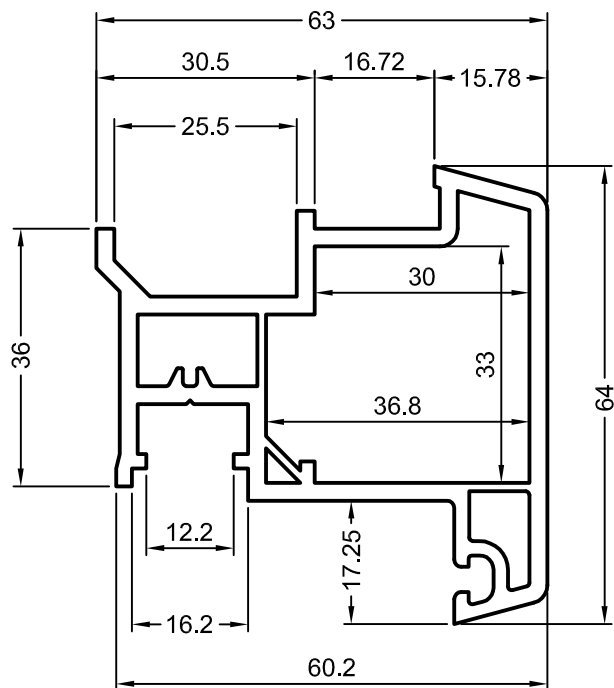
PROFIL KRILA ULAZNIH VRATA 411



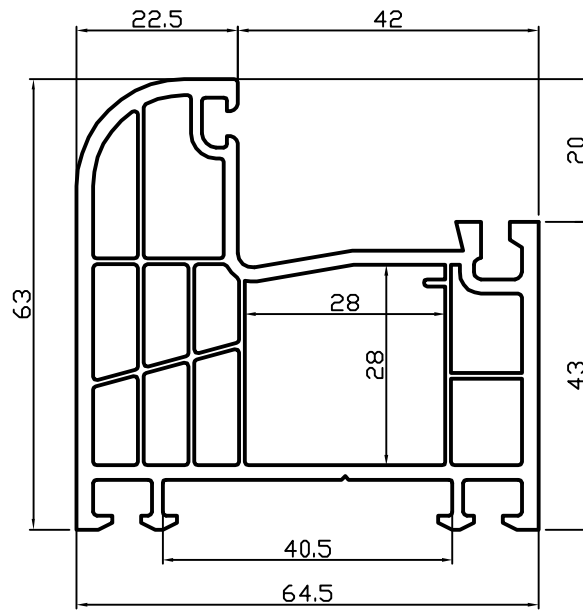
PROFIL STUBA 420



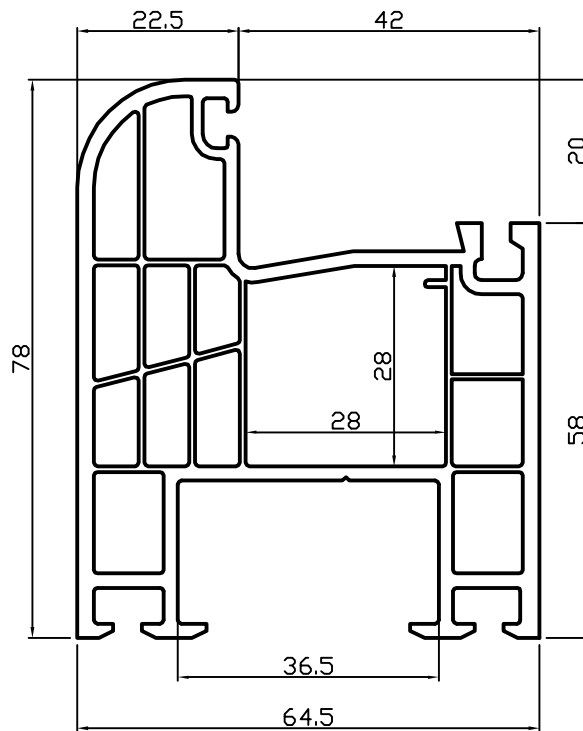
PROFIL PREKLOPA 421



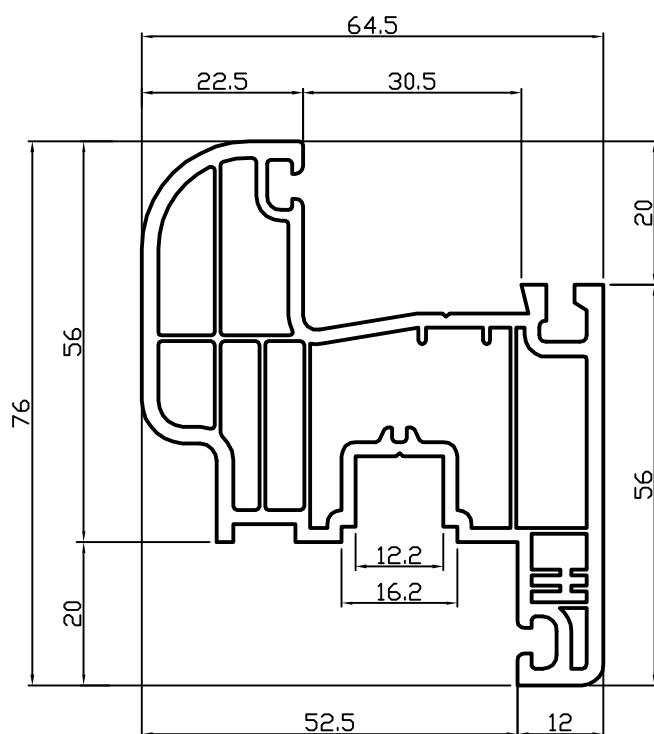
PROFIL RAMA 501



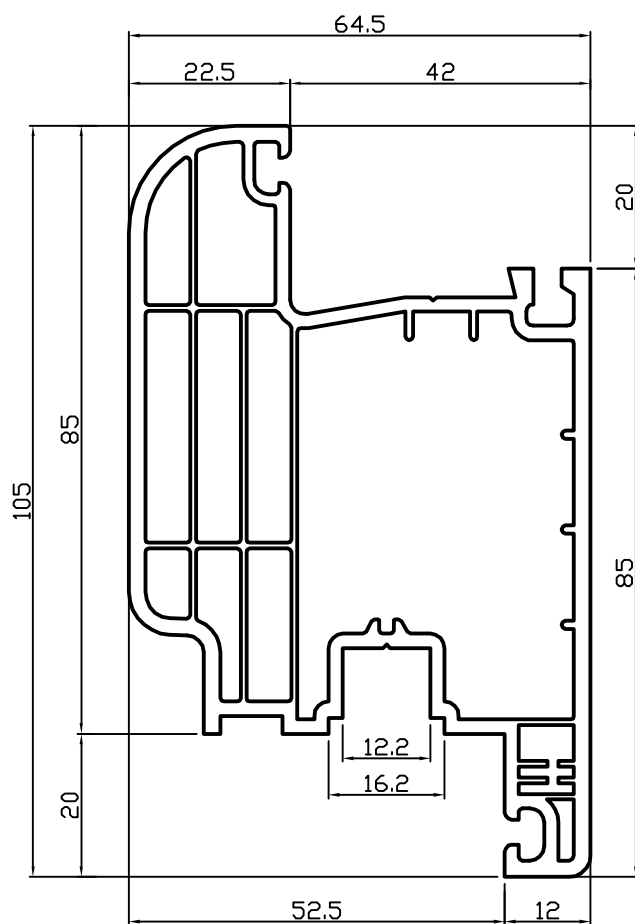
PROFIL RAMA 503



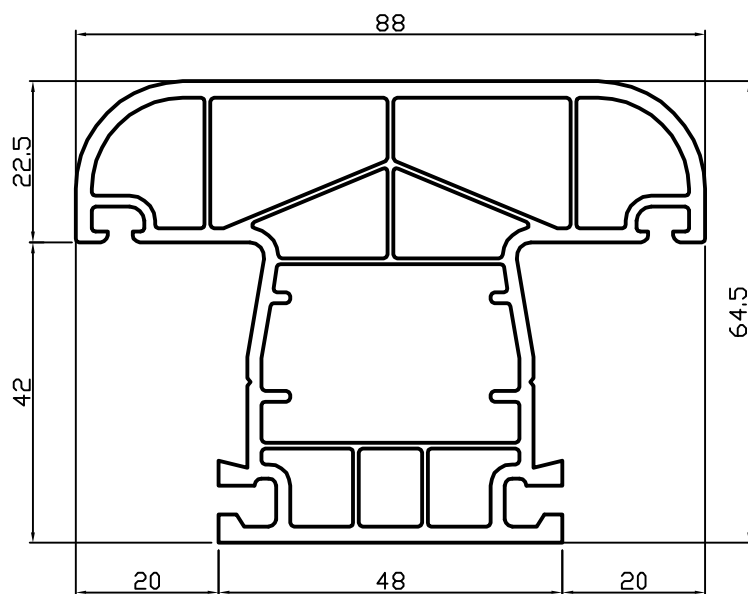
PROFIL KRILA 510



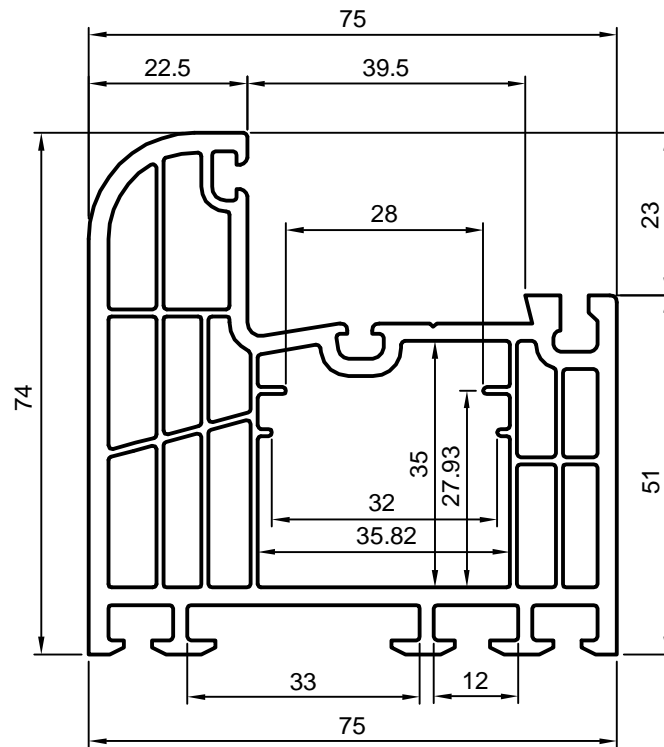
PROFIL KRILA ULAZNIH VRATA 511



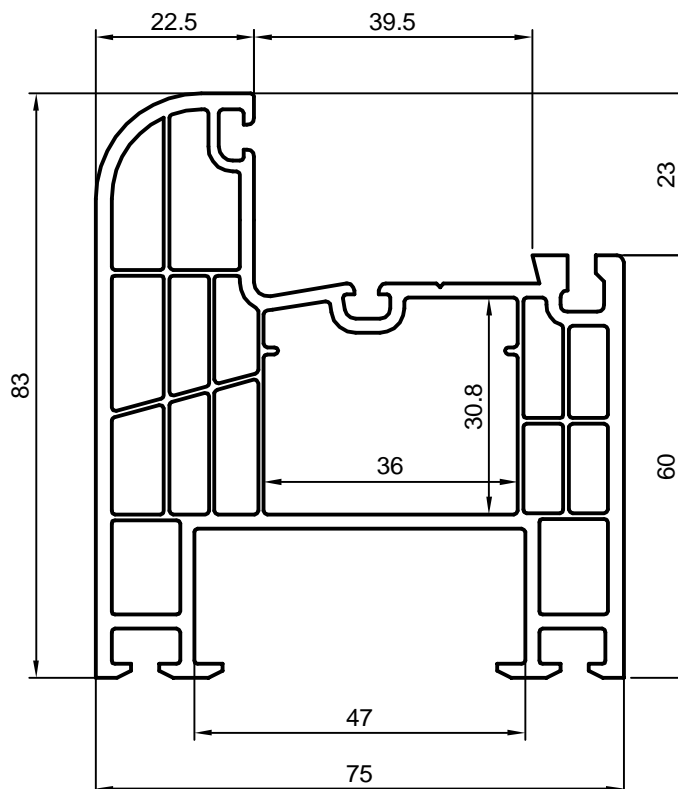
PROFIL STUBA 520



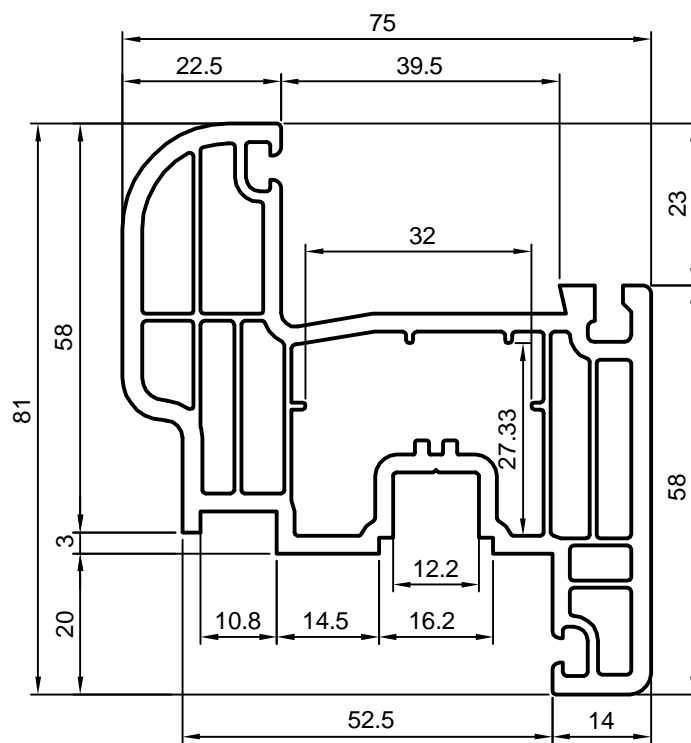
PROFIL RAMA 601



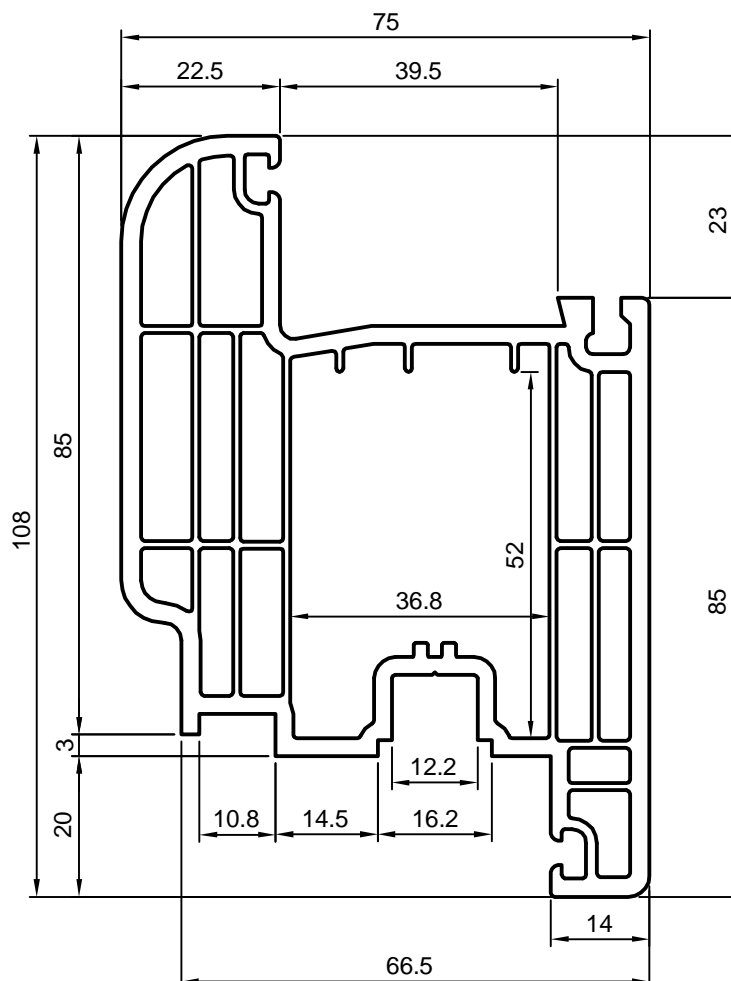
PROFIL RAMA 603



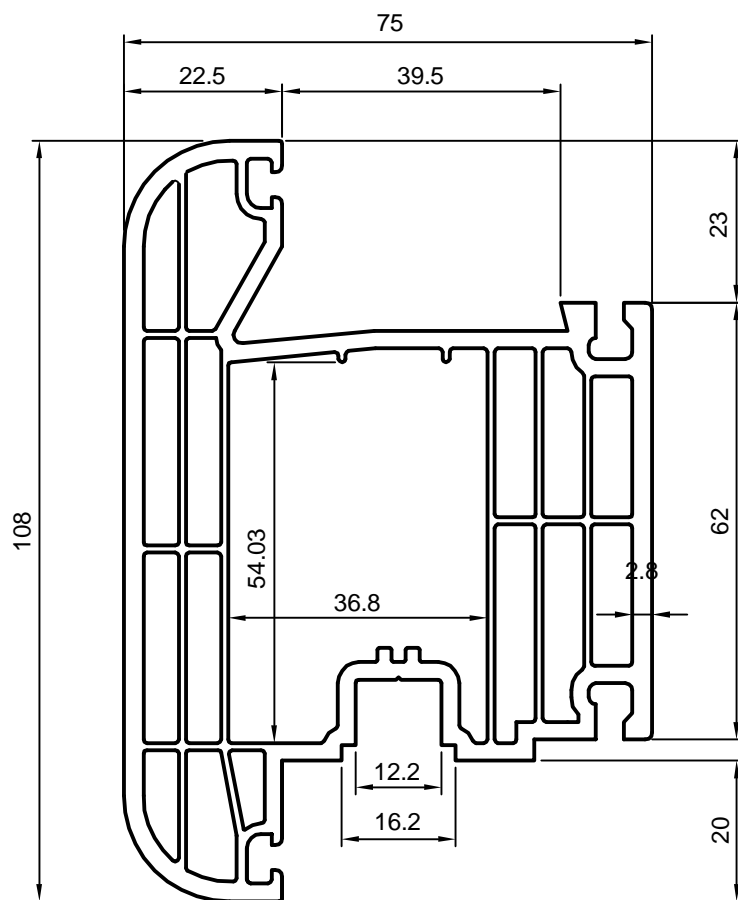
PROFIL KRILA 610



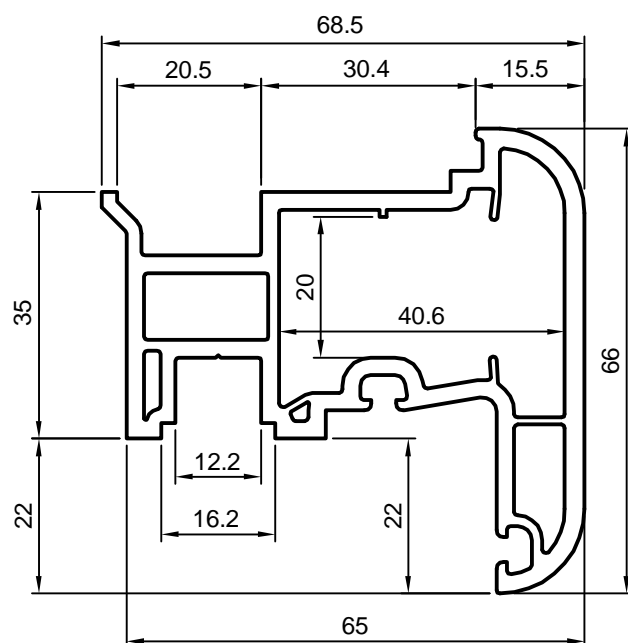
PROFIL KRILA ULAZNIH VRATA 611



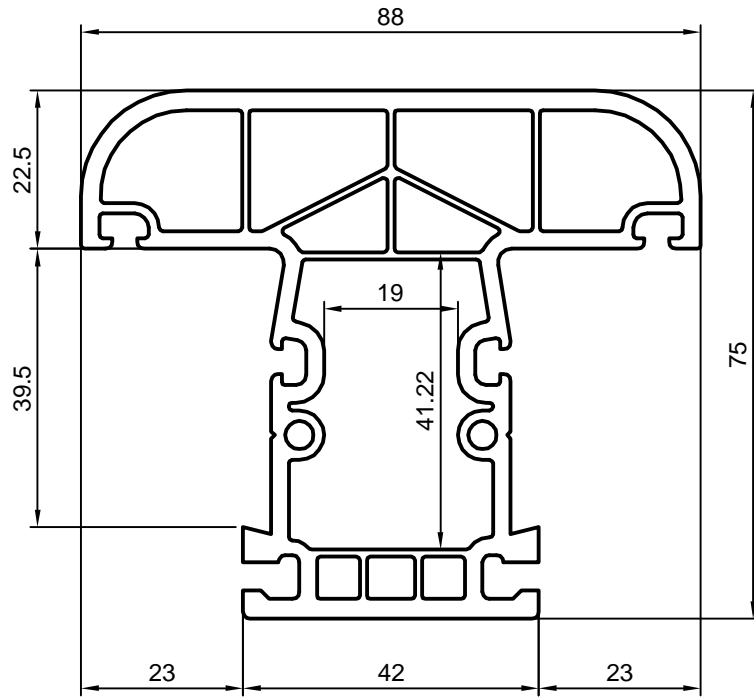
PROFIL KRILA SPOLJAŠNJIH ULAZNIH VRATA 612



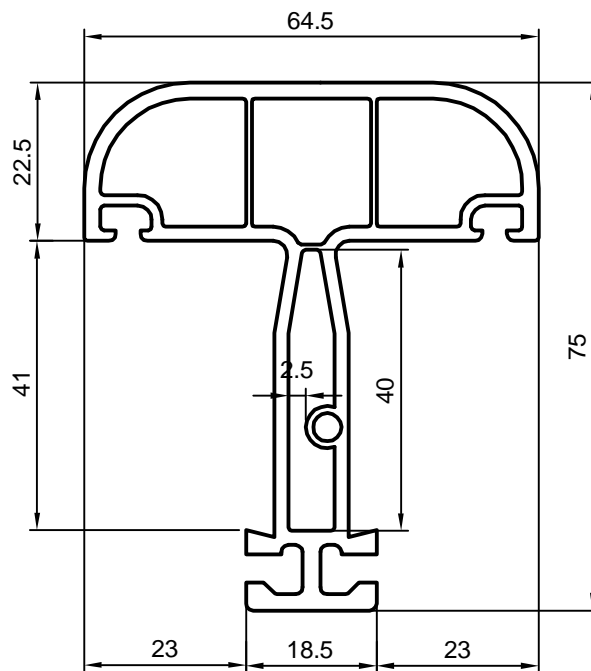
PROFIL PREKLOPA 621



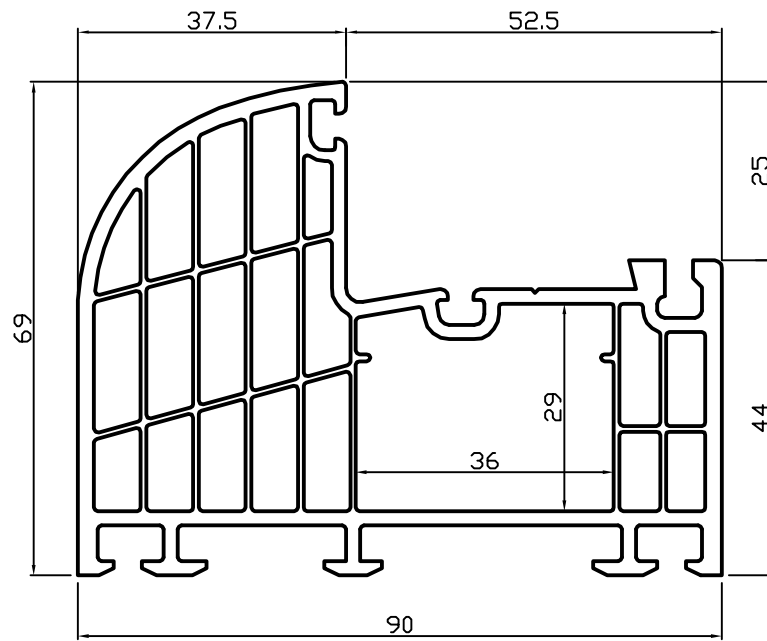
PROFIL STUBA 620



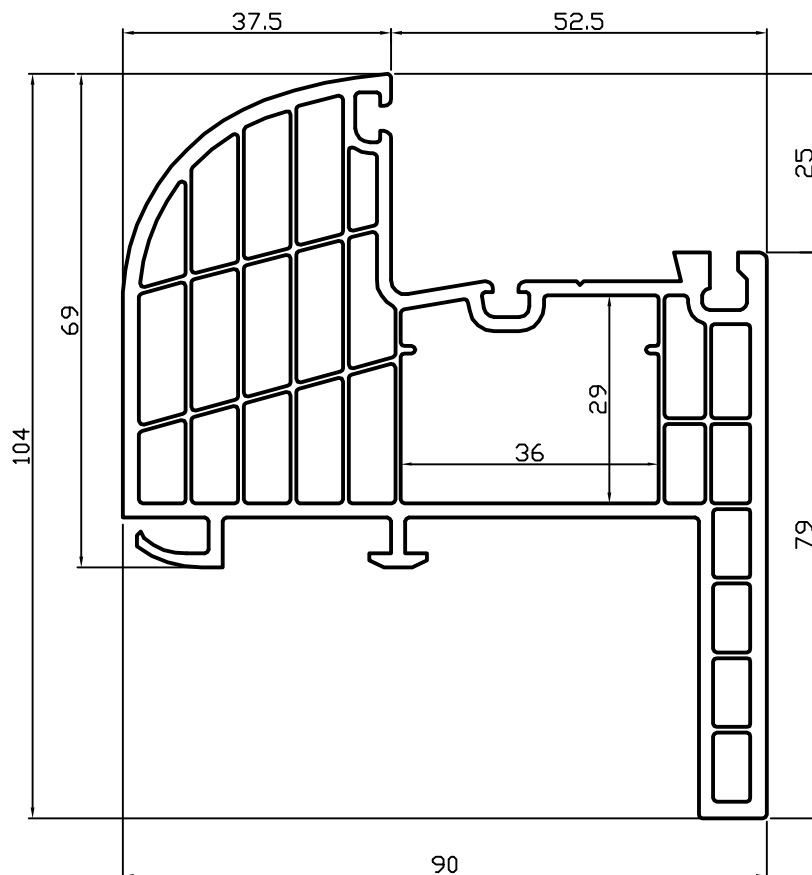
PROFIL STUBA 622



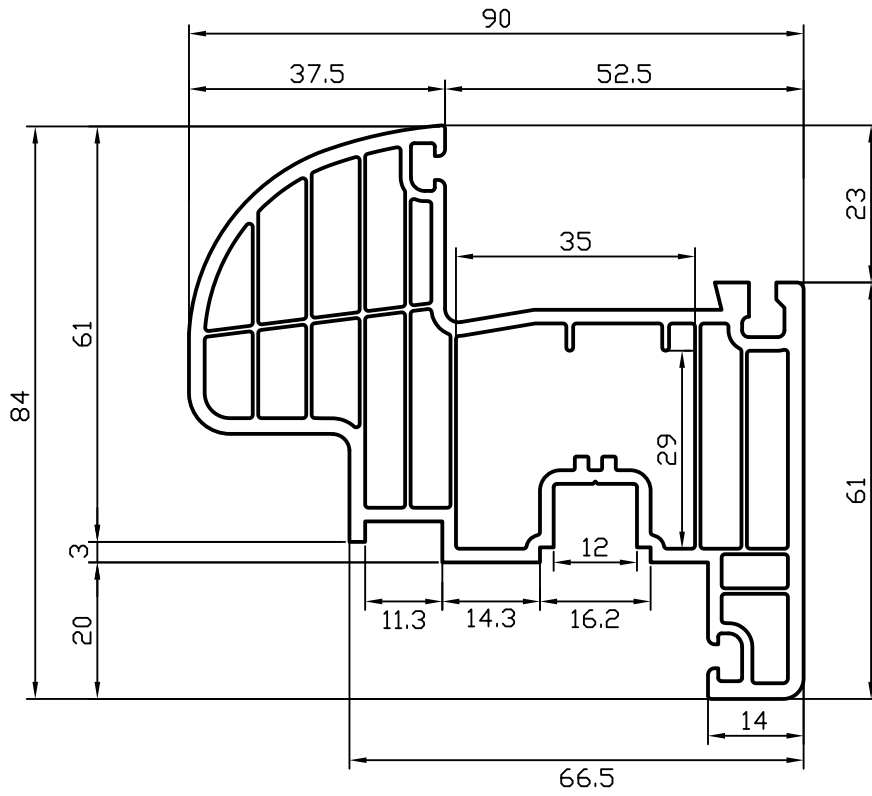
PROFIL RAMA 802



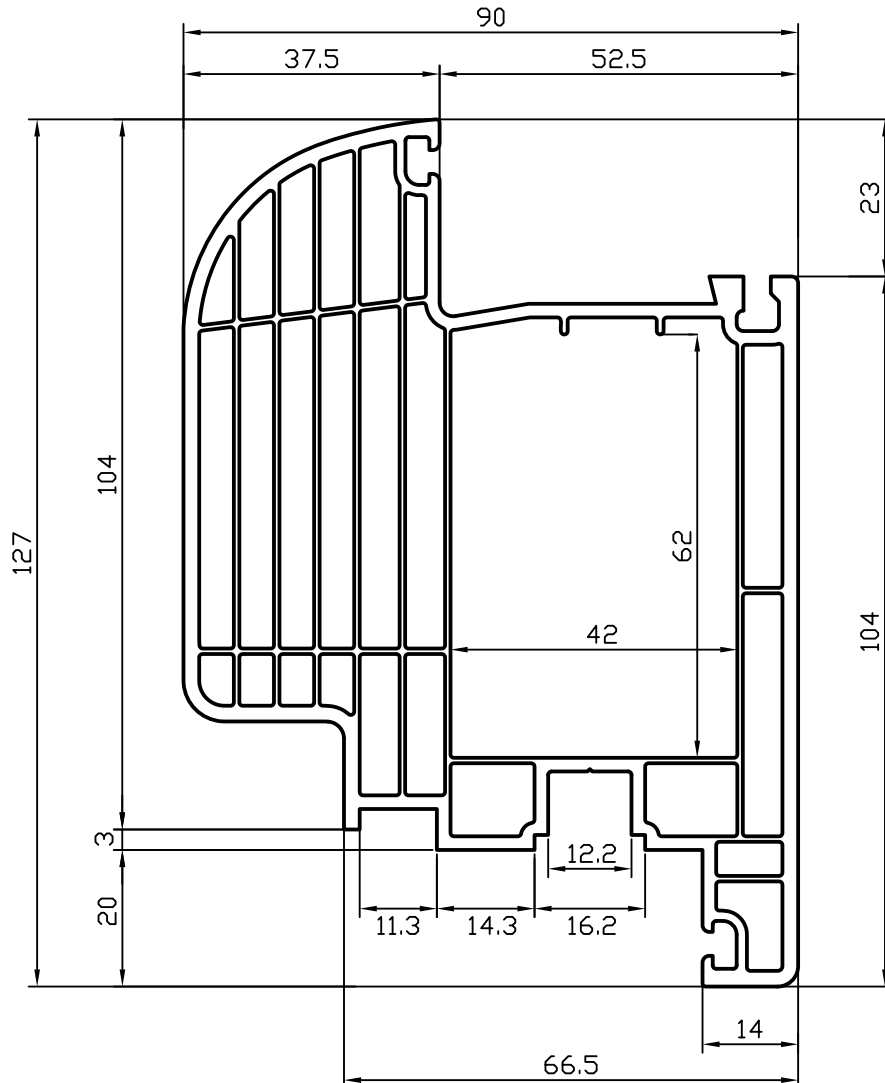
PROFIL RAMA 803



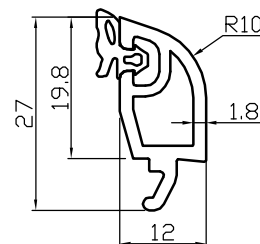
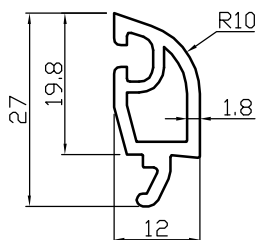
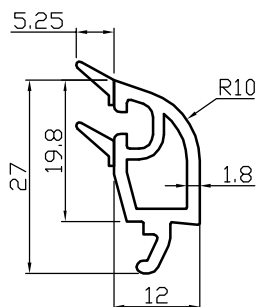
PROFIL KRILA 811



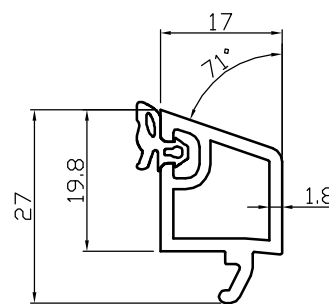
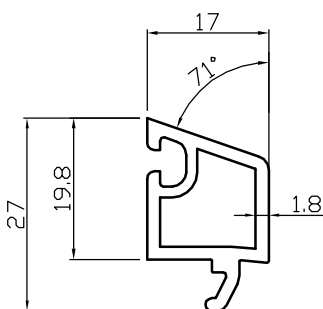
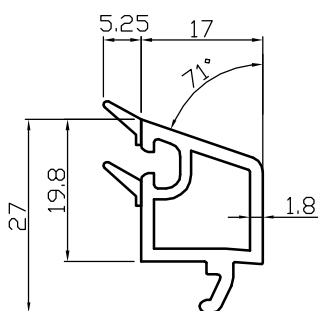
PROFIL KRILA ULAZNIH VRATA 812



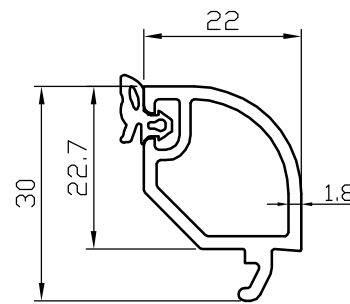
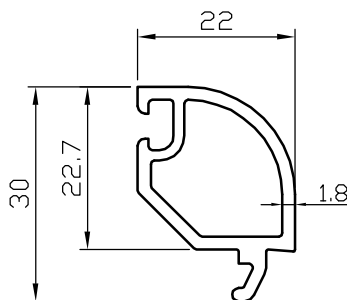
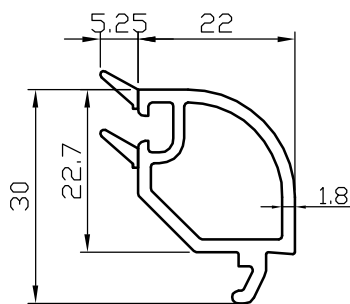
PROFIL LAJSNE ZA STAKLO 330



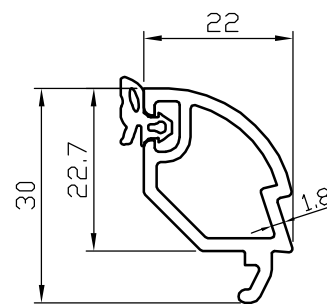
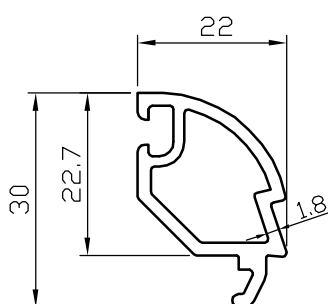
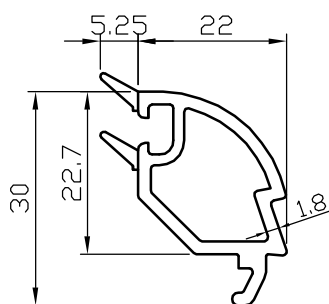
PROFIL LAJSNE ZA STAKLO 431



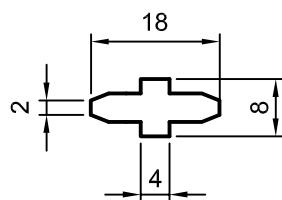
PROFIL LAJSNE ZA STAKLO 630



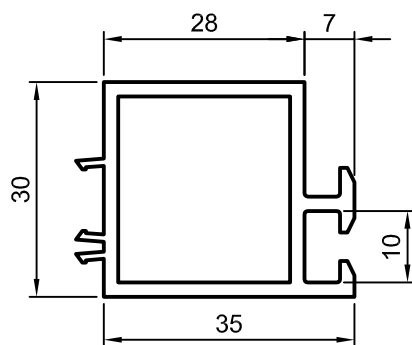
PROFIL LAJSNE ZA STAKLO 631



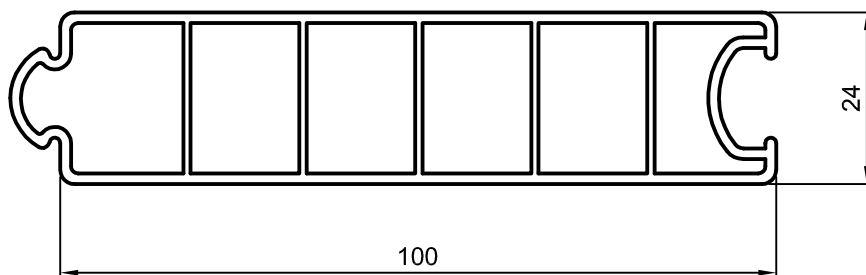
PROFIL SPOJNICE 100



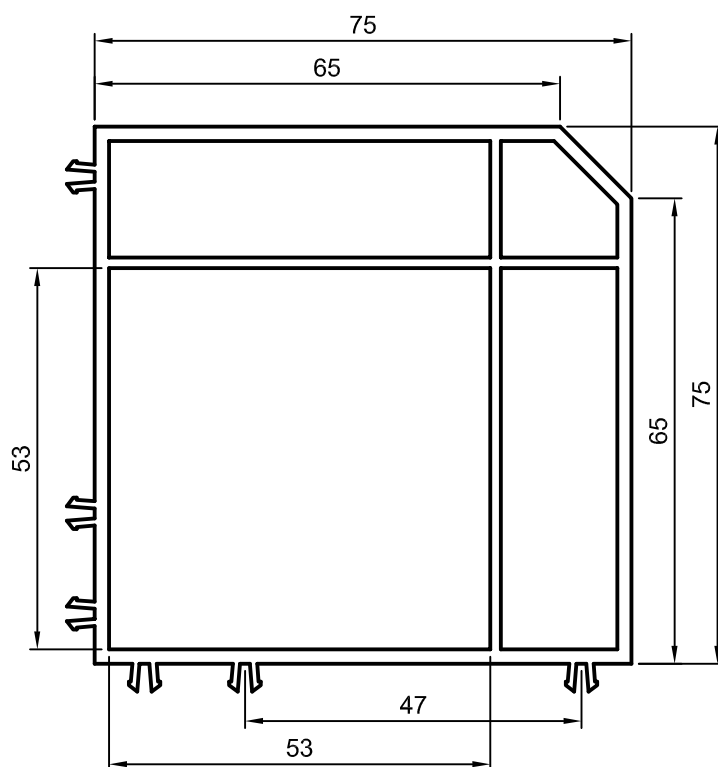
PROFIL PROŠIRENJA RAMA 402



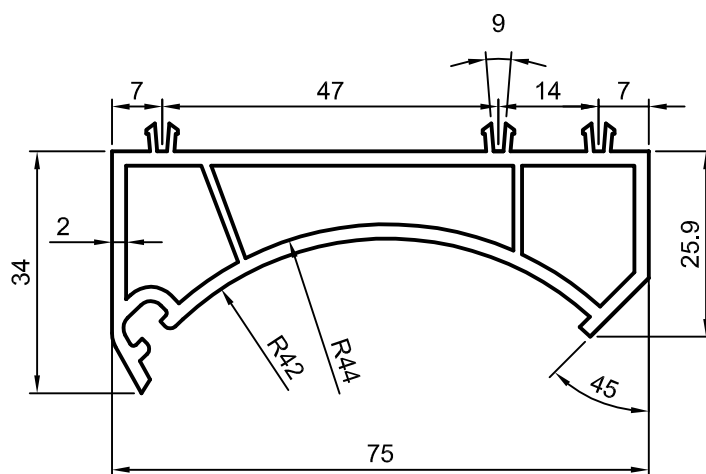
PROFIL PANELA



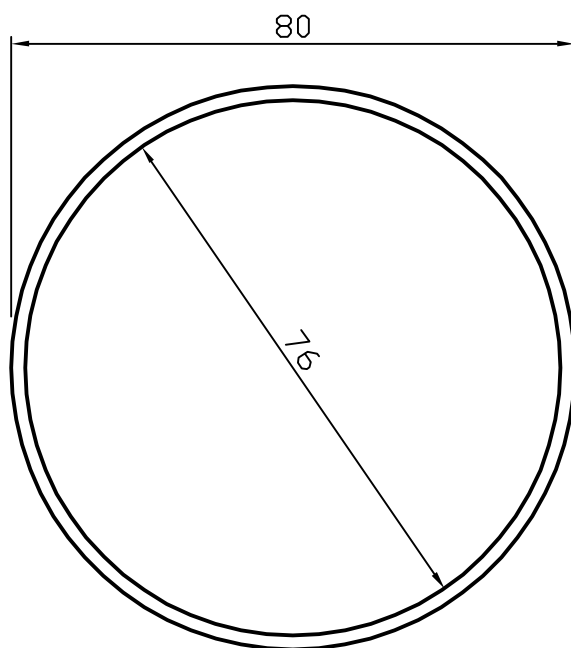
PROFIL UGAONE SPOJNICE 90° 440



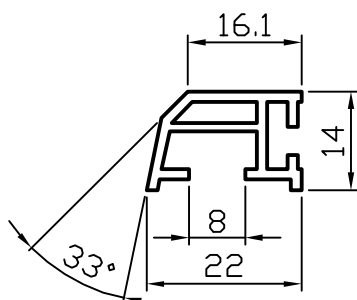
PROFIL PODEŠAVAJUĆE UGAONE SPOJNICE 450



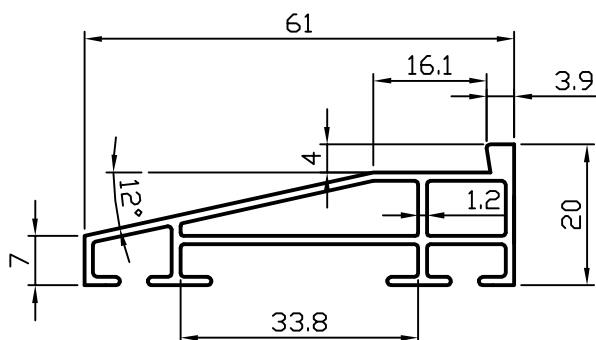
PROFIL CEVI PODEŠAVAJUĆE UGAONE SPOJNICE 460



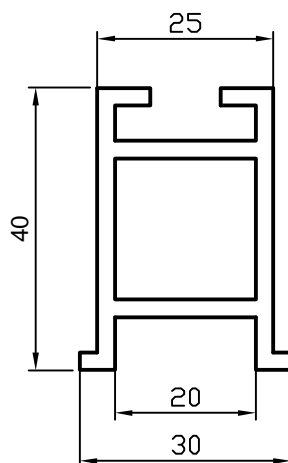
PROFIL OKAPNICE ZA KRILO 470



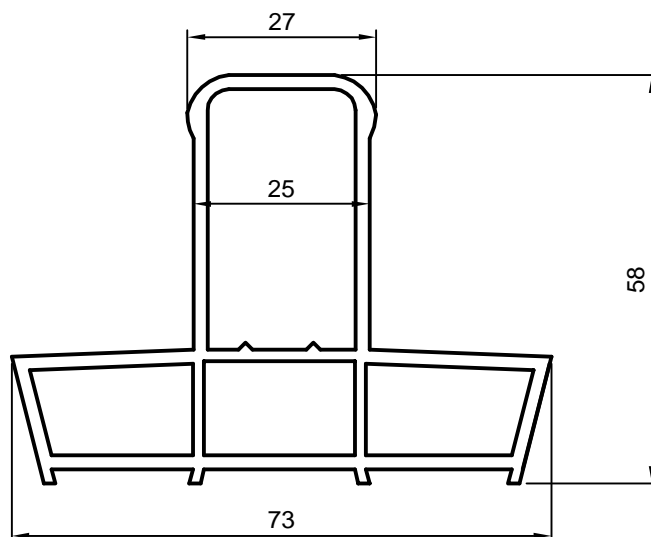
PROFIL ALUMINIJUMSKOG PRAGA



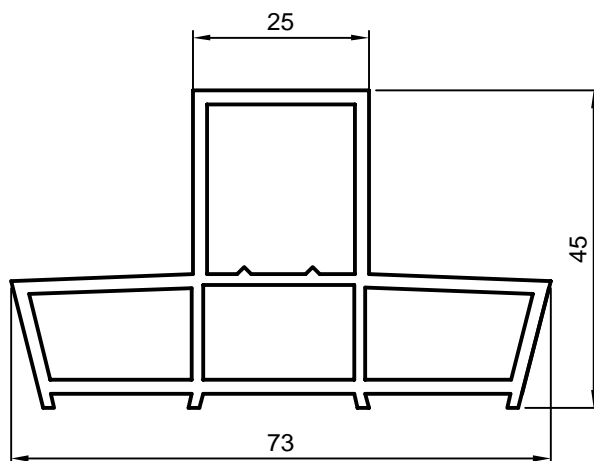
PROFIL ADAPTERA ZA PODPROZORSKU
DASKU 101



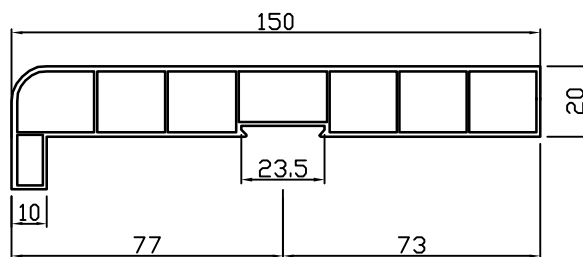
PROFIL ADAPTERA ZA PODPROZORSKU
DASKU 102



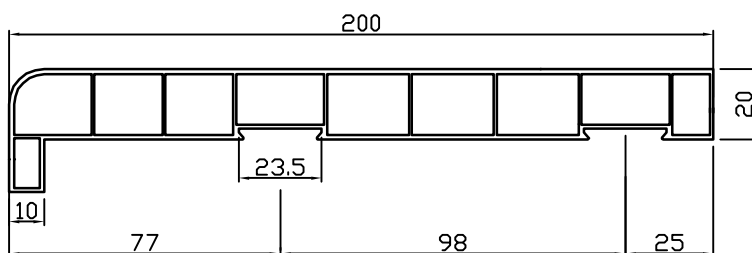
PROFIL ADAPTERA ZA PODPROZORSKU
DASKU 103



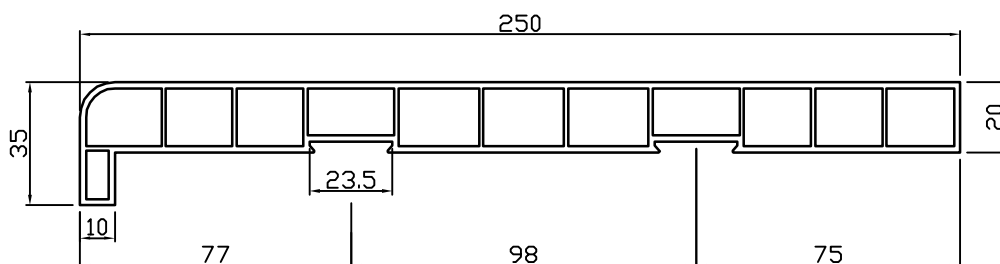
PROFIL PODPROZORSKE DASKE 150



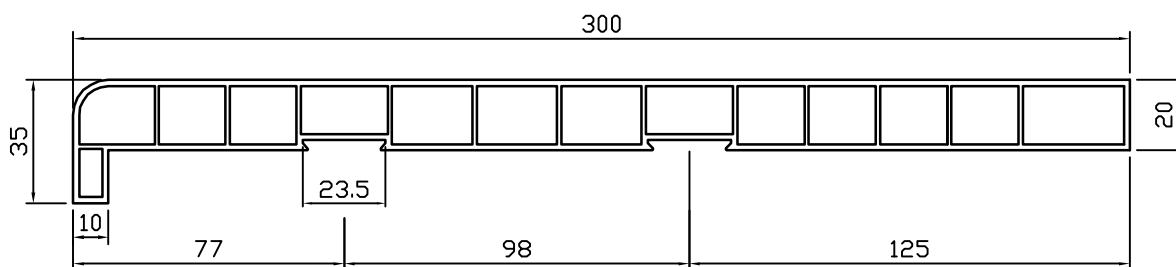
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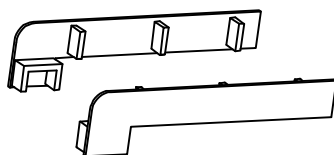
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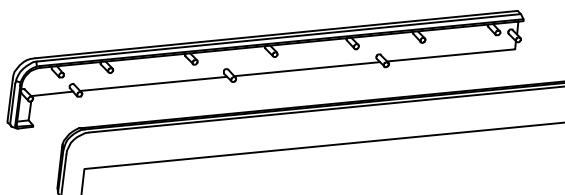
PROFIL PODPROZORSKE DASKE 300



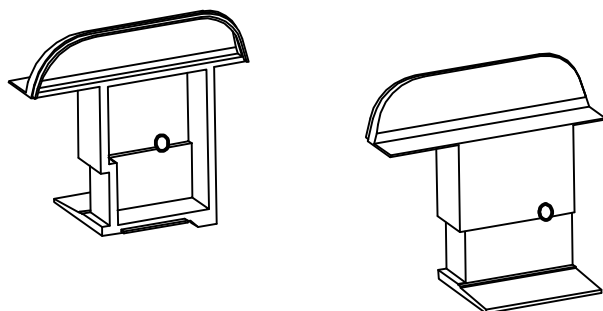
PROFIL ČEPA ZA PODPROZORSKU DASKU - MANJI



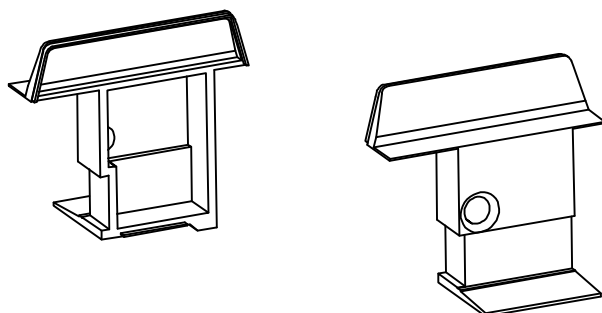
PROFIL ČEPA ZA PODPROZORSKU DASKU - VEĆI



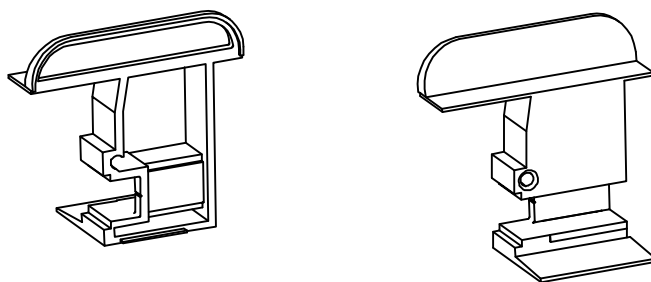
PROFIL ČEPA ZA LAŽNU PREČKU 321



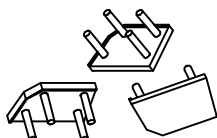
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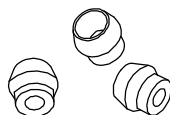
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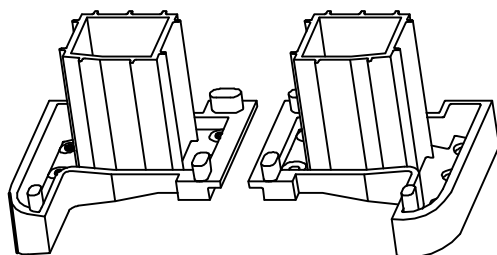
PVC ČEP ZA OKAPNICU



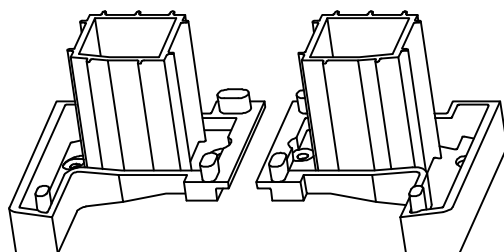
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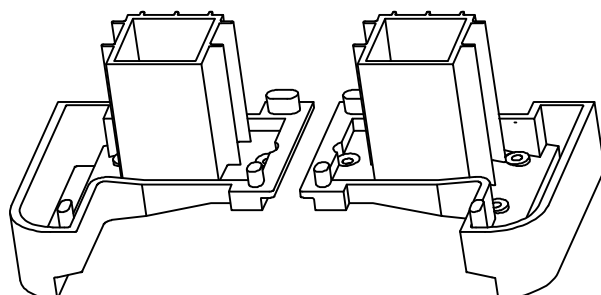
PROFIL SPOJKE AL PRAG - RAM 301



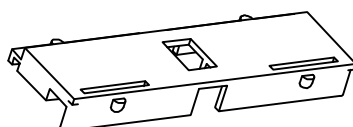
PROFIL SPOJKE AL PRAG - RAM 401



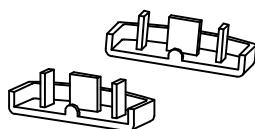
PROFIL SPOJKE AL PRAG - RAM 601



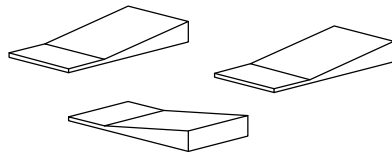
PVC PODMETAČ ZA STAKLO



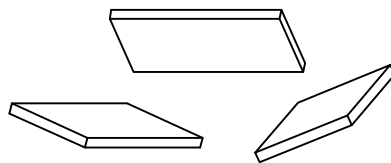
PVC ČEP ZA VODU



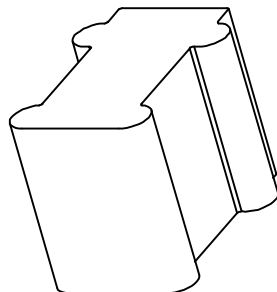
PVC KAJLE ZA ZASTAKLJIVANJE



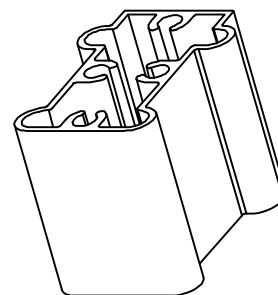
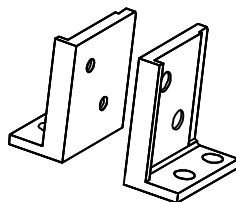
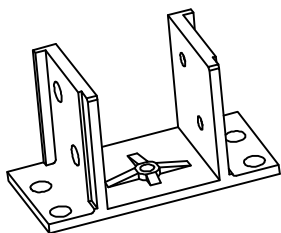
PVC KAJLE ZA ZASTAKLJIVANJE - RAVNE



PROFIL PVC SPOJNICE POD UGLOM



PROFIL ALUMINIJUMSKE SPOJNICE



3. MOMENT INERCIJE ZA X I Y OSU, POVRŠINA POPREČNOG PRESEKA

U ovoj knjizi smo računali momente inercije za osu x i y kako je definisano na crtežu iz prostog razloga da utvrdimo koliki su momenti inercije, jer za određene dimenzije prozora nije potrebno ugraditi čelično ojačanje. Insistiramo na čeličnom ojačanju ne samo zbog toga što ovaj materijal ima veliki modul elastičnosti, nego iz prostog razloga da bi se ostvarila veza čeličnog okova, čeličnim vijkom za čelično ojačanje. Osnovni problem labavljenja aluminijumskih prozora tokom vremena je da su u kontaktu dva različita materijala (čelična šarka, aluminijumski profil) i vremenom dolazi do pojave elektrohemijske korozije, jer postoji elektrolit, vlažan vazduh.

Profil krila treba da izdrži savijanje usled težine stakla (težina stakla \vec{G} u pravcu ose y, savijanje oko ose x).

Korištenjem šestokomornog profila se obezbeđuje veći žleb radi smeštaja staklopaketa sa tri stakla sa odgovarajućim rastojanjem između njih može se postići značajno povećanje zvučne izolacione moći.

Potrebno je definisati glavne profile: to su profili koji uglavnom primaju opterećenja (od udara vetra i rukovanja čovečijom rukom). Momenti inercije su naročito izraženi kod utvrđivanja ugaone čvrstoće vara. Što god je veći moment inercije to je i sposobnost ugaonog spoja (spoj zavaren) veći.

Treba naglasiti da je kod prozorskih profila osnovno naprezanje, naprezanje na savijanje. Naprezanje na istezanje i pritisak je neznatno i ono je prouzrokovano usled promene temperature leti (istezanje), zimi (sabijanje). O ovom problemu treba voditi računa naročito kod ugradnje prozora, jer velika temperaturna polja mogu izazvati ogromne napore, koji za posledicu imaju pucanje pored vara. Naročito veliko temperaturno polje je izraženo kod obojenih profila (razlika između spoljašnje i unutrašnje sredine može iznositi i do 40 °C. To je razlog zašto se dominantno u svetu koristi beli PVC profil.

Veličina prozora

Nezavisno od navedenih ograničenja dimenzija treba paziti da maksimalna dužina ivice kod belih profila iznosi 4,0 m, a kod profila u boji 2,5 m, iznad dužine ivice od 4,0 m odnosno 2,5 m spojevi rama moraju se izvesti kao elastične veze.

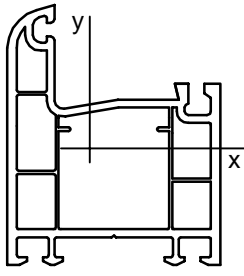
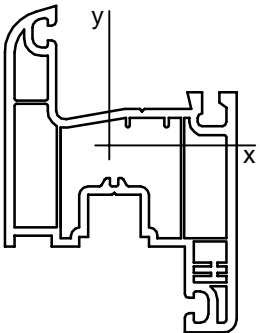
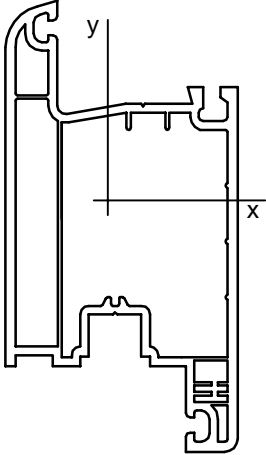
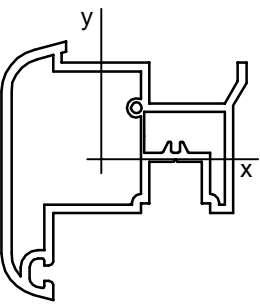
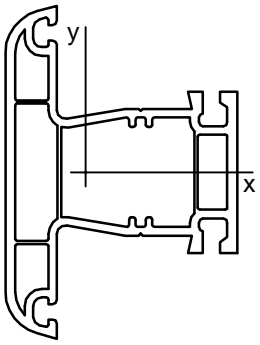
Te elastične veze ne smeju se premostiti sa ramovima, potpornim profilima i sl. Kod fiksnog ostakljenja sa belim profilima maksimalna dužina ivice ograničena je na 3,0 m. Radi definisanja maksimalne površine (pogledati DIN 18056) – stakleni zidovi.

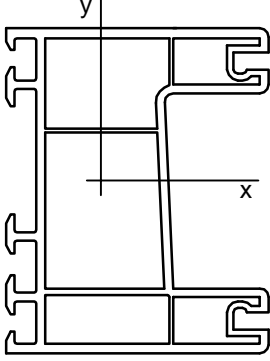
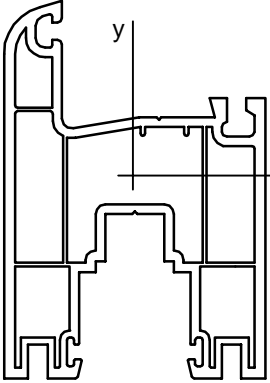
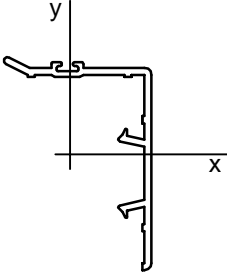
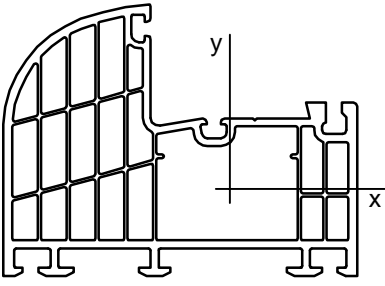
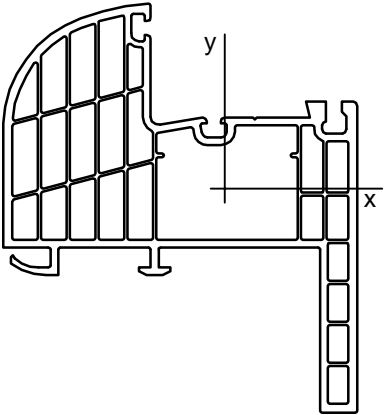
Nezavisno od konstrukcije (elementi ili fiksno ostakljenje) za staklene zidne površine veće od 9 m² i dužine stranice najmanje 200 cm treba napraviti poseban statički proračun.

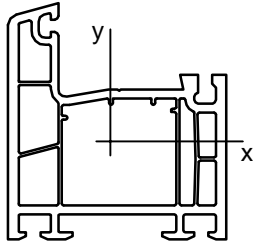
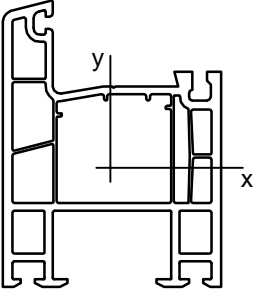
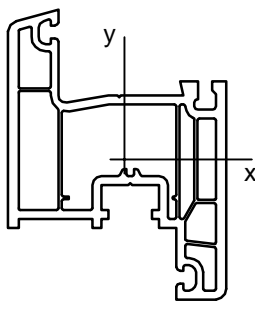
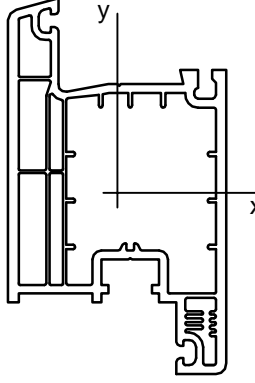
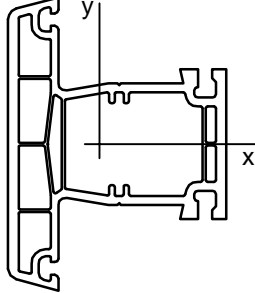
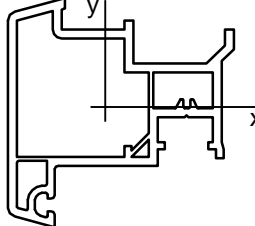
Grupe opterećenja

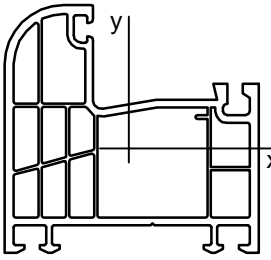
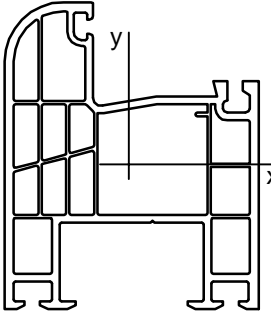
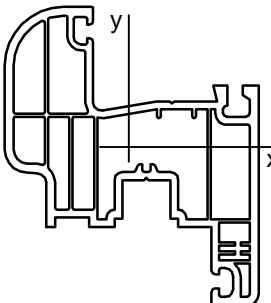
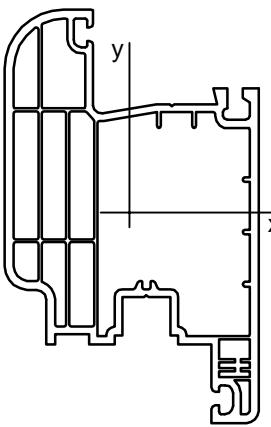
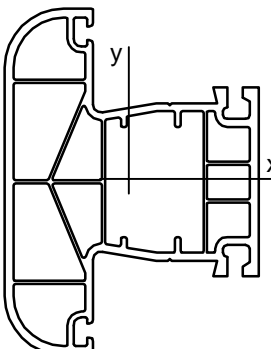
Prozori su uglavnom izloženi opterećenju usled vetra. Zbog toga se u DIN 1055 opterećenja vetrom zavisno od visine zgrade dele u četiri grupe opterećenja:

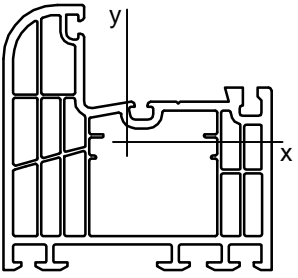
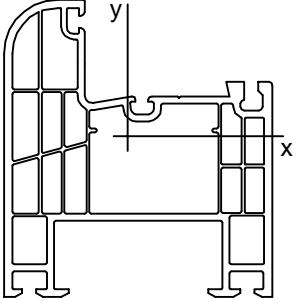
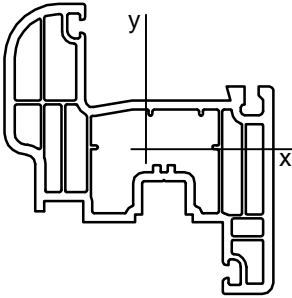
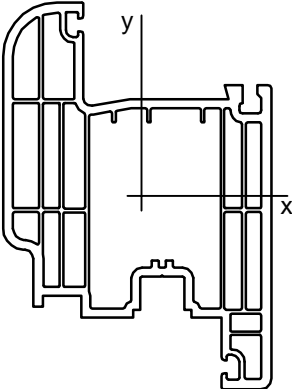
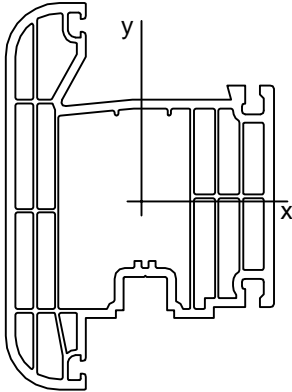
Grupa	Visina opterećenja zgrade
A	0 – 8 m
B	8 – 20 m
C	20 – 100 m
D	iznad 100 m

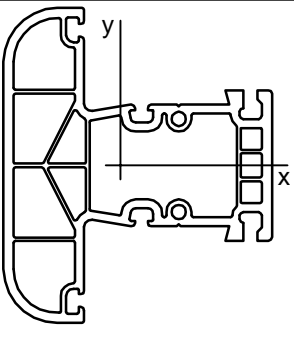
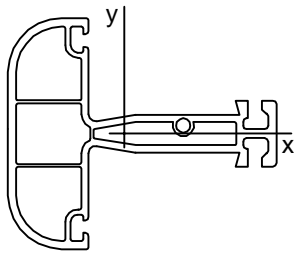
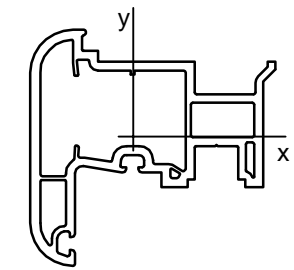
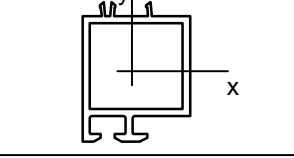
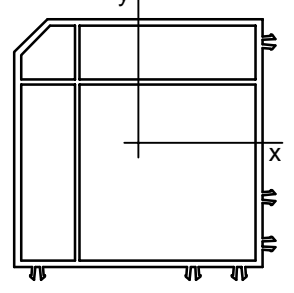
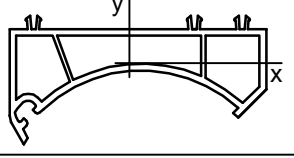
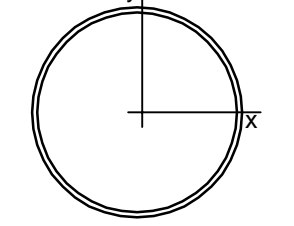
PROFIL	NAZIV PROFILA SISTEM ROLOPLAST 300	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm ²)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil rama (301)				
	Profil krila prozora i balkonskih vrata (310)				
	Profil krila ulaznih vrata (311)				
	Profil preklopa (321)				
	Profil stuba rama i krila (320)				

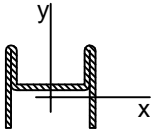
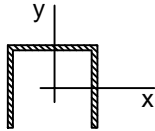
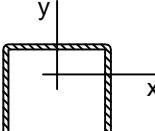
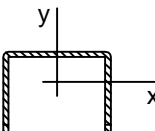
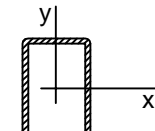
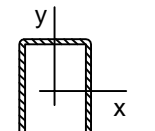
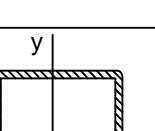
PROFIL	NAZIV PROFILA SISTEM ROLOPLAST 800	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm ²)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil rama (801)				
	Profil krila prozora i rama (810)				
	Profil "L" klizni (820)				
	Profil rama (802)				
	Profil rama (803)				

PROFIL	NAZIV PROFILA SISTEM ROLOPLAST 400	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm ²)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil rama (401)		8,41	28,325	42,663
	Profil rama (402)		9,76	47,48	51,43
	Profil krila prozora i balkonskih vrata (410)		9,46	38,769	45,851
	Profil krila ulaznih vrata (411)		11,58	95,16	60,51
	Profil stuba rama i krila (420)		9,085	37,36	44,41
	Profil preklopa (421)		6,91	19,52	30,06

PROFIL	NAZIV PROFILA SISTEM ROLOPLAST 500	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil rama (501)				
	Profil rama (503)				
	Profil krila prozora i balkonskih vrata (510)				
	Profil krila ulaznih vrata (511)				
	Profil stuba (520)				

PROFIL	NAZIV PROFILA SISTEM ROLOPLAST 600	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm ²)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil rama (601)		11,53	52,043	80,217
	Profil rama (603)				
	Profil krila prozora i balkonskih vrata (610)		10,6	42,08	70,4
	Profil krila ulaznih vrata (611)		13,79	111,47	100,2
	Profil krila ulaznih vrata (612)		14,44	119,86	102,7

PROFIL	NAZIV PROFILA SISTEM ROLOPLAST 600 I POMOĆNI PROFILI	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm ²)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil stuba rama i krila (620)		11,215	52,94	73,15
	Profil stuba rama i krila (622)				
	Profil preklopa (621)		7,81	20,73	39,63
	Profil produžetka rama (402)		2,725	4,16	3,15
	Profil ugaone spojnice 90° (440)		8,28	63,24	63,24
	Profil podešavajuće ugaone spojnice (450)		4,73	37,03	30,88
	Profil cevi podešavajuće ugaone spojnice (460)		4,9	37,295	37,295

PROFIL	NAZIV PROFILA	MASA g/m	POVRŠINA POPREČNOG PRESEKA A (cm ²)	MOMENT INERCIJE ZA x OSU I _x (cm ⁴)	MOMENT INERCIJE ZA y OSU I _y (cm ⁴)
	Profil čeličnog ojačanja za profile: 810 (232523)				
	Profil čeličnog ojačanja za profile: 301,310,810,501,503,510 i 520 (232523)				
	Profil čeličnog ojačanja za profile: 321,401,403,410 i 421 (253025)				
	Profil čeličnog ojačanja za profile: 601,603,610,801,802 i 803 (273327)				
	Profil čeličnog ojačanja za profile: 320 (291929)				
	Profil čeličnog ojačanja za profile: 420,620 i 621 (381938)				
	Profil čeličnog ojačanja za profile: 311,411,511,611 i 612 (493749)				

4. KONSTRUKTIVNE KOMBINACIJE, SEČENJE PROFILA I DIMENZIJE STAKLA

U ovom poglavlju su date dimenzije sklopova, sečenje profila i dimenzije stakla.

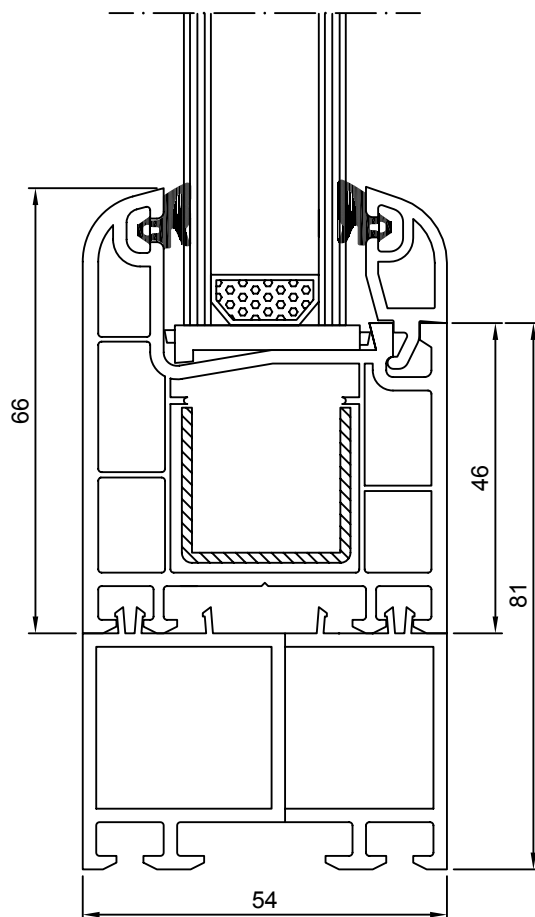
prikazani su najčešći sklopovi koji se koriste u građevinarstvu. Obično se sklopovi sastoje od profila rama, profila krila, lajsne za staklo, stakla i čeličnog ojačanja.

Na veoma jednostavan način, na samom crtežu (poprečni i vertikalni presek) su prikazane osnovne dimenzije. Ukoliko se zadaju dimenzije otvora, odnosno prozora veoma jednostavno, kako je prikazano na crtežu mogu se odrediti karakteristične dimenzije kao što su (širina i visina krila, širina i visina lajsne za staklo, širina i visina stakla). Praktično takav crtež predstavlja mini krojnu sliku (može se vrlo jednostavno sagledati potreban materijal za izradu istog). Na crtežima se pojavljuje interesantno projektovan profil zidnog podmetača (ima funkciju vezivanja okapnice i unutrašnje podprozorske daske). Nudimo varijantu i okapnice i unutrašnje prozorske daske od tvrdog PVC-a. Na ovaj način je eliminisan problem pocinkovanog lima spolja i njegova eventualna korozija. Može se jednostavno uočiti veoma široki dijapazon kombinacija koji je u funkciji objekta kao i želja kupaca.

Najčešća kombinacija su fiksni, jednokrlni, dvokrlni, dvokrlni sa stubom prozori, kao i odgovarajuća balkonska vrata.

Na crtežima kod ulaznih vrata možete primetiti da se profil krila razlikuje od profila krila balkonskih vrata, širi je, zbog mogućnosti smeštaja odgovarajuće brave. Crteži su postavljeni postepeno od jednostavnog fiksnog prozora do ulaznih vrata. Na ulaznim vratima je montiran prag koji se odlikuje svom jednostavnošću kod izrade i ugradnje.

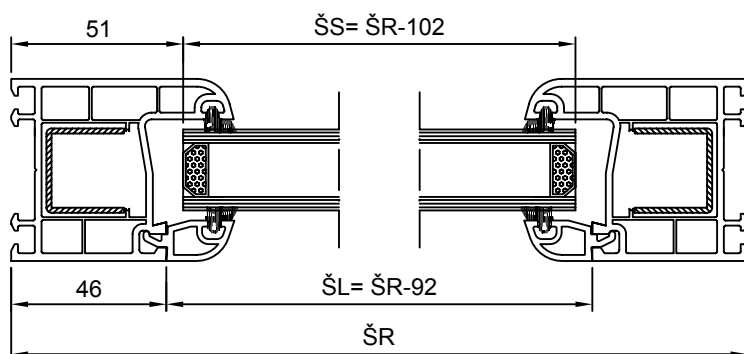
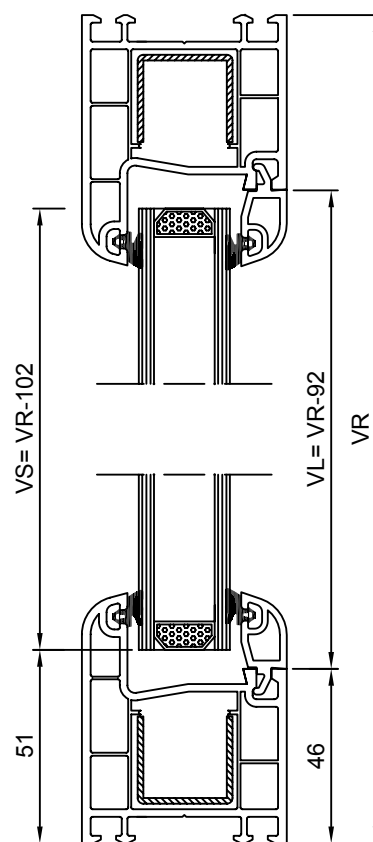
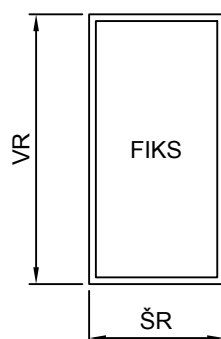
PRESEK PROZORA
NASTAVAK RAMA - RAM
SISTEM 300



FIKSNI PROZOR SISTEM 300

LEGENDA

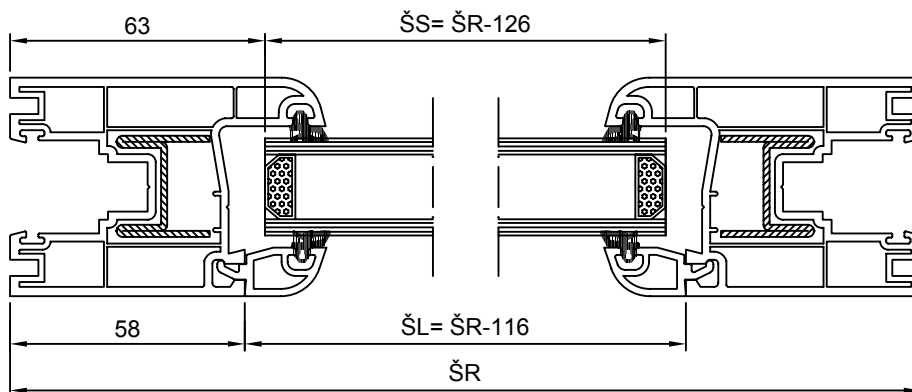
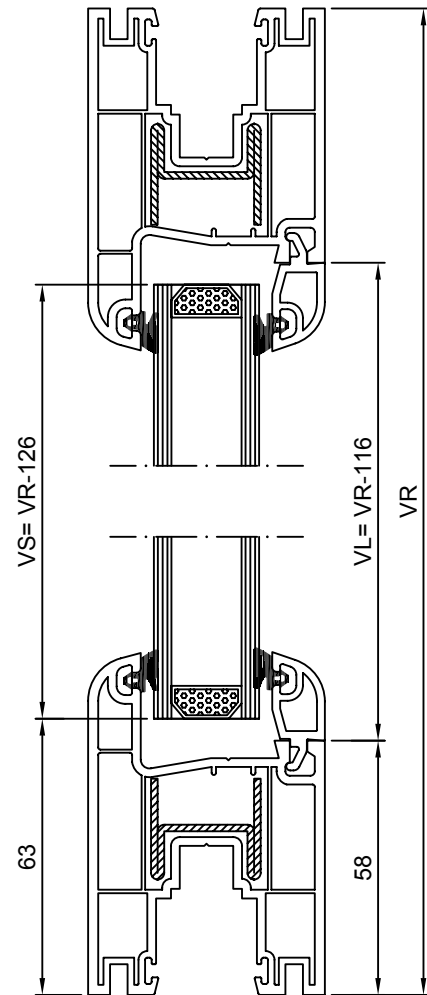
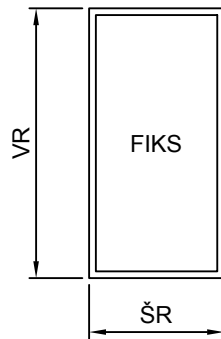
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VL=VISINA LAJSNE
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VS= VISINA STAKLA



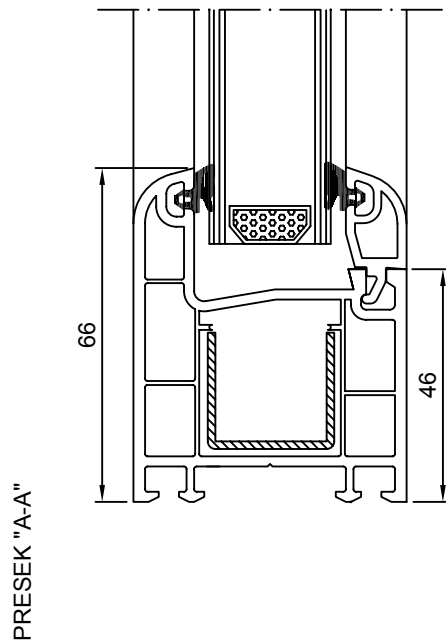
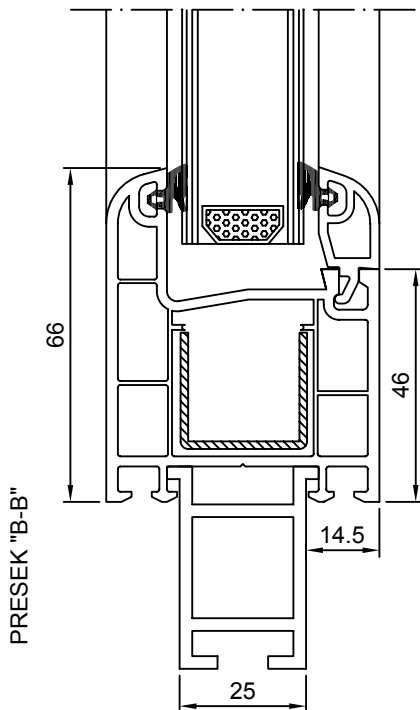
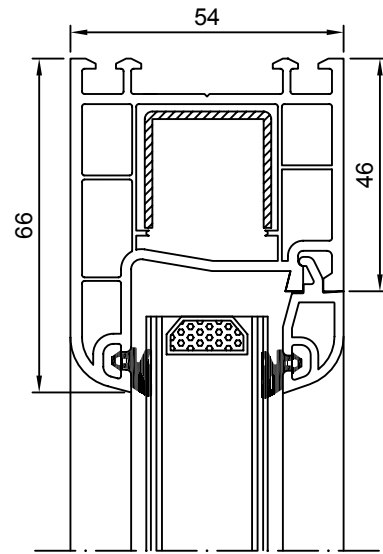
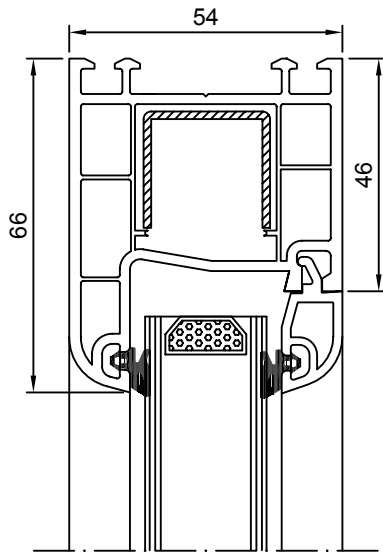
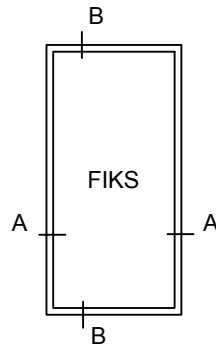
FIKSNİ PROZOR SA PROSIRENIM RAMOM SISTEM 300

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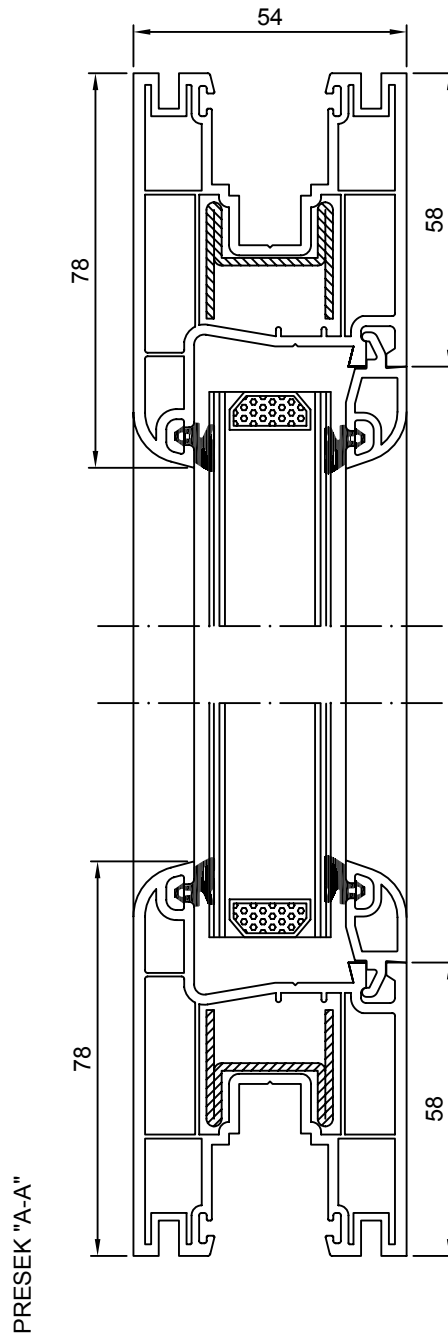
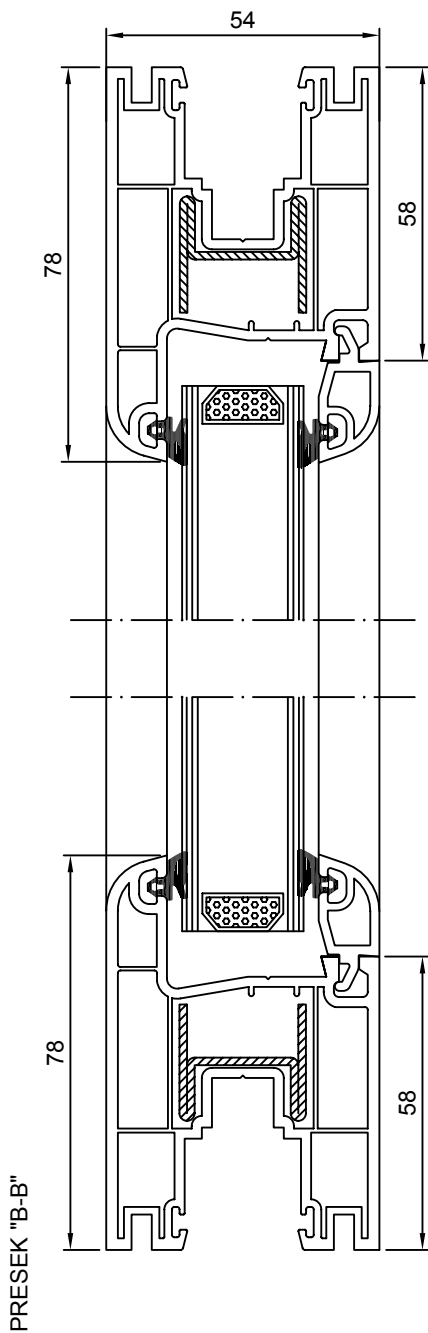
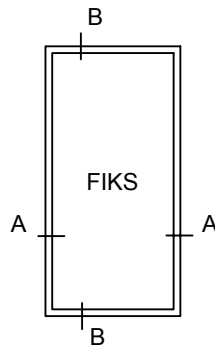
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VS= VISINA STAKLA



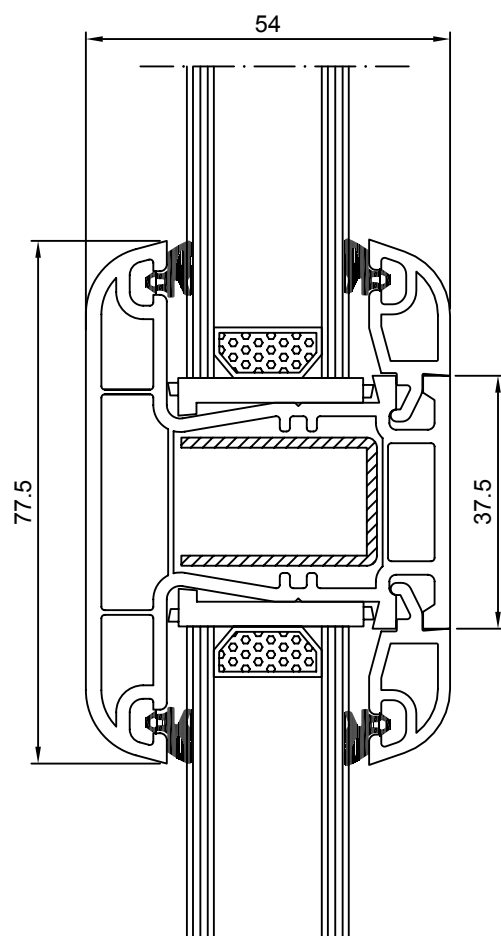
FIKSNI PROZOR SISTEM 300



FIKSNI PROZOR SA PROSIRENIM RAMOM SISTEM 300



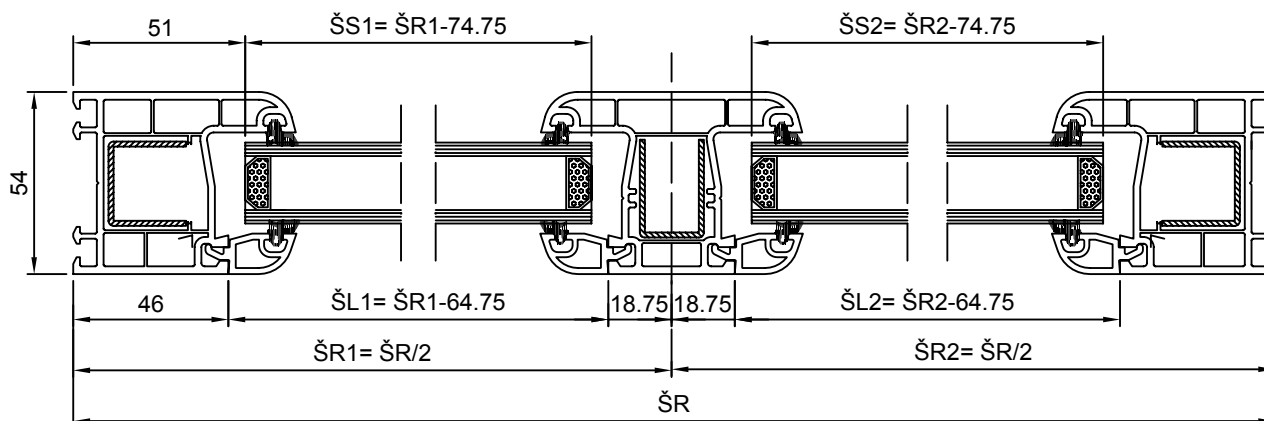
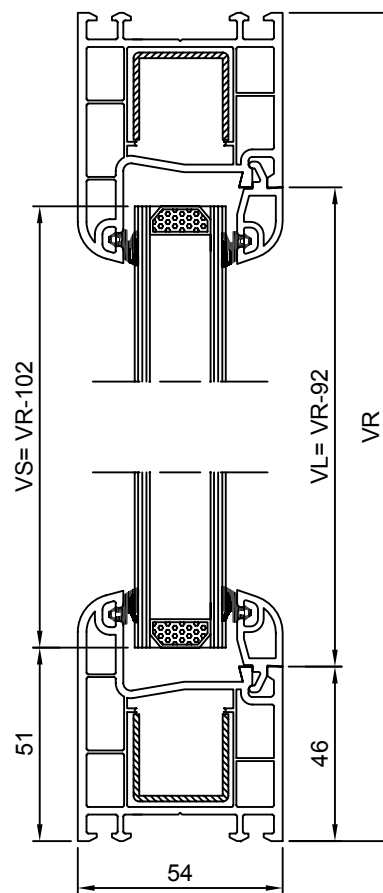
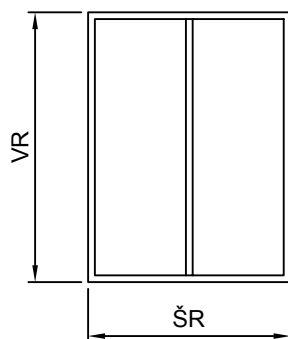
PRESEK PROZORA
STUB - LAJSNA ZA STAKLO
SISTEM 300



FIKSNI PROZOR SA STUBOM SISTEM 300

LEGENDA

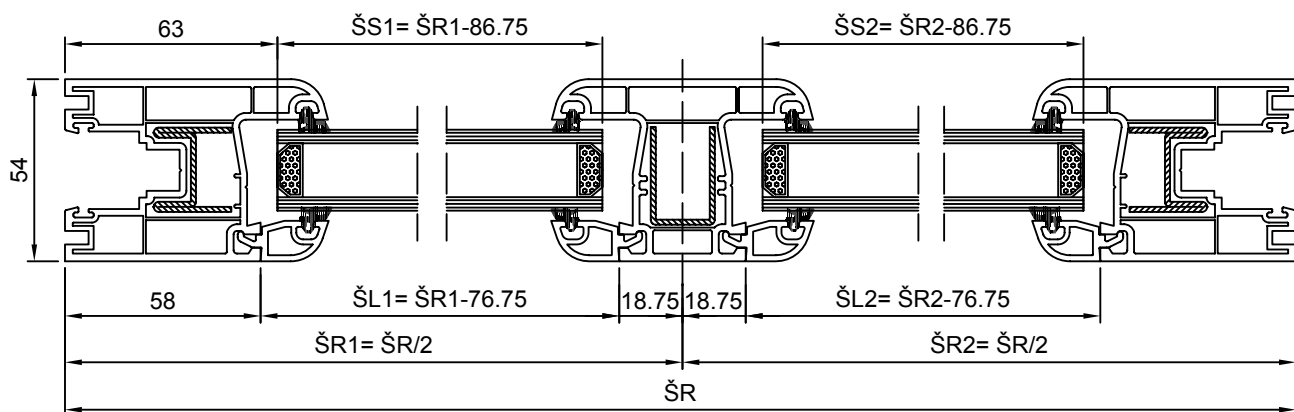
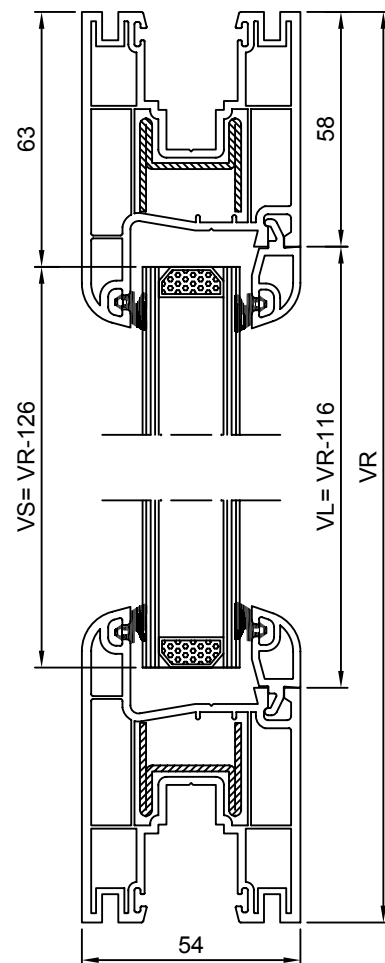
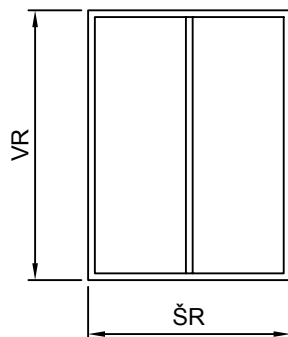
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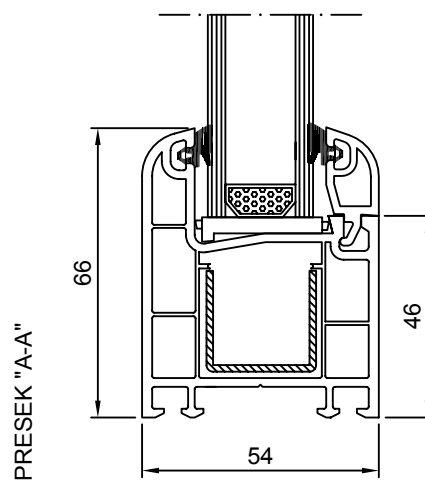
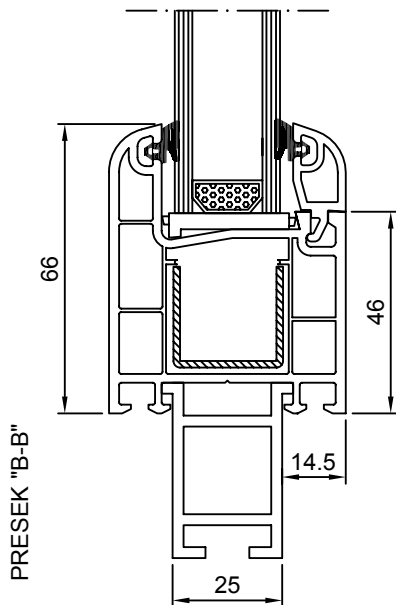
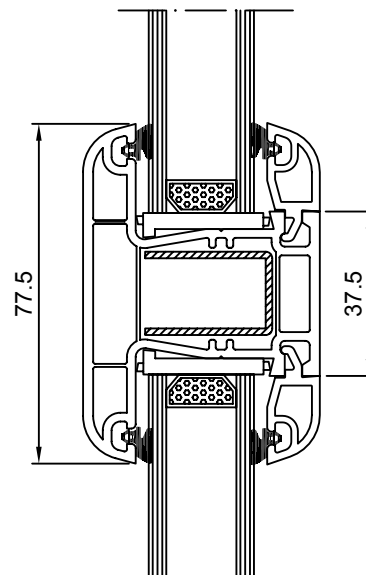
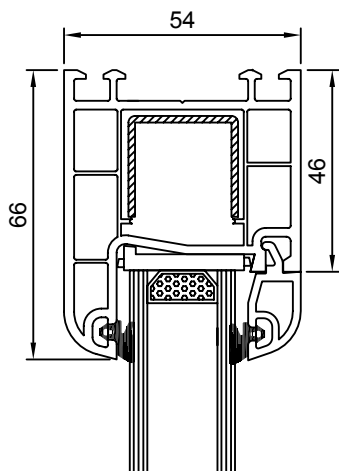
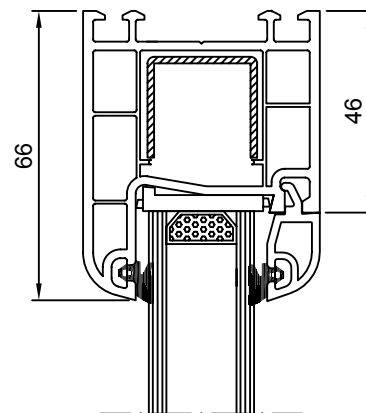
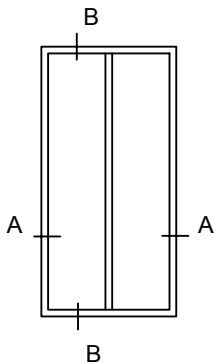
FIKSNI PROZOR SA STUBOM I PROSIRENIM RAMOM SISTEM 300

LEGENDA

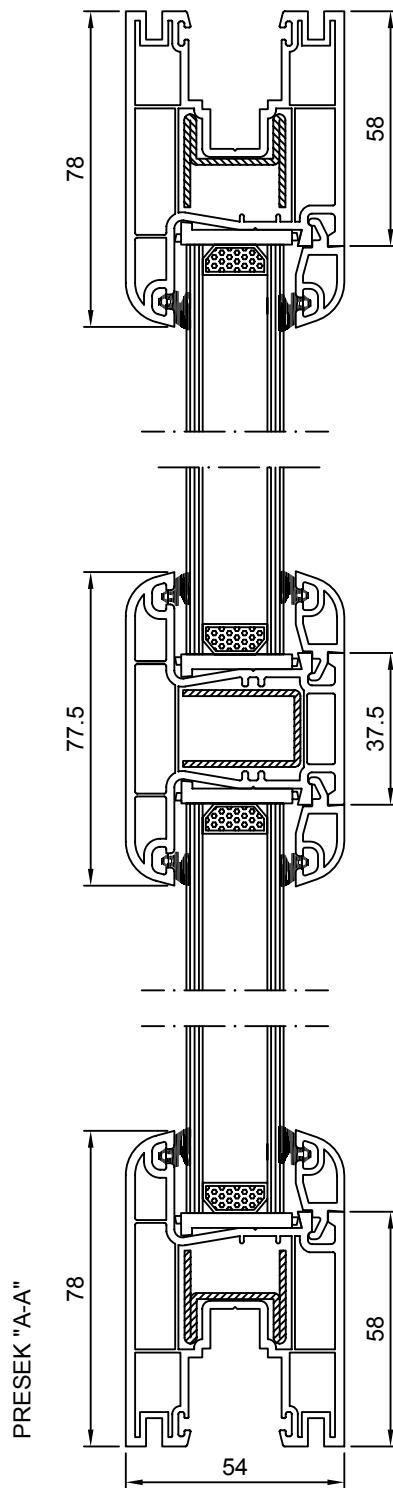
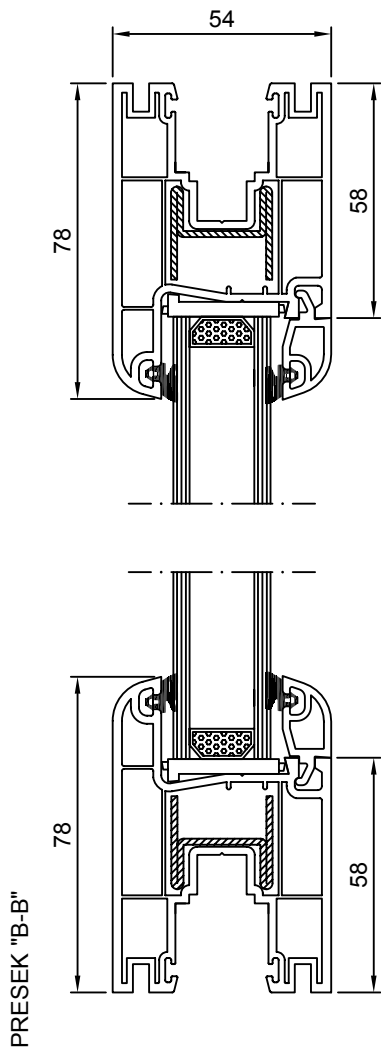
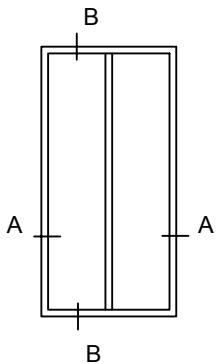
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FIKSNI PROZOR SA STUBOM SISTEM 300



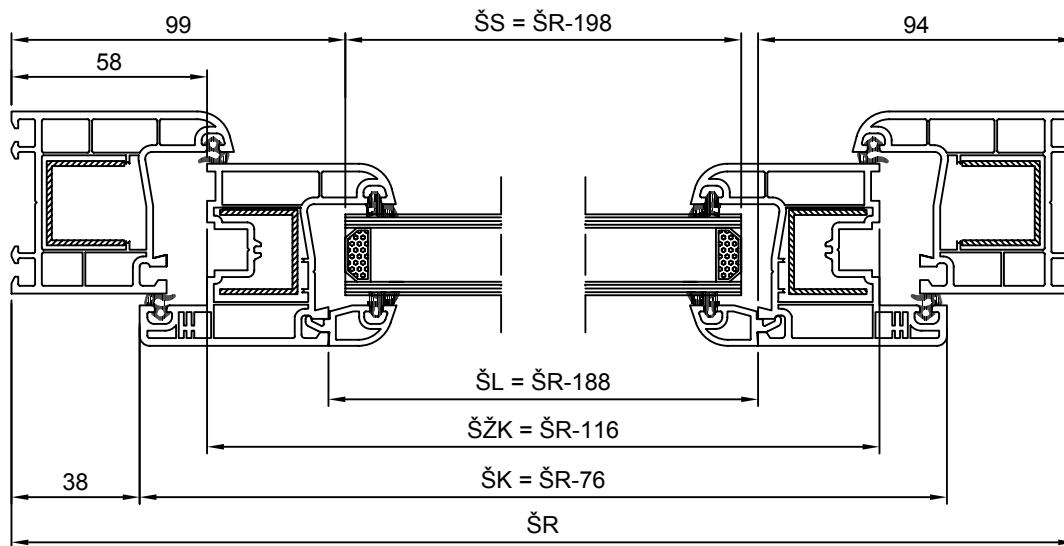
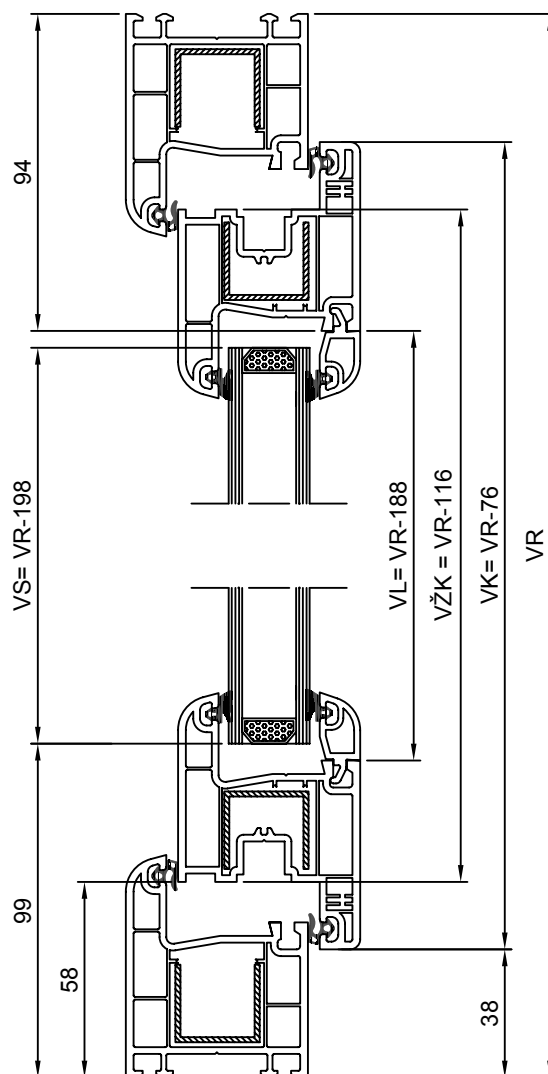
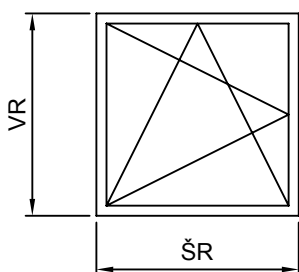
FIKSNI PROZOR SA STUBOM I PROSIRENIM RAMOM SISTEM 300



JEDNOKRILNI PROZOR SISTEM 300

LEGENDA

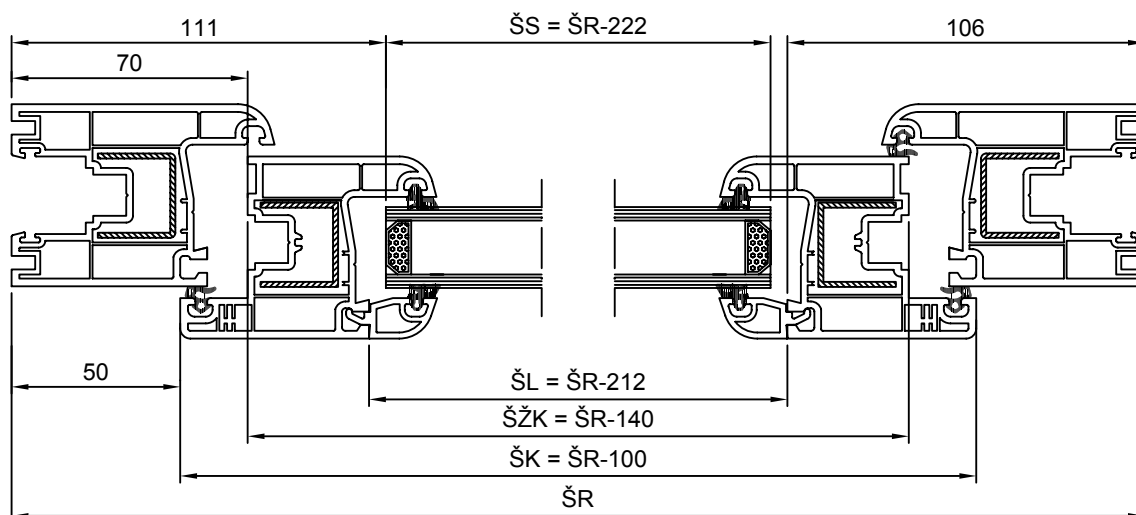
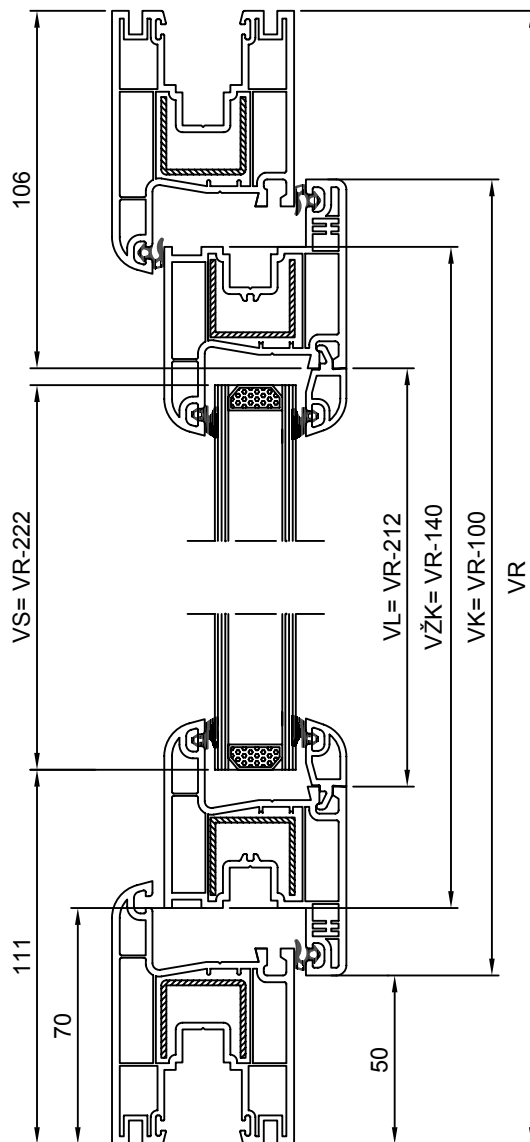
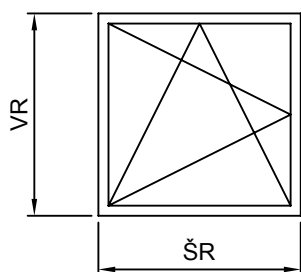
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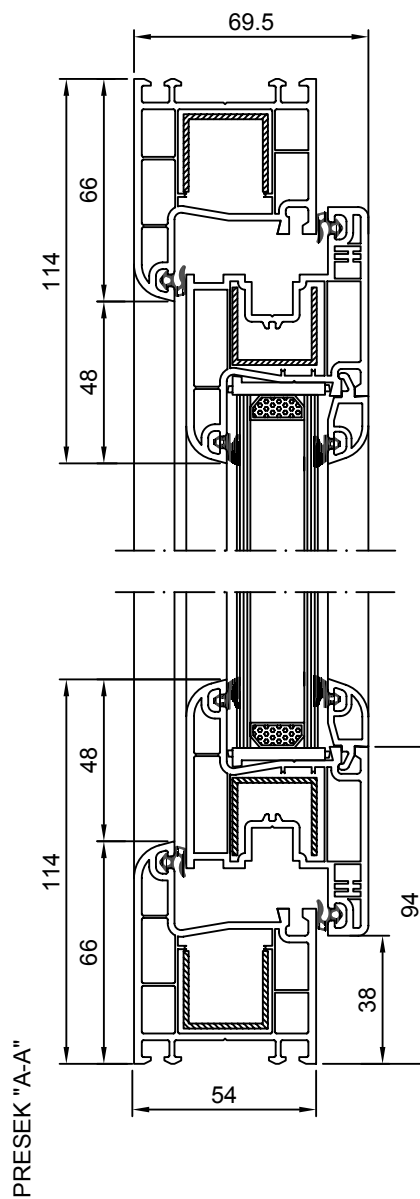
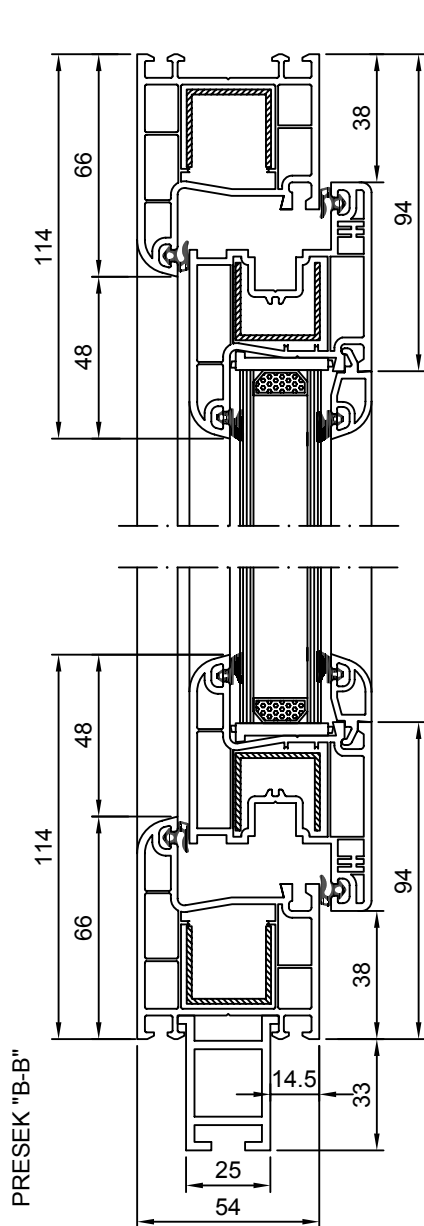
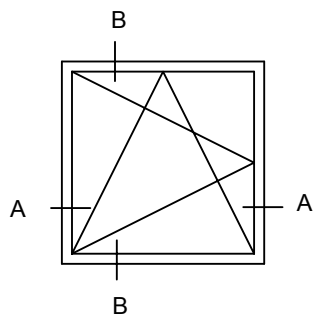
JEDNOKRILNI PROZOR SA SIRIM RAMOM SISTEM 300

LEGENDA

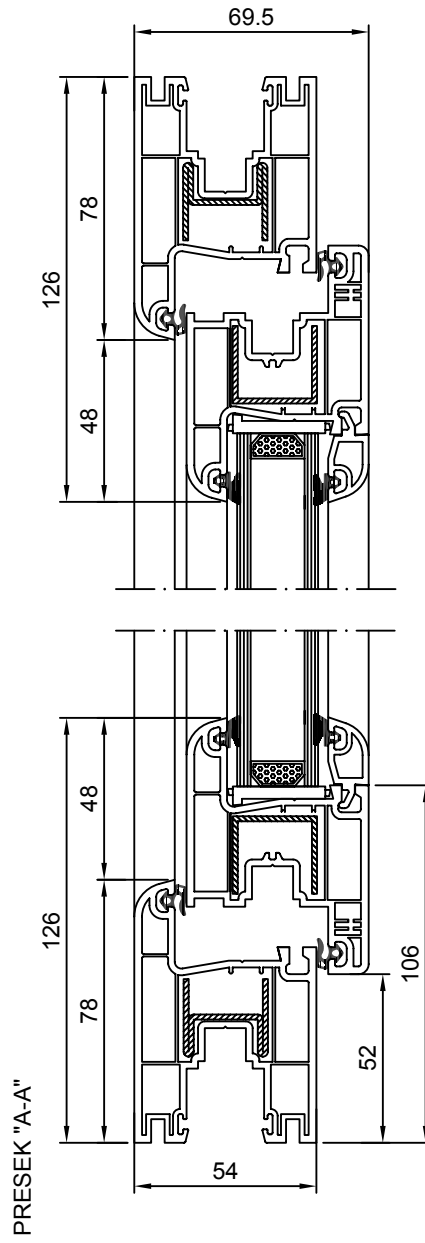
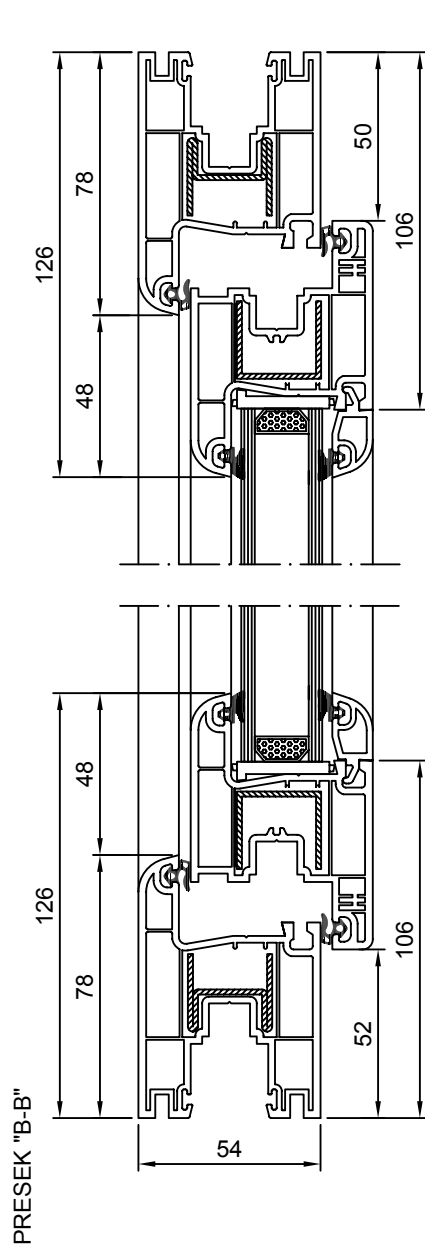
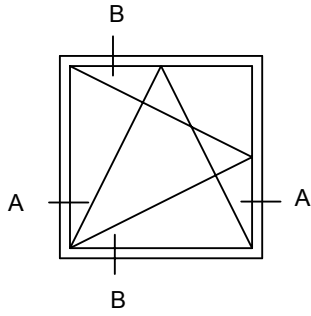
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 VS= VISINA STAKLA



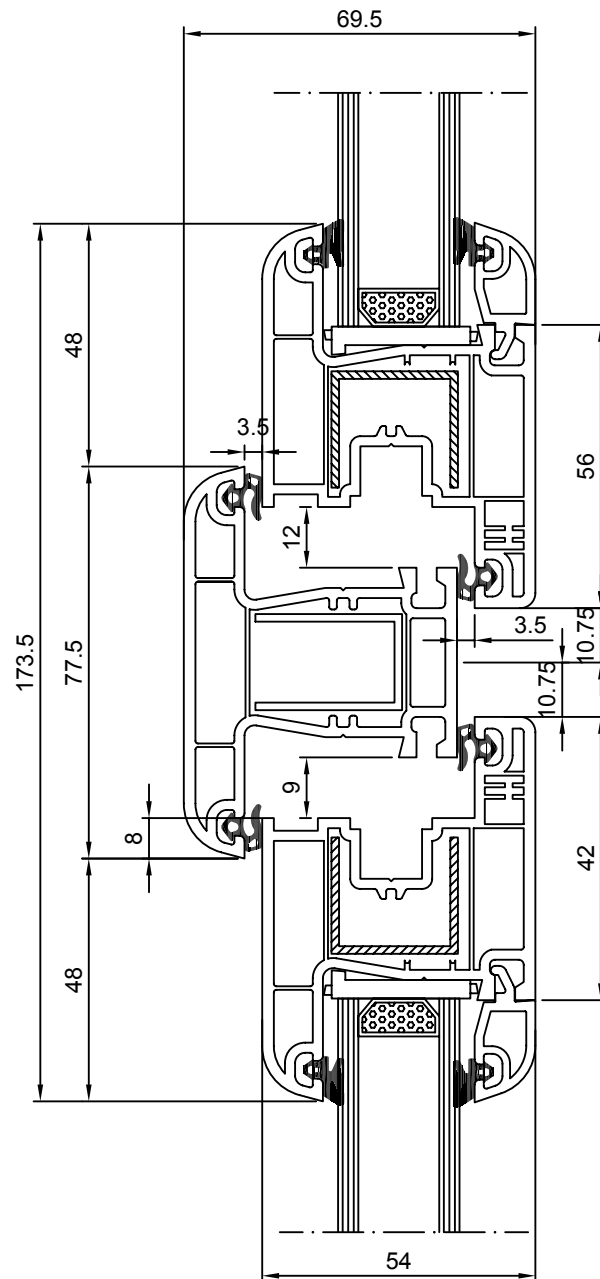
JEDNOKRILNI PROZOR SISTEM 300



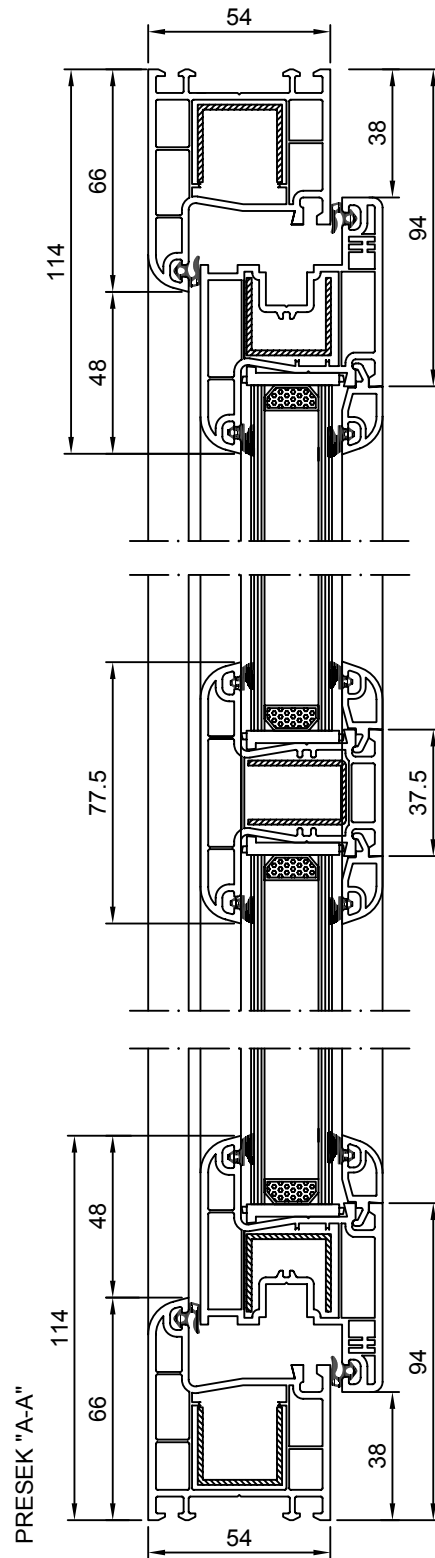
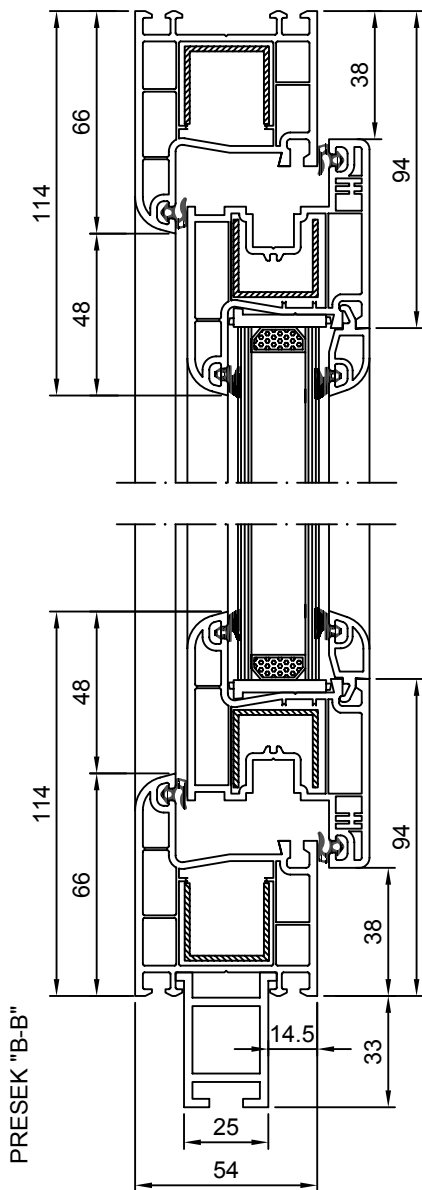
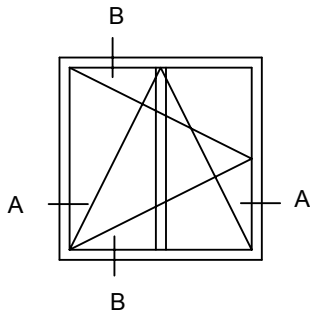
JEDNOKRILNI PROZOR SA PROSIRENIM RAMOM SISTEM 300



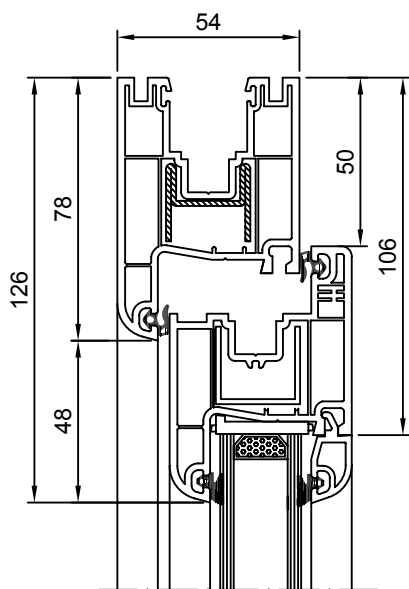
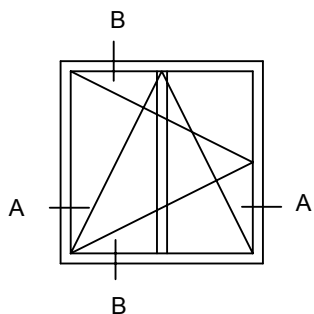
PRESEK PROZORA KRILO-STUB-KRILO SISTEM 300



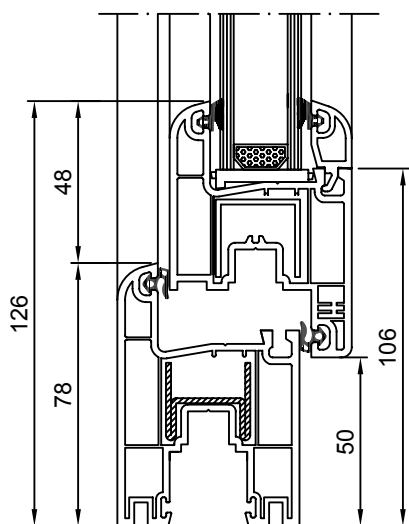
JEDNOKRILNI PROZOR SA PRECKOM SISTEM 300



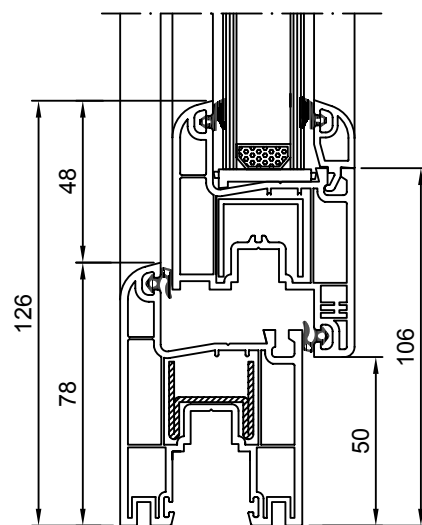
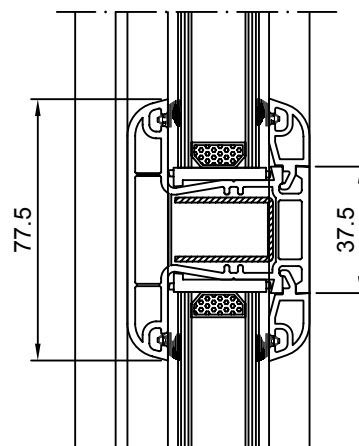
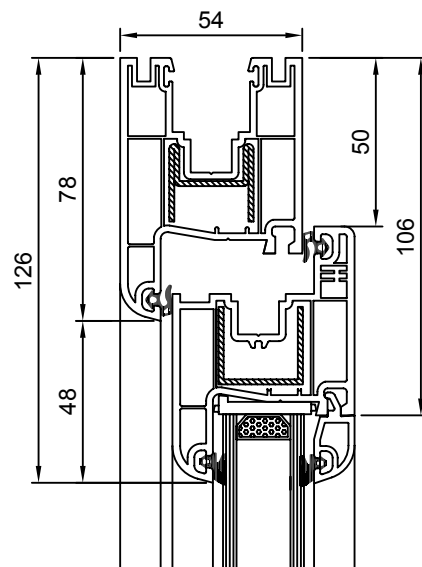
JEDNOKRILNI PROZOR SA PRECKOM I PROSIRENIM RAMOM SISTEM 300



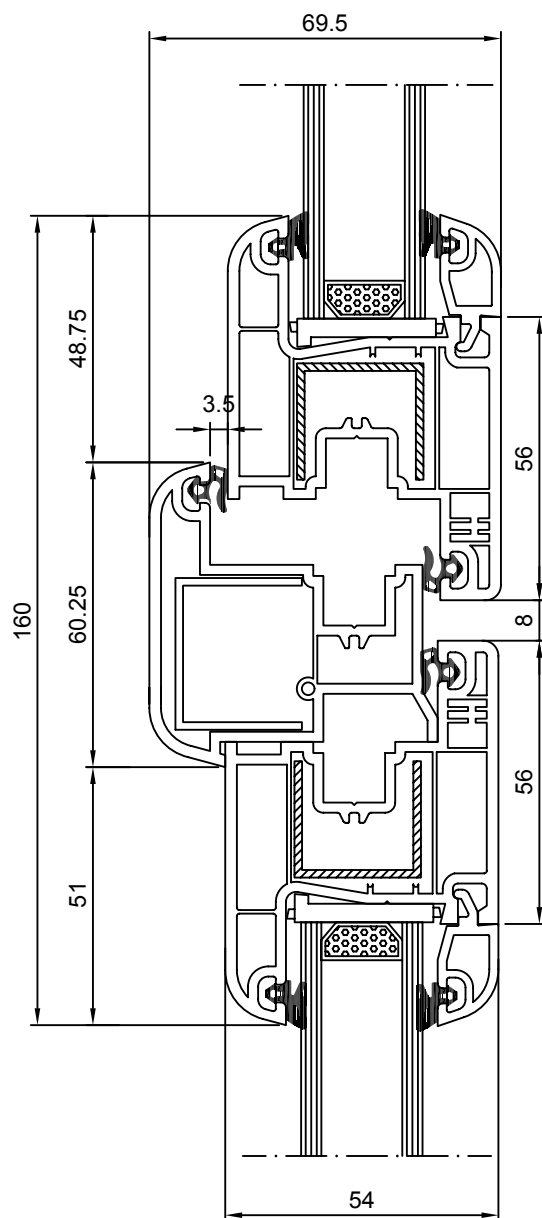
PRESEK "B-B"



PRESEK "A-A"



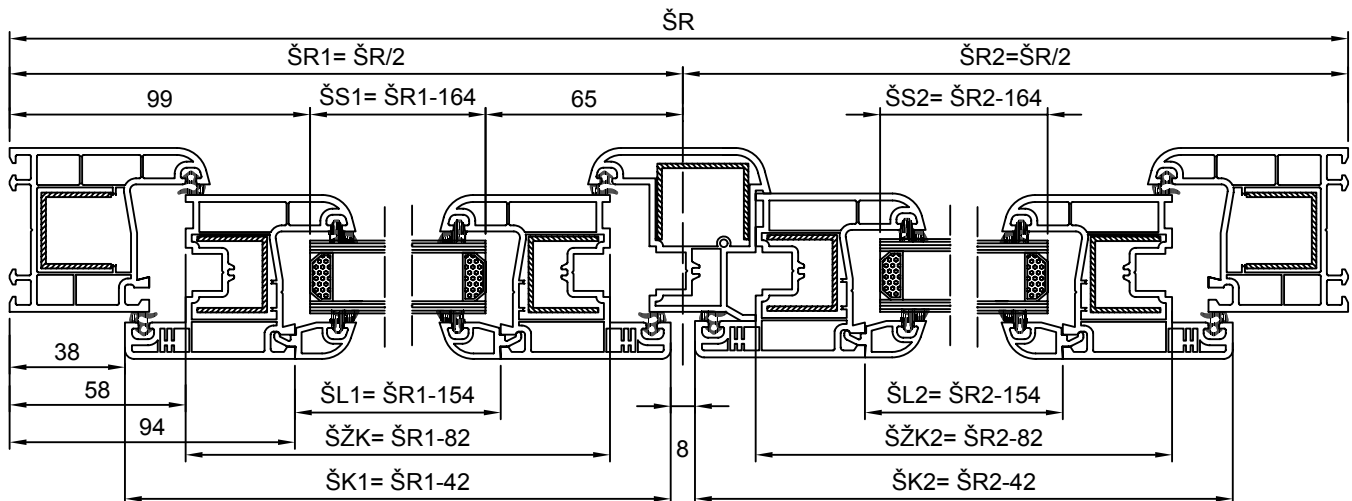
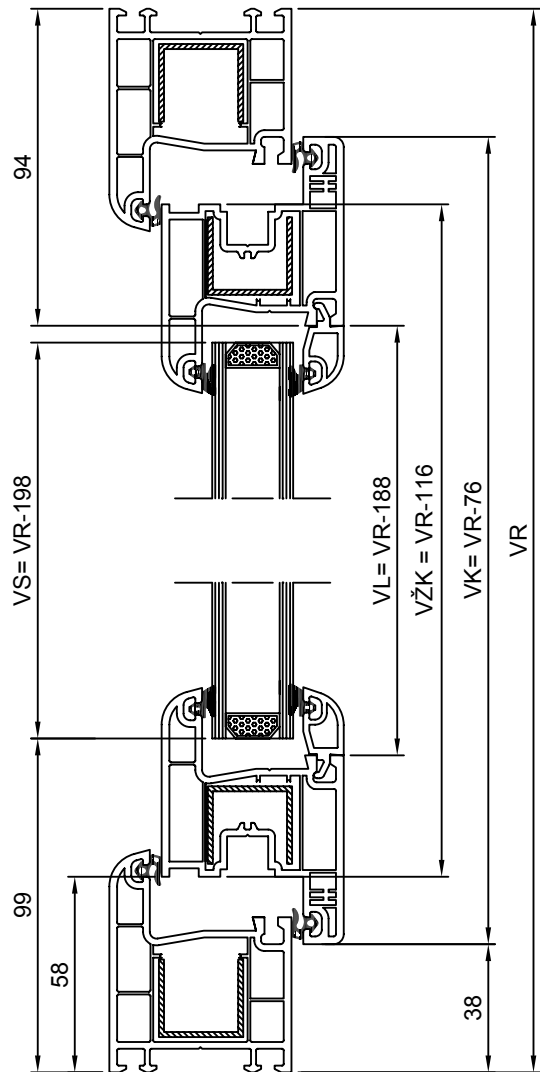
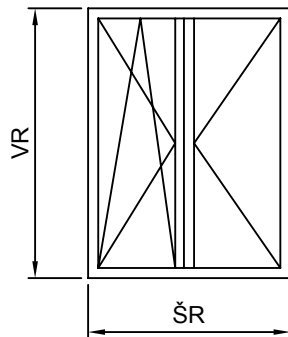
PRESEK PROZORA KRILO-PREKLOP-KRILO SISTEM 300



DVOKRILNI PROZOR SA PREKLOPOM SISTEM 300

LEGENDA

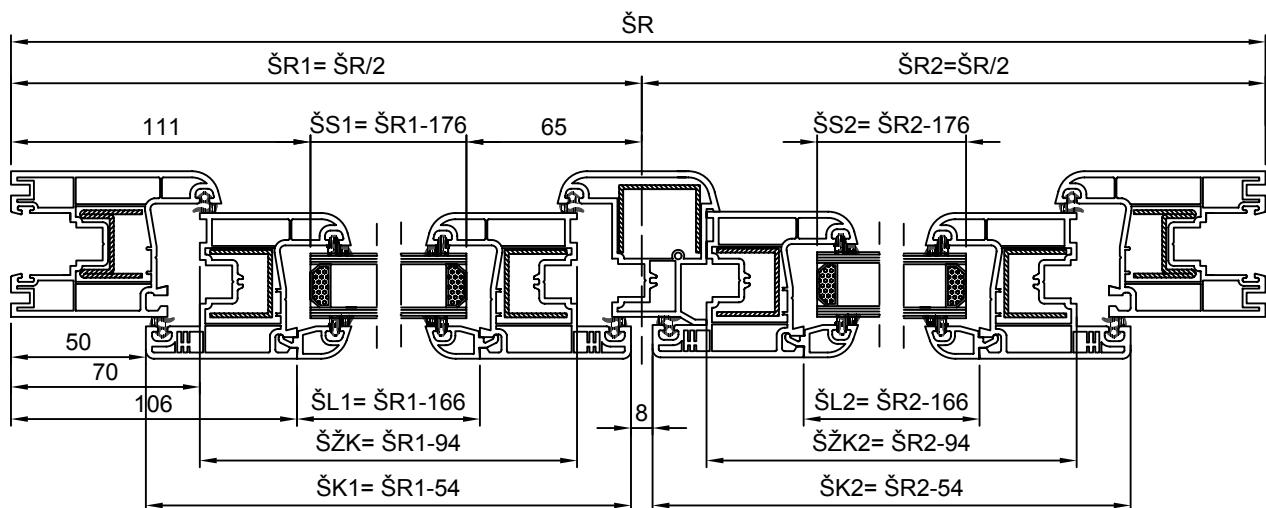
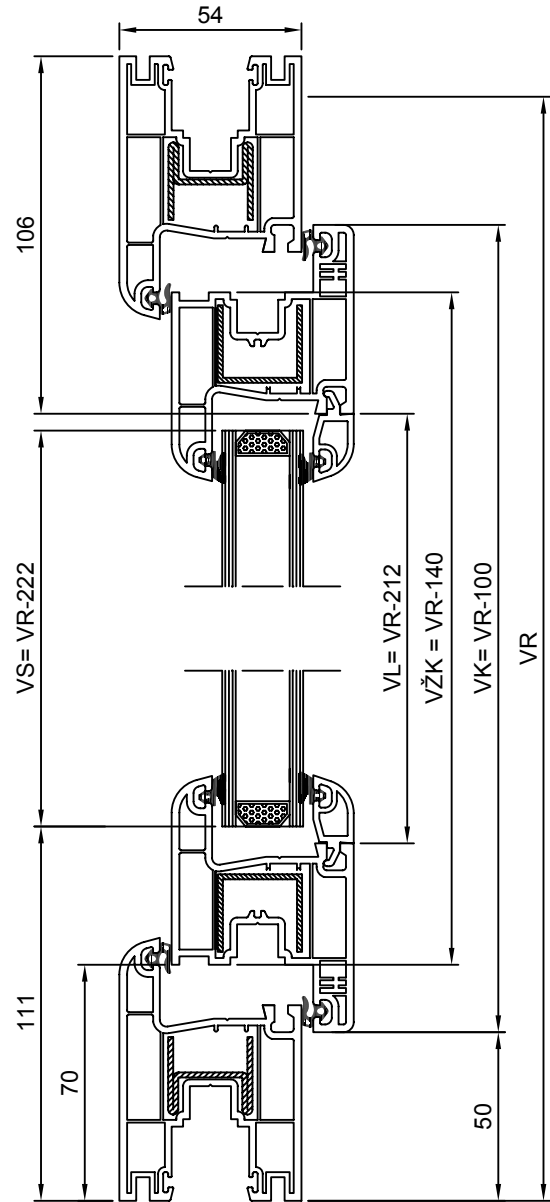
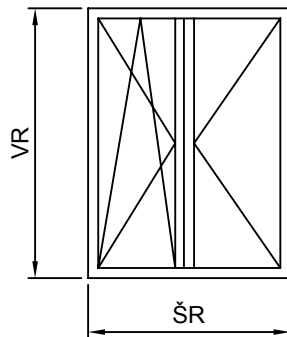
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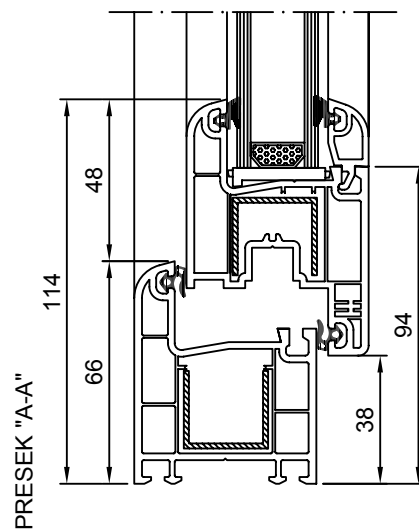
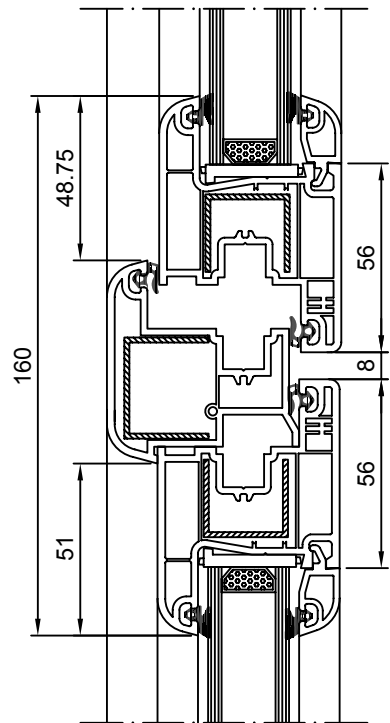
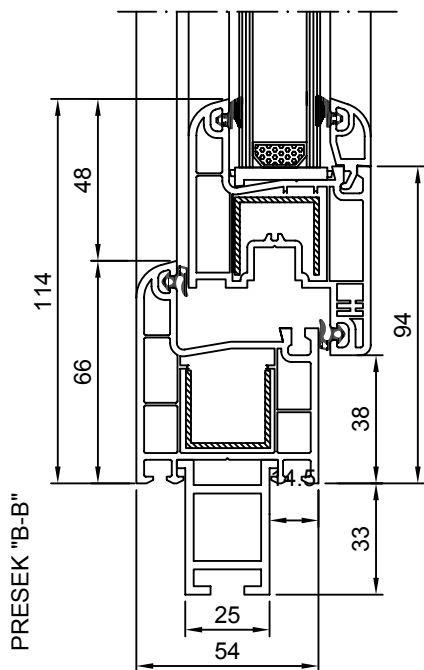
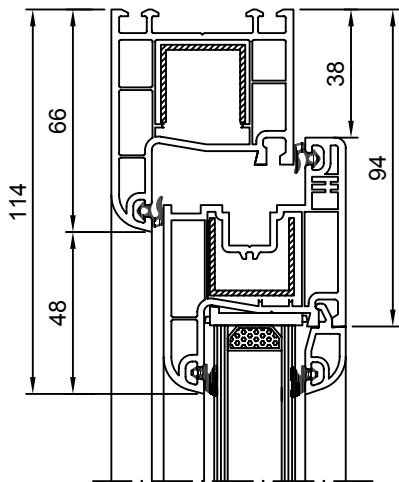
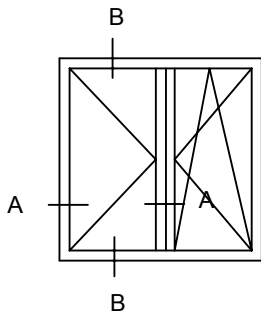
DVOKRILNI PROZOR SA PREKLOPOM I PROSIRENIM RAMOM SISTEM 300

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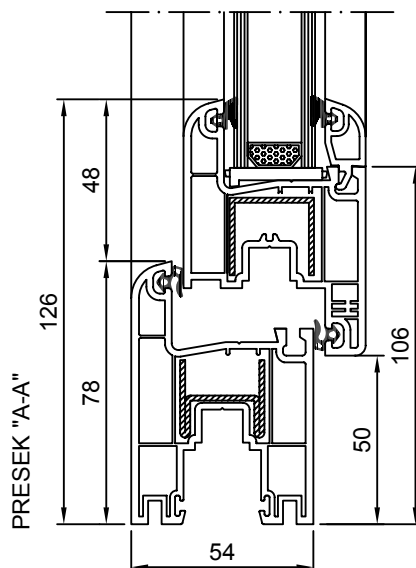
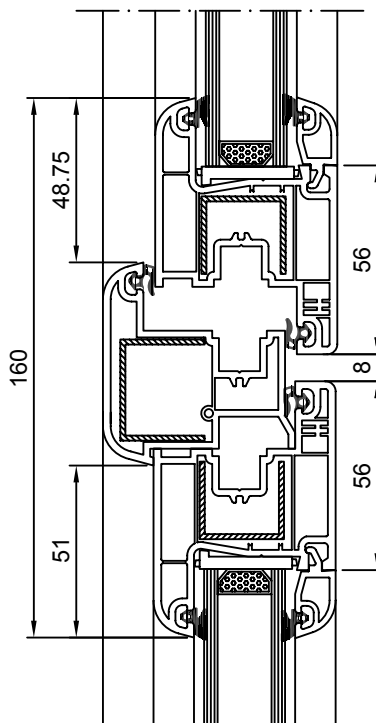
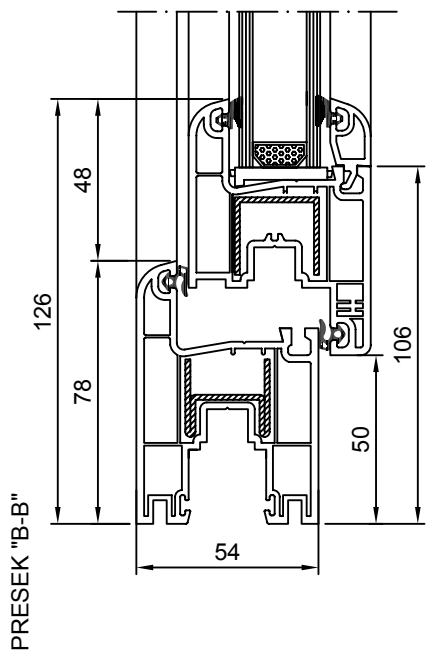
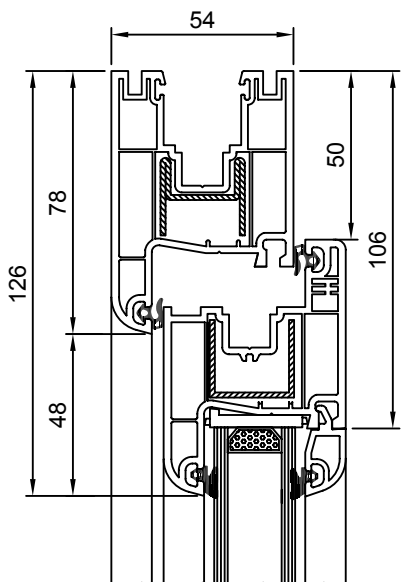
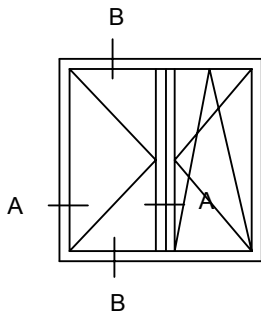
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DVOKRILNI PROZOR SA PREKLOPOM SISTEM 300



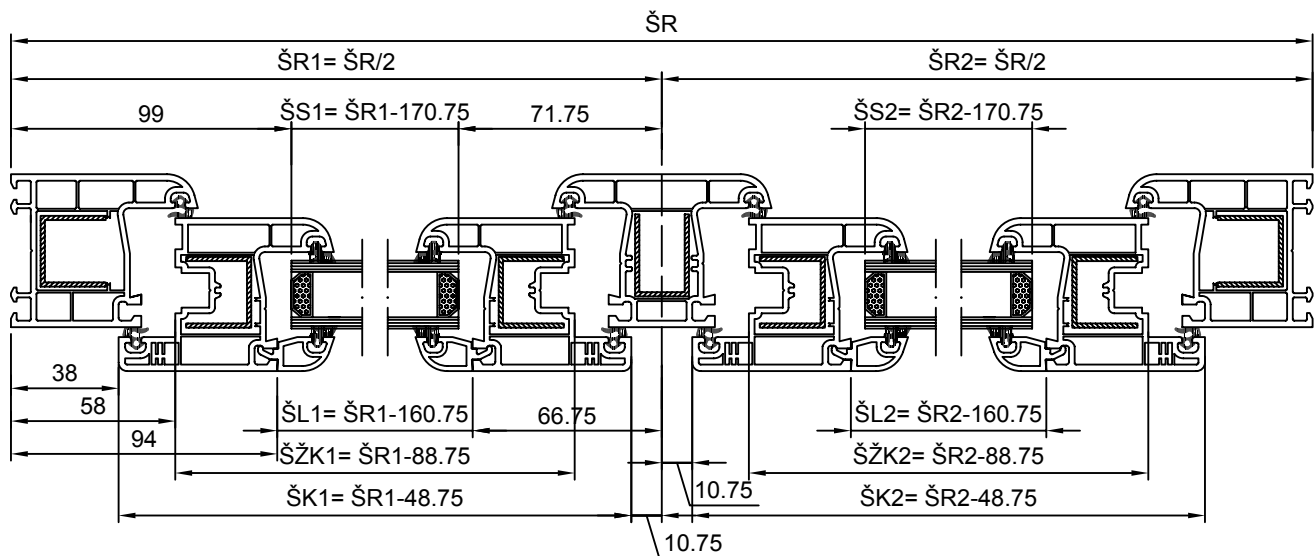
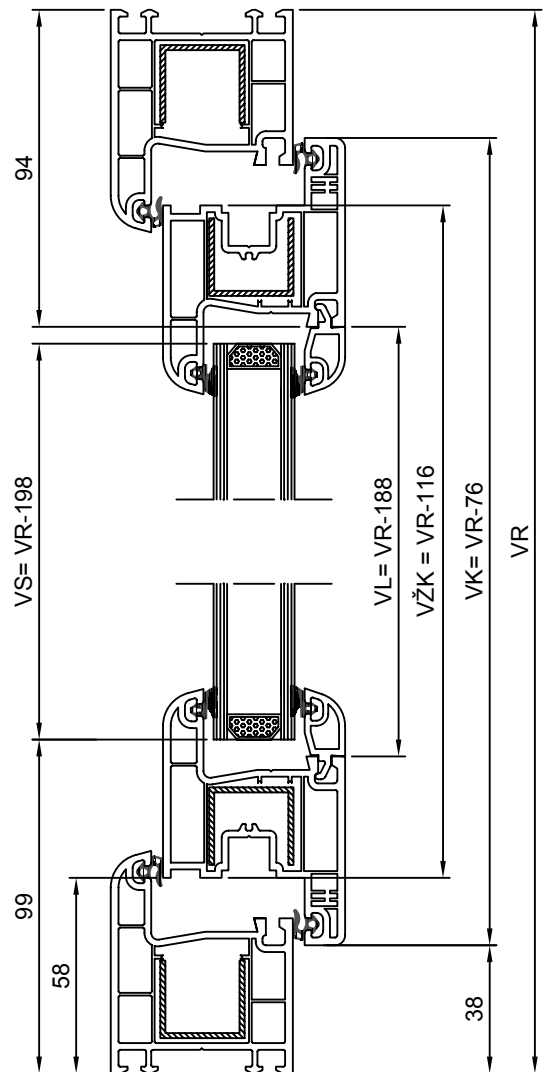
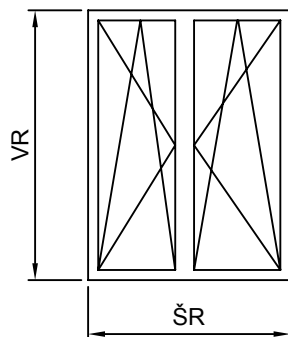
DVOKRILNI PROZOR SA PREKLOPOM I PROSIRENIM RAMOM SISTEM 300



DVOKRILNI PROZOR SA STUBOM SISTEM 300

LEGENDA

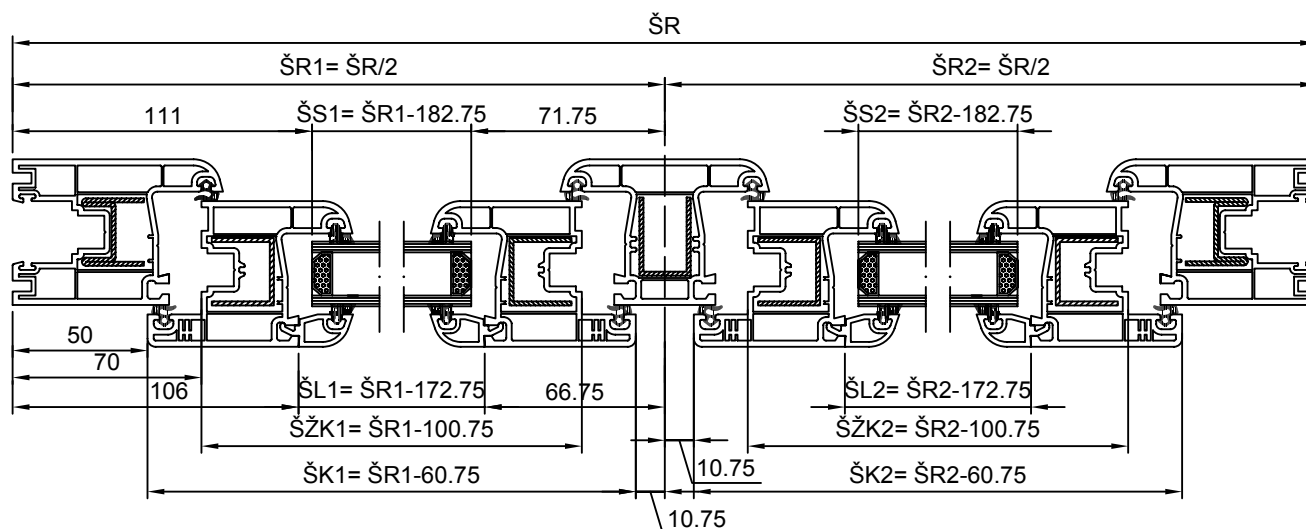
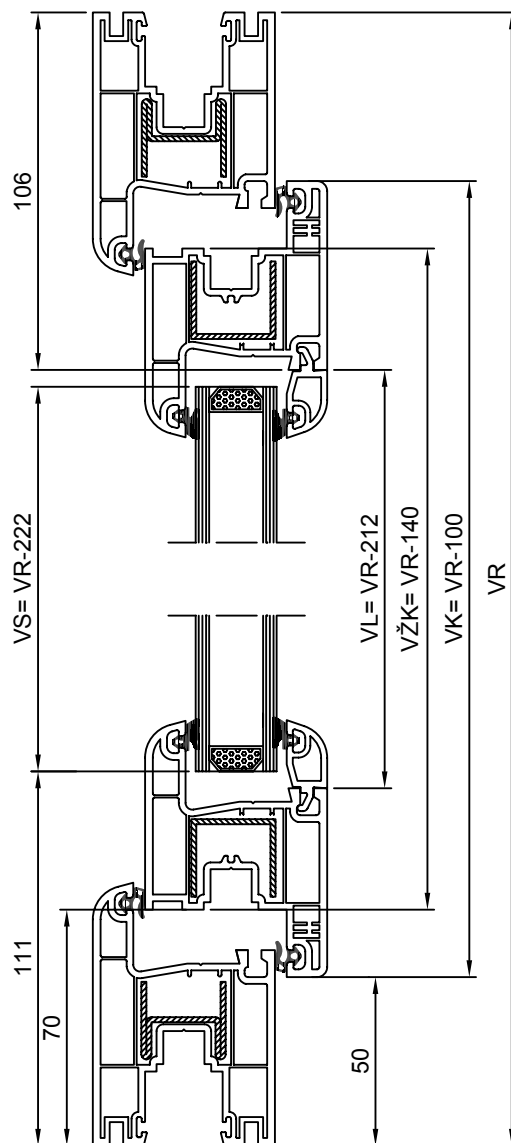
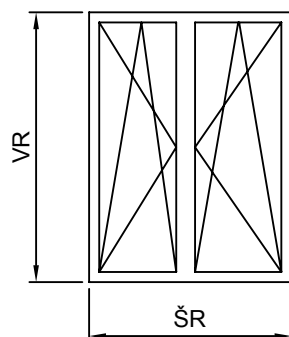
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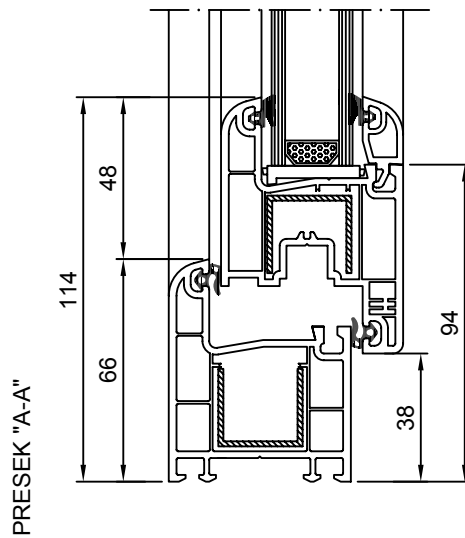
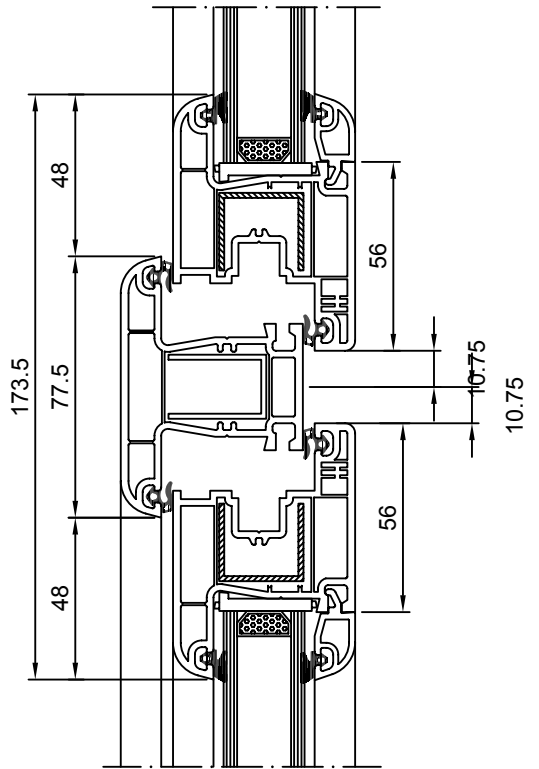
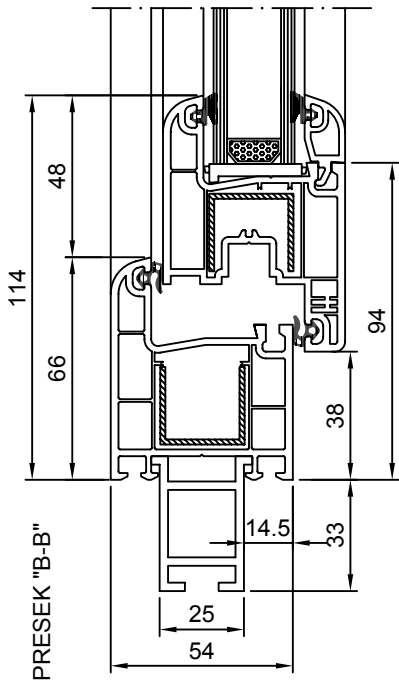
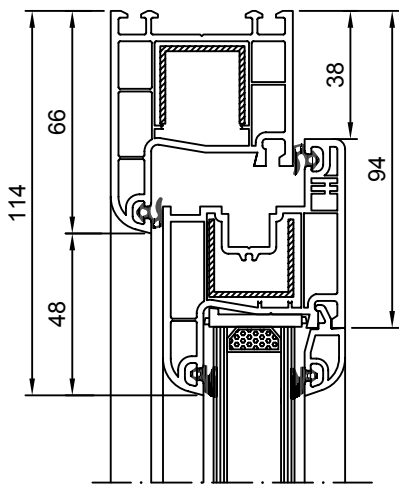
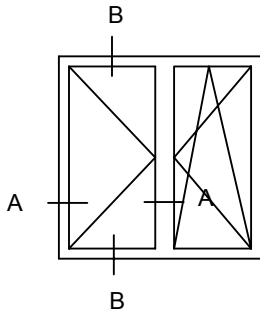
DVOKRILNI PROZOR SA STUBOM I SIRIM RAMOM SISTEM 300

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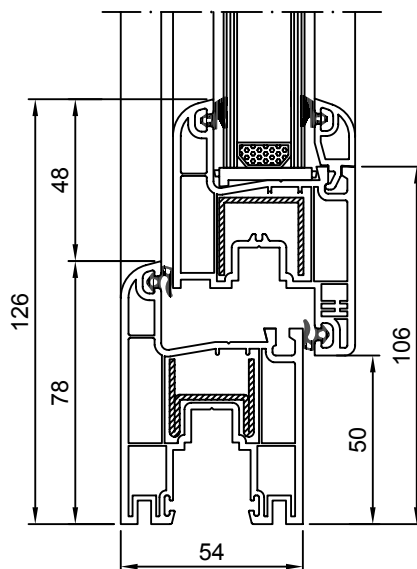
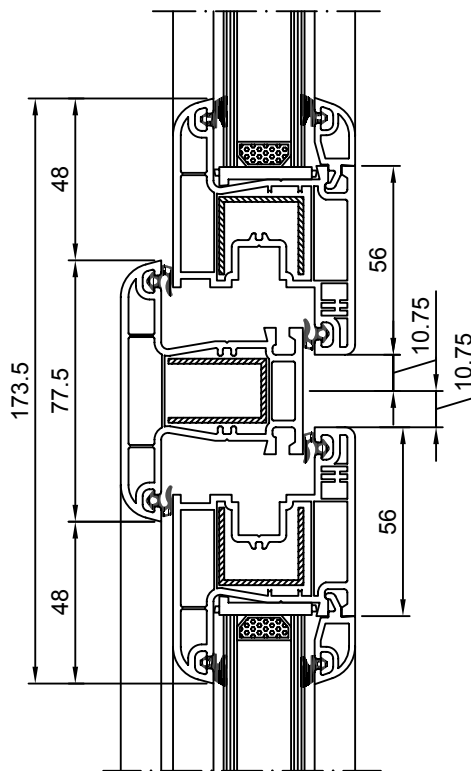
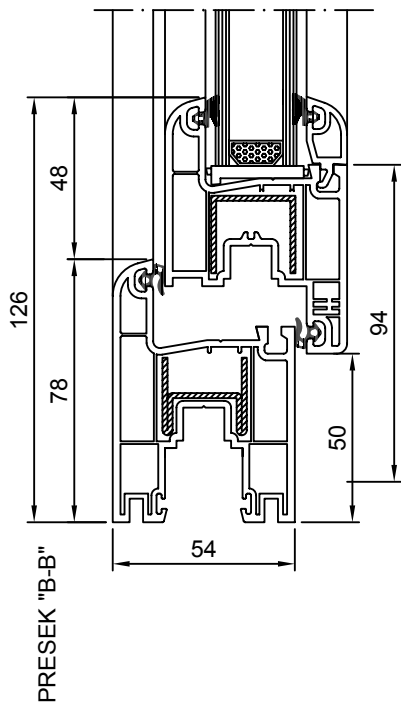
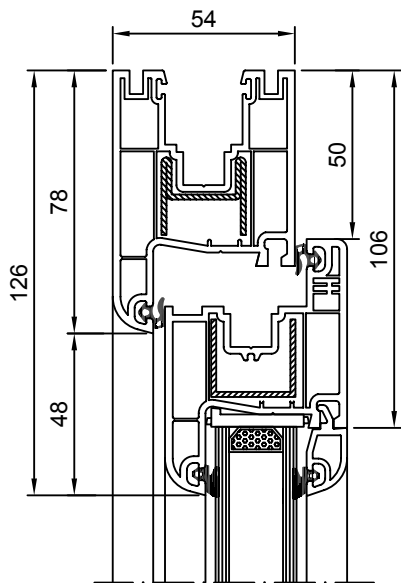
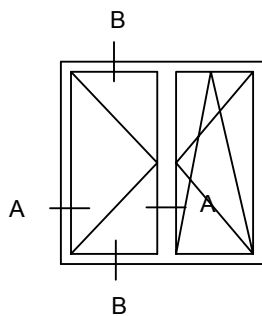
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DVOKRILNI PROZOR SA STUBOM SISTEM 300



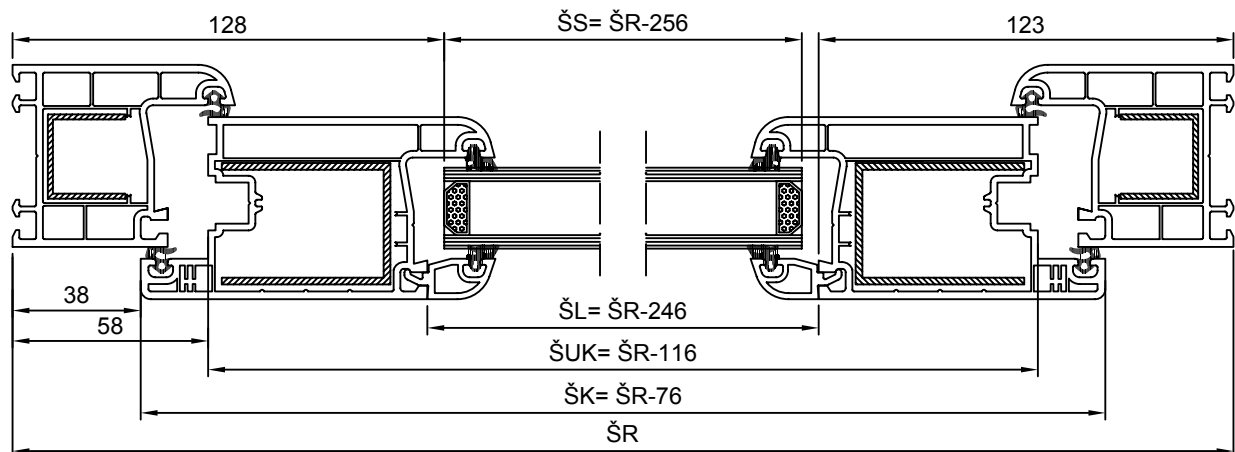
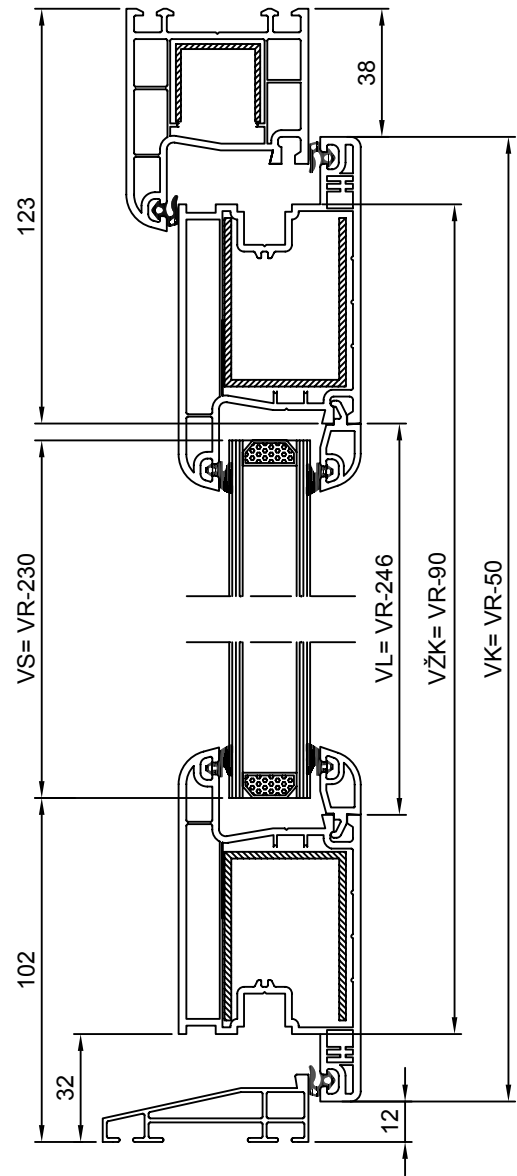
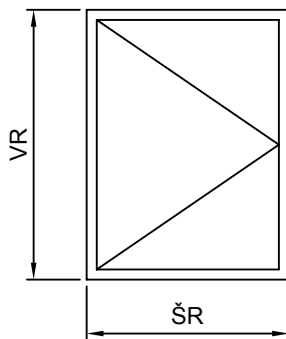
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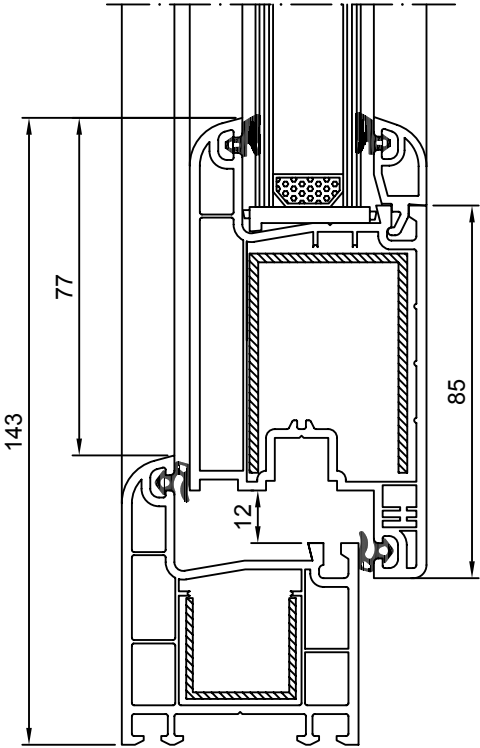
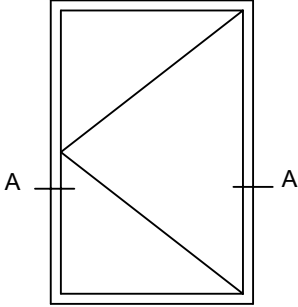
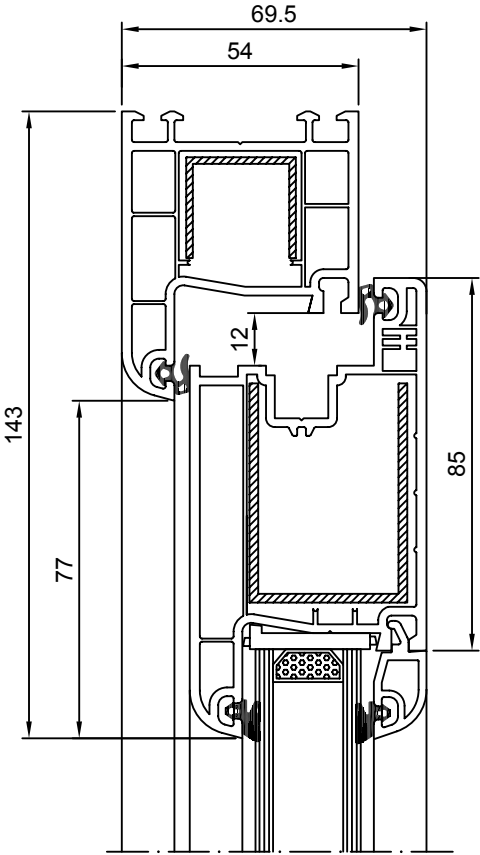
ULAZNA VRATA SISTEM 300

LEGENDA

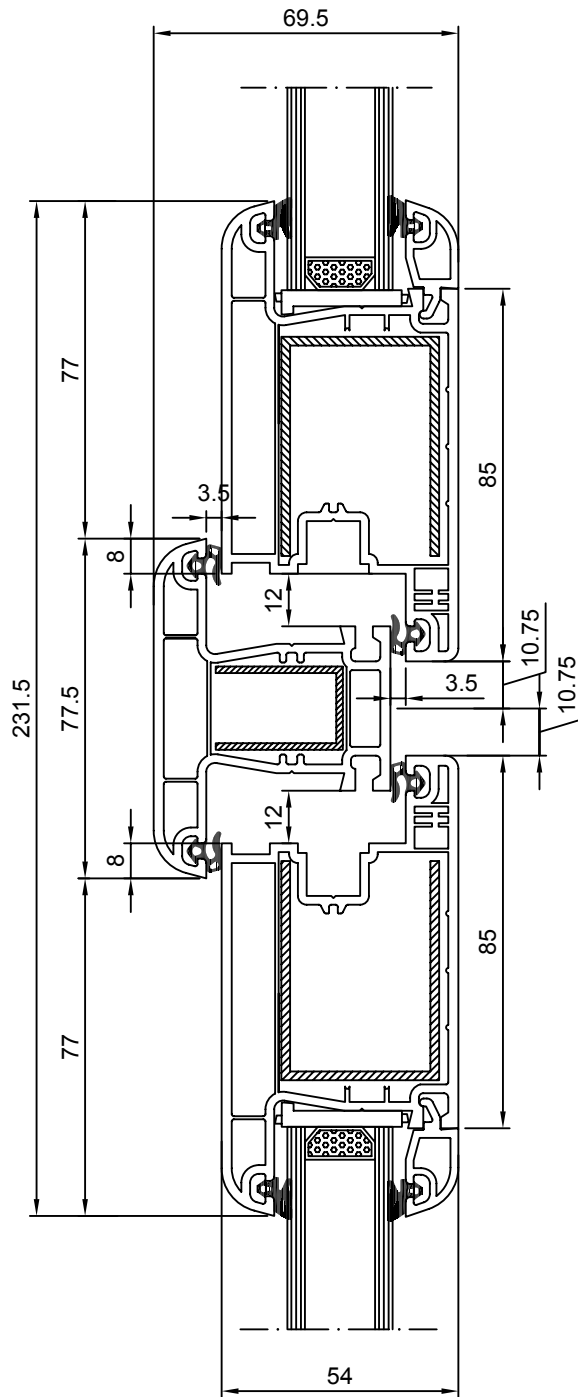
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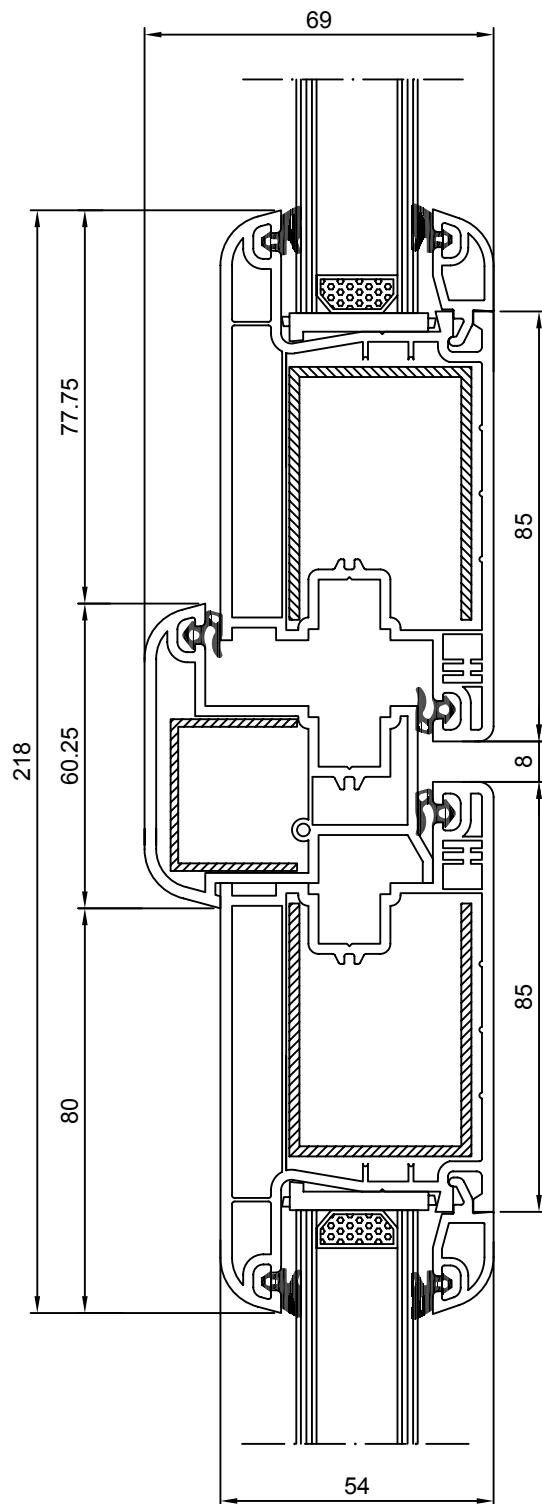
ULAZNA VRATA SISTEM 300



PRESEK VRATA KRILO-STUB-KRILO SYSTEM 300



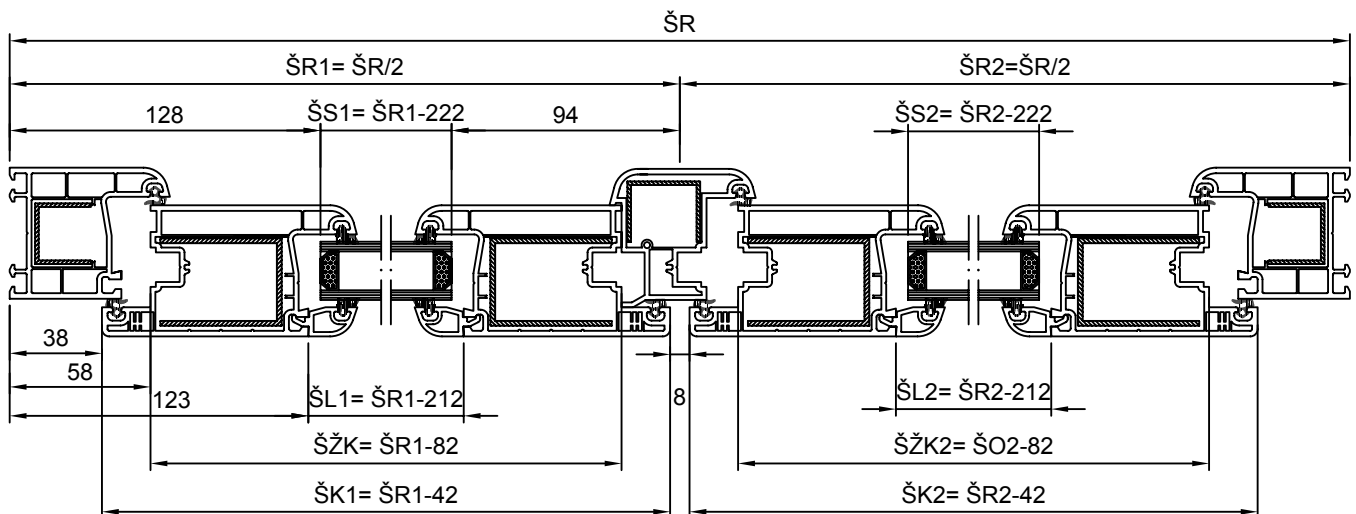
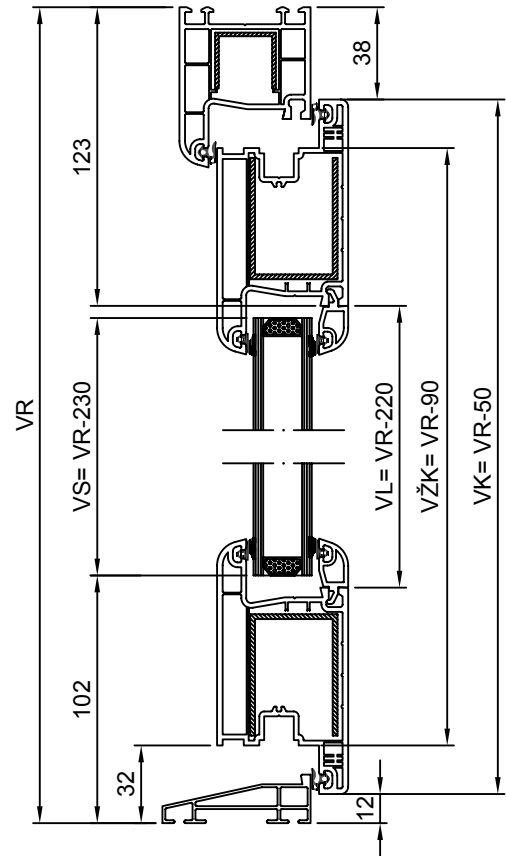
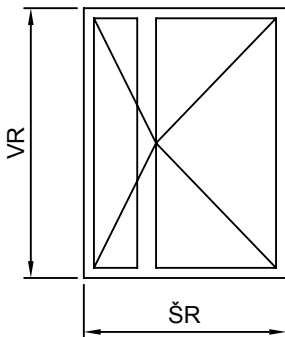
PRESEK VRATA KRILO-PREKLOP-KRILO SISTEM 300



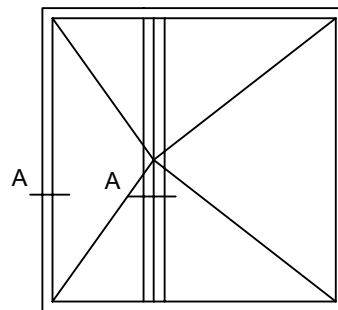
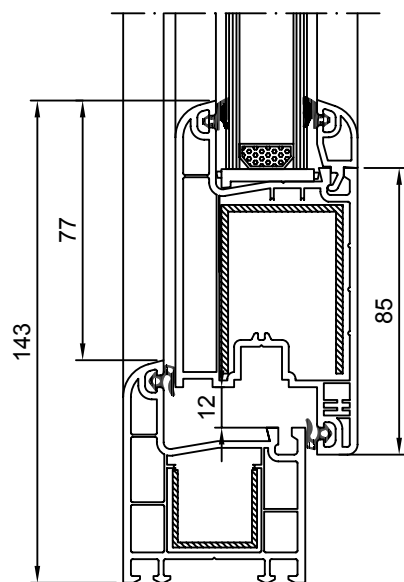
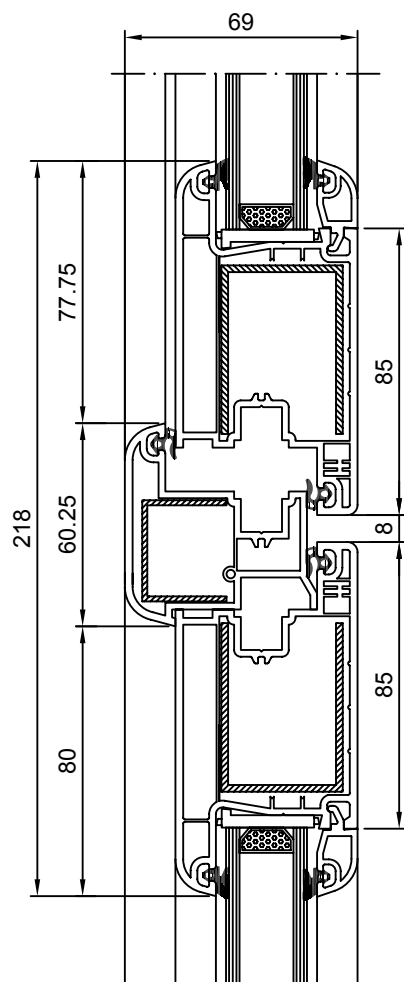
DVOKRILNA ULAZNA VRATA SISTEM 300

LEGENDA

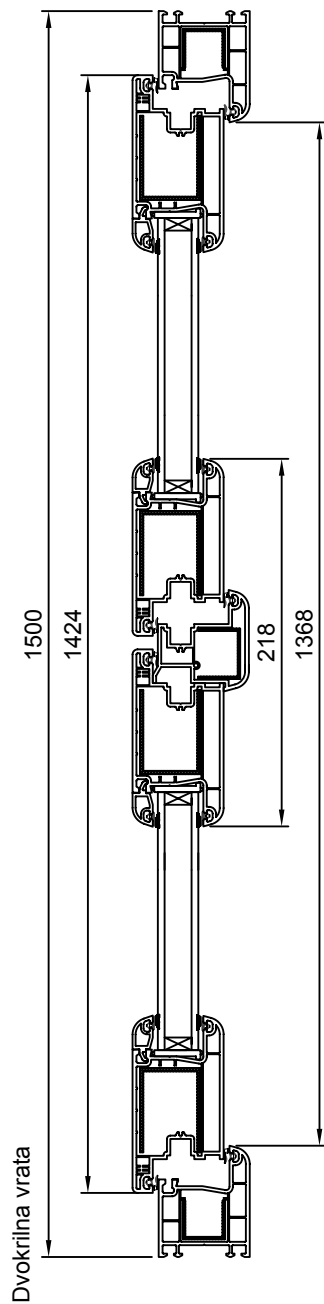
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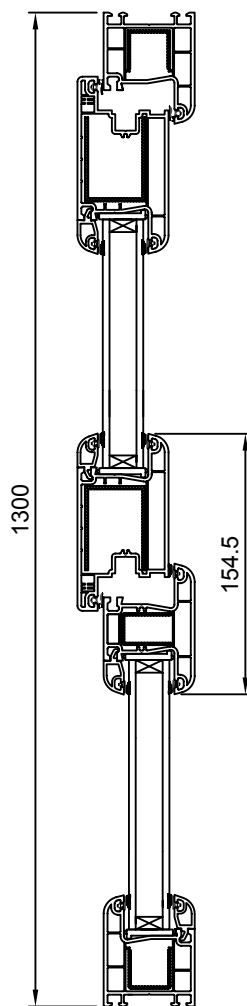
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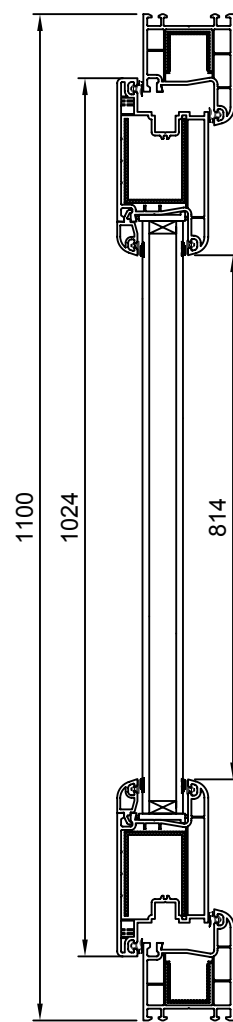
PRIKAZ MOGUCNOSTI OTVARANJA ULAZNIH VRATA SISTEM 300



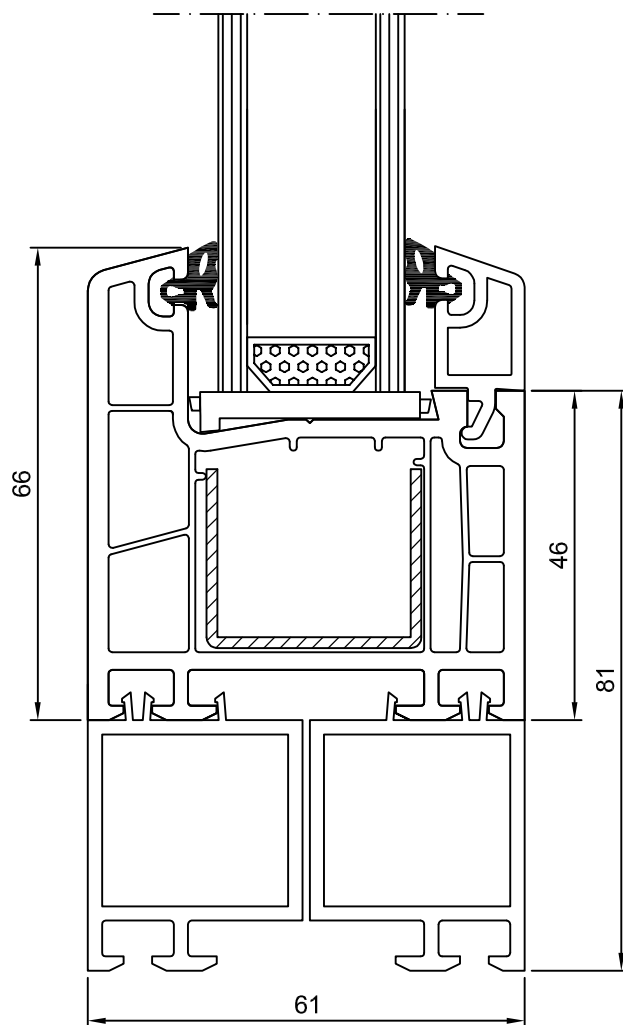
Jednokrilna vrata sa fiksom



Jednokrilna vrata



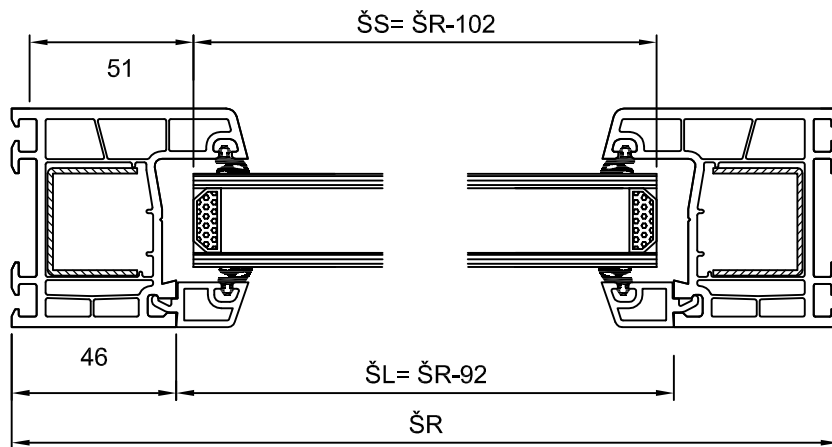
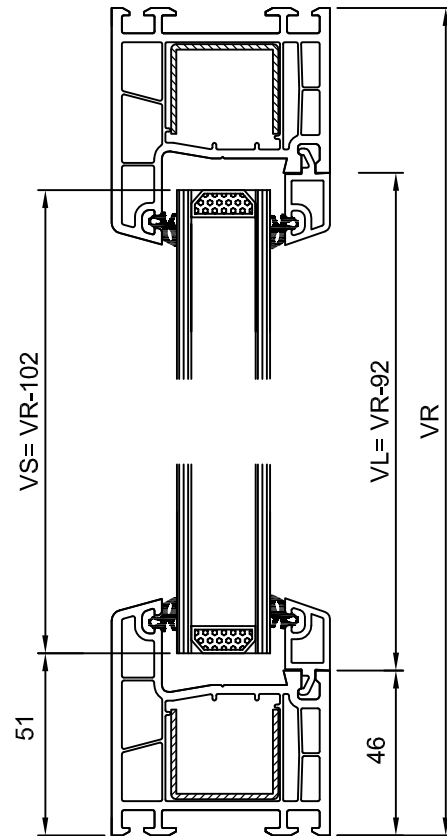
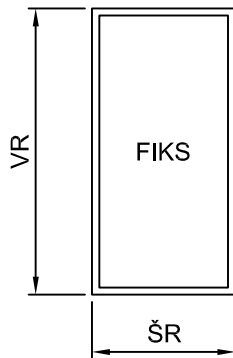
PRESEK PROZORA
NASTAVAK RAMA - RAM
SYSTEM 400



FIKSNİ PROZOR SİSTEM 400

LEGENDA

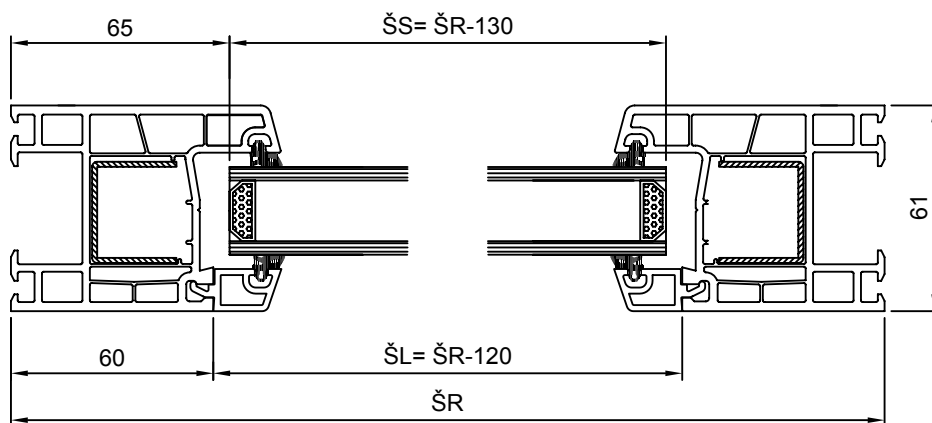
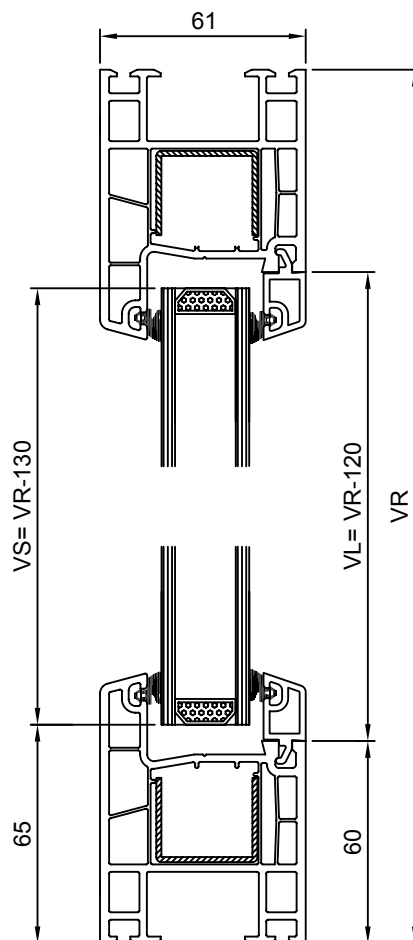
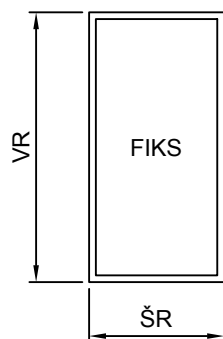
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VS= VISINA STAKLA



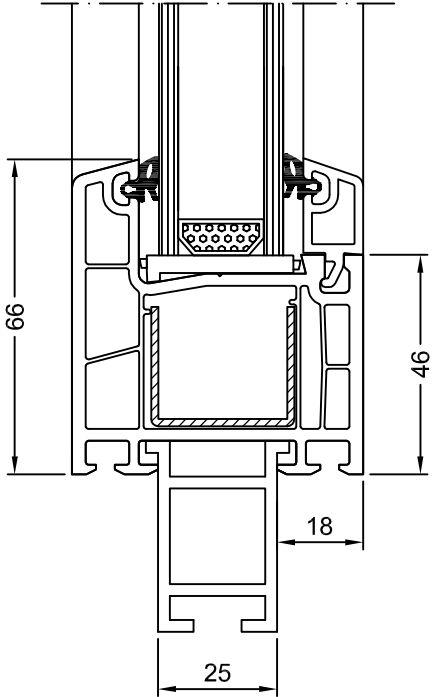
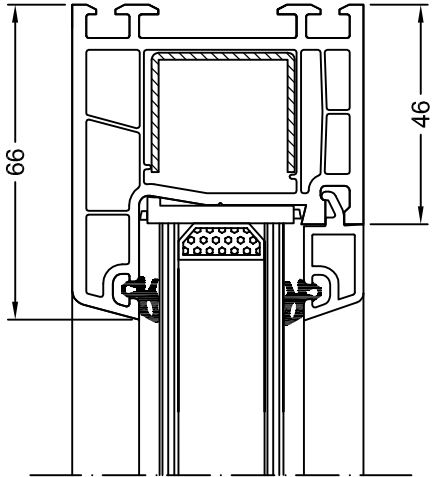
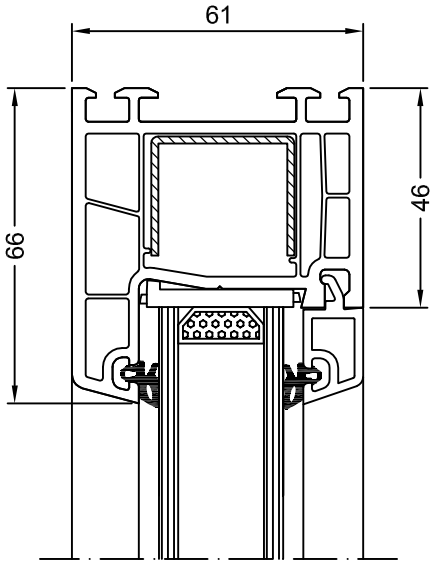
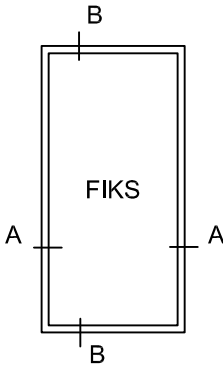
FIKSNI PROZOR SA PROSIRENIM RAMOM SISTEM 400

LEGENDA

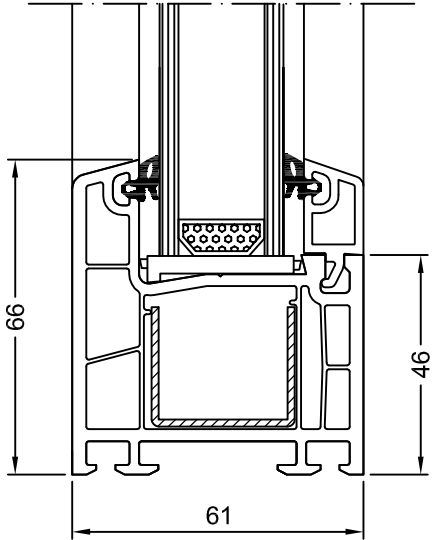
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VR= VISINA RAMA
ŠL=ŠIRINA LAJSNE
VL=VISINA LAJSNE
ŠS= ŠIRINA STAKLA
VS= VISINA STAKLA



FIKSNİ PROZOR SISTEM 400

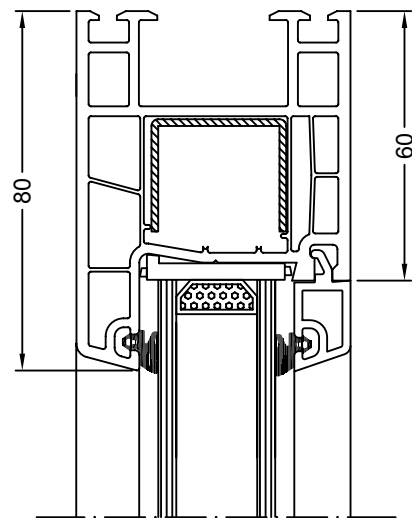
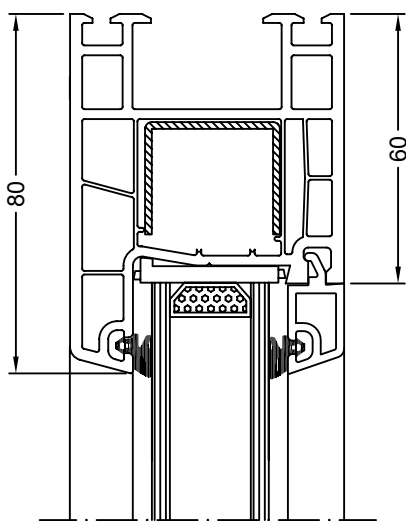
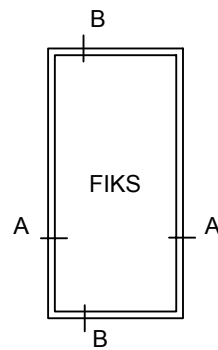


PRESEK "B-B"

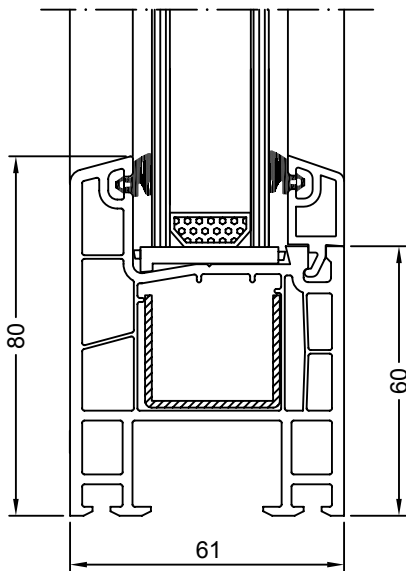


PRESEK "A-A"

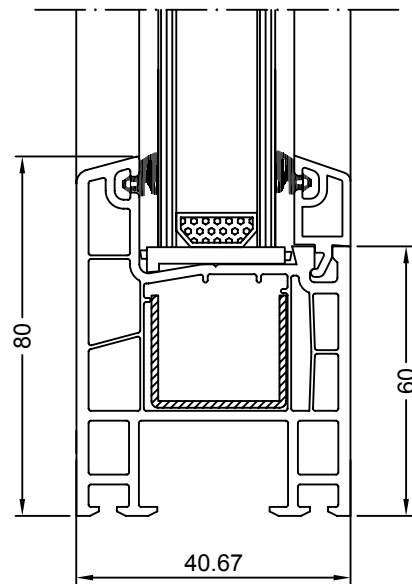
FIKSNI PROZOR SA PROSIRENIM RAMOM SISTEM 400



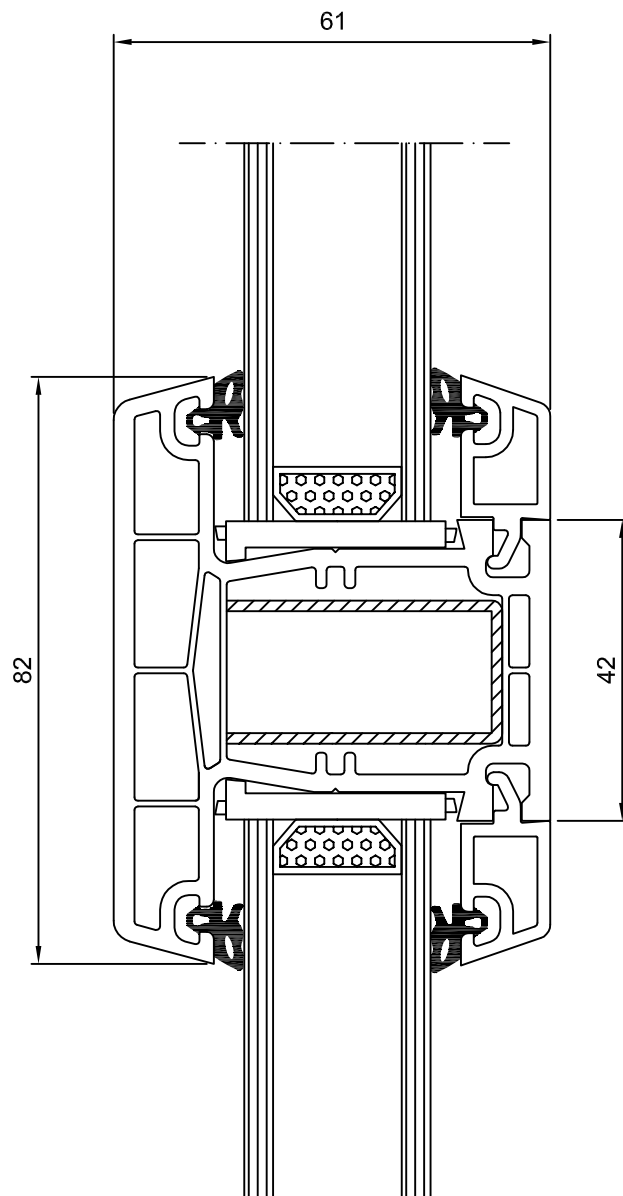
PRESEK "B-B"



PRESEK "A-A"



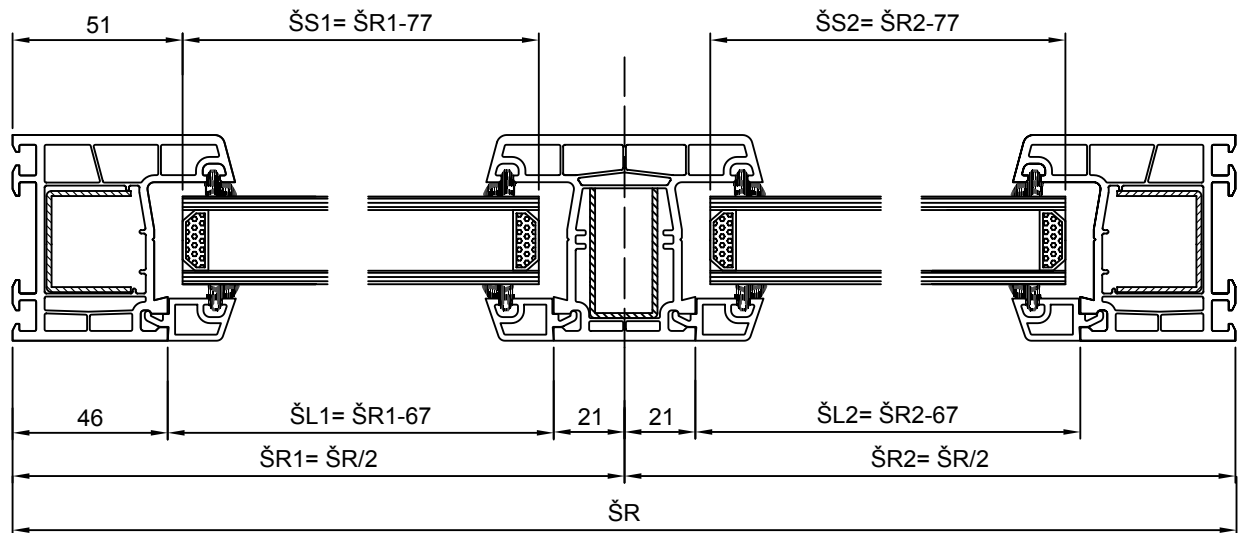
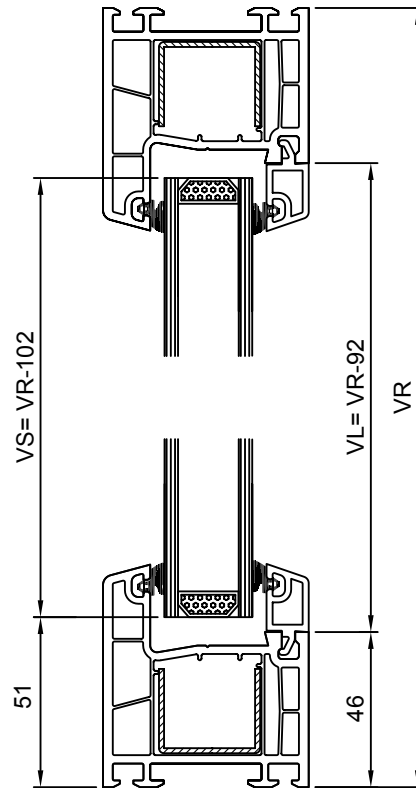
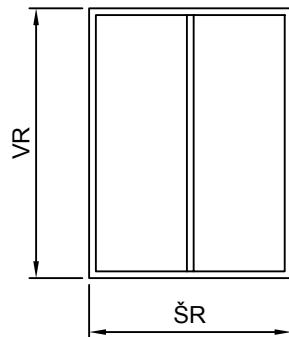
PRESEK PROZORA
STUB - LAJSNA ZA STAKLO
SYSTEM 400



FIKSNI PROZOR SA STUBOM SISTEM 400

LEGENDA

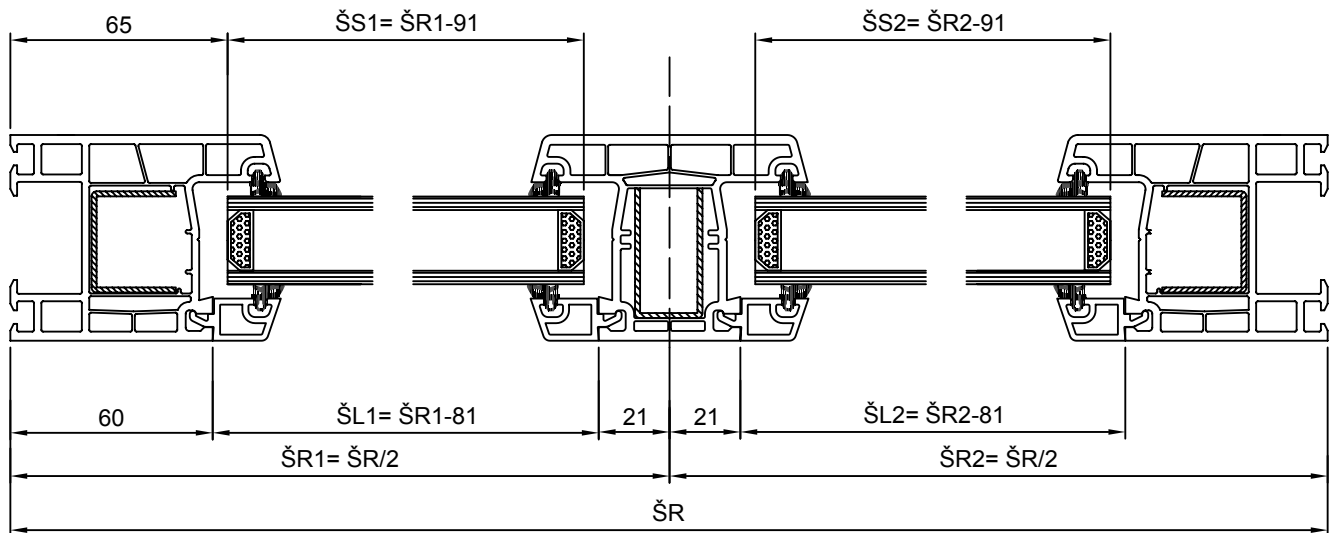
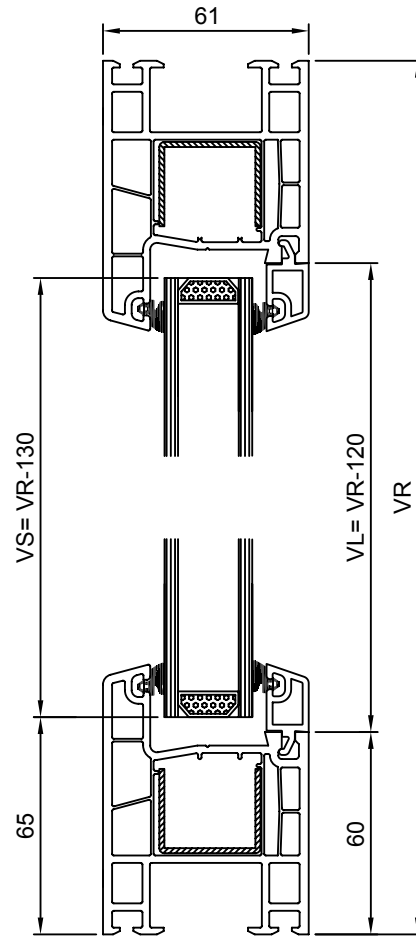
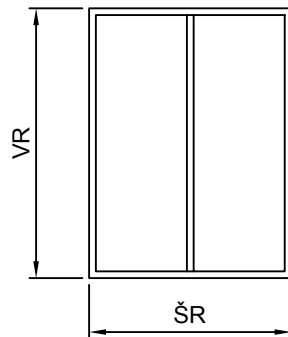
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VS= VISINA STAKLA



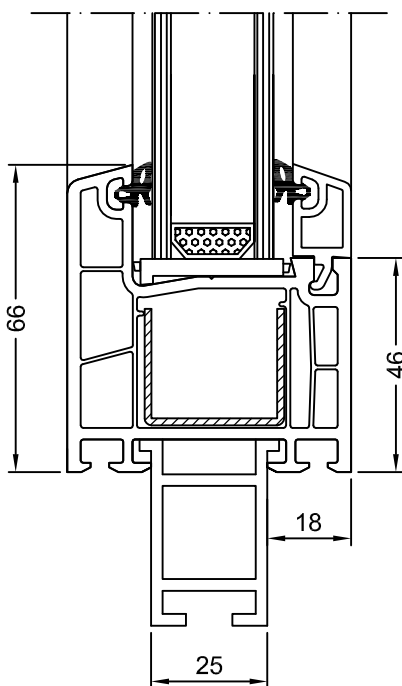
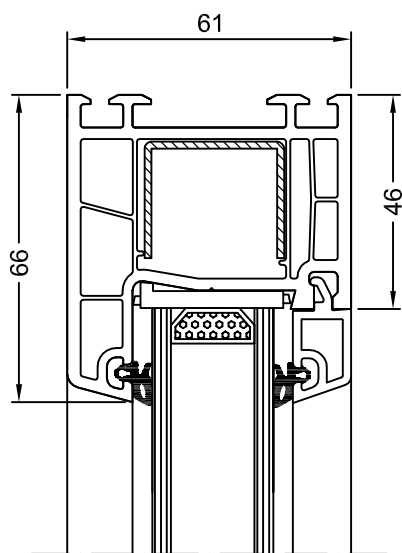
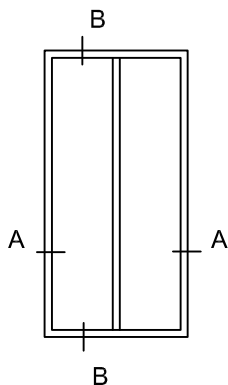
FIKSNI PROZOR SA STUBOM I PROSIRENIM RAMOM SISTEM 400

LEGENDA

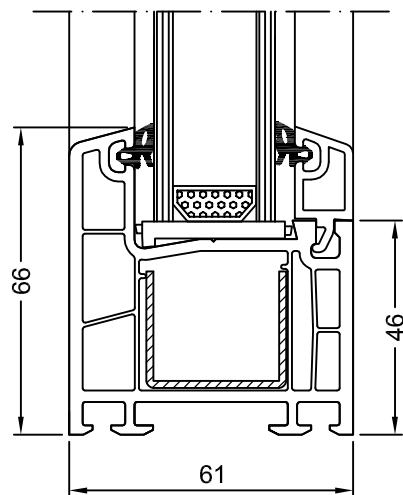
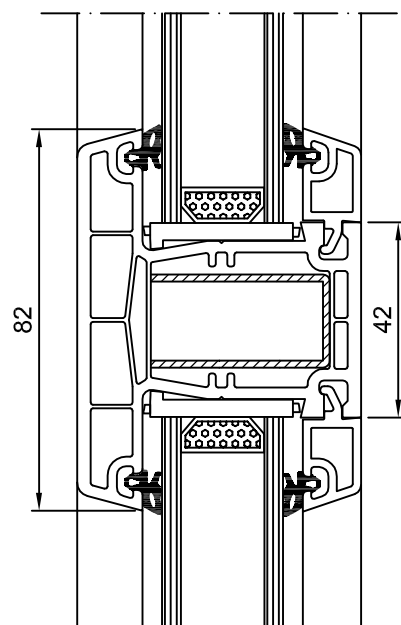
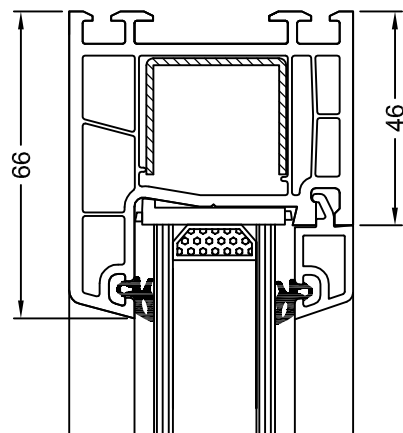
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FIKSNI PROZOR SA STUBOM SISTEM 400

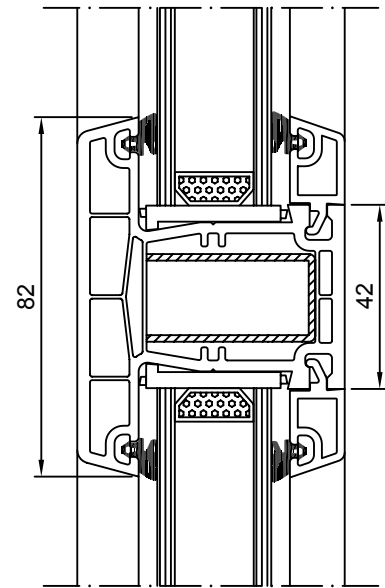
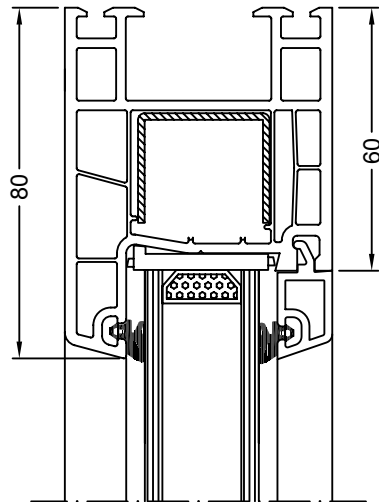
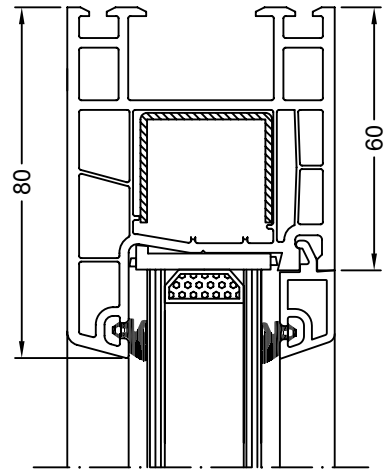
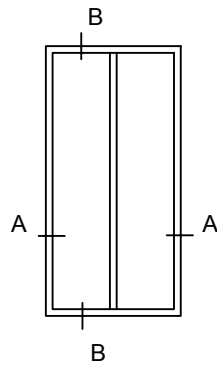


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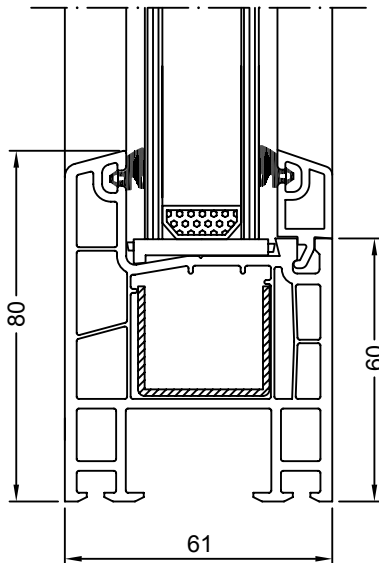


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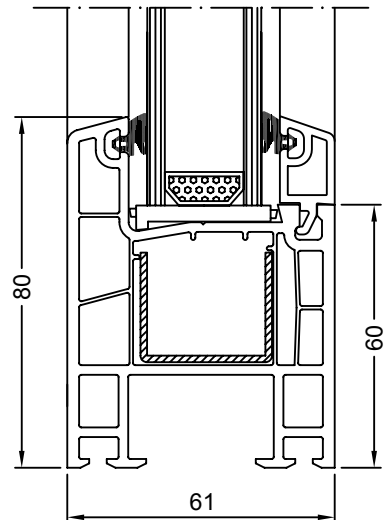
FIKSNI PROZOR SA STUBOM I PROSIRENIM RAMOM SISTEM 400



PRESEK "B-B"



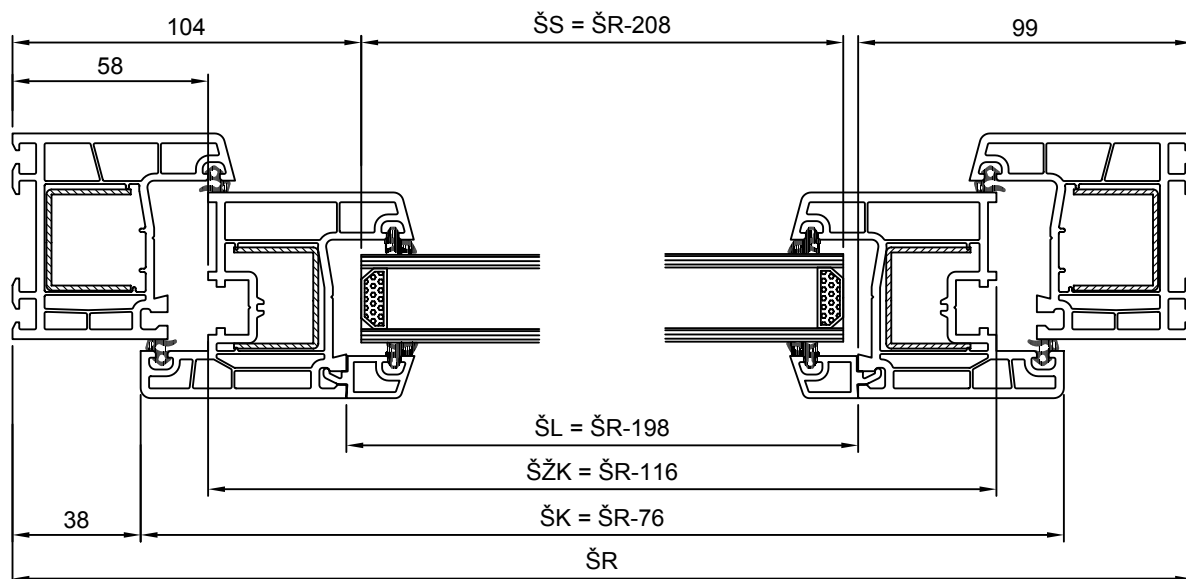
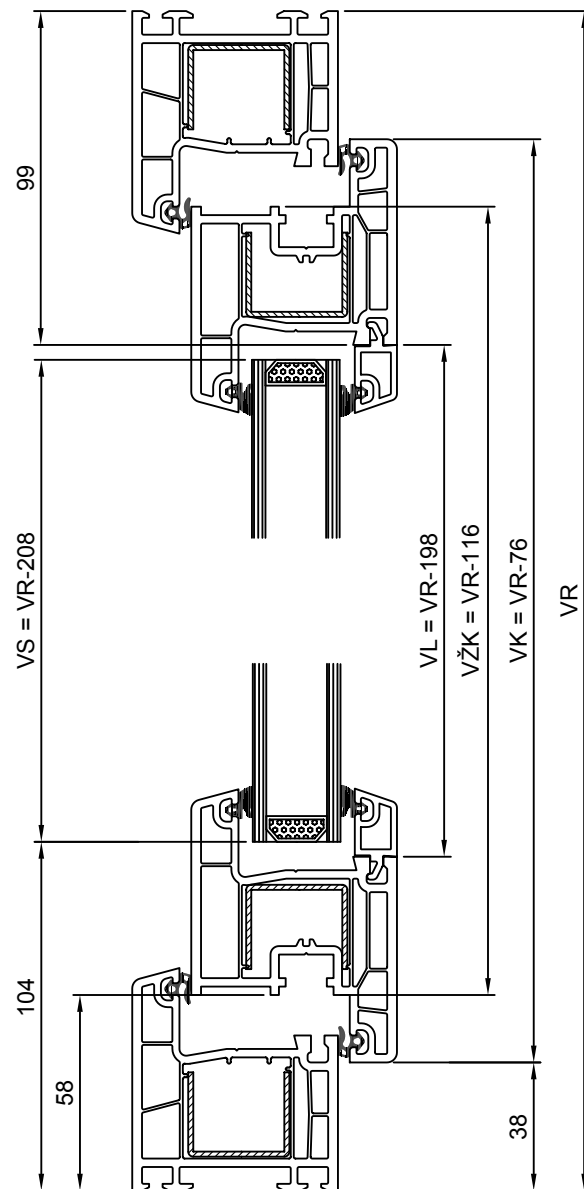
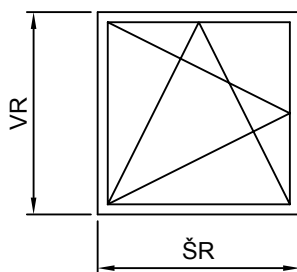
PRESEK "A-A"



JEDNOKRILNI PROZOR SISTEM 400

LEGENDA

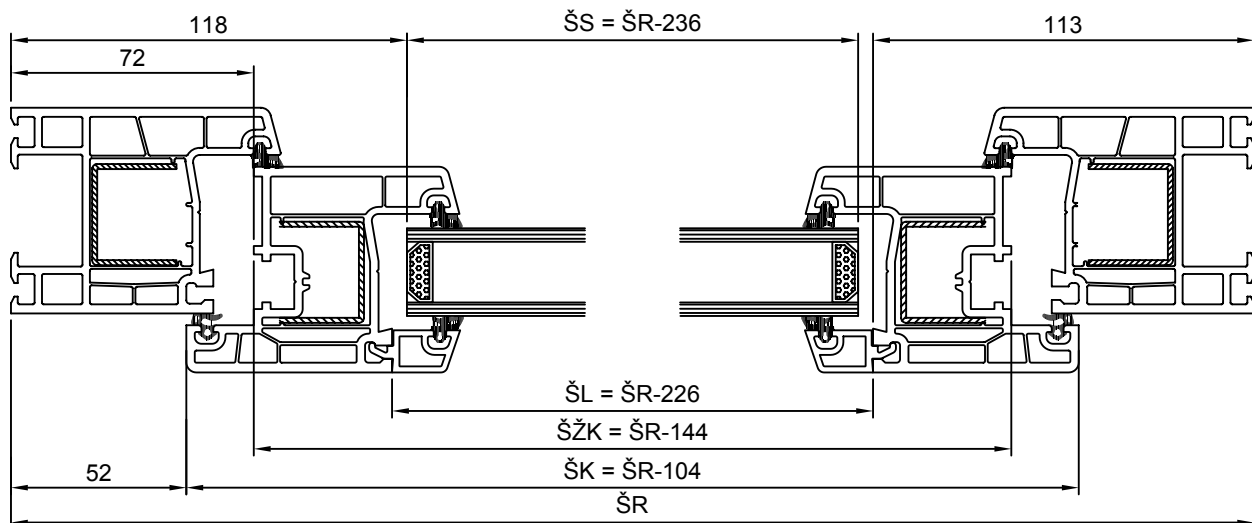
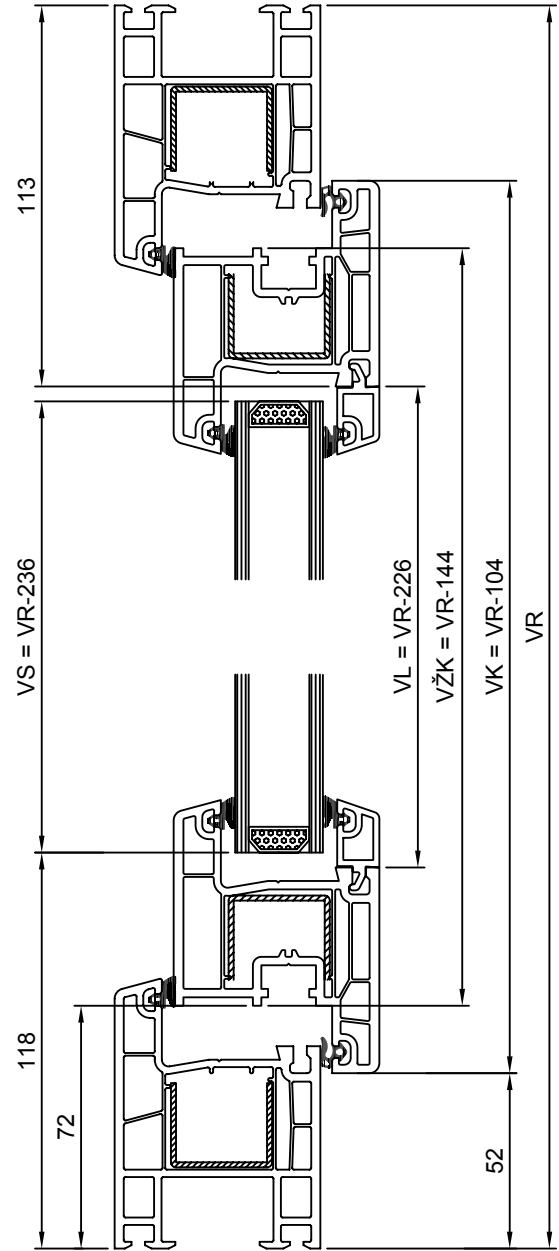
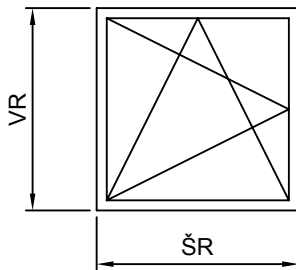
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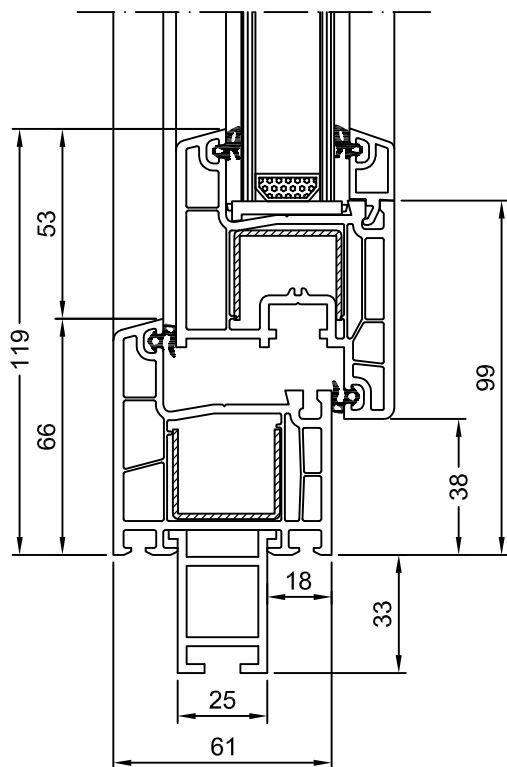
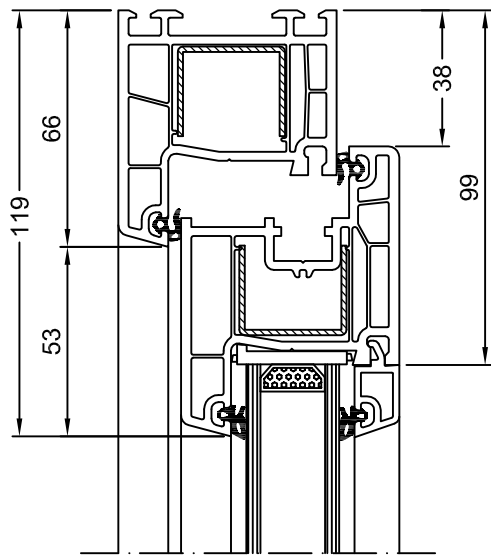
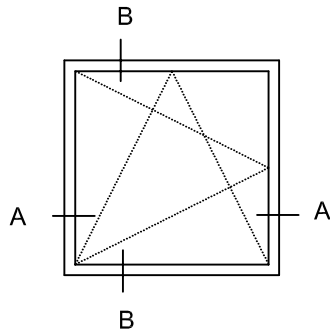
JEDNOKRILNI PROZOR SA PROSIRENIM RAMOM SISTEM 400

LEGENDA

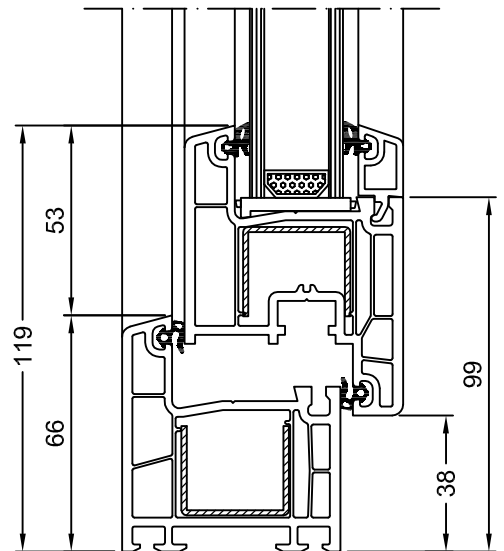
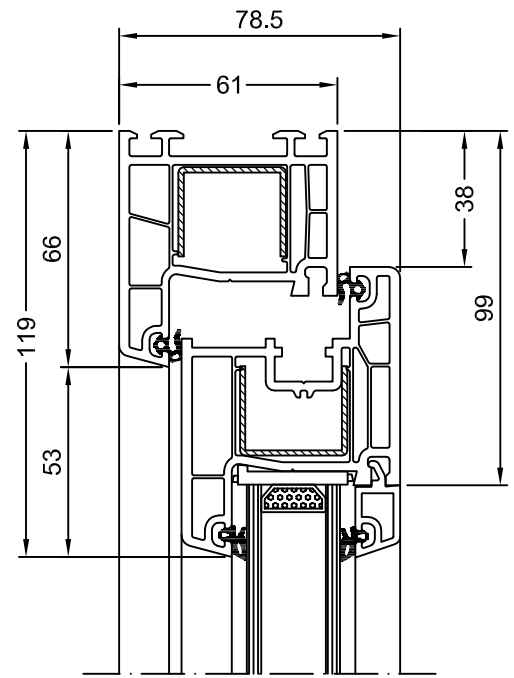
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JEDNOKRILNI PROZOR SISTEM 400

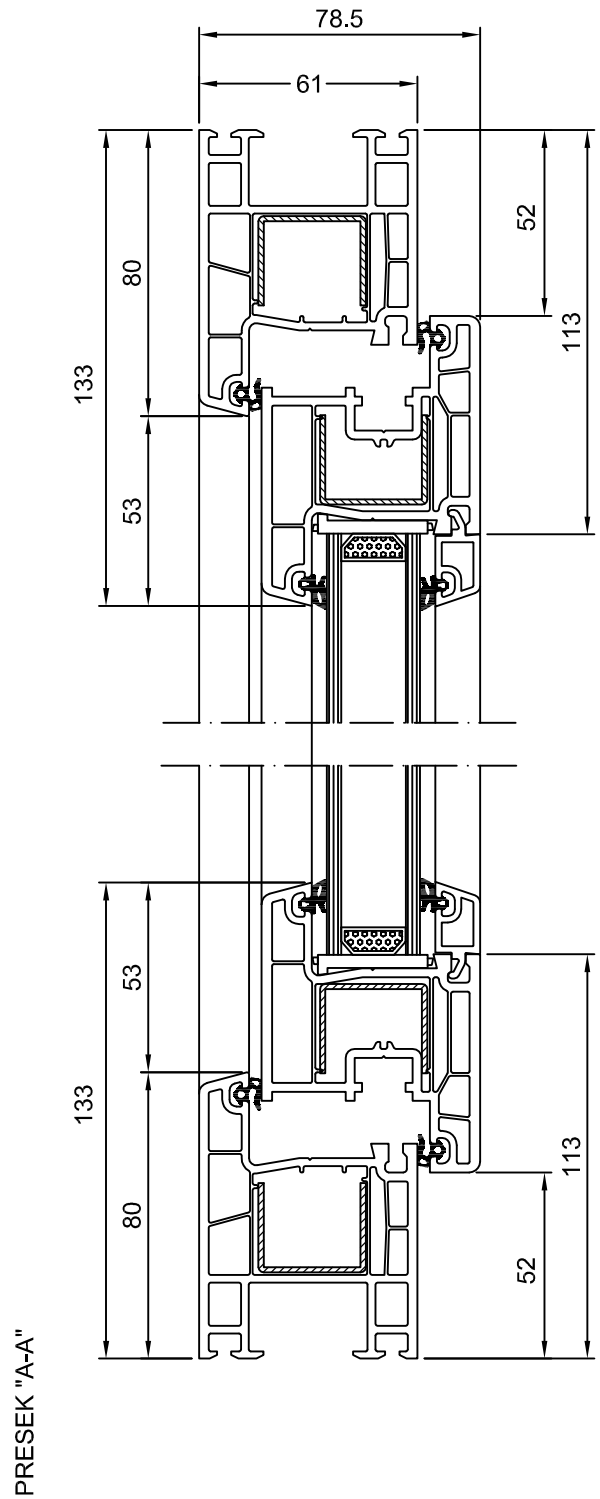
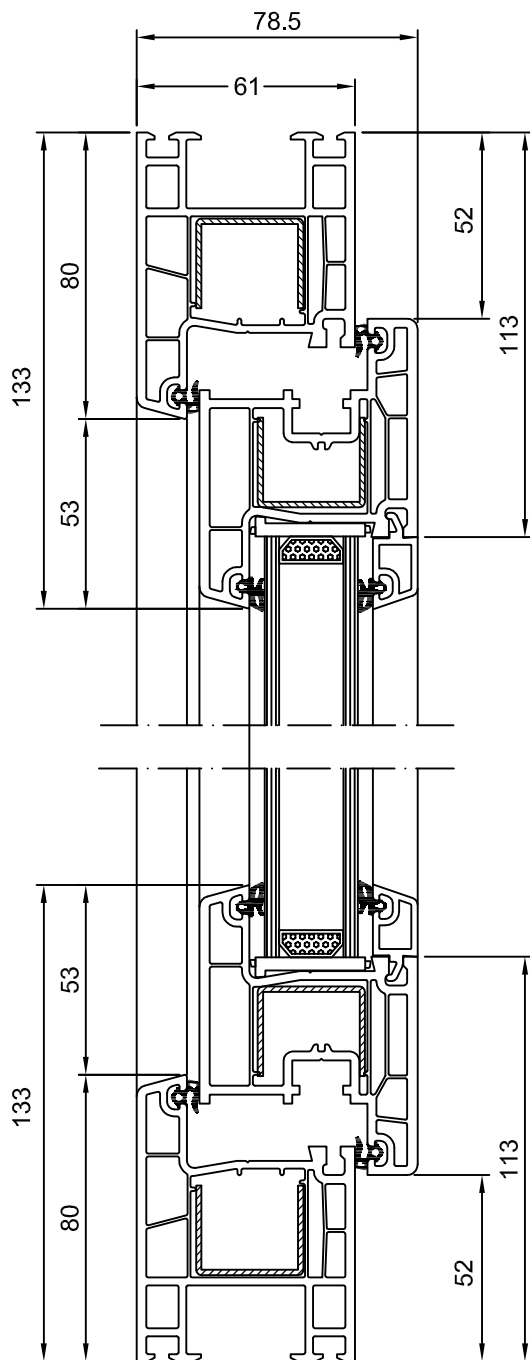
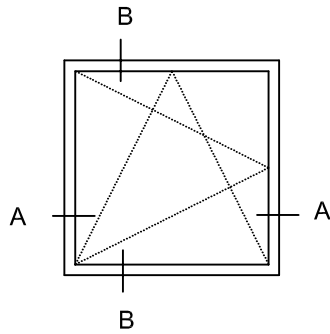


PRESEK "B-B"

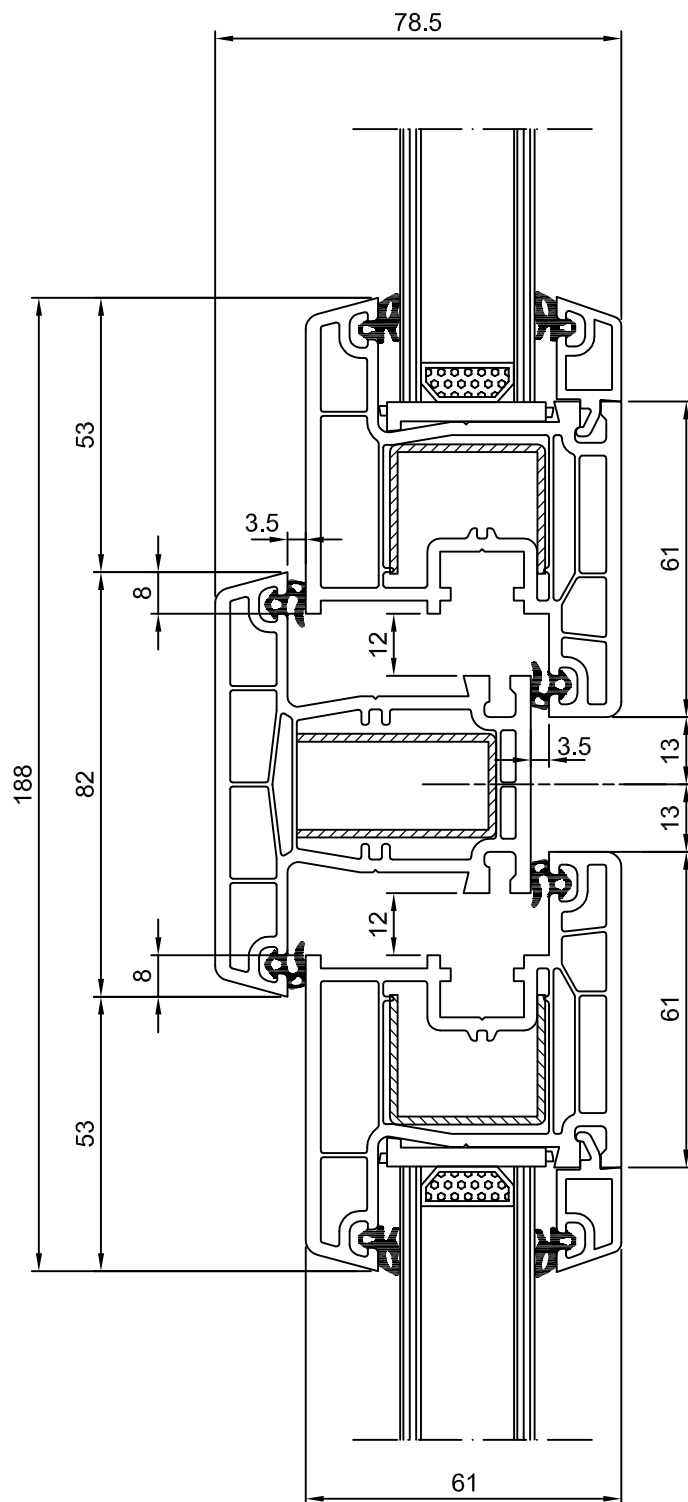


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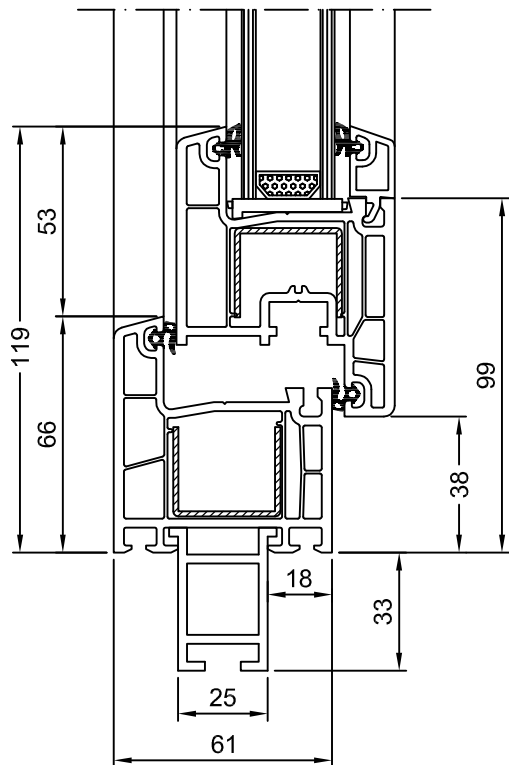
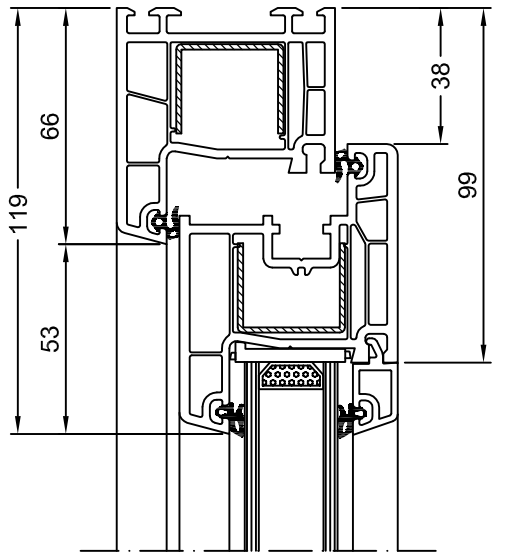
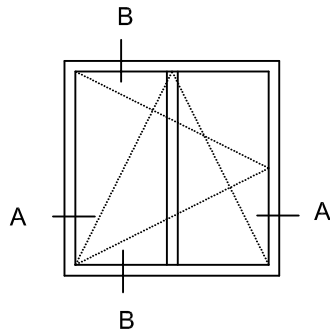
JEDNOKRILNI PROZOR SA ŠIRIM RAMOM SISTEM 400



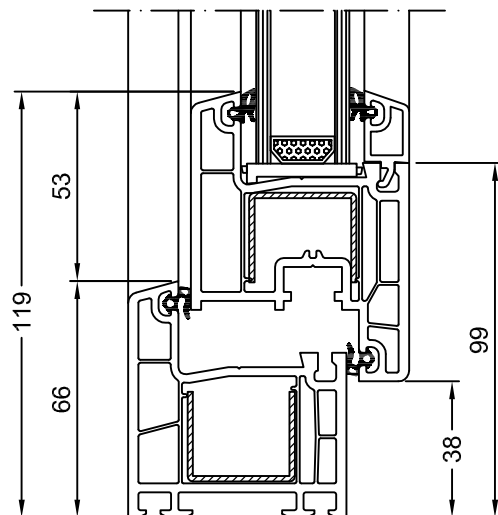
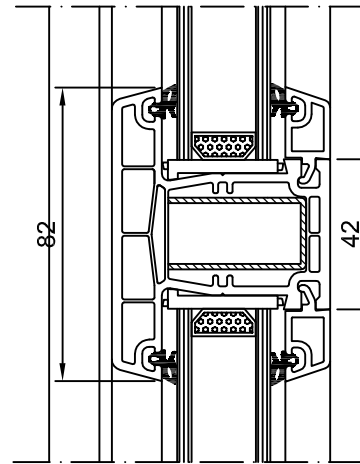
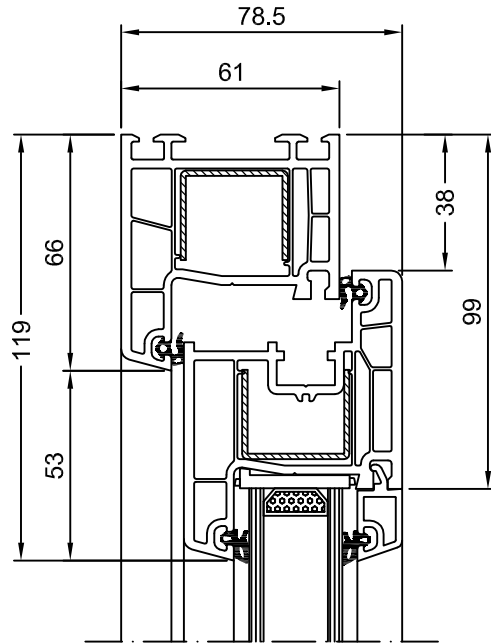
PRESEK PROZORA KRILO-STUB-KRILO SISTEM 400



JEDNOKRILNI PROZOR SA PREČKOM SISTEM 400

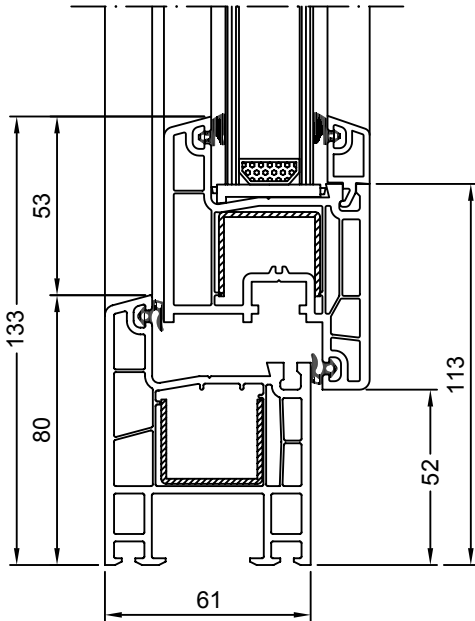
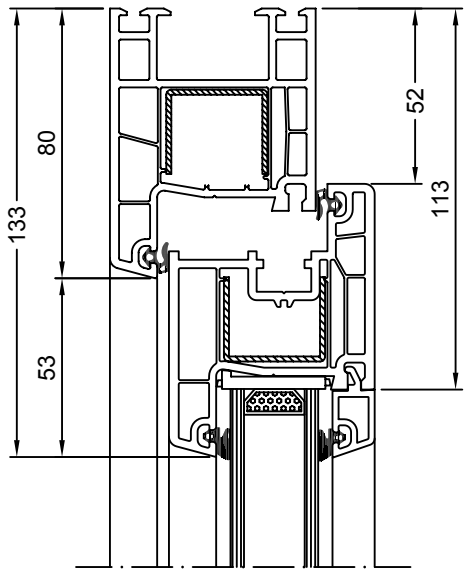
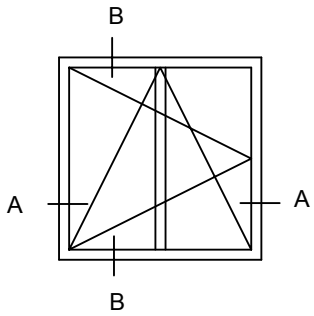


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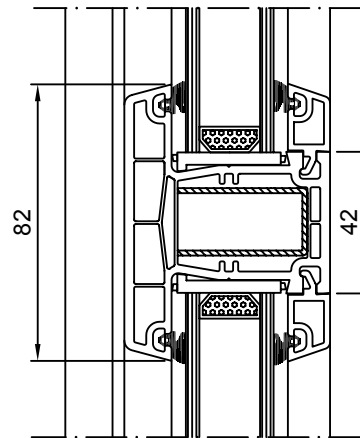
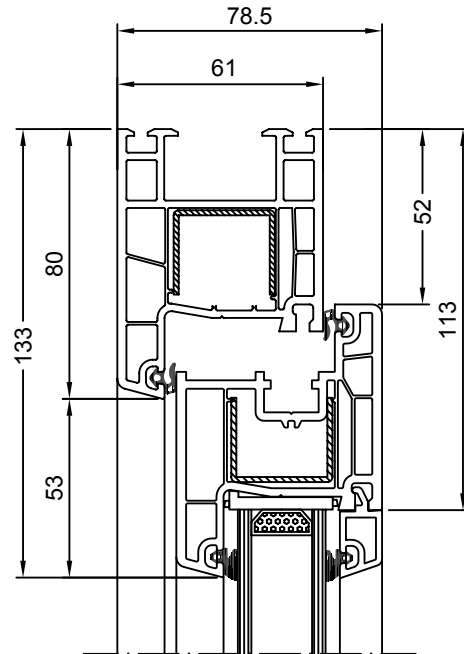


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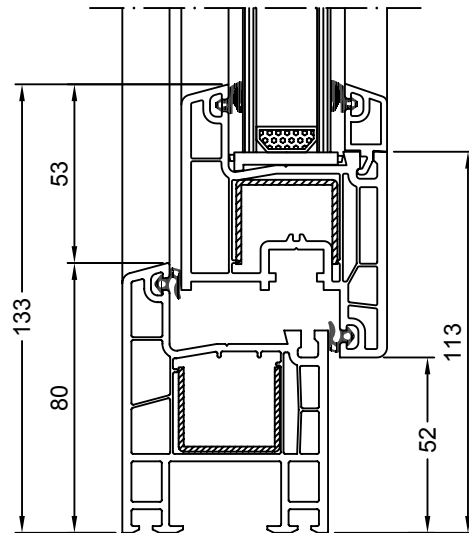
JEDNOKRILNI PROZOR SA PRECKOM I PROSIRENIM RAMOM SISTEM 400



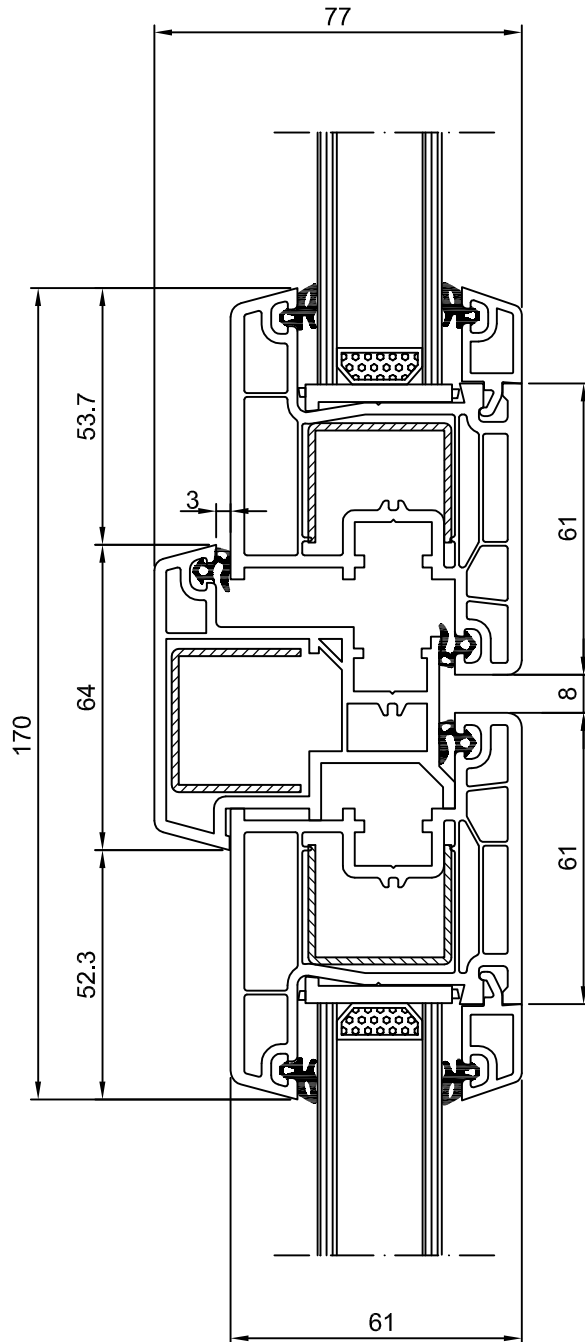
PRESEK "B-B"



PRESEK "A-A"



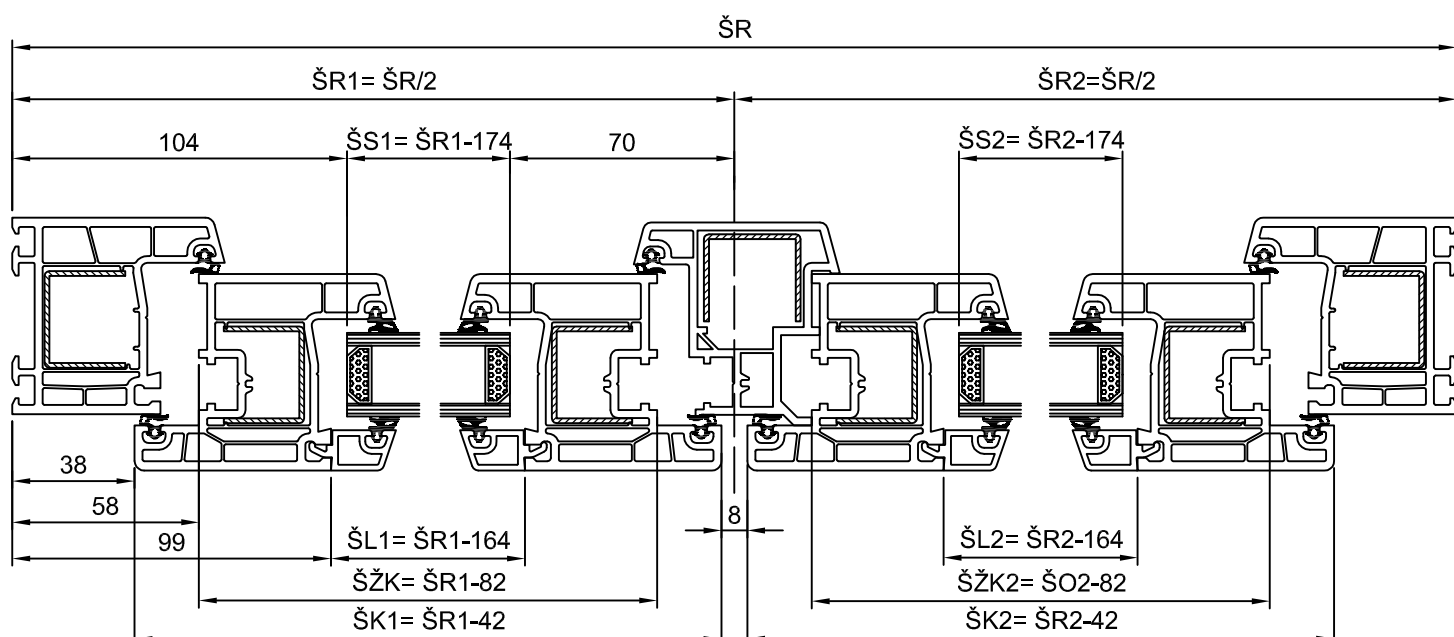
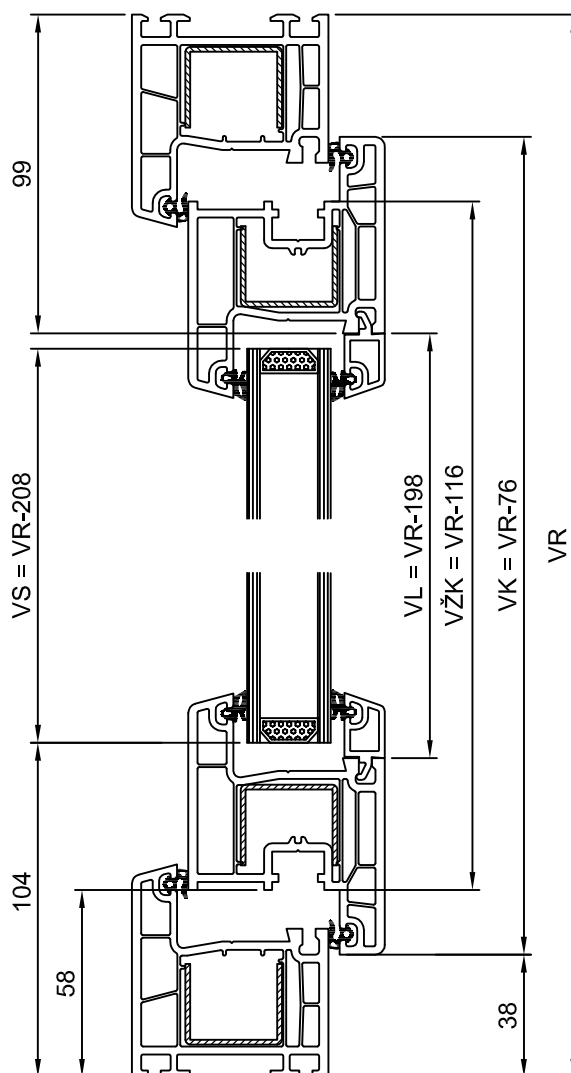
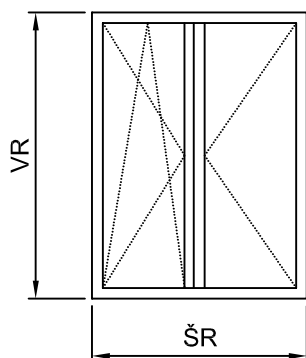
PRESEK PROZORA KRILO-PREKLOP-KRILO SISTEM 400



DVOKRILNI PROZOR SA PREKLOPOM SISTEM 400

LEGENDA

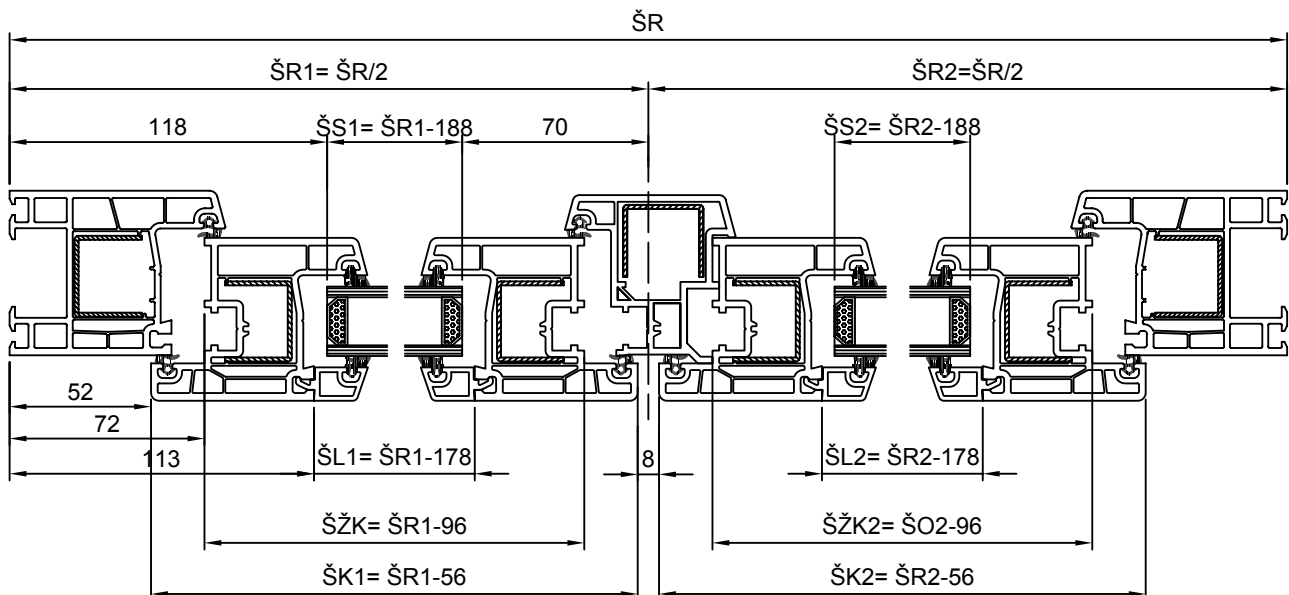
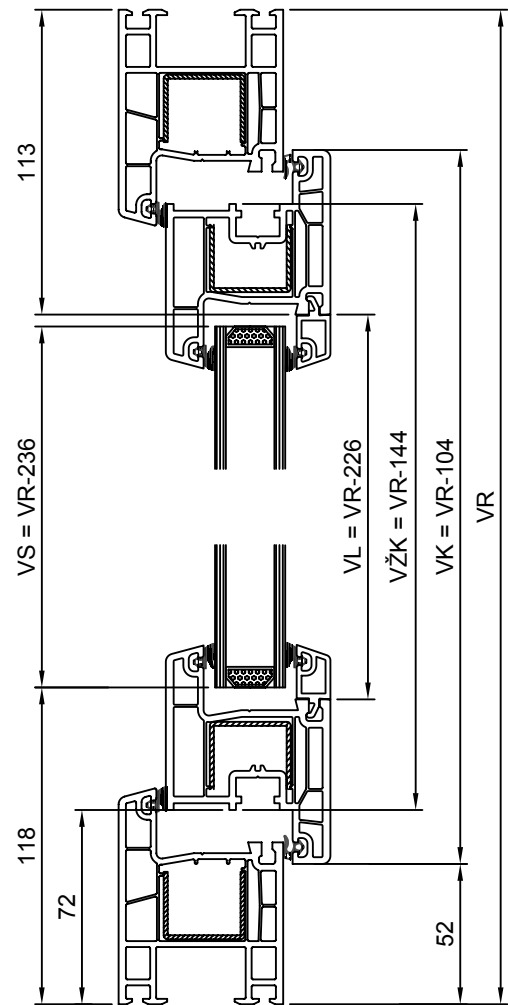
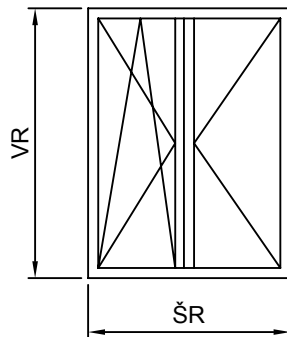
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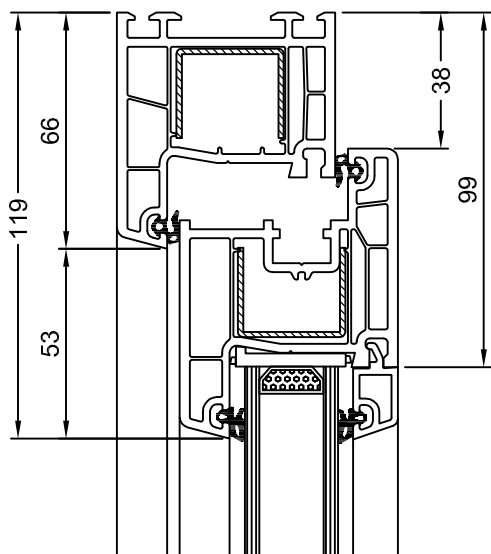
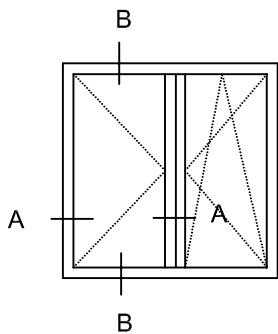
DVOKRILNI PROZOR SA PREKLOPOM I PROSIRENIM RAMOM SISTEM 400

LEGENDA

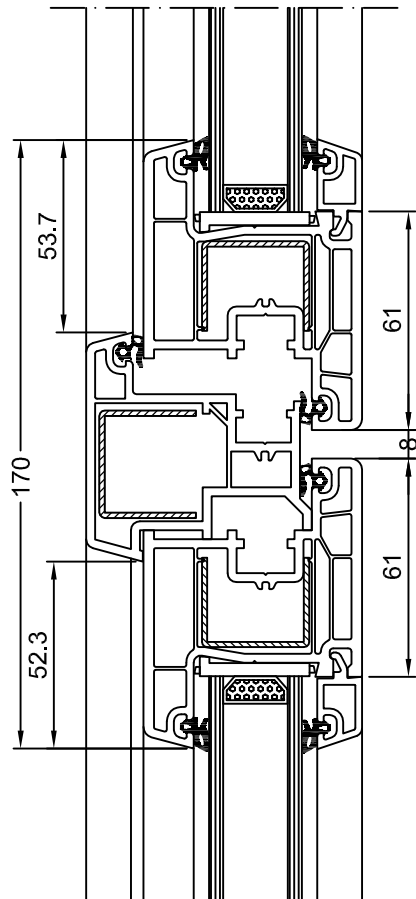
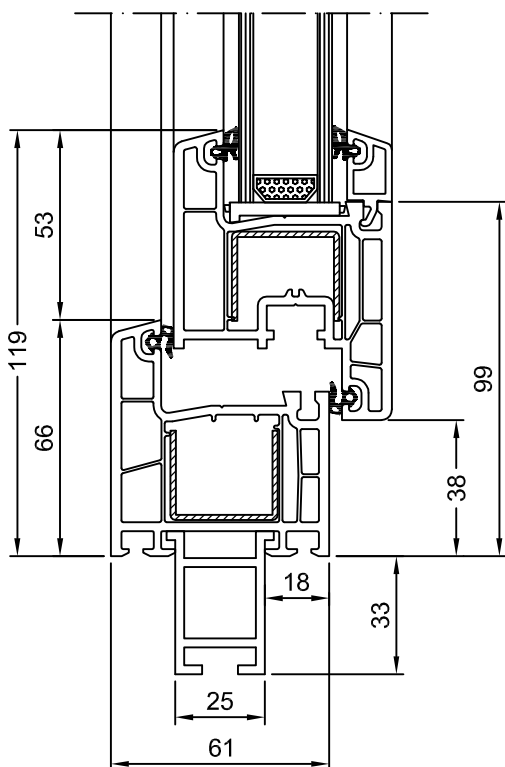
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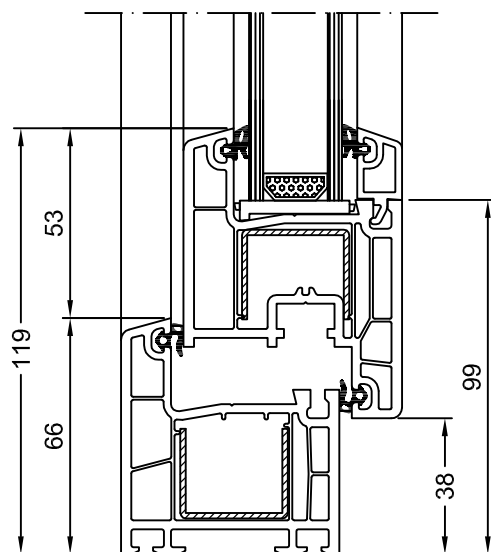
DVOKRILNI PROZOR SA PREKLOPOM SISTEM 400



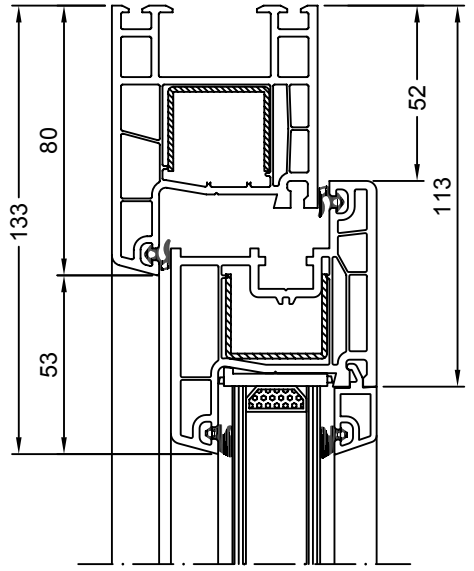
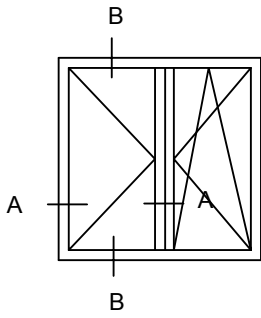
PRESEK "B-B"



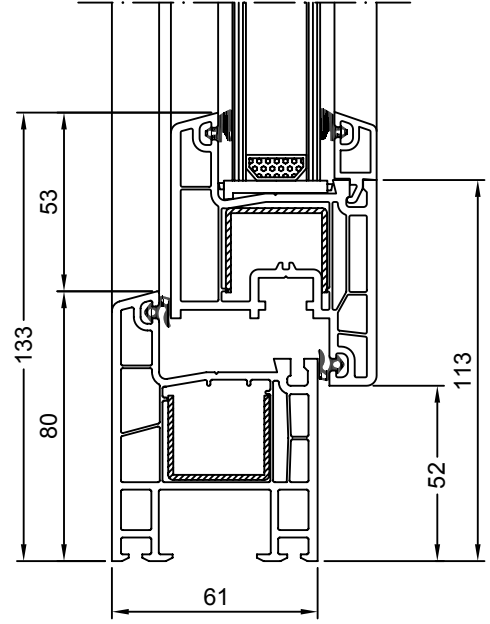
PRESEK "A-A"



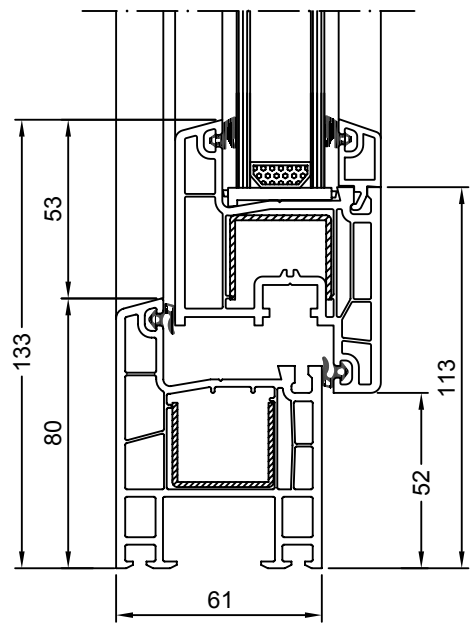
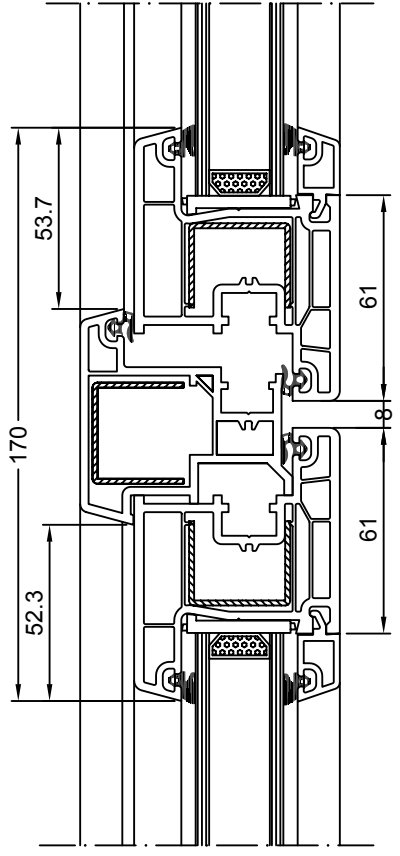
DVOKRILNI PROZOR SA PREKLOPOM I PROSIRENIM RAMOM SISTEM 400



PRESEK "B-B"



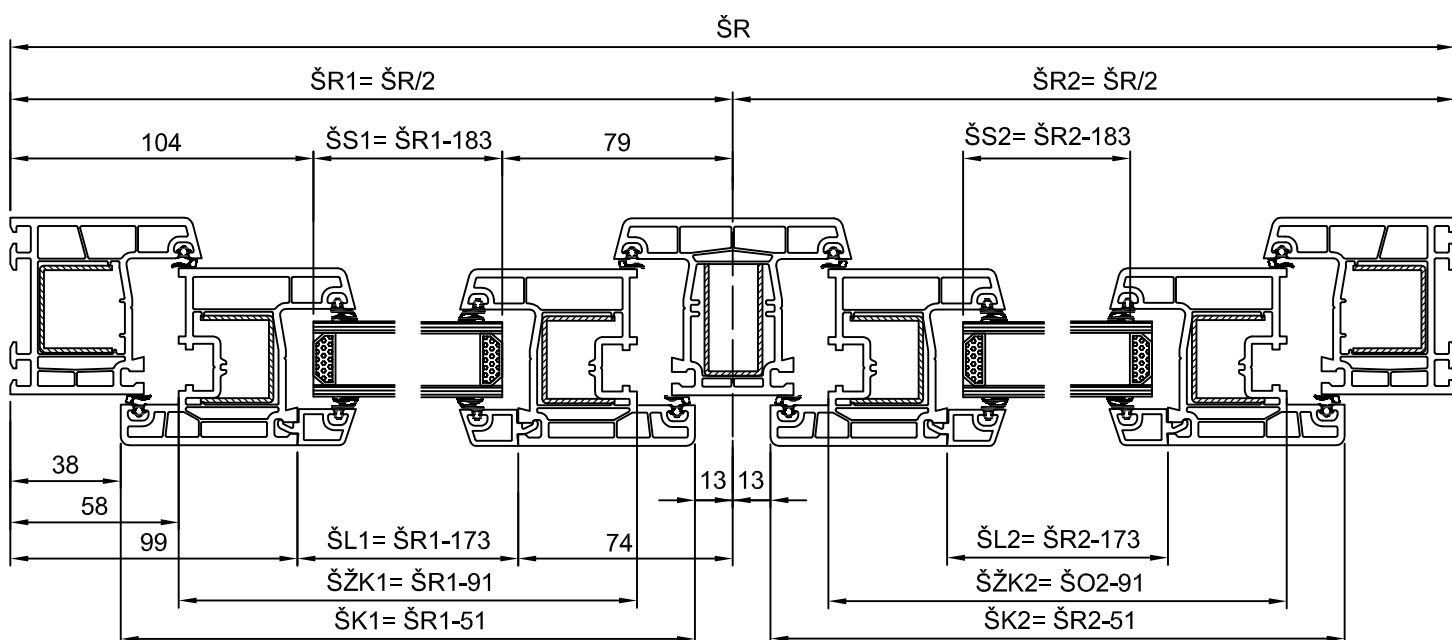
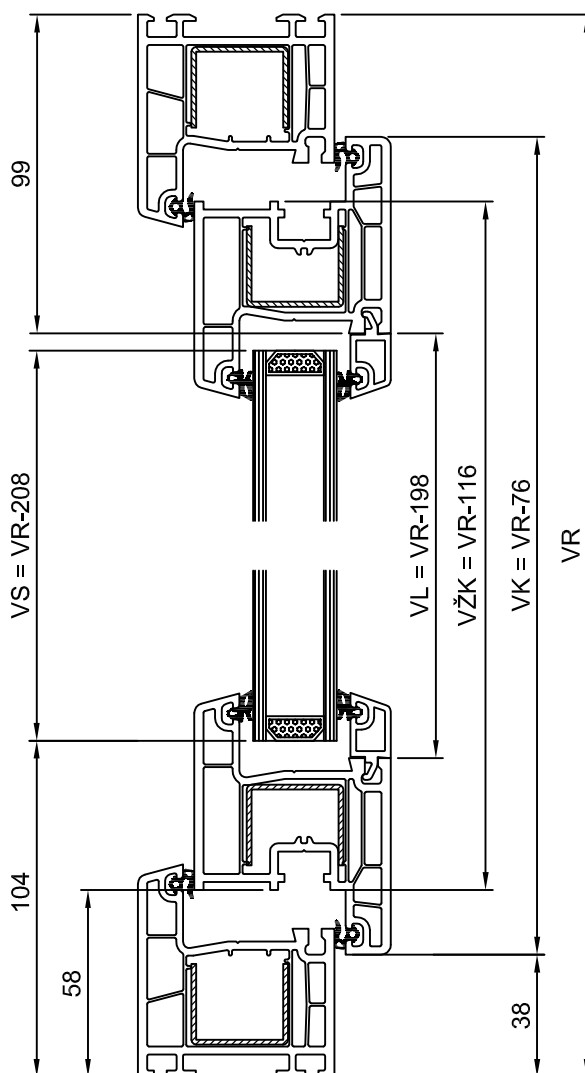
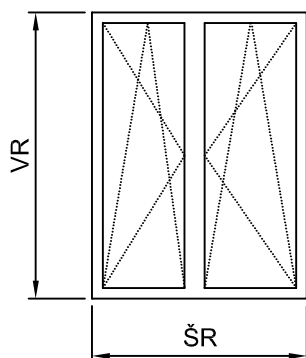
PRESEK "A-A"



DVOKRILNI PROZOR SA STUBOM SISTEM 400

LEGENDA

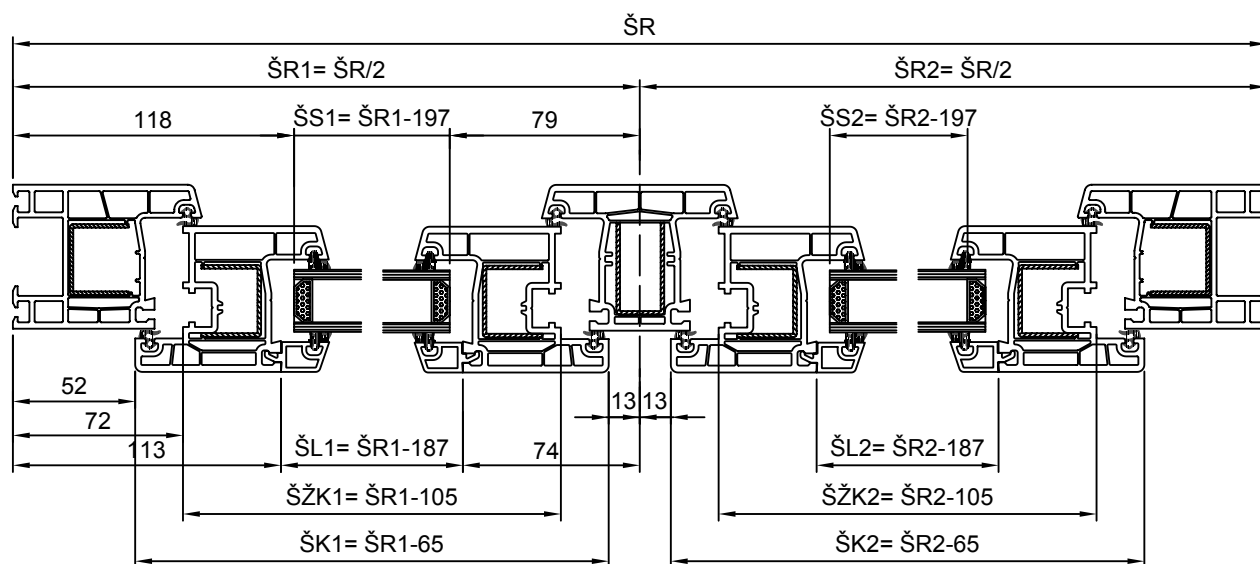
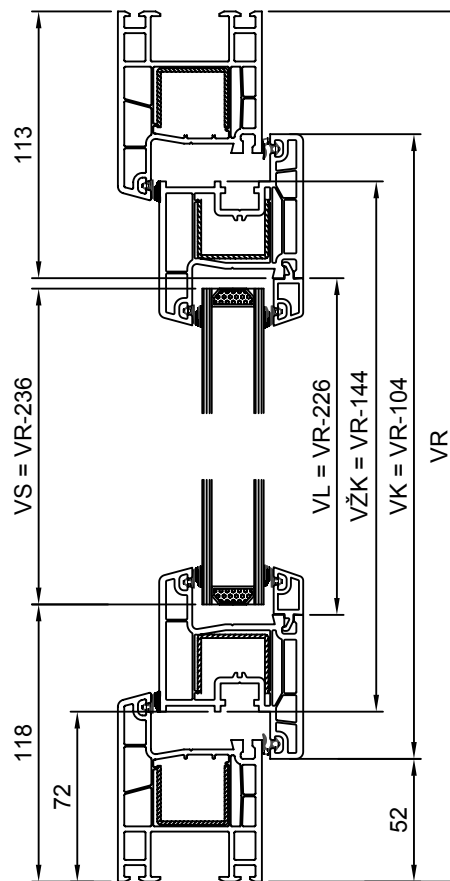
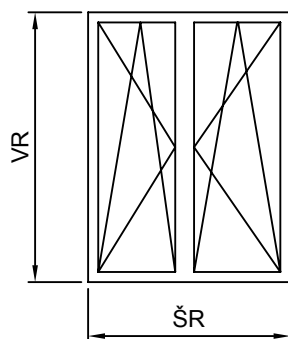
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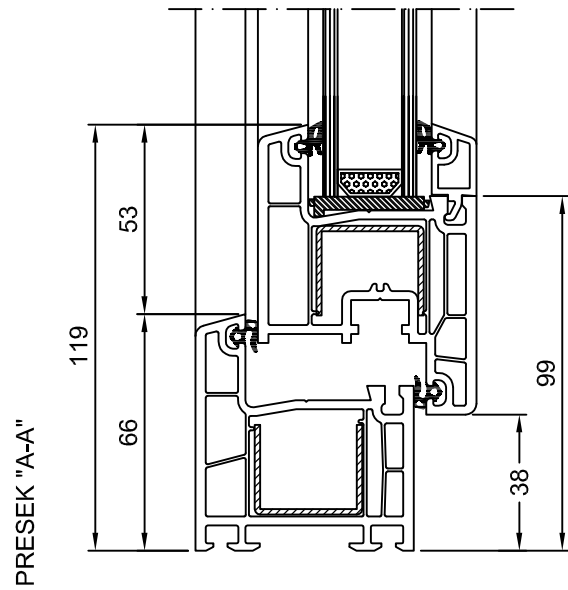
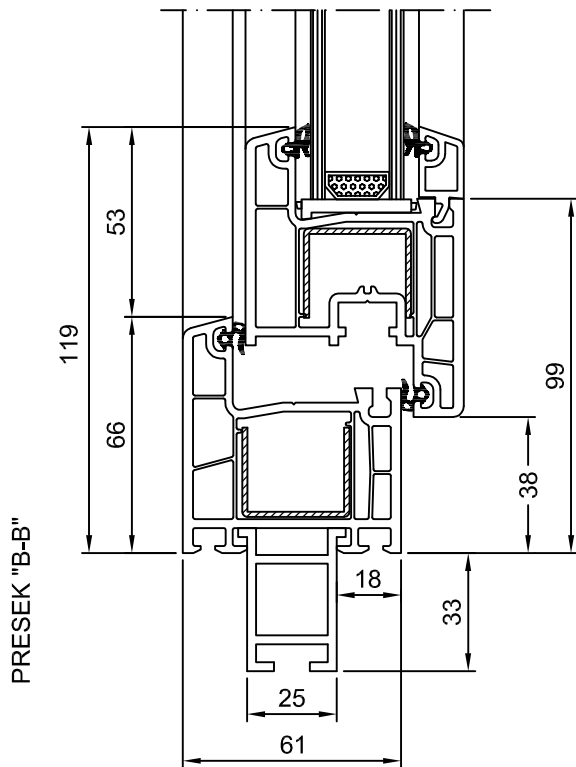
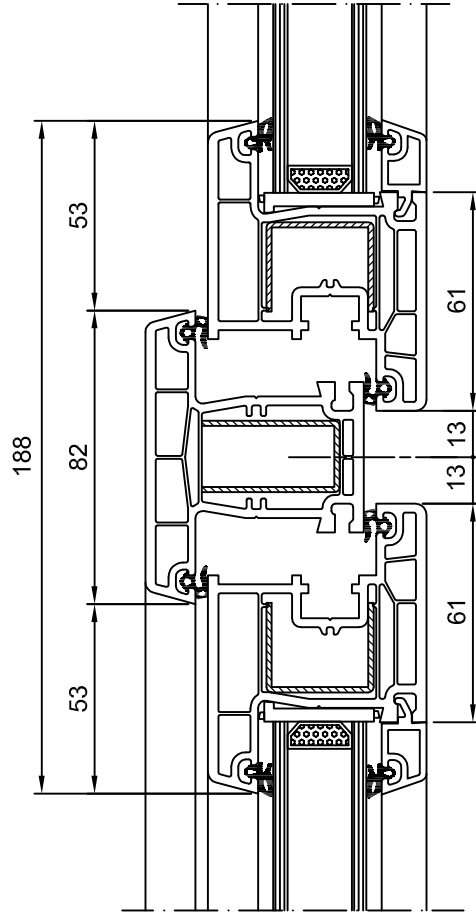
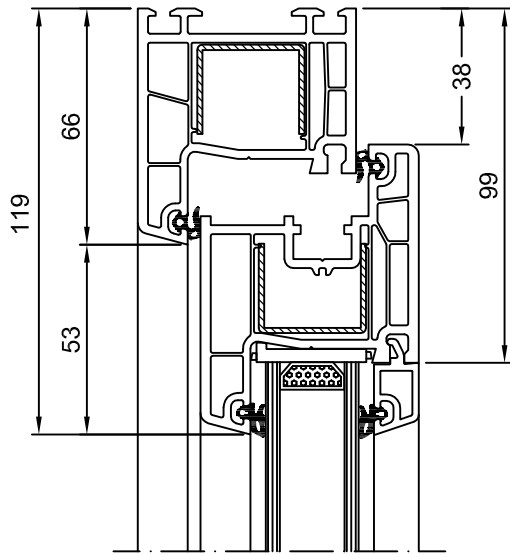
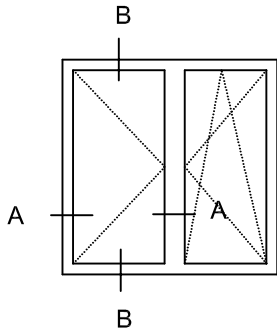
DVOKRILNI PROZOR SA STUBOM I PROSIRENIM RAMOM SISTEM 400

LEGENDA

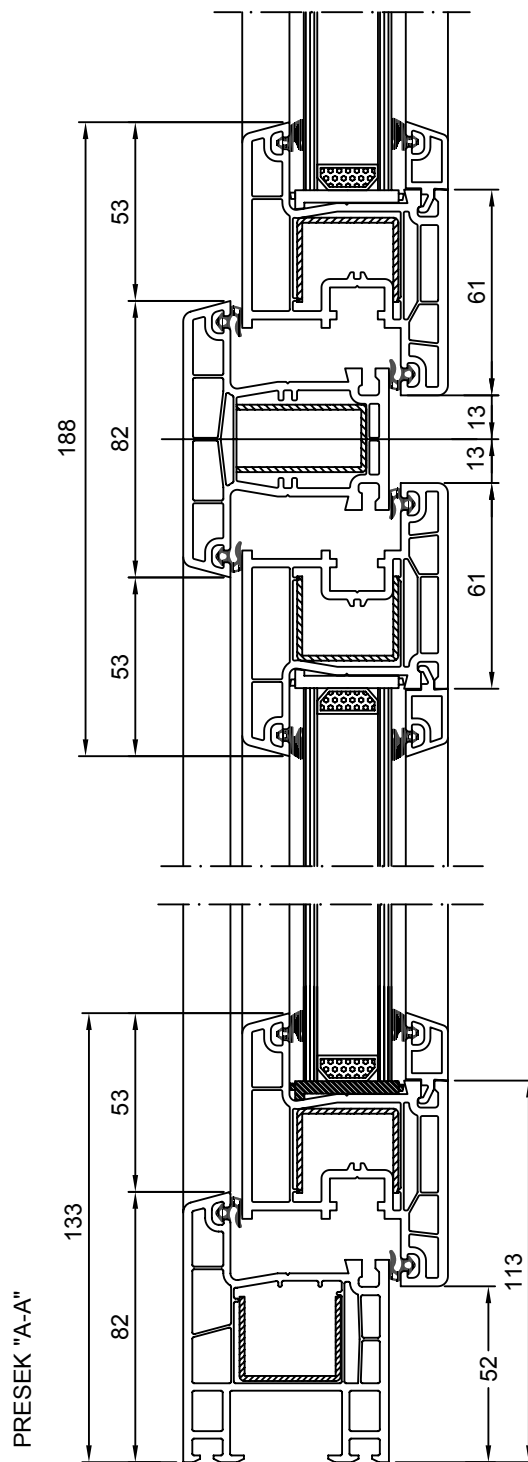
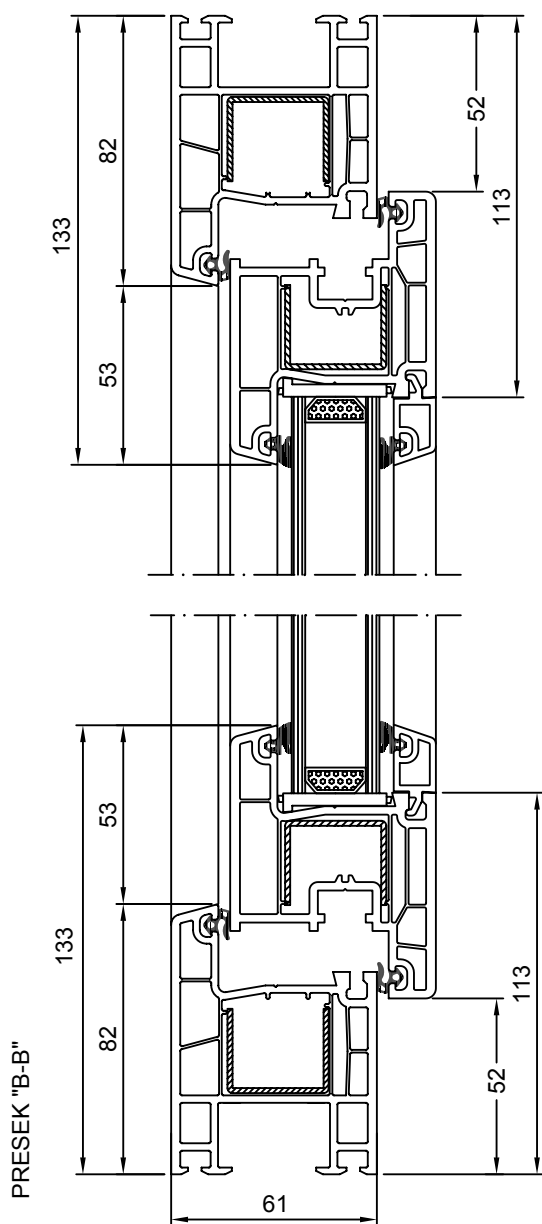
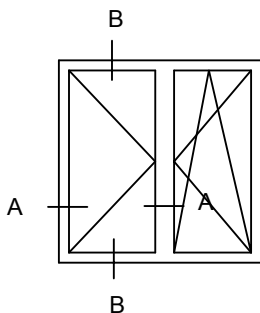
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 VK= VISINA KRILA
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 VŽK= VISINA ŽLJEBA KRILA
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 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



DVOKRILNI PROZOR SA STUBOM SISTEM 400



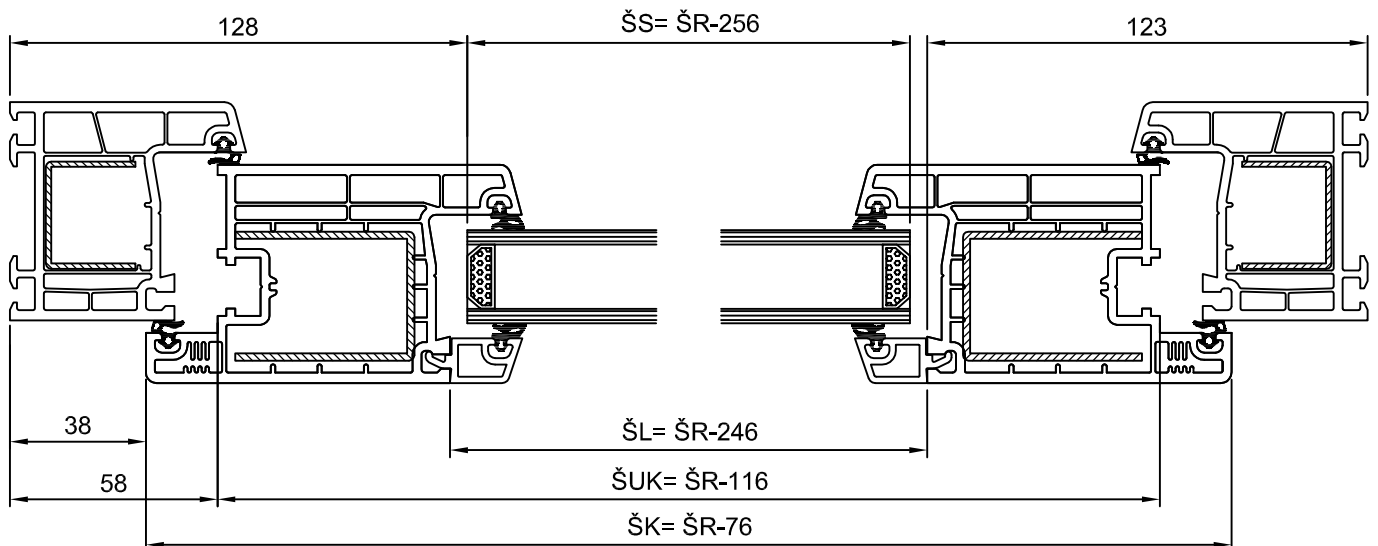
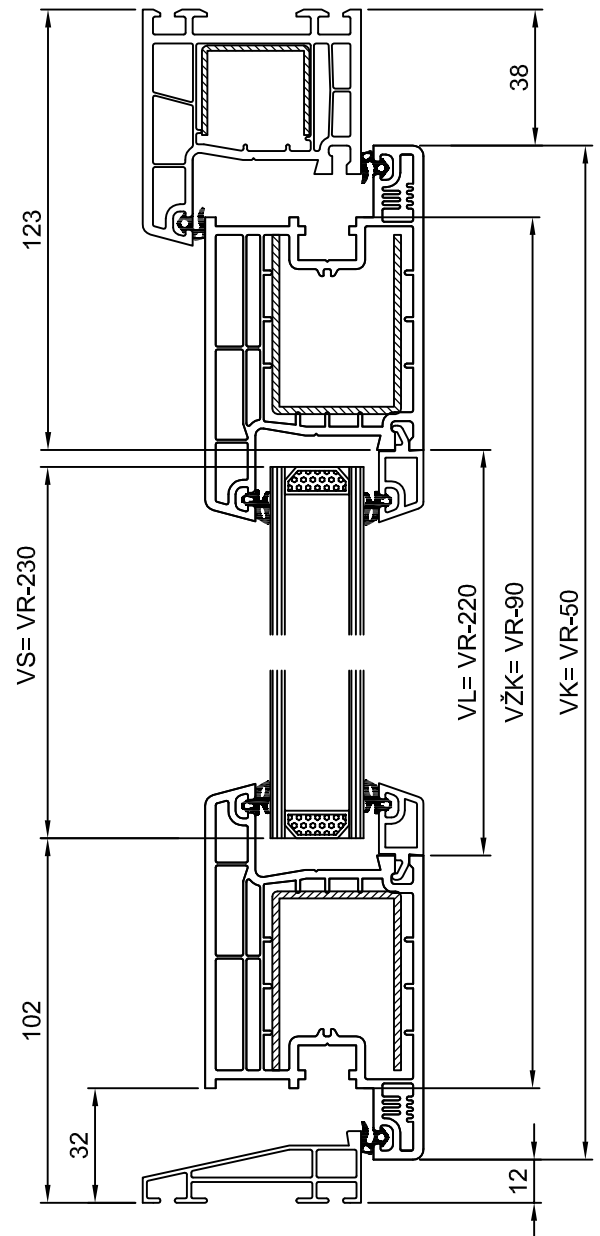
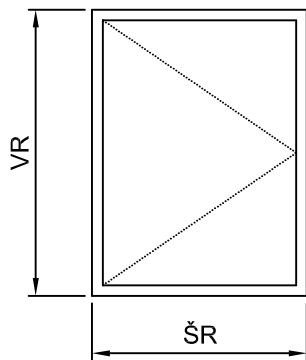
DVOKRILNI PROZOR SA STUBOM I PROSIRENIM RAMOM SISTEM 400



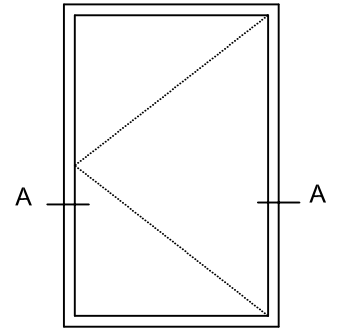
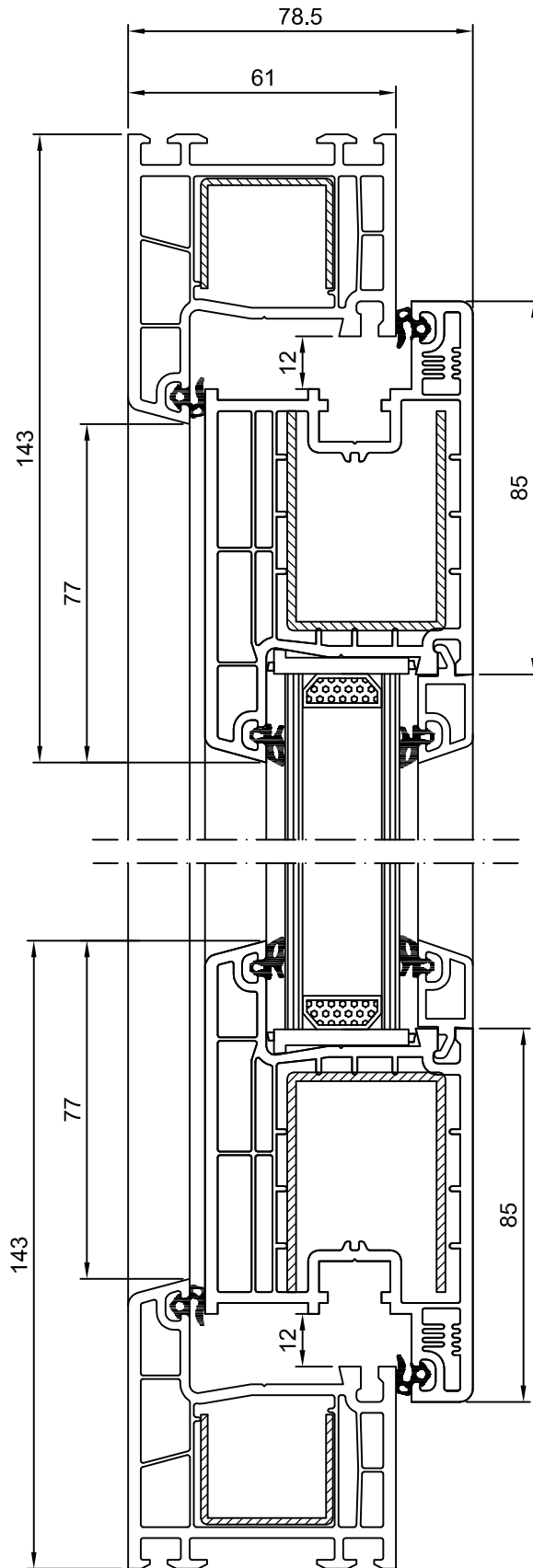
ULAZNA VRATA SISTEM 400

LEGENDA

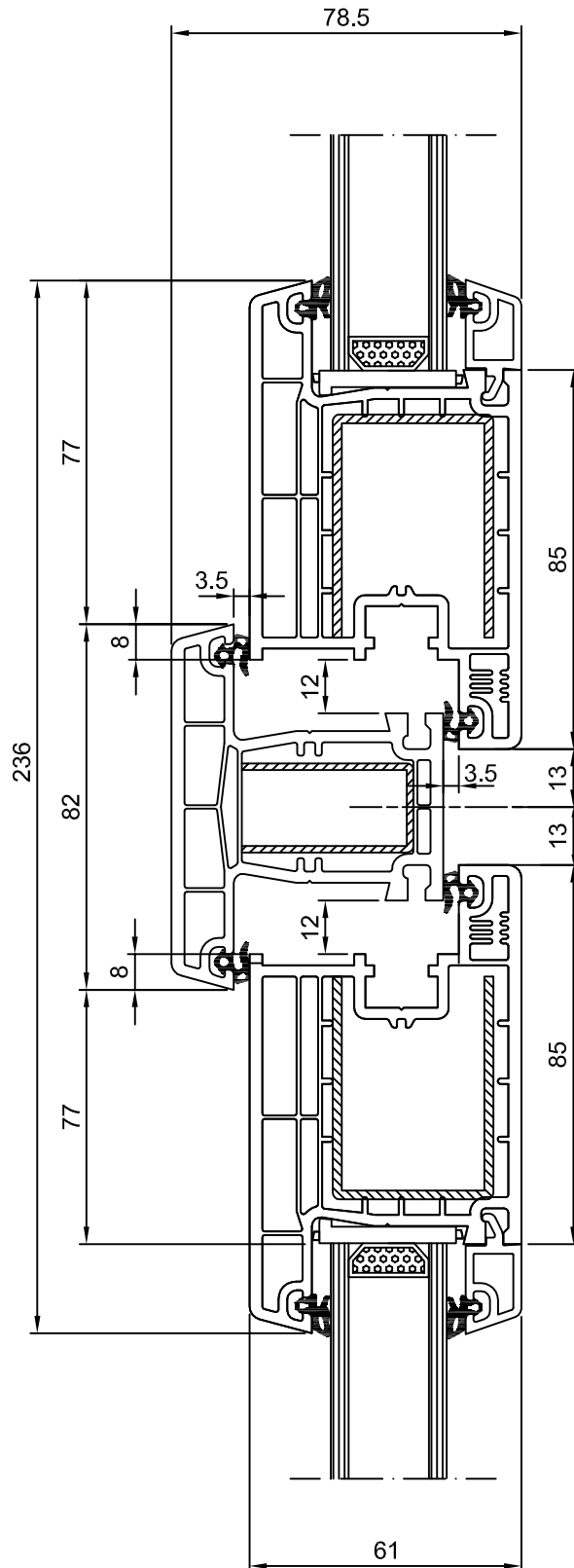
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 VS= VISINA STAKLA



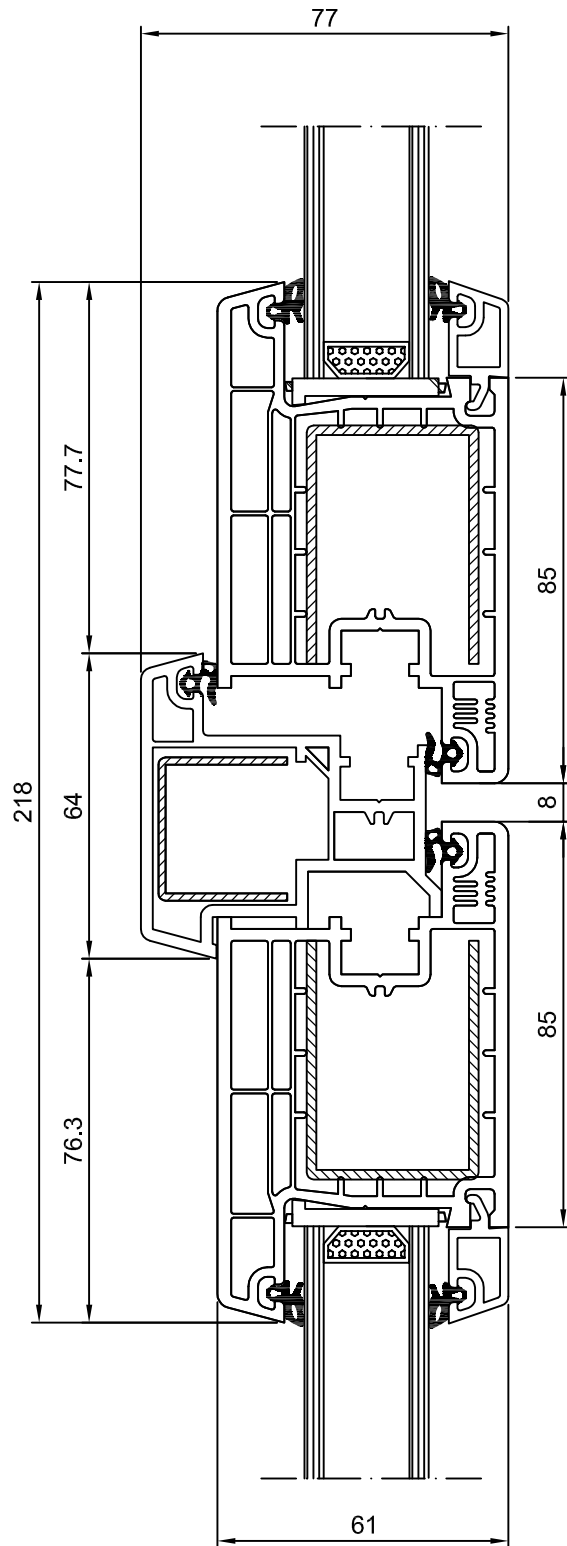
ULAZNA VRATA SISTEM 400



PRESEK VRATA KRILO-STUB-KRILO SISTEM 400



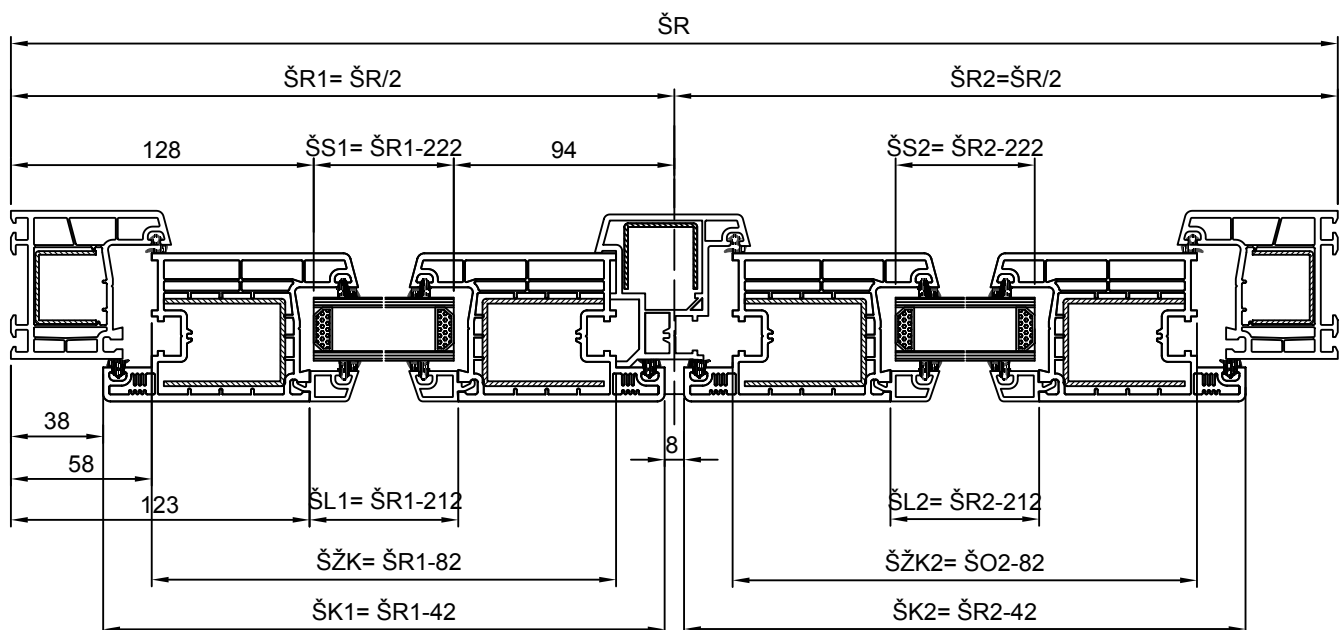
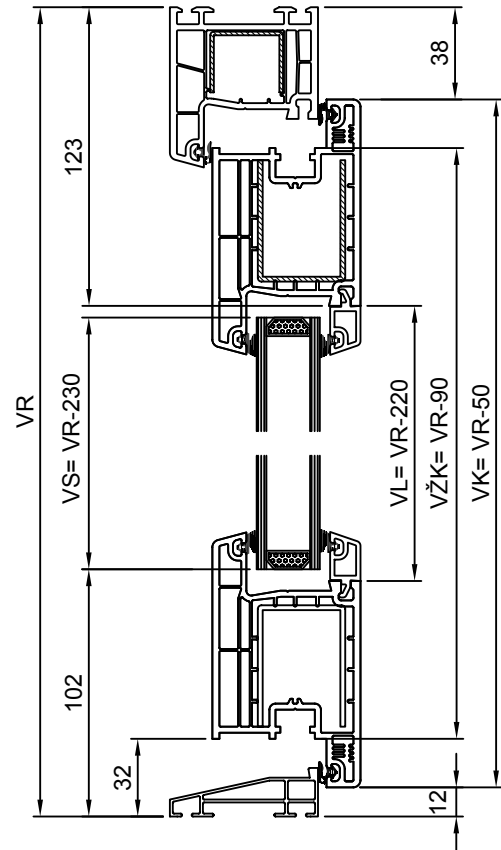
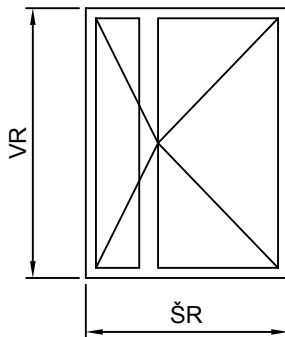
PRESEK VRATA KRILO-PREKLOP-KRILO SISTEM 400



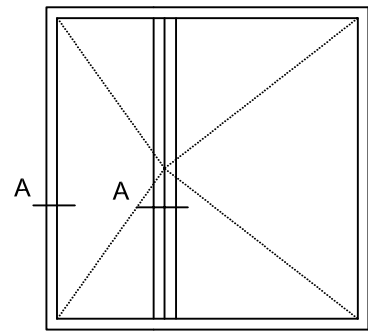
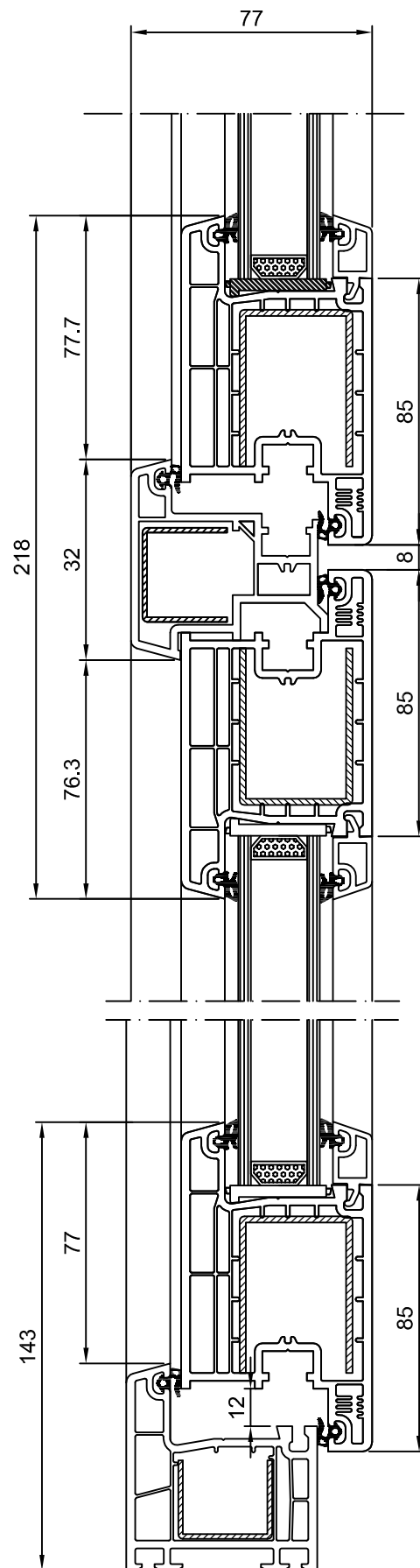
DVOKRILNA ULAZNA VRATA SISTEM 400

LEGENDA

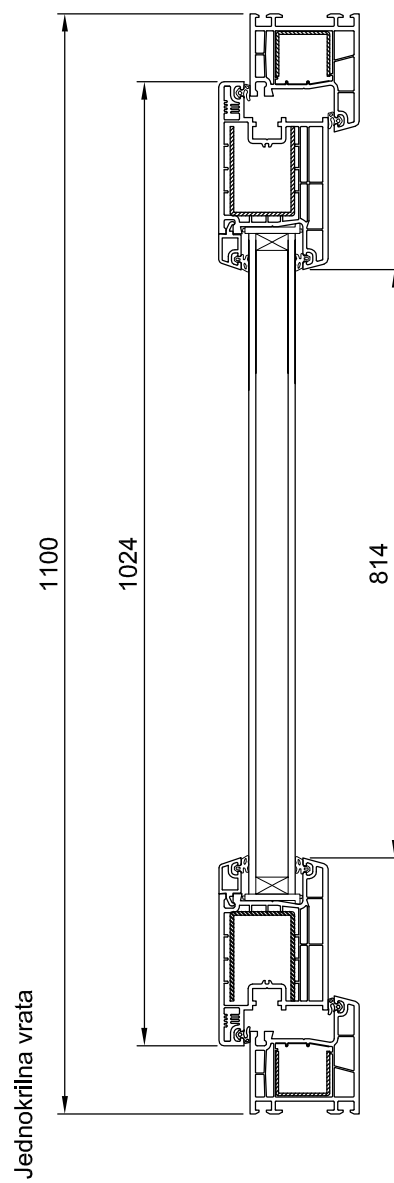
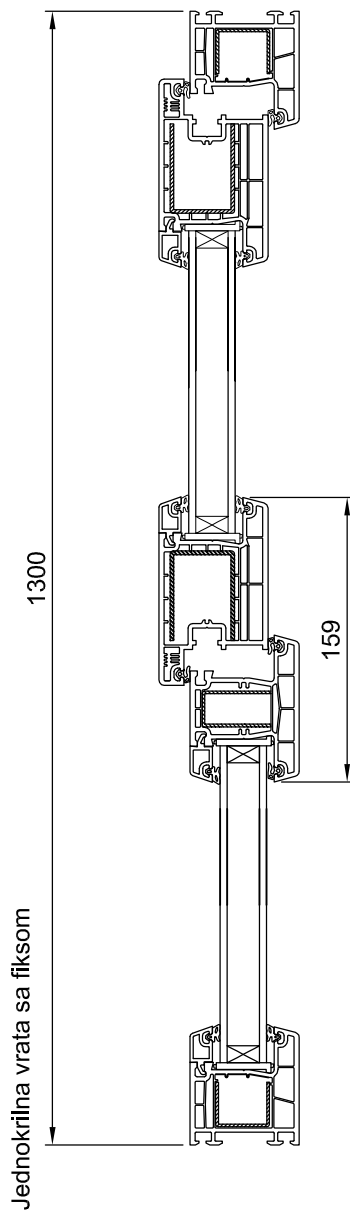
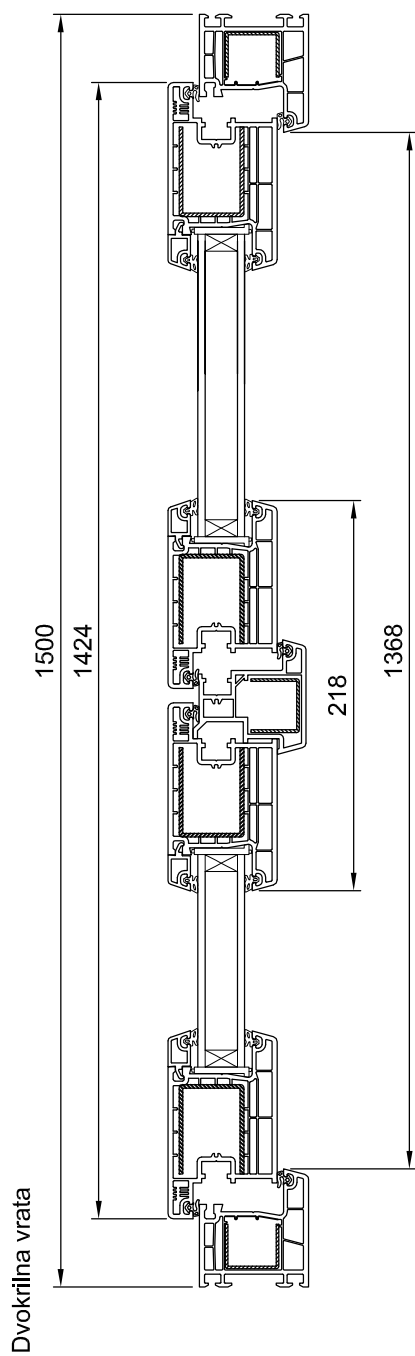
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 ŠK= ŠIRINA KRILA
 VK= VISINA KRILA
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 ŠL=ŠIRINA LAJSNE
 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



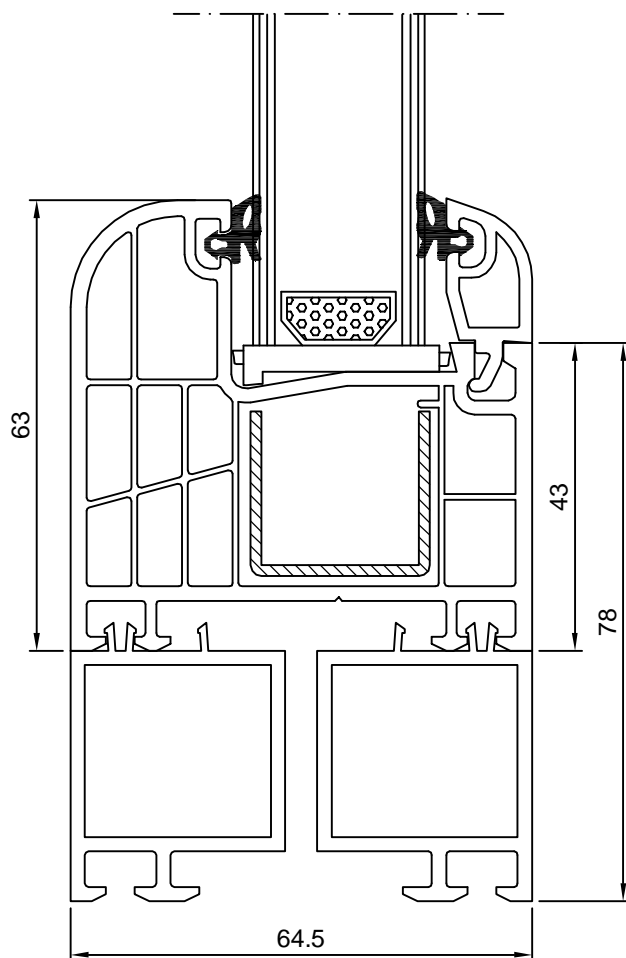
DVOKRILNA ULAZNA VRATA SISTEM 400



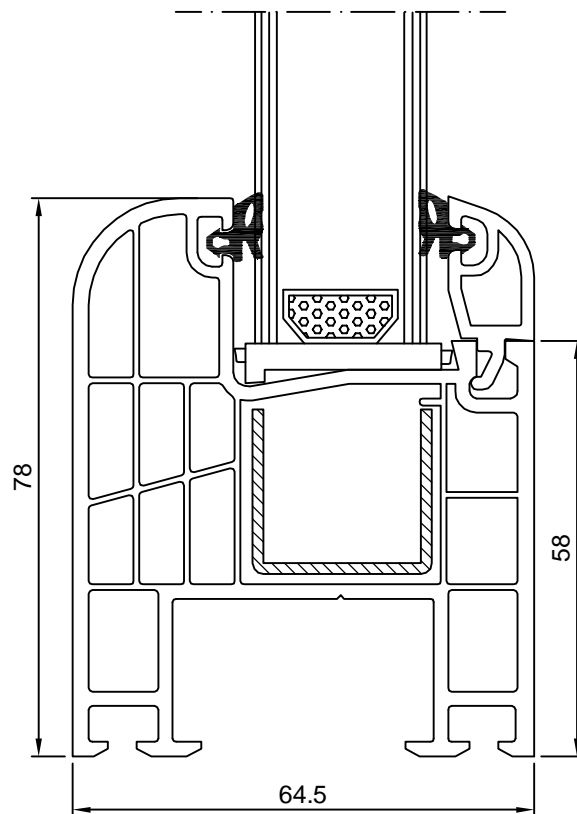
PRIKAZ MOGUĆNOSTI OTVARANJA ULAZNIH VRATA SISTEM 400



PRESEK PROZORA
NASTAVAK RAMA - RAM
SISTEM 500



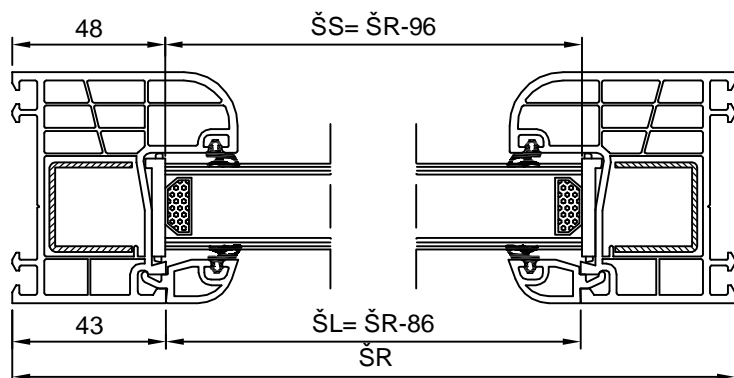
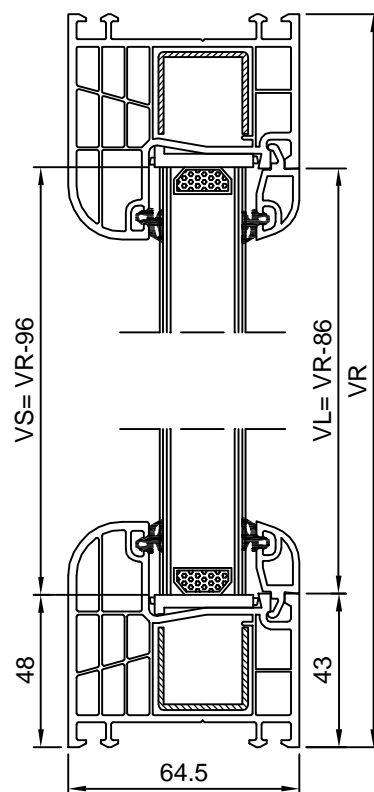
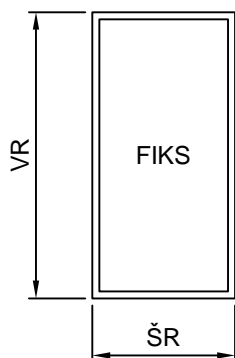
PRESEK PROZORA - PROŠIRENI RAM SISTEM 500



FIKSNI PROZOR SISTEM 500

LEGENDA

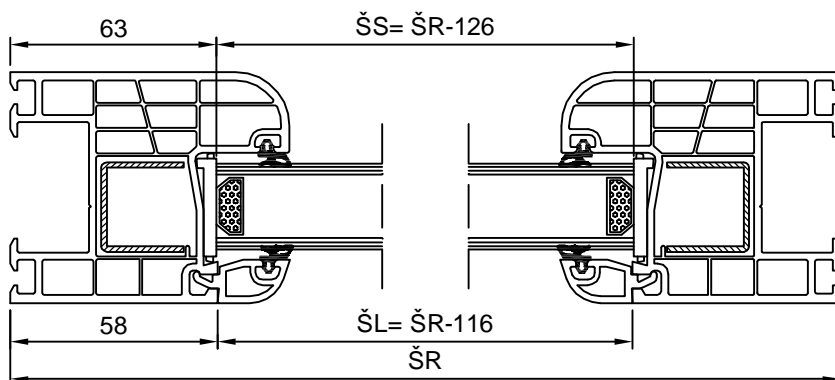
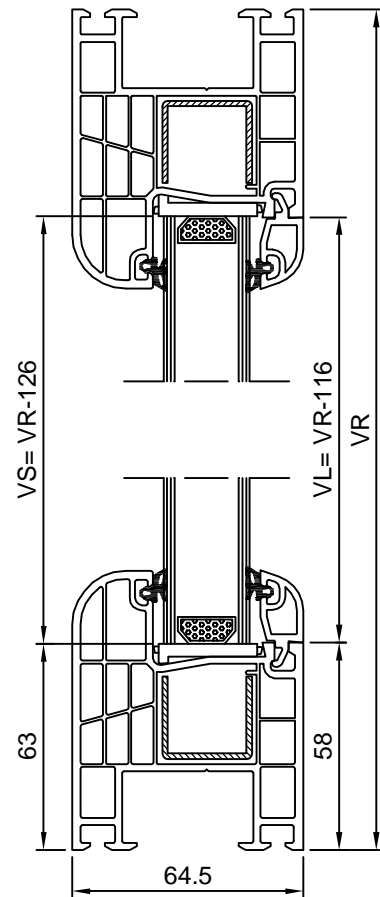
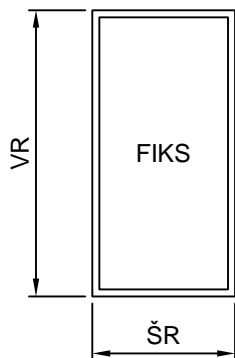
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VR= VISINA RAMA
ŠL=ŠIRINA LAJSNE
VL=VISINA LAJSNE
ŠS= ŠIRINA STAKLA
VS= VISINA STAKLA



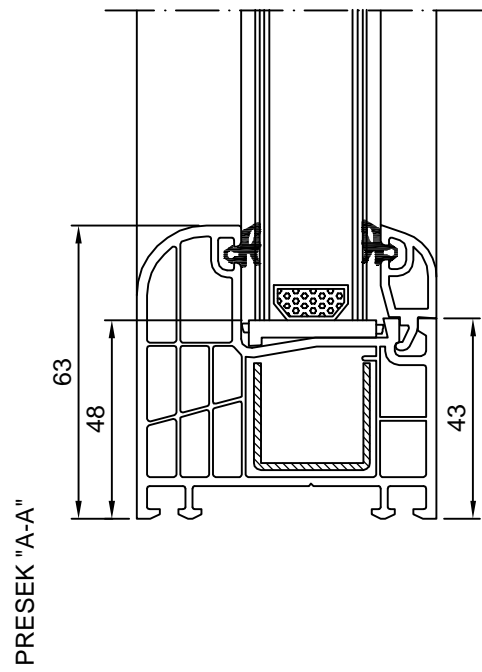
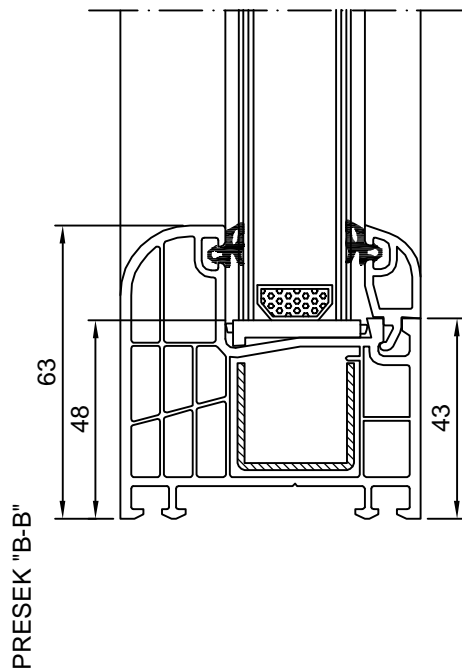
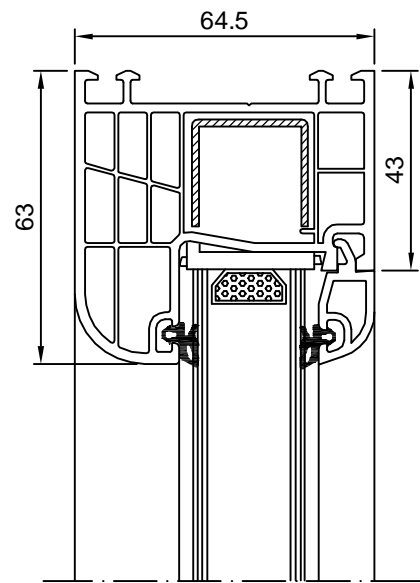
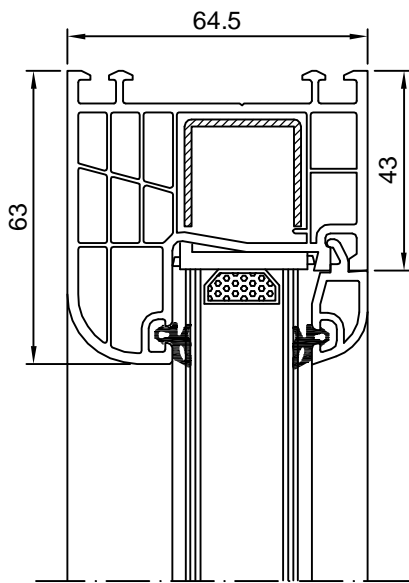
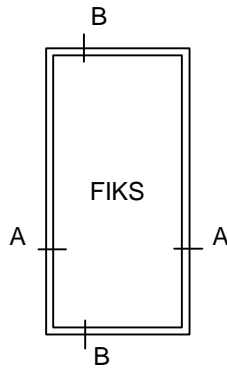
FIKSNI PROZOR SA PROŠIRENIM RAMOM SISTEM 500

LEGENDA

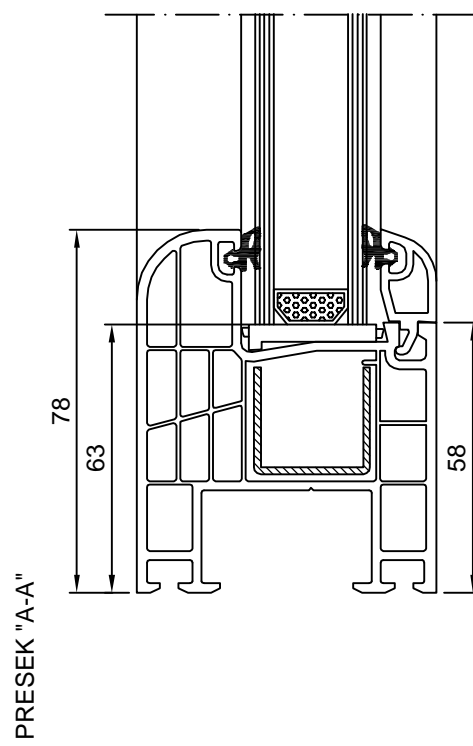
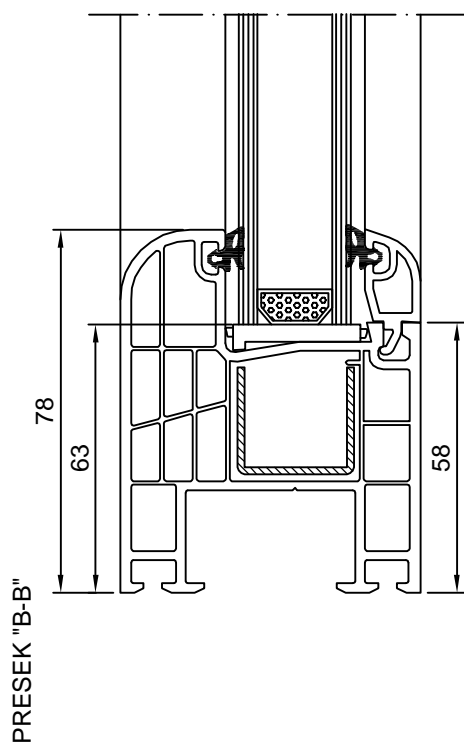
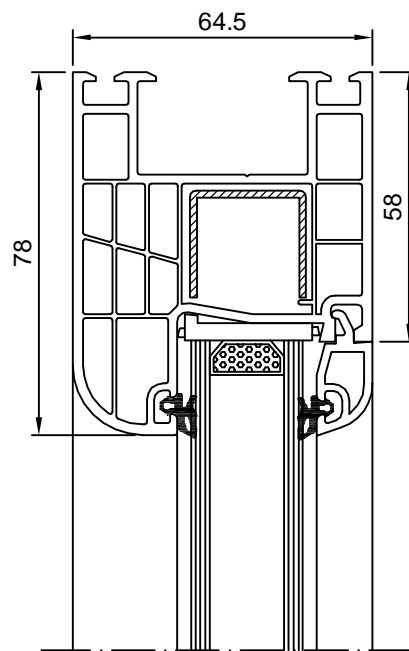
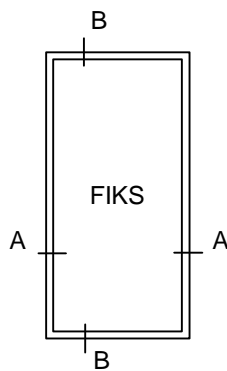
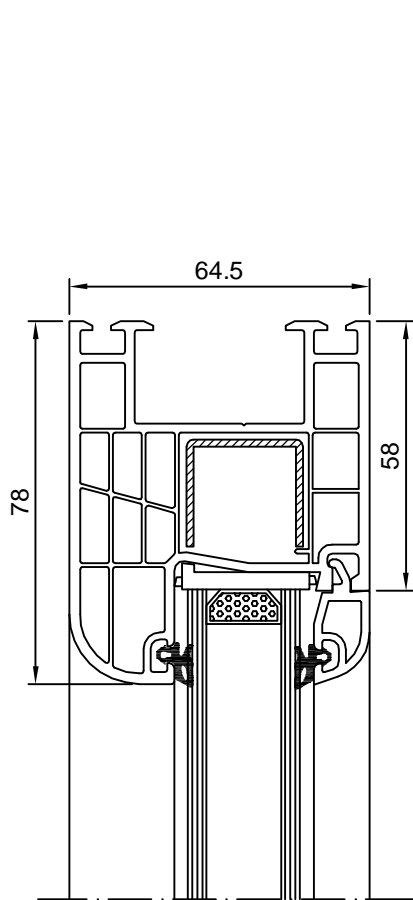
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 ŠL=ŠIRINA LAJSNE
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 VS= VISINA STAKLA



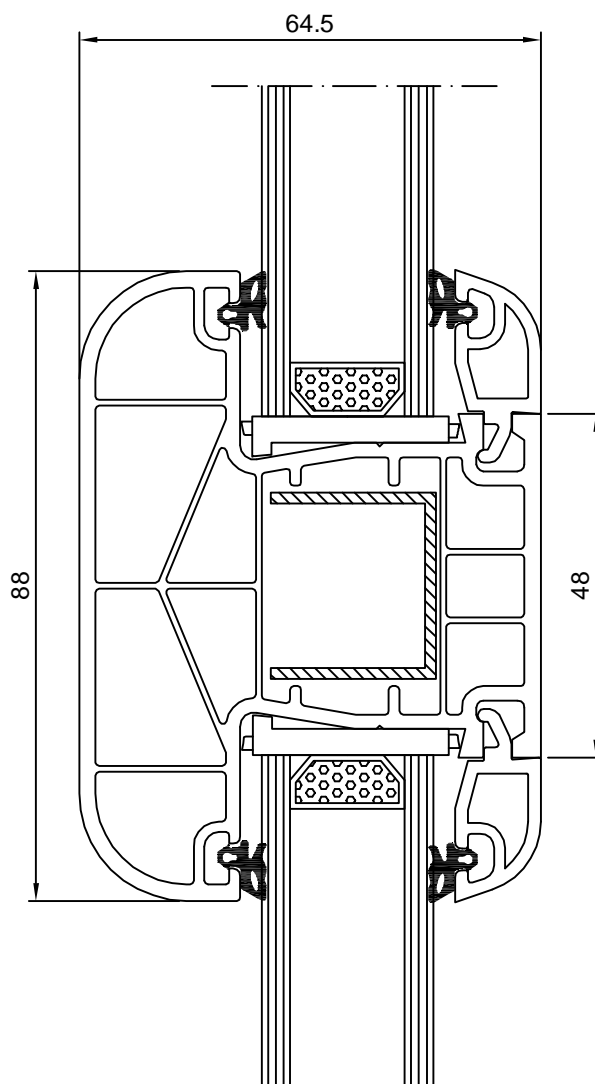
FIKSNI PROZOR SISTEM 500



FIKSNİ PROZOR SA PROŠIRENIM RAMOM SISTEM 500



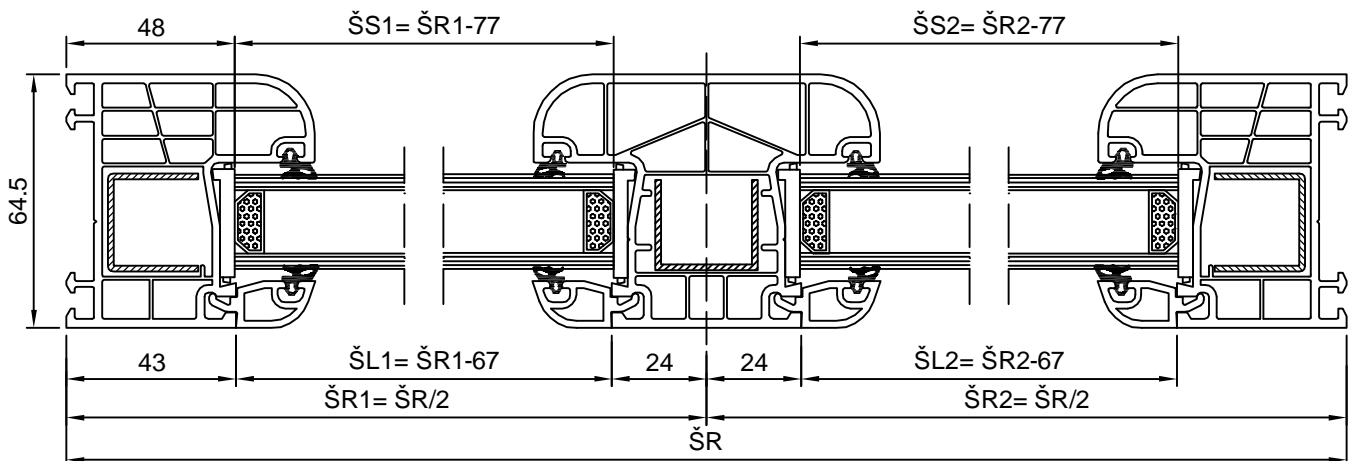
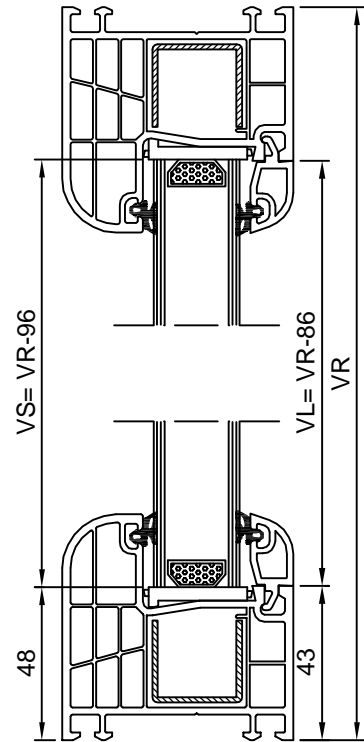
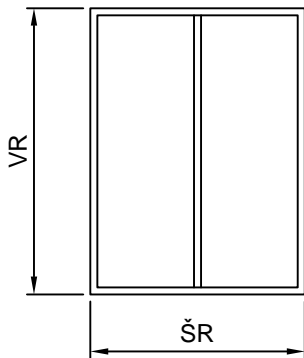
PRESEK PROZORA
STUB - LAJSNA ZA STAKLO
SISTEM 500



FIKSNİ PROZOR SA STUBOM SISTEM 500

LEGENDA

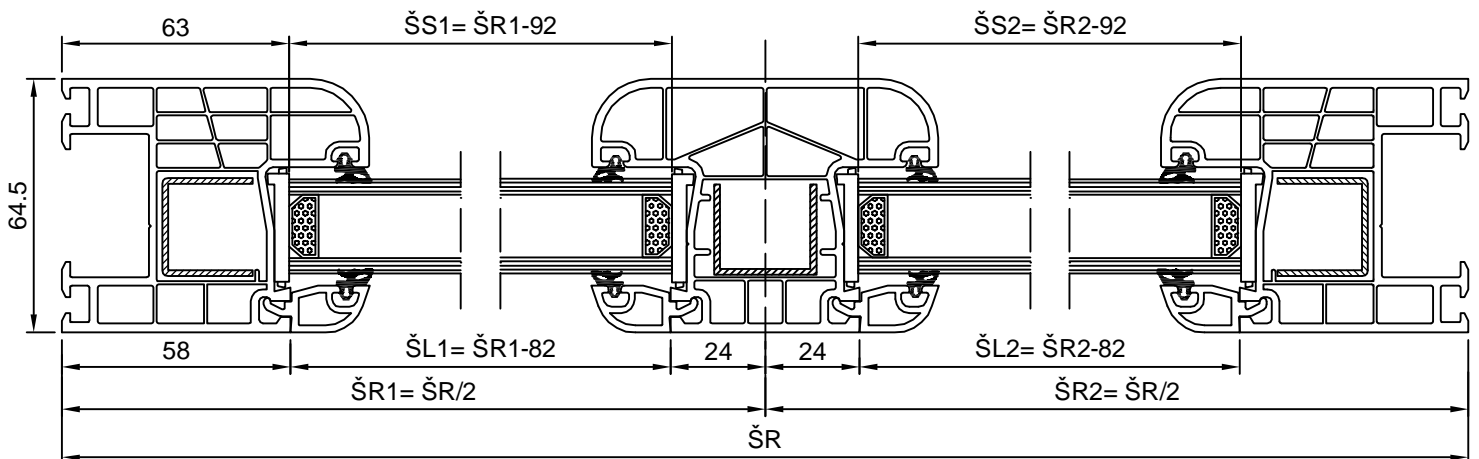
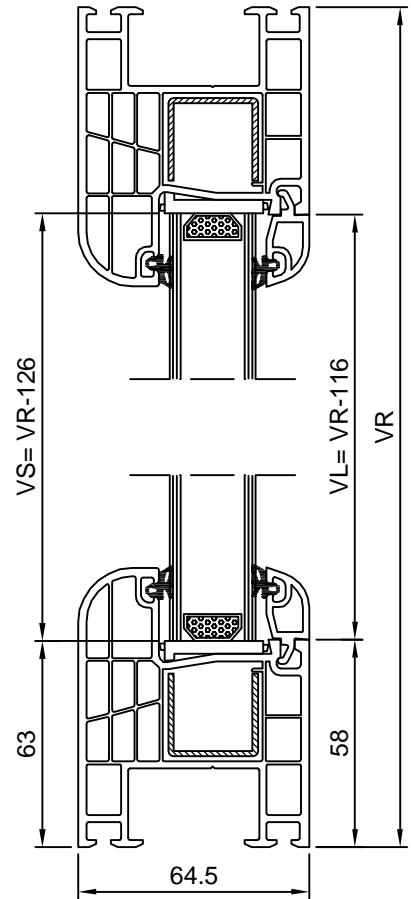
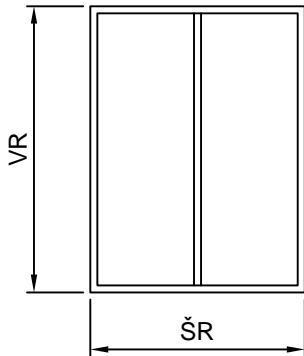
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 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



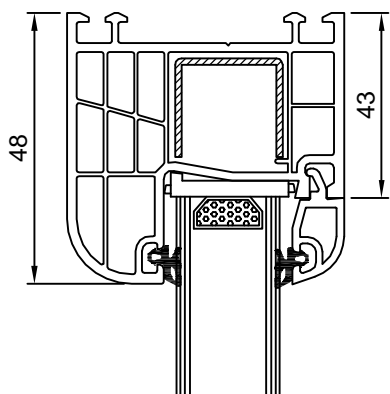
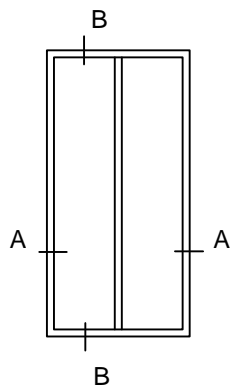
FIKSNİ PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 500

LEGENDA

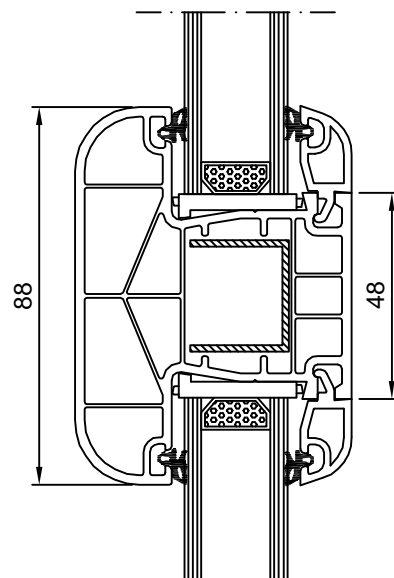
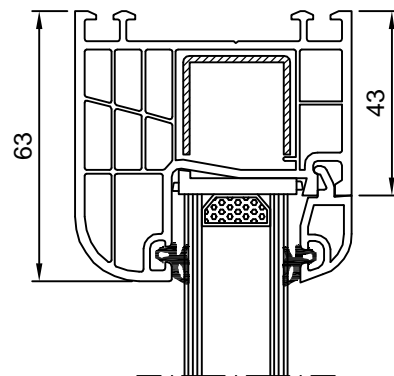
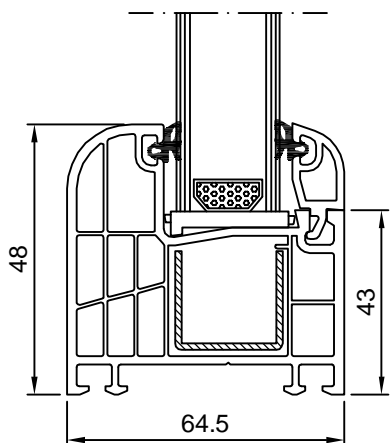
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 VS= VISINA STAKLA



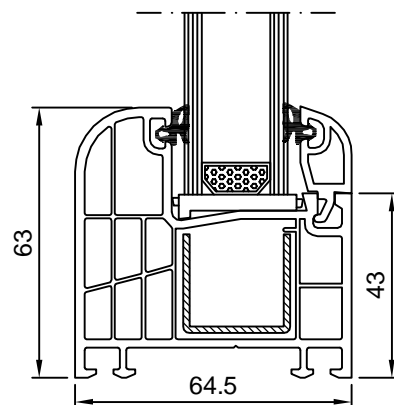
FIKSNI PROZOR SA STUBOM SISTEM 500



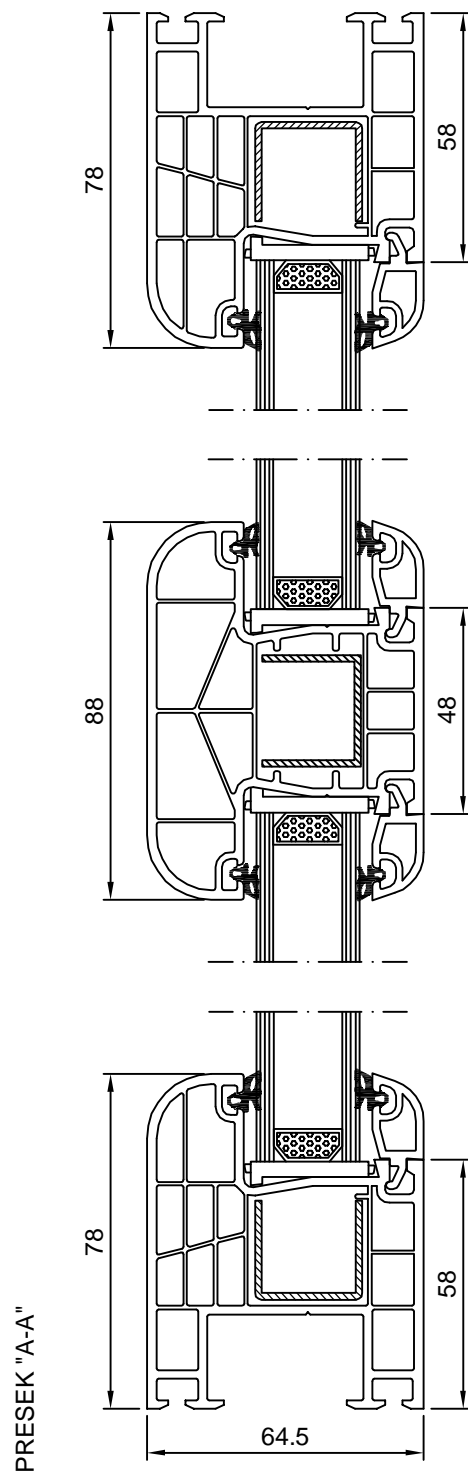
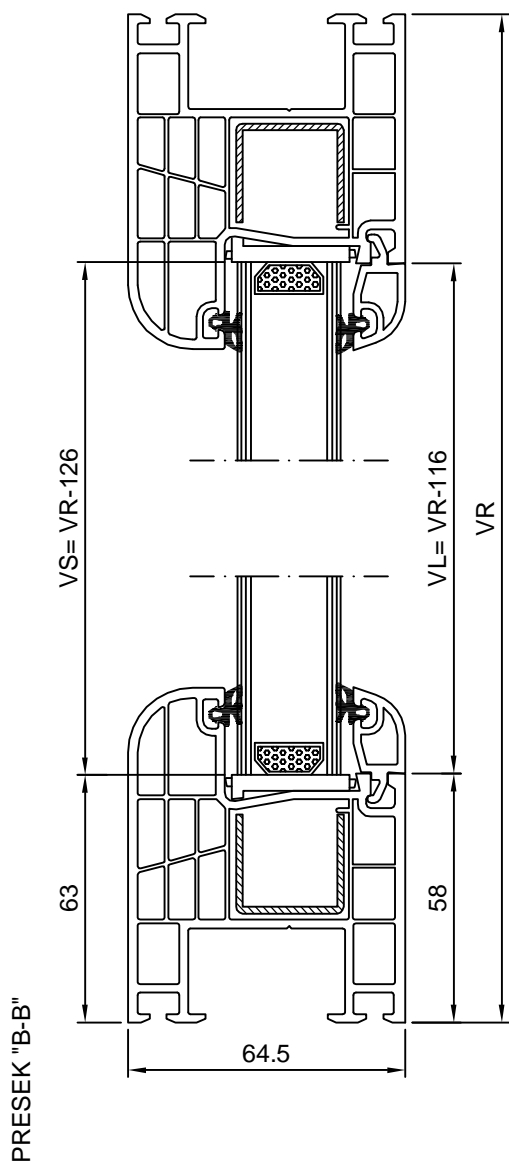
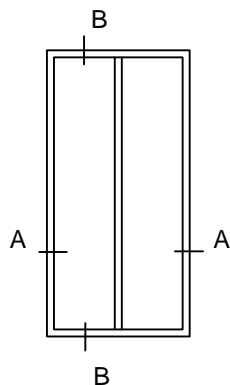
PRESEK "B-B"



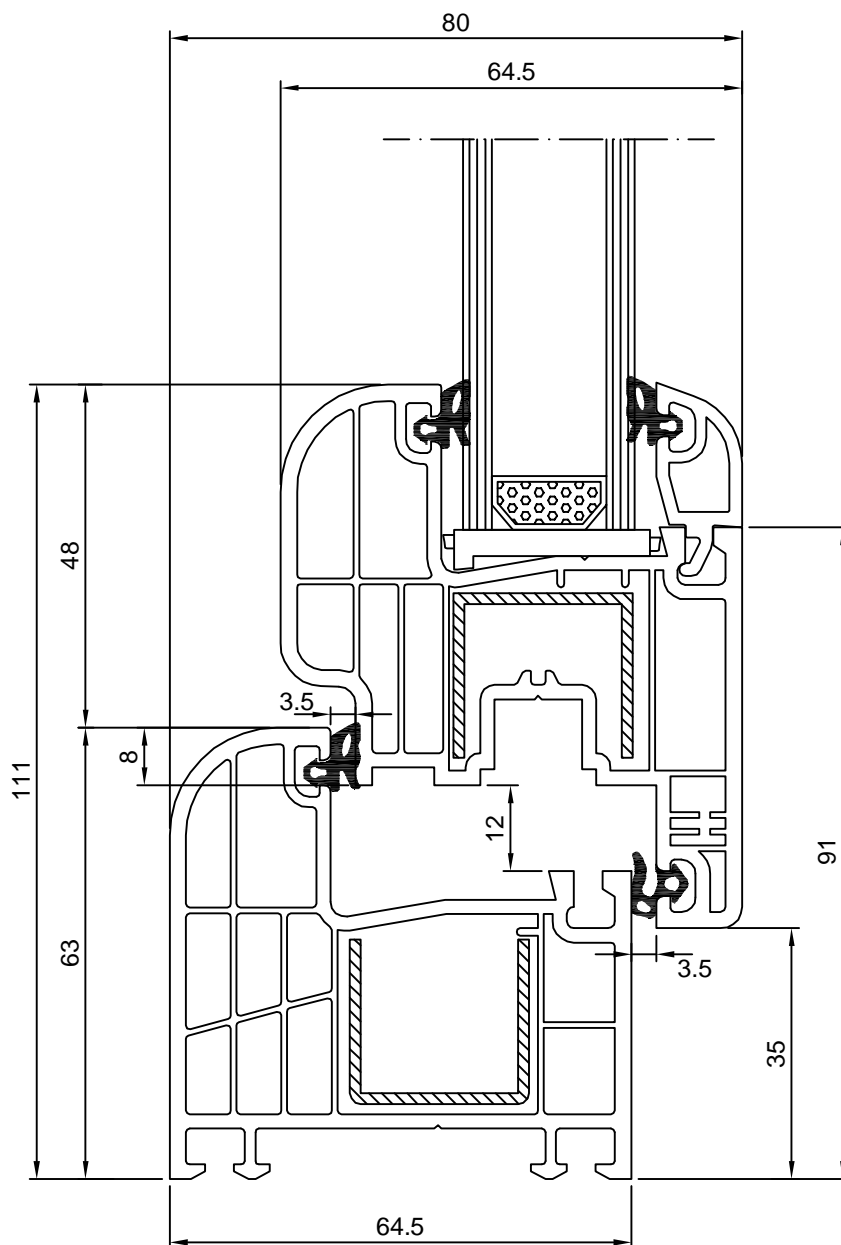
PRESEK "A-A"



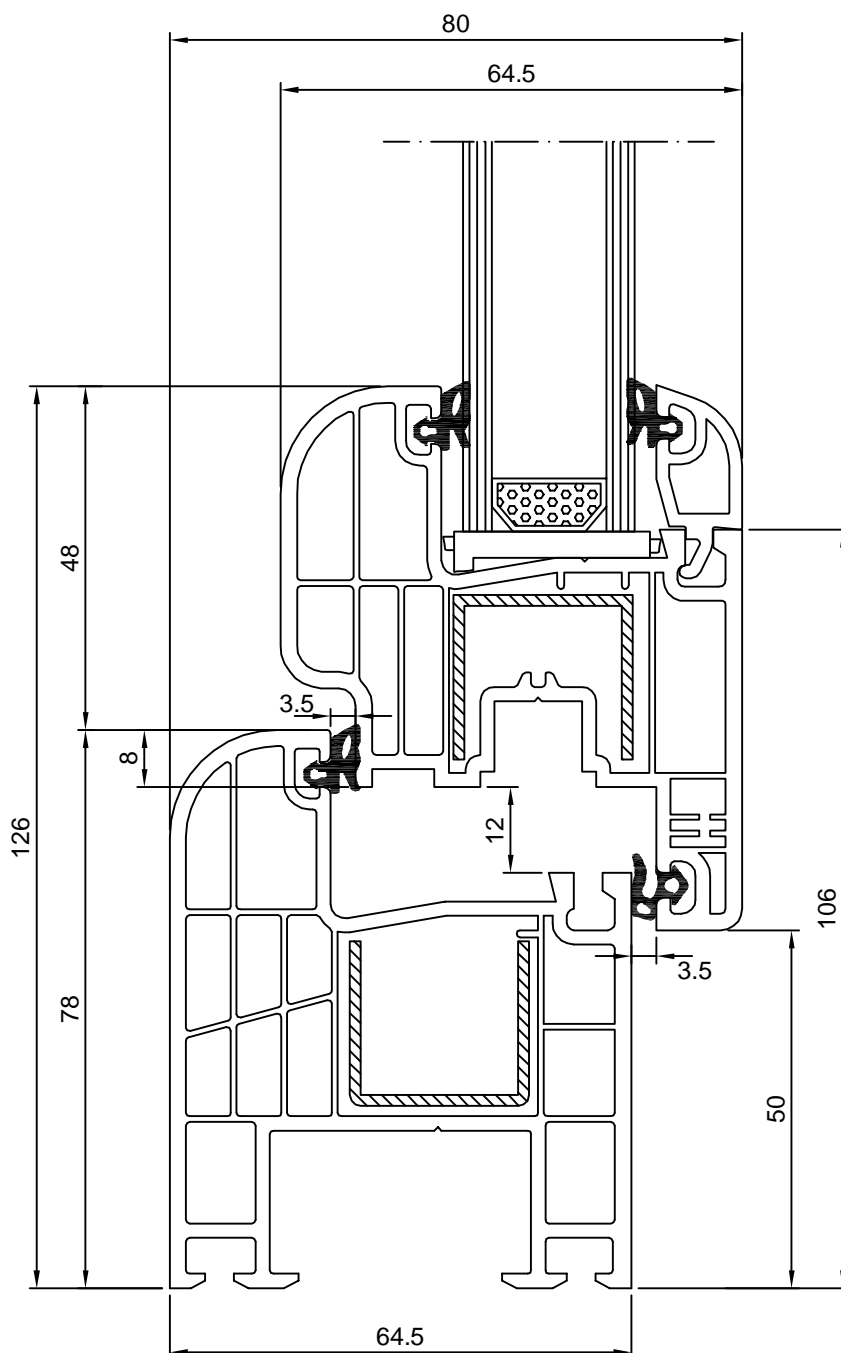
FIKSNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 500



PRESEK PROZORA RAM-KRILO SISTEM 500



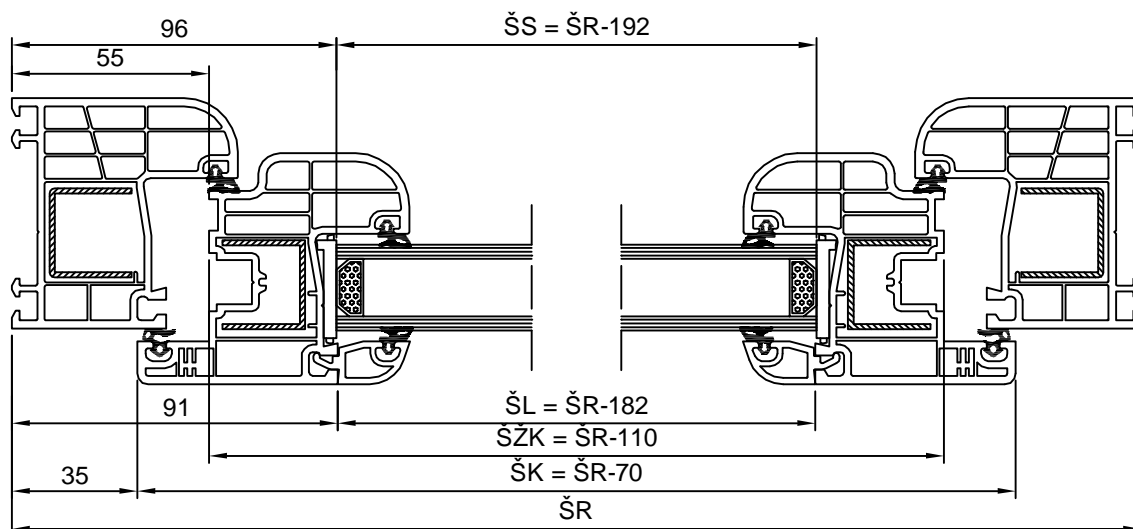
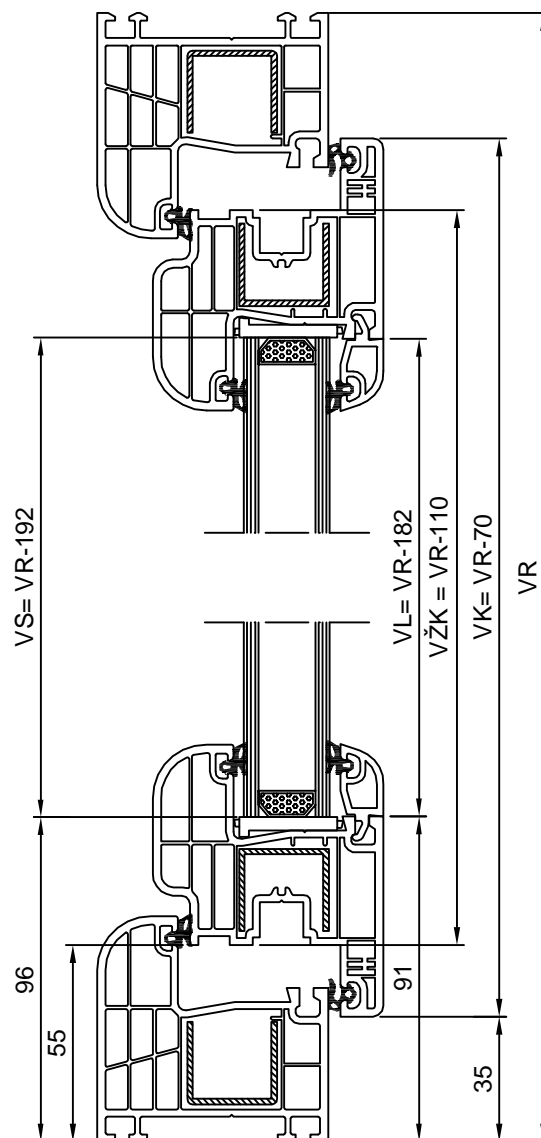
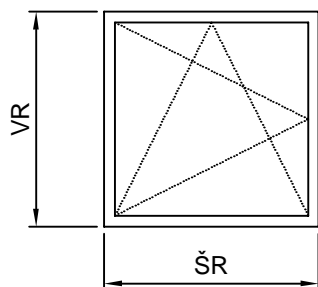
PRESEK PROZORA PROŠIRENI RAM-KRILO SYSTEM 500



JEDNOKRILNI PROZOR SISTEM 500

LEGENDA

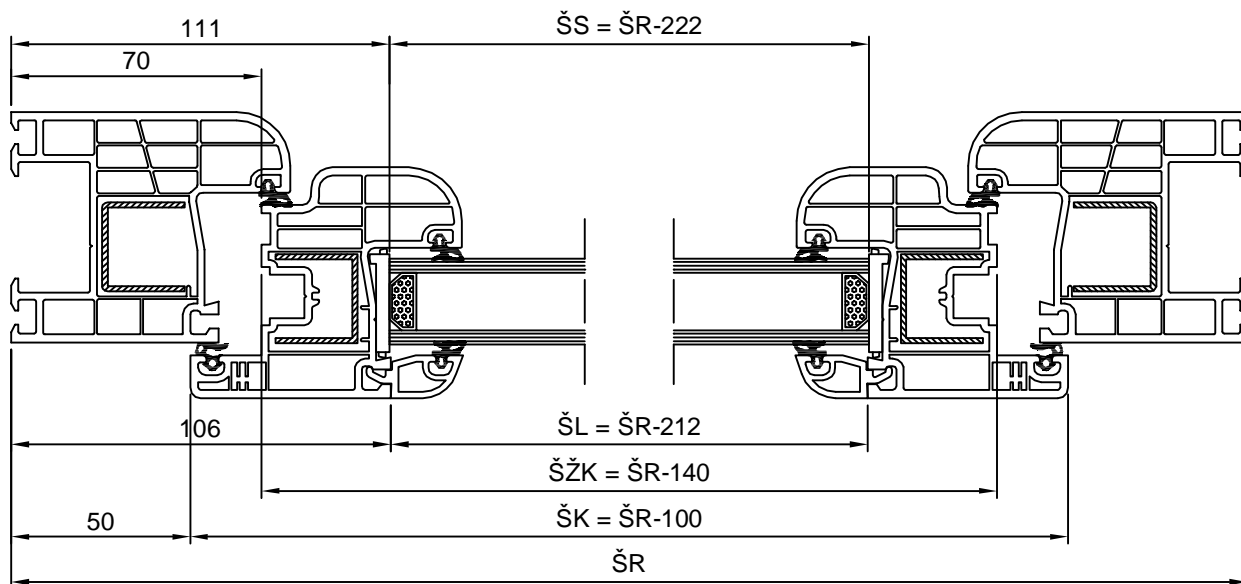
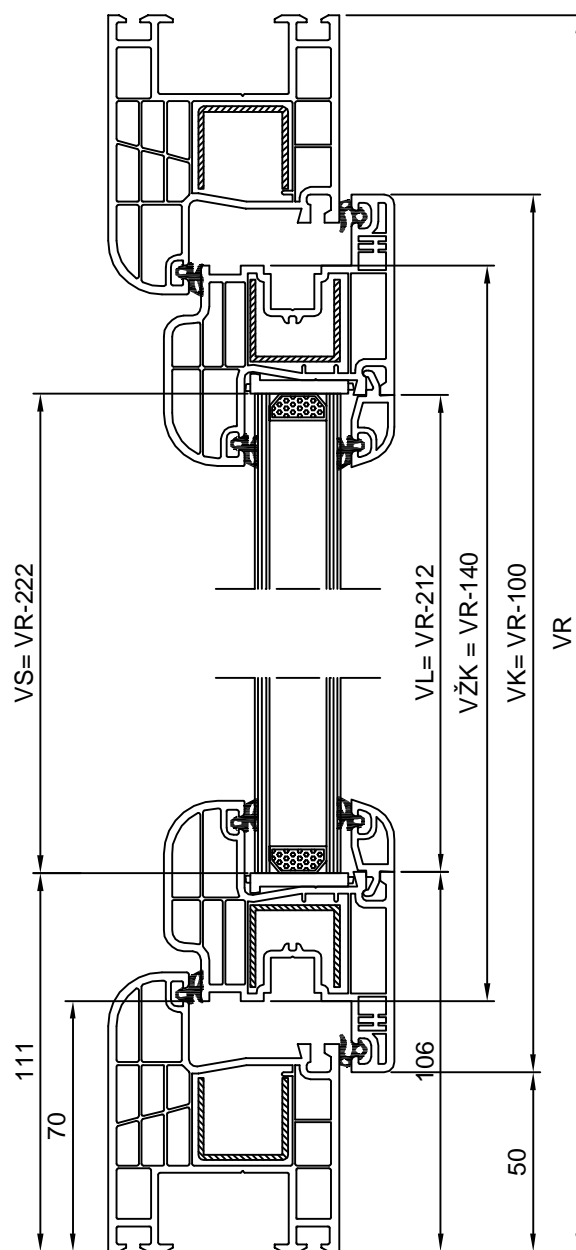
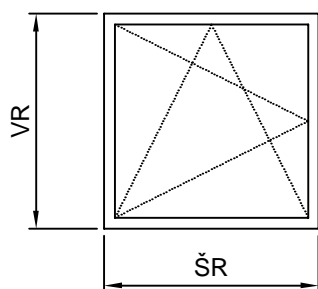
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 VR= VISINA RAMA
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 VK= VISINA KRILA
 ŠŽK= ŠIRINA ŽLEBA KRILA
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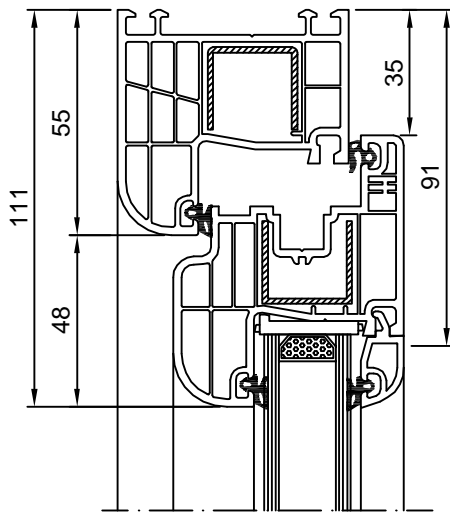
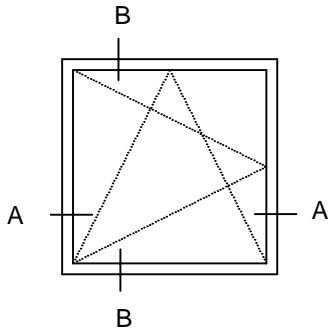
JEDNOKRILNI PROZOR SA PROŠIRENIM RAMOM SISTEM 500

LEGENDA

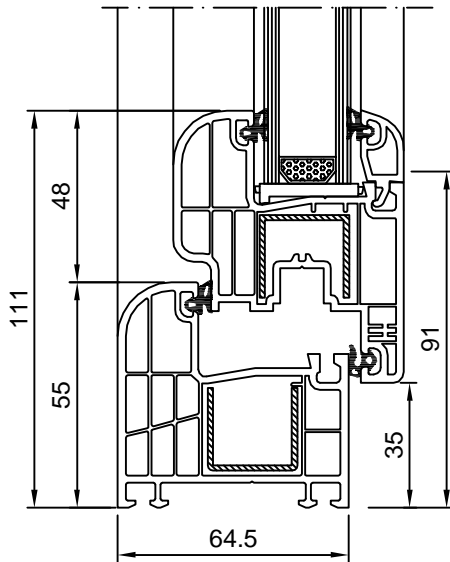
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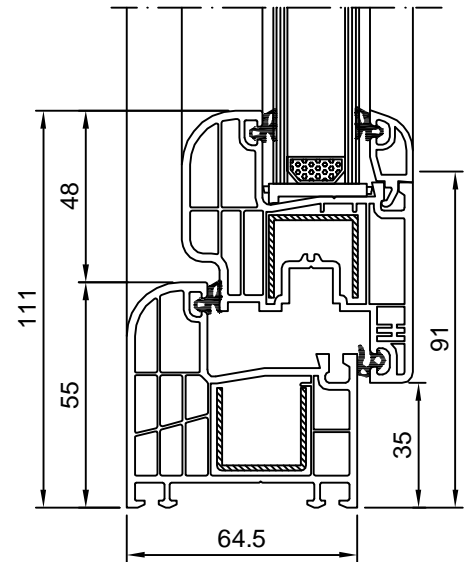
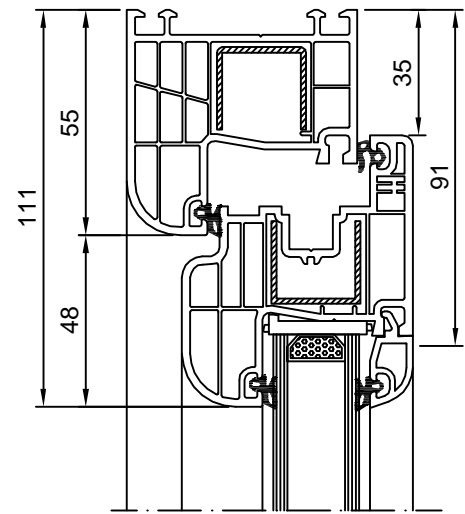
JEDNOKRILNI PROZOR SISTEM 500



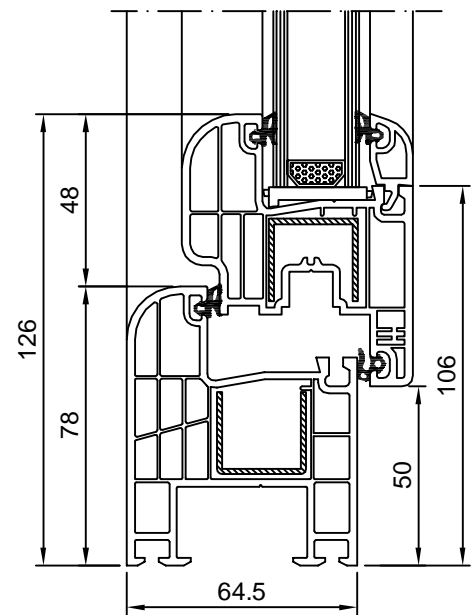
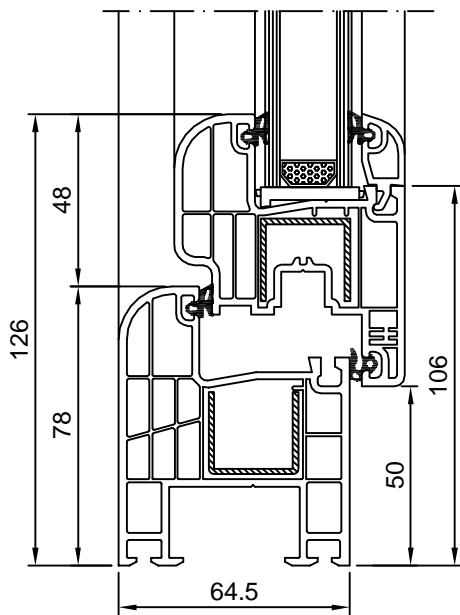
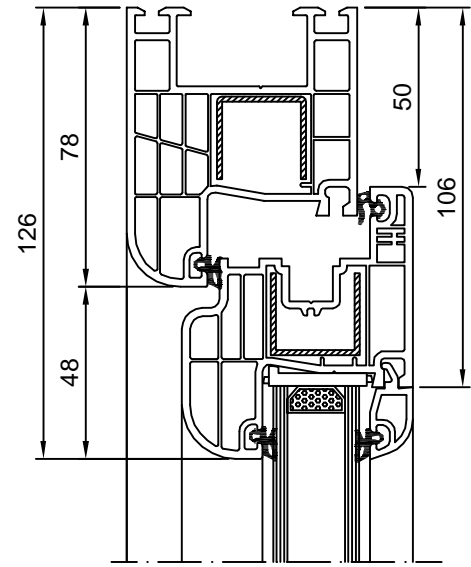
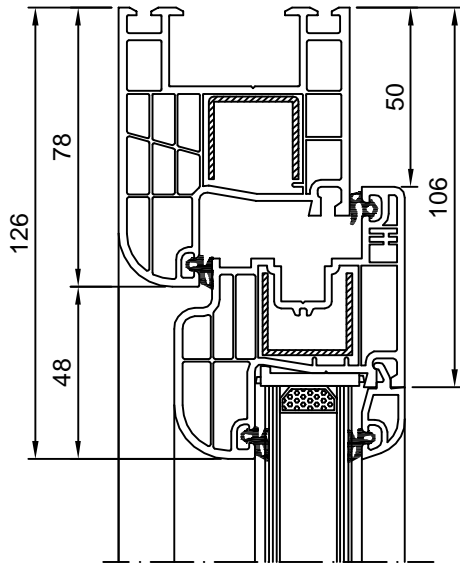
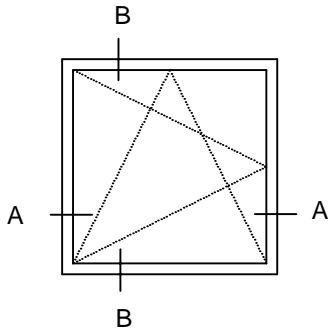
PRESEK "B-B"



PRESEK "A-A"



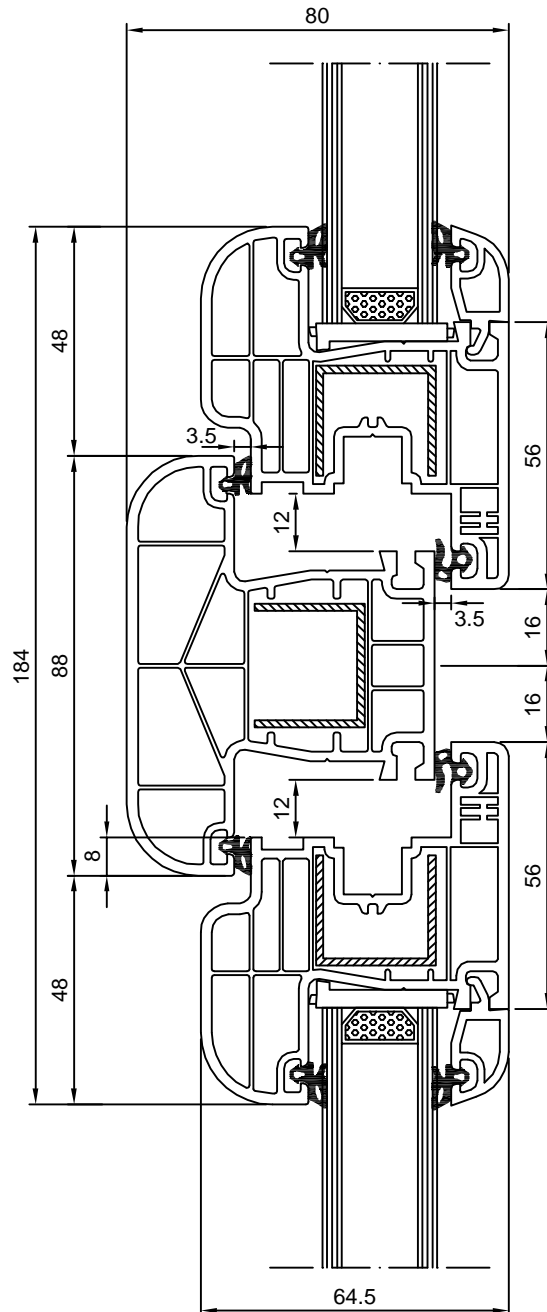
JEDNOKRILNI PROZOR SA PROŠIRENIM RAMOM SISTEM 500



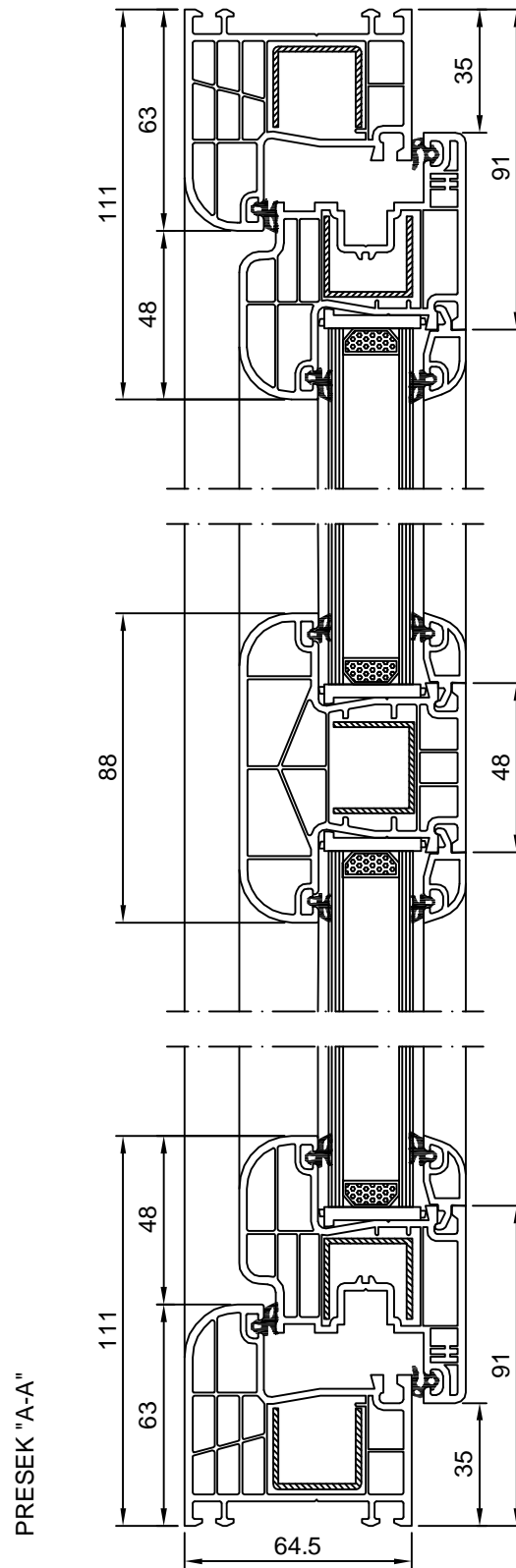
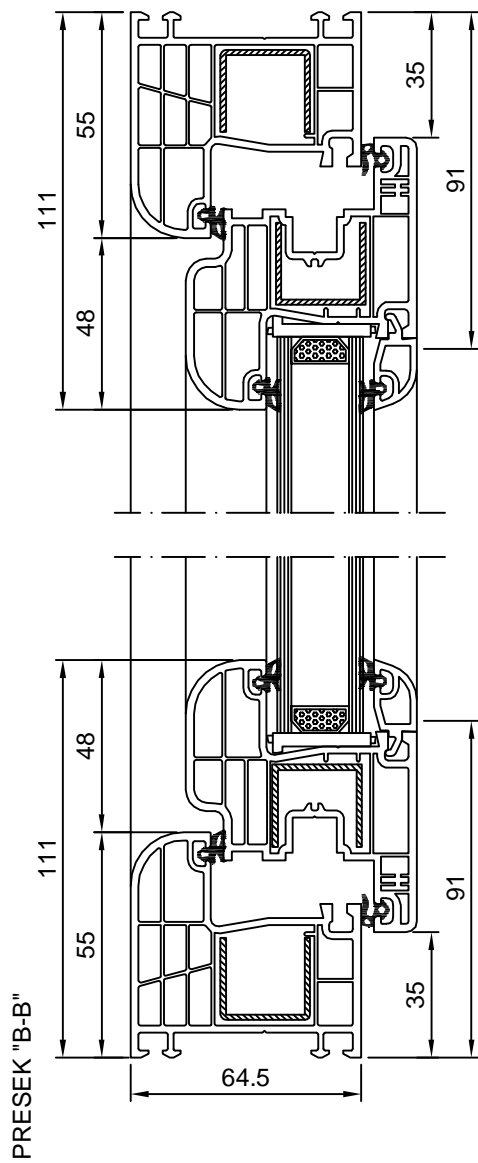
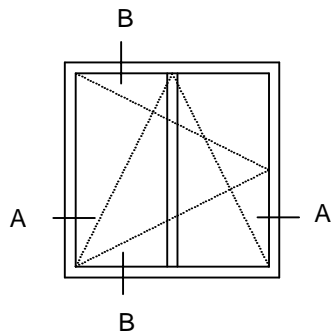
PRESEK "B-B"

PRESEK "A-A"

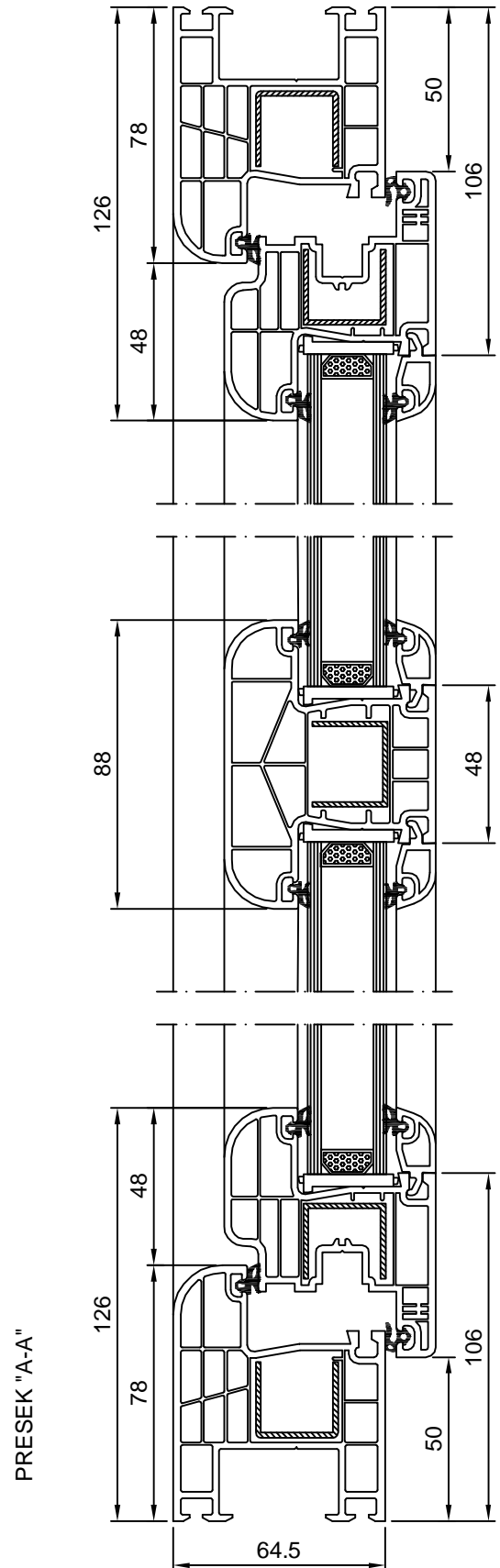
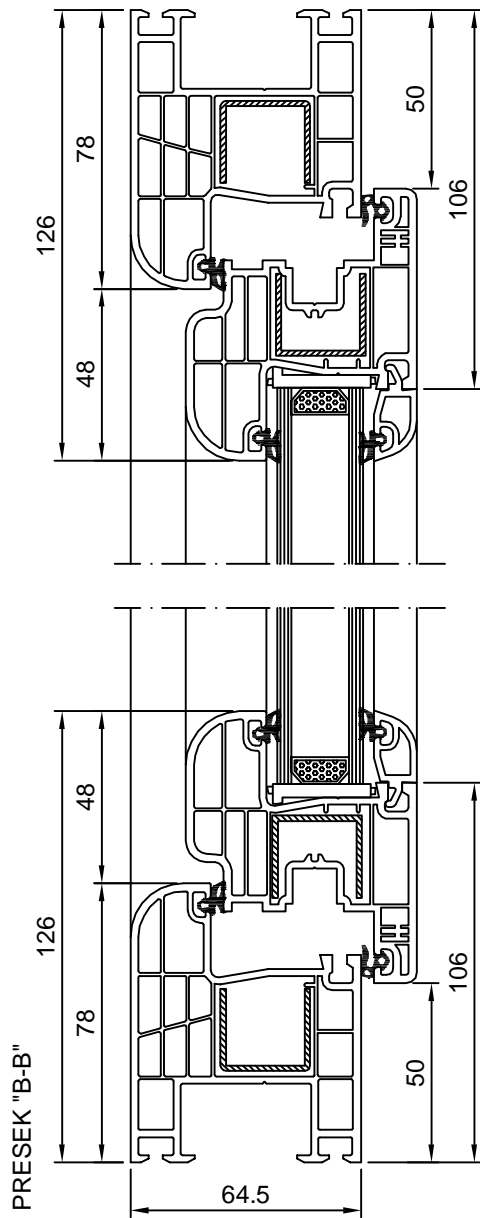
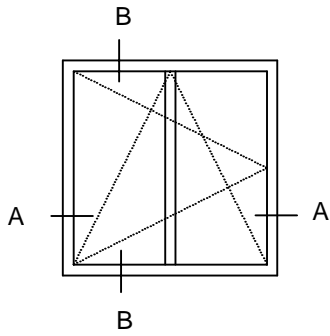
PRESEK PROZORA KRILO-STUB-KRILO SISTEM 500



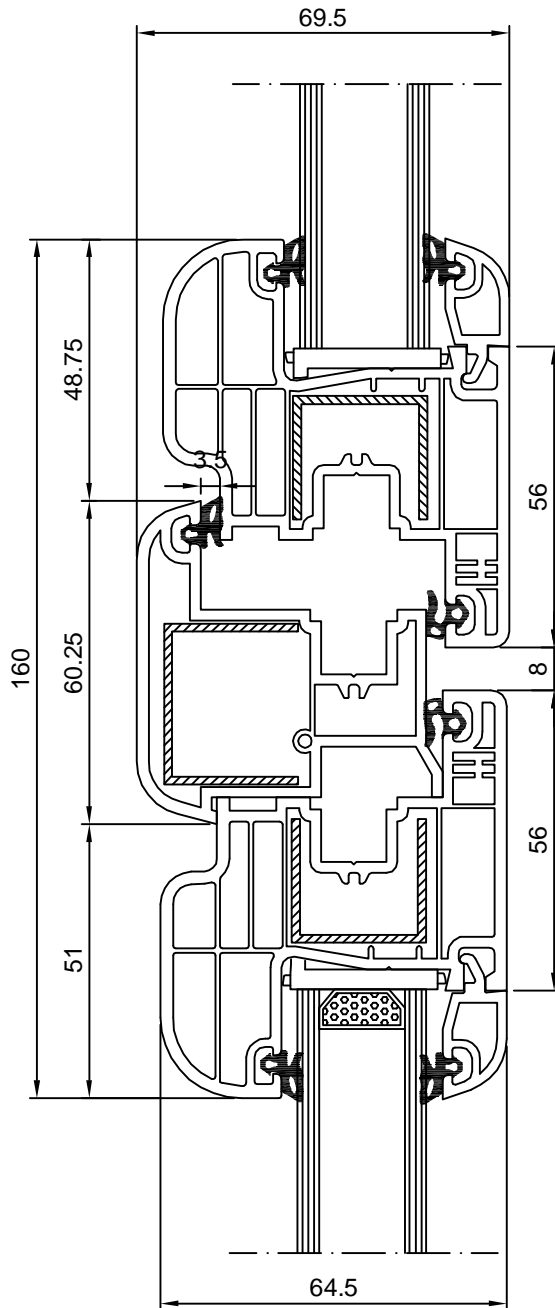
JEDNOKRILNI PROZOR SA STUBOM SISTEM 500



JEDNOKRILNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 500



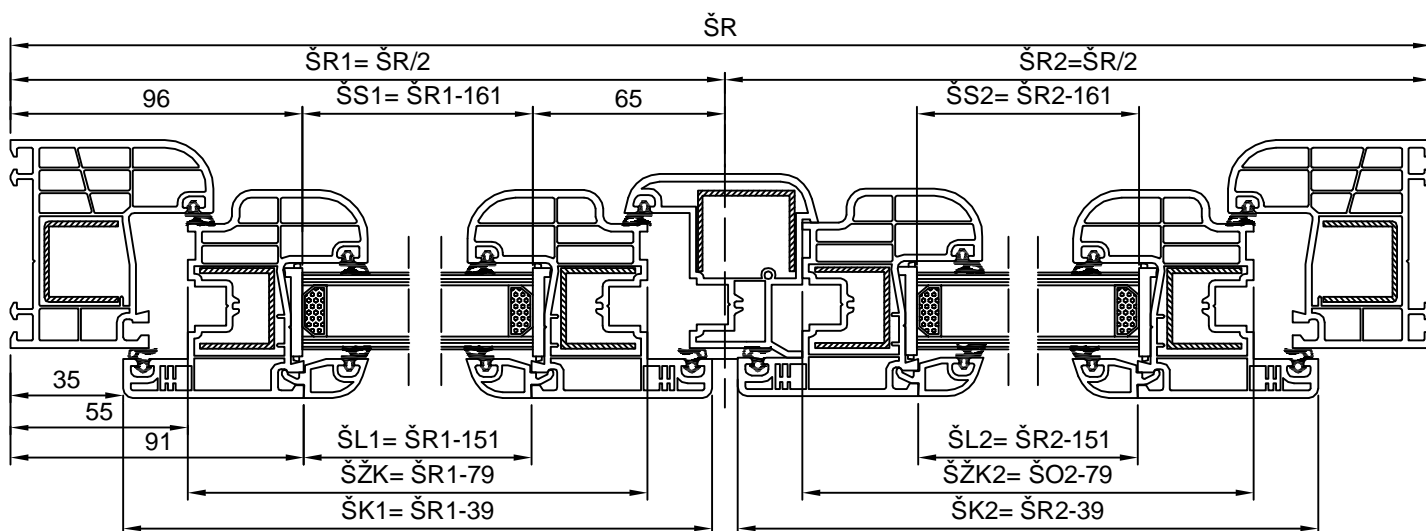
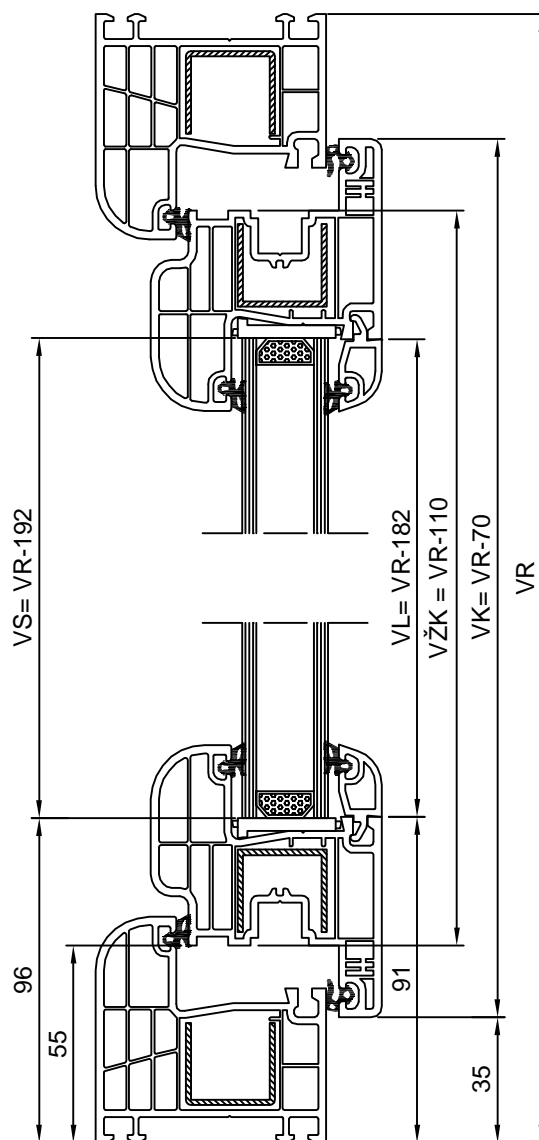
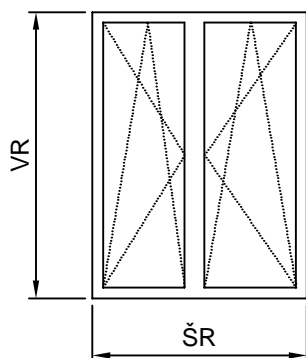
PRESEK PROZORA KRILO-PREKLOP-KRILO SISTEM 500



DVOKRILNI PROZOR SA PREKLOPOM SISTEM 500

LEGENDA

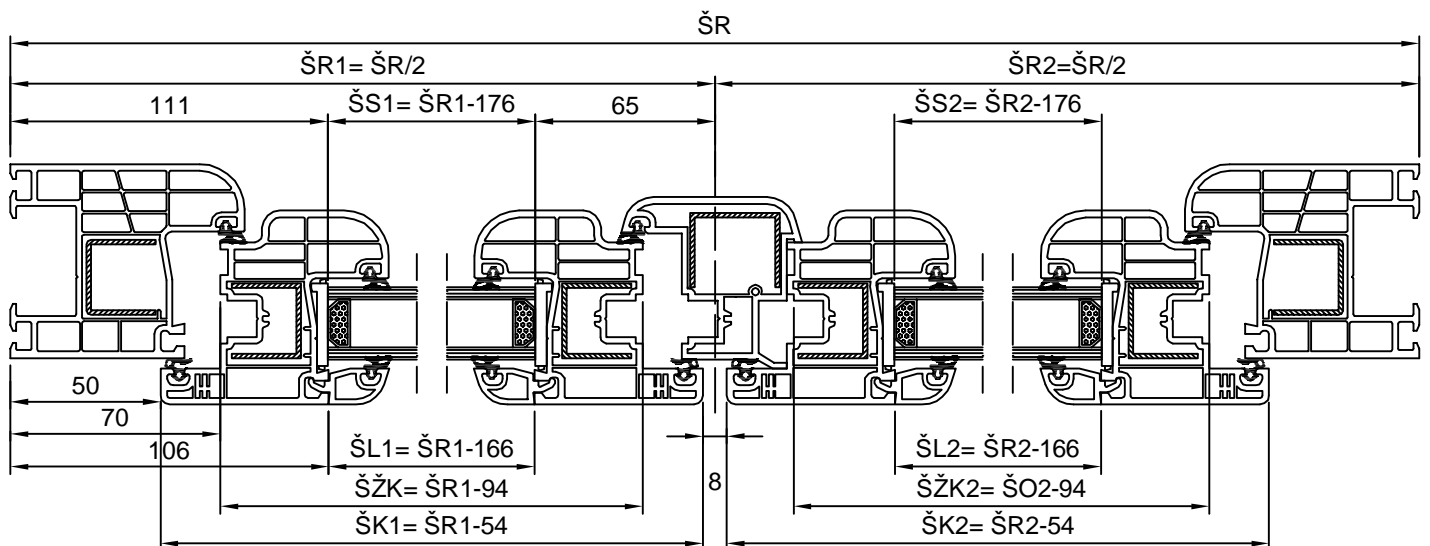
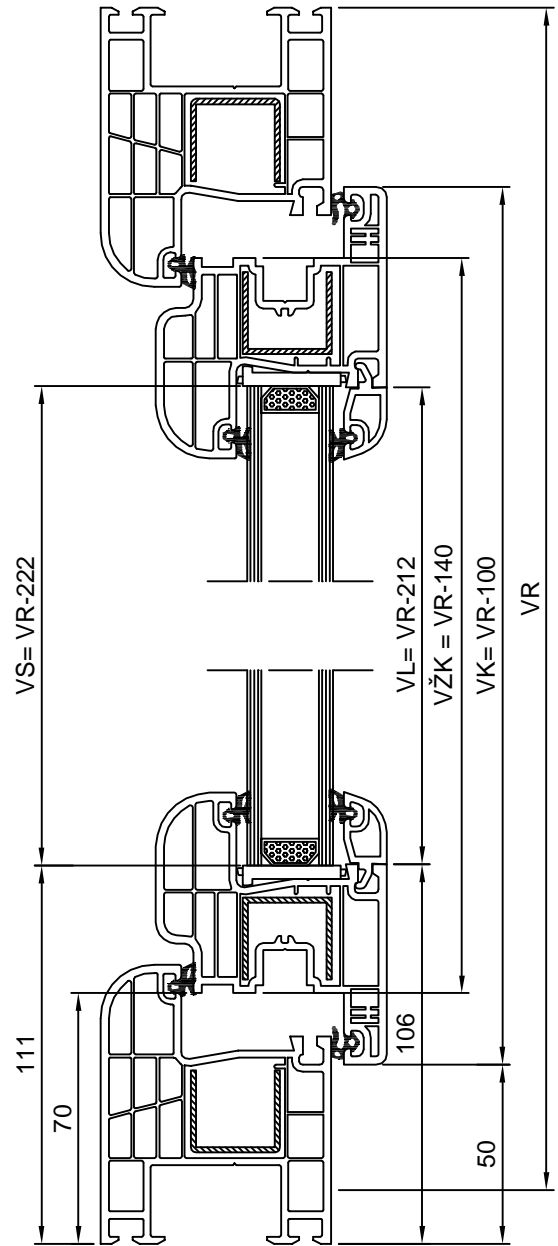
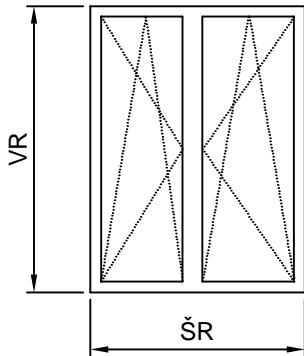
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 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



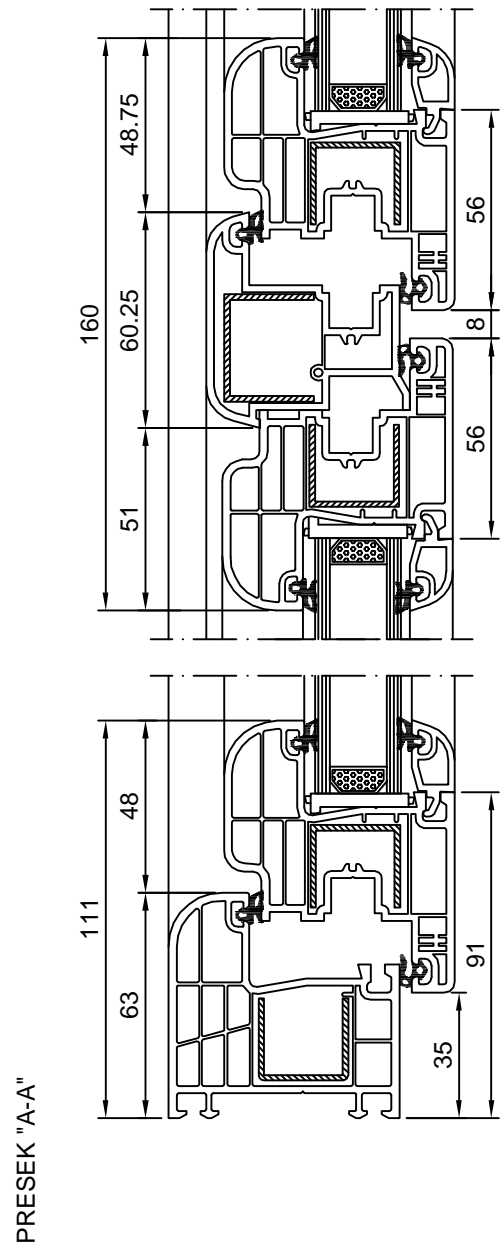
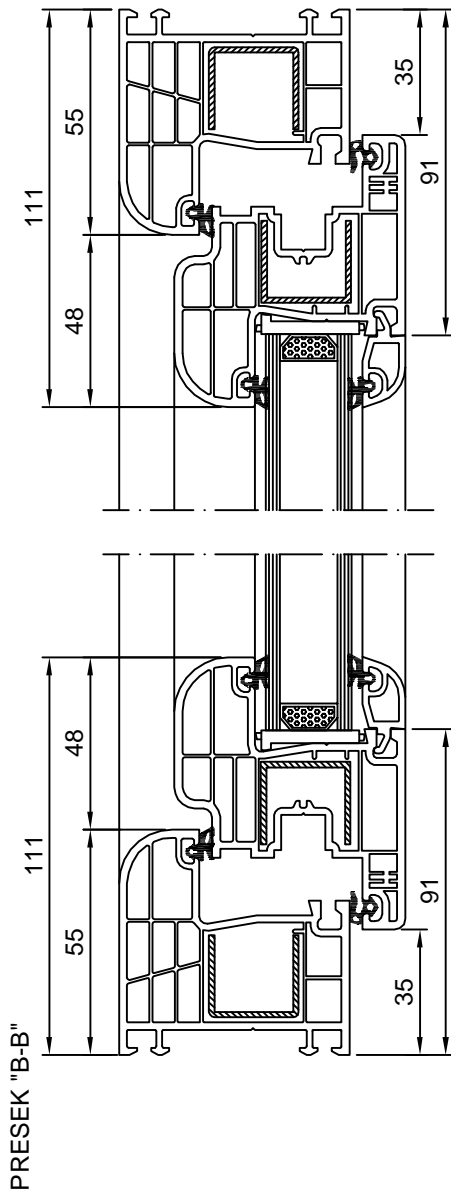
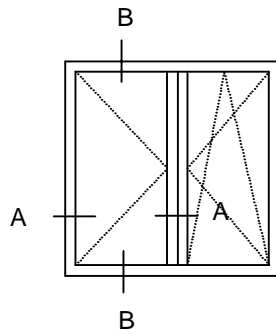
DVOKRILNI PROZOR SA PREKLOPOM I PROŠIRENIM RAMOM SISTEM 500

LEGENDA

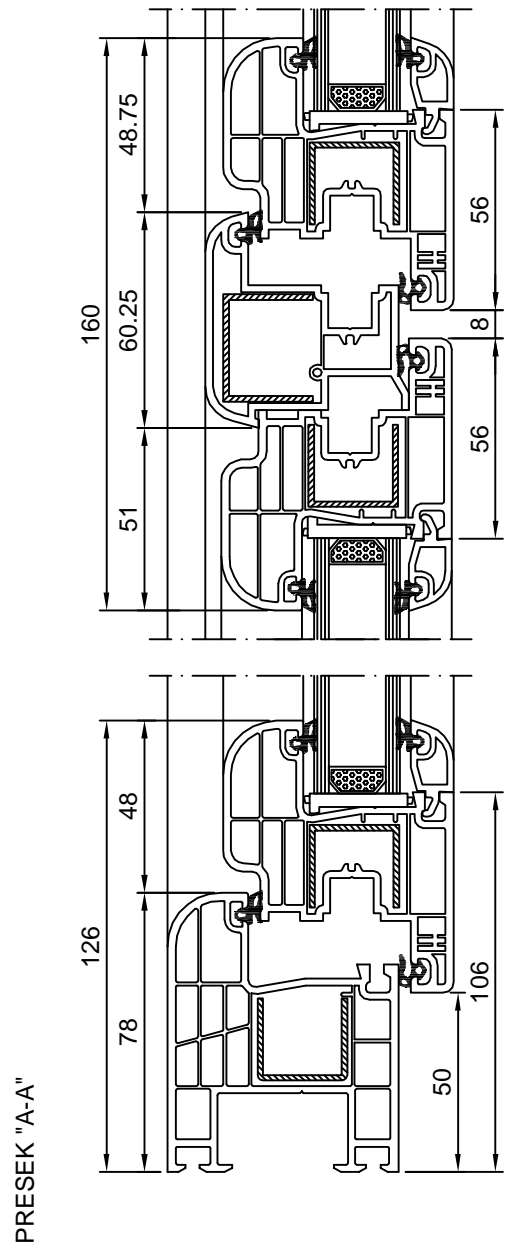
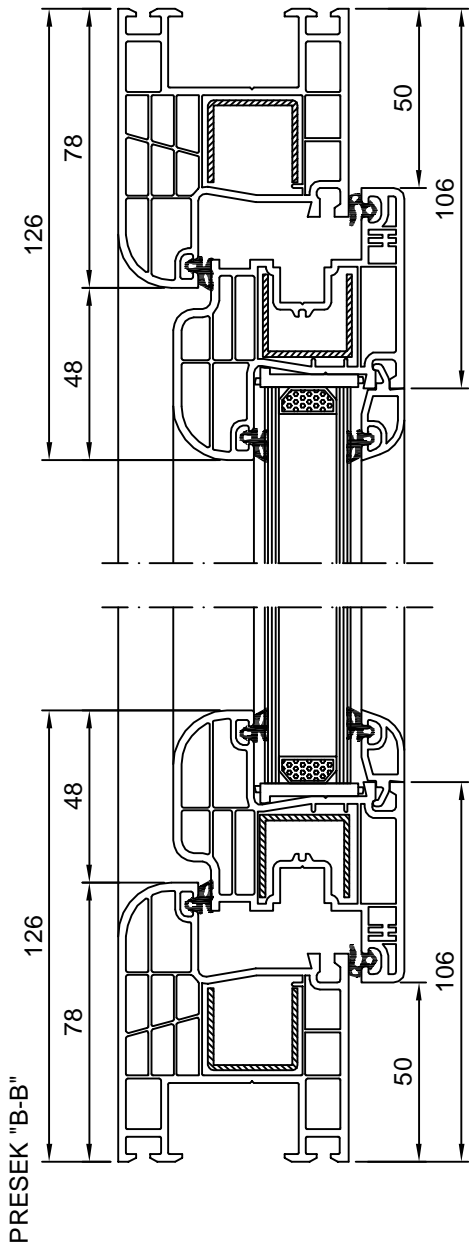
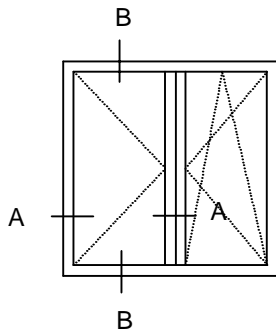
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DVOKRILNI PROZOR SA PREKLOPOM SISTEM 500



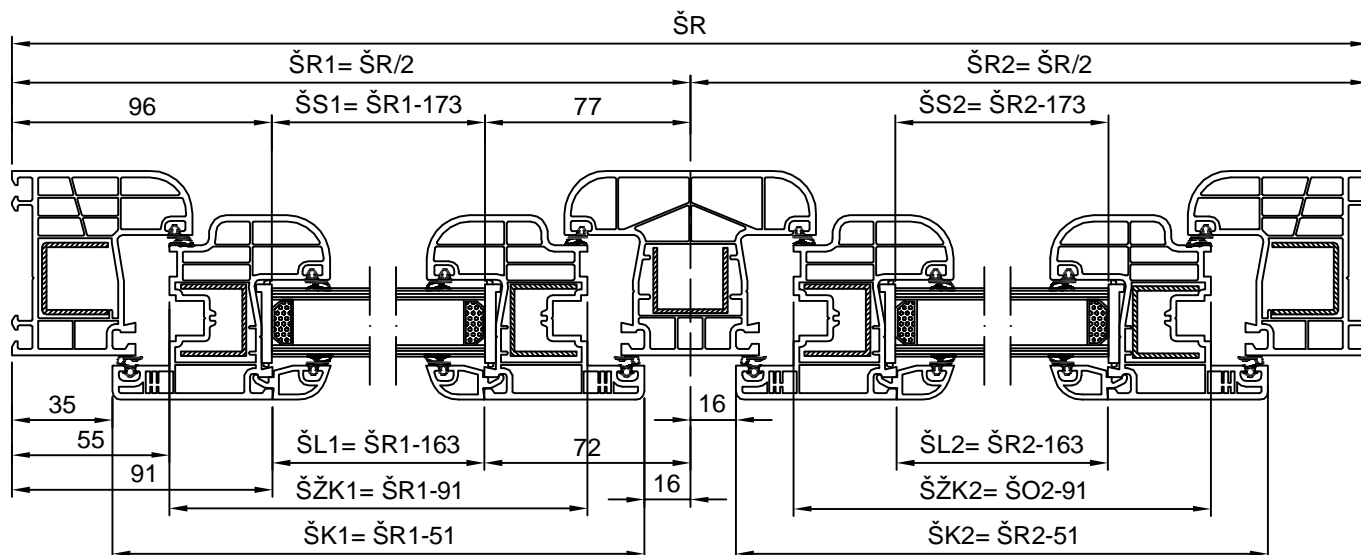
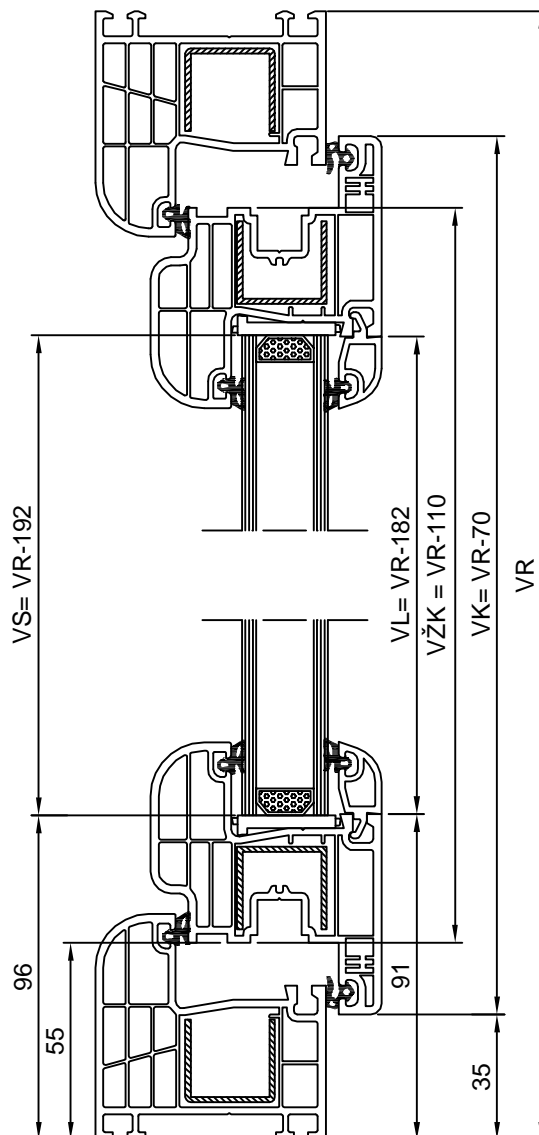
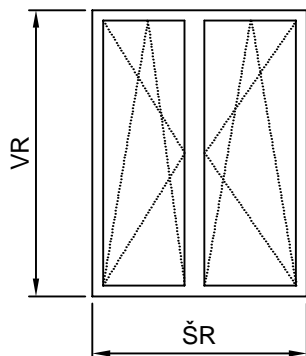
DVOKRILNI PROZOR SA PREKLOPOM I PROŠIRENIM RAMOM SISTEM 500



DVOKRILNI PROZOR SA STUBOM SISTEM 500

LEGENDA

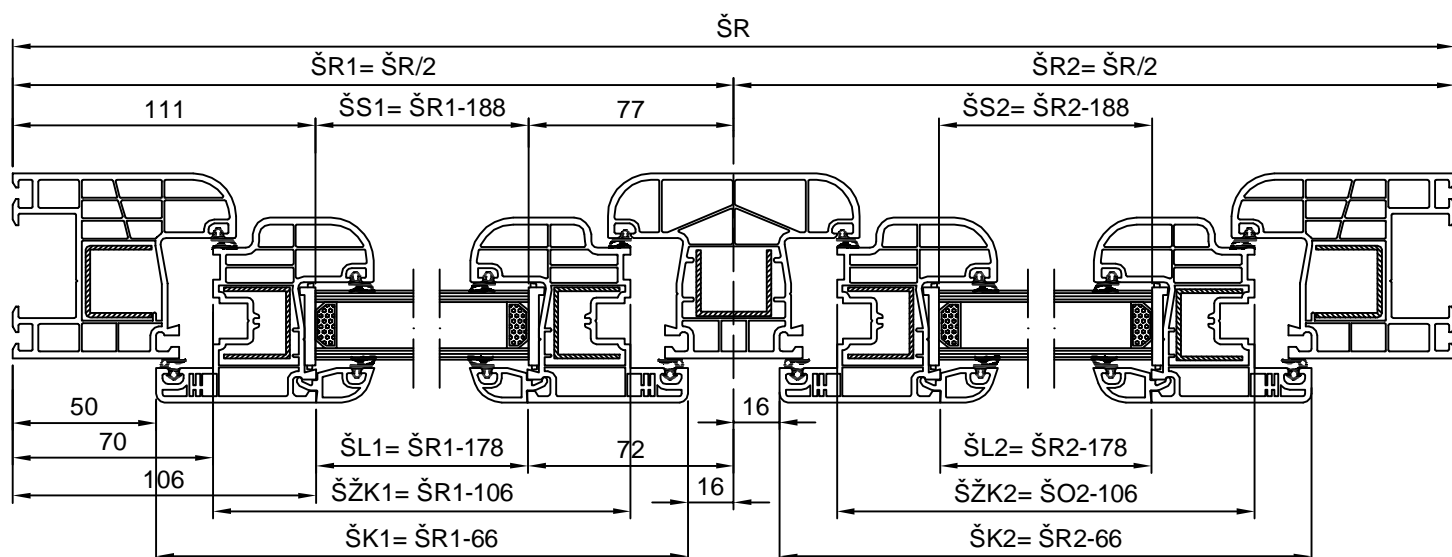
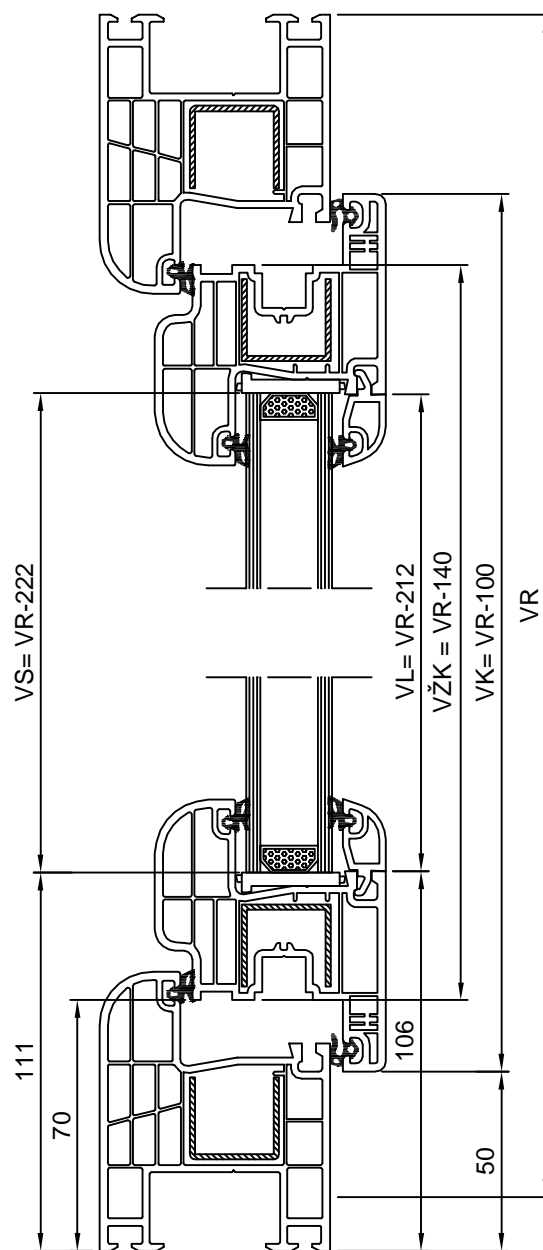
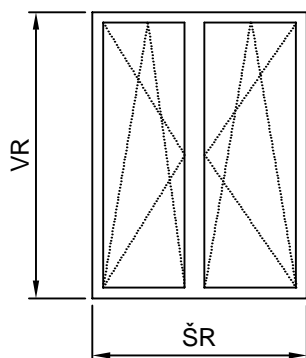
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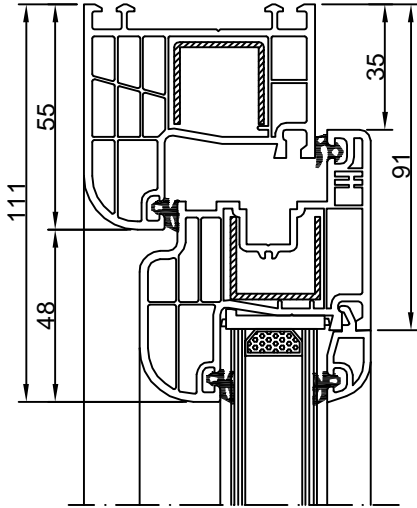
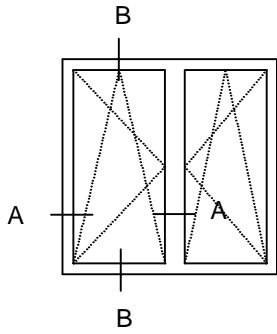
DVOKRILNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 500

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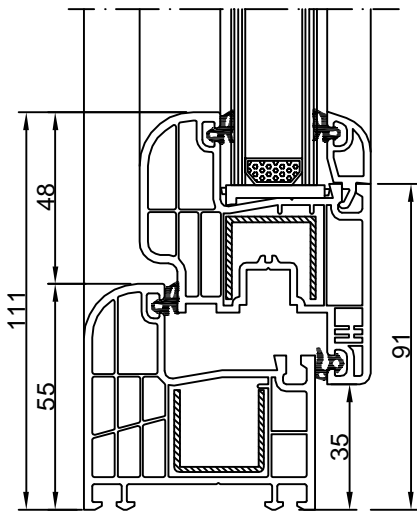
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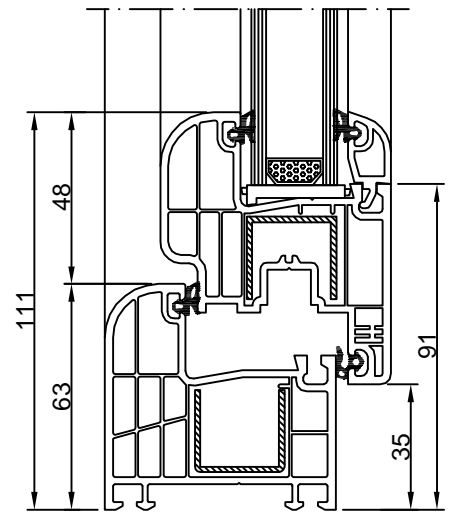
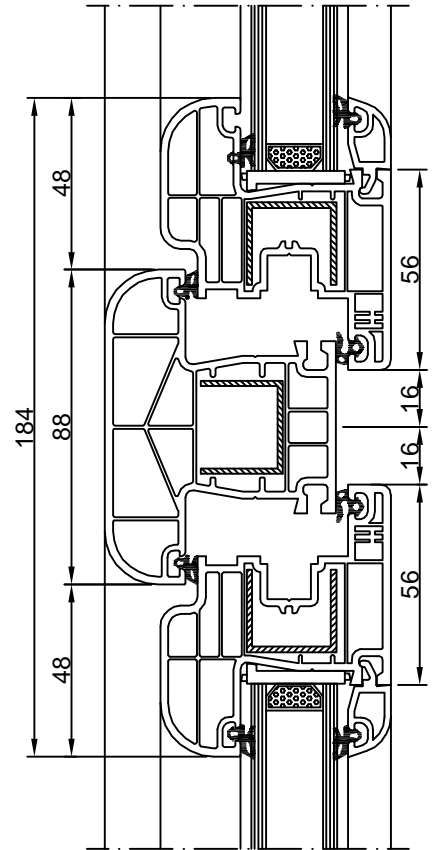
DVOKRILNI PROZOR SA STUBOM SISTEM 500



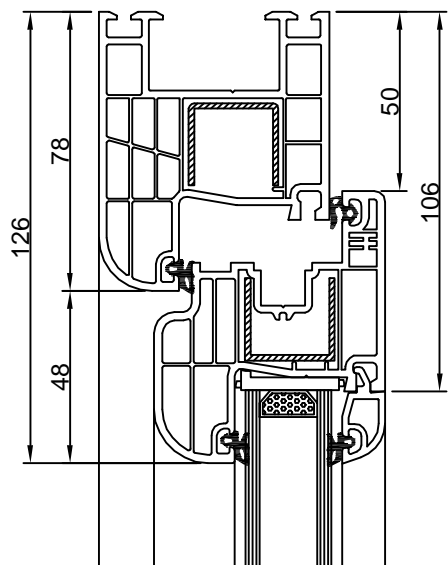
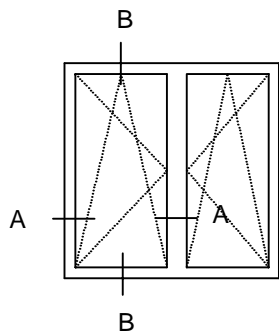
PRESEK "B-B"



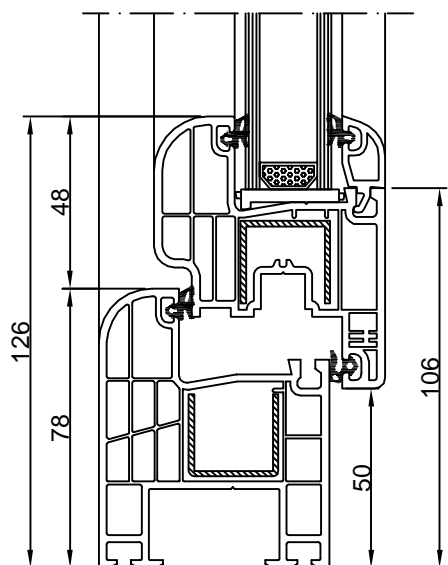
PRESEK "A-A"



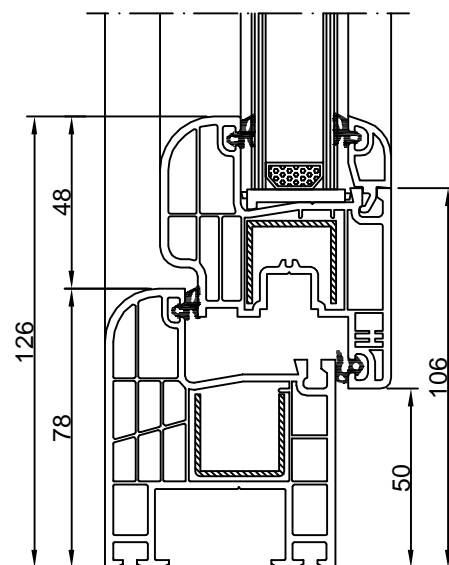
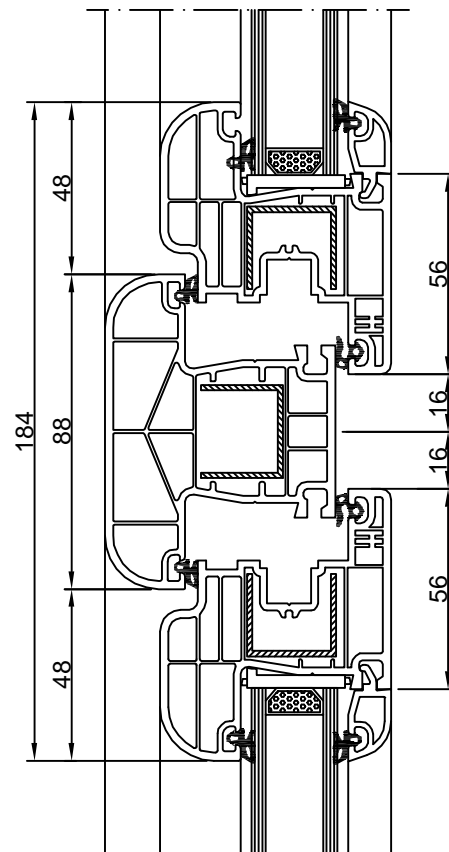
DVOKRILNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 500



PRESEK "B-B"



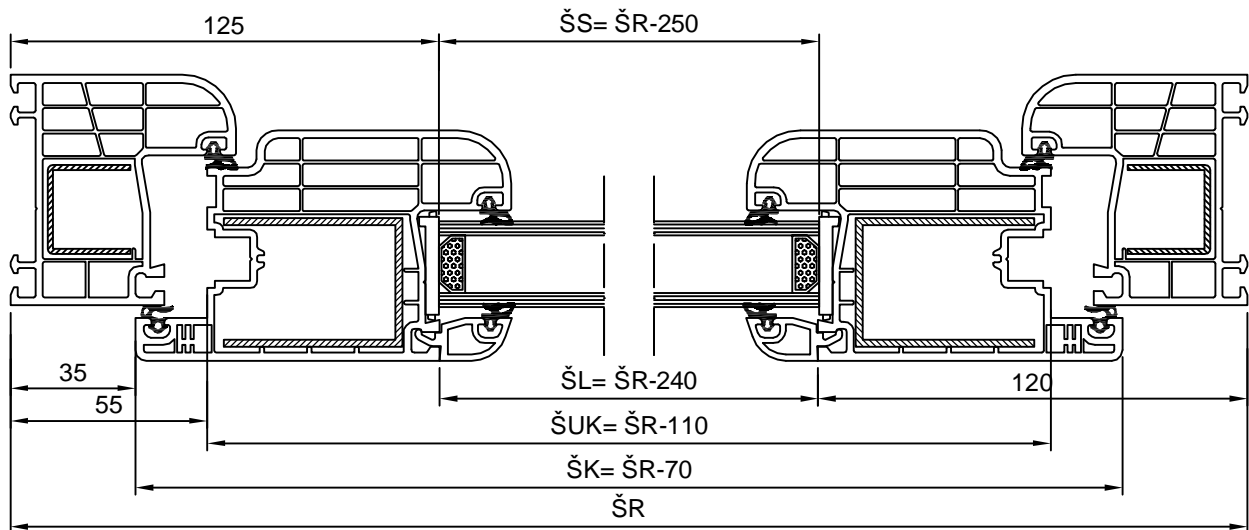
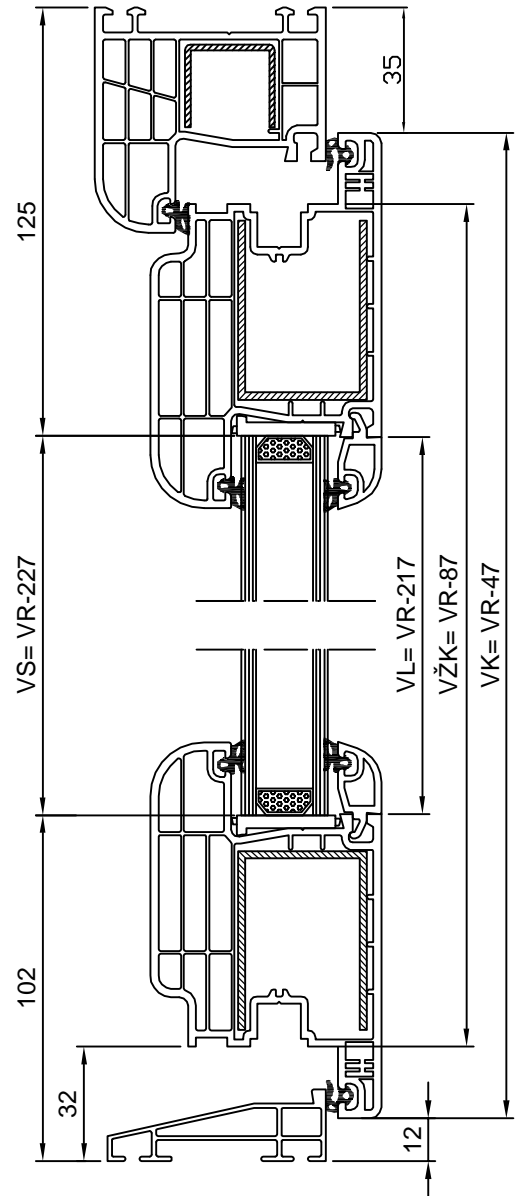
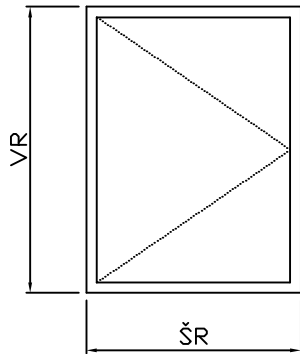
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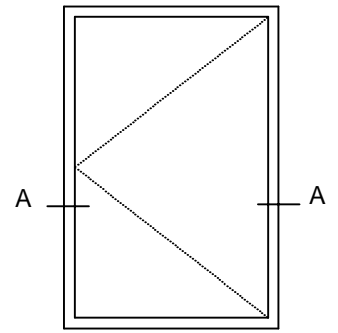
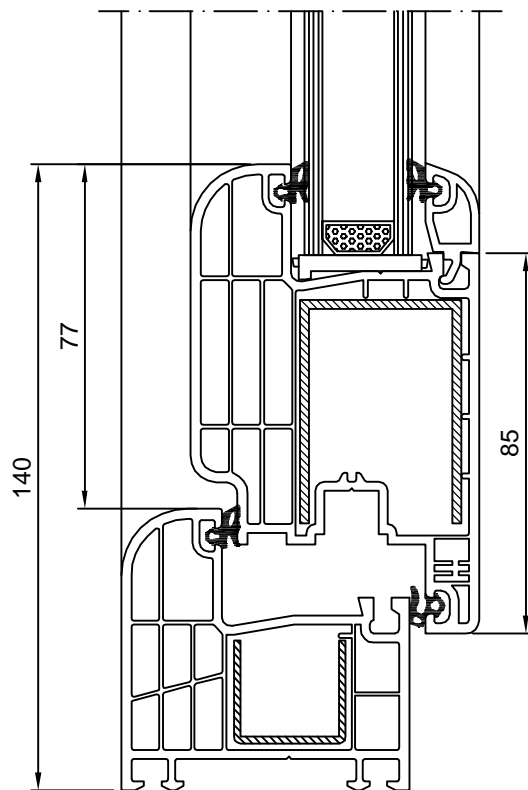
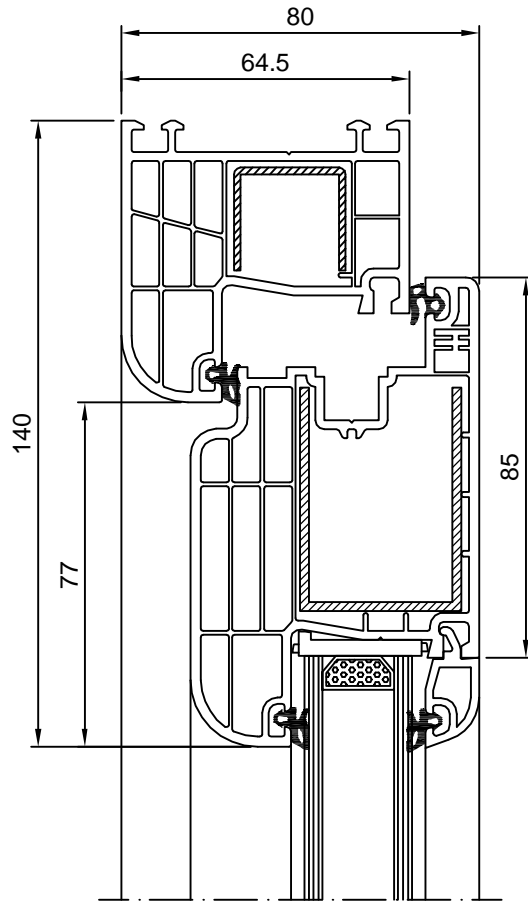
ULAZNA VRATA SISTEM 500

LEGENDA

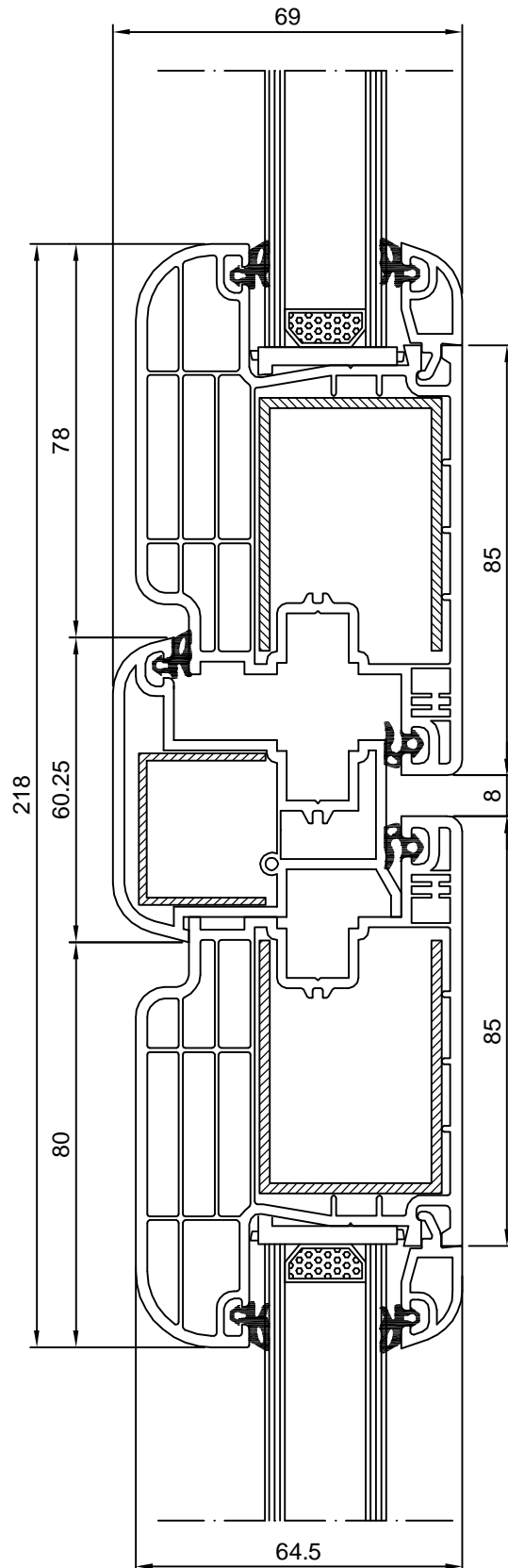
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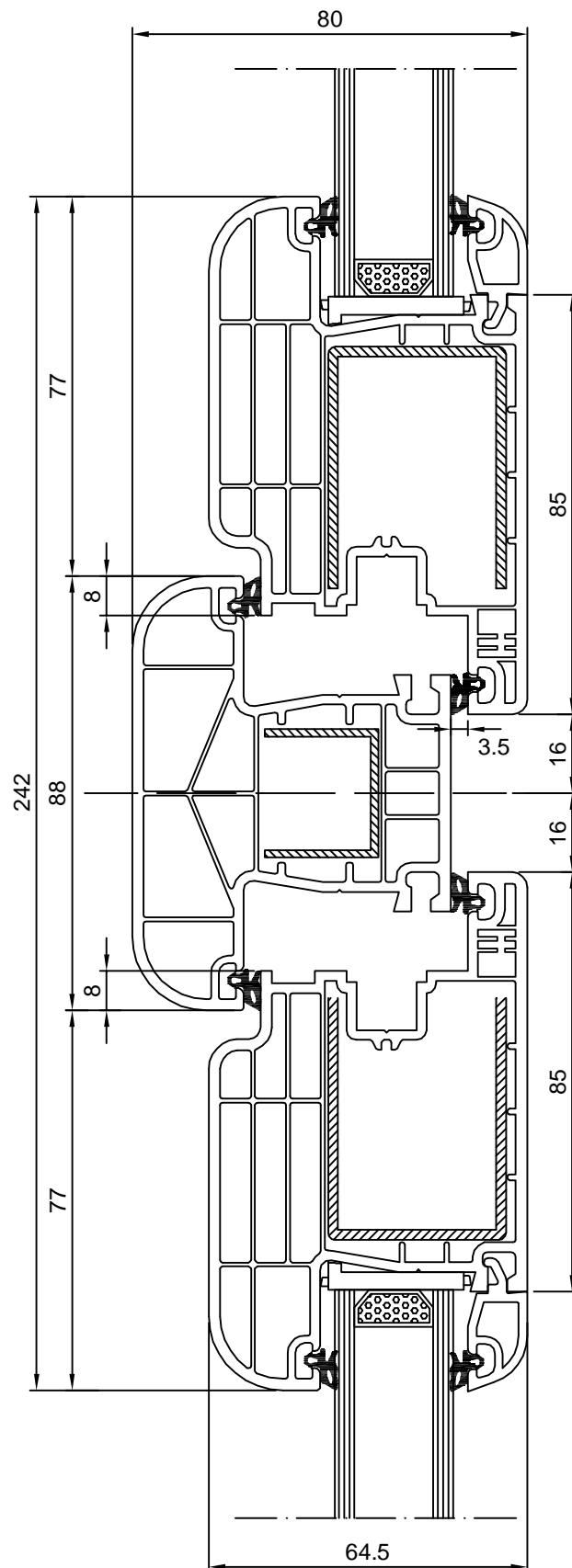
ULAZNA VRATA SISTEM 500



PRESEK VRATA KRILO-PREKLOP-KRILO SISTEM 500



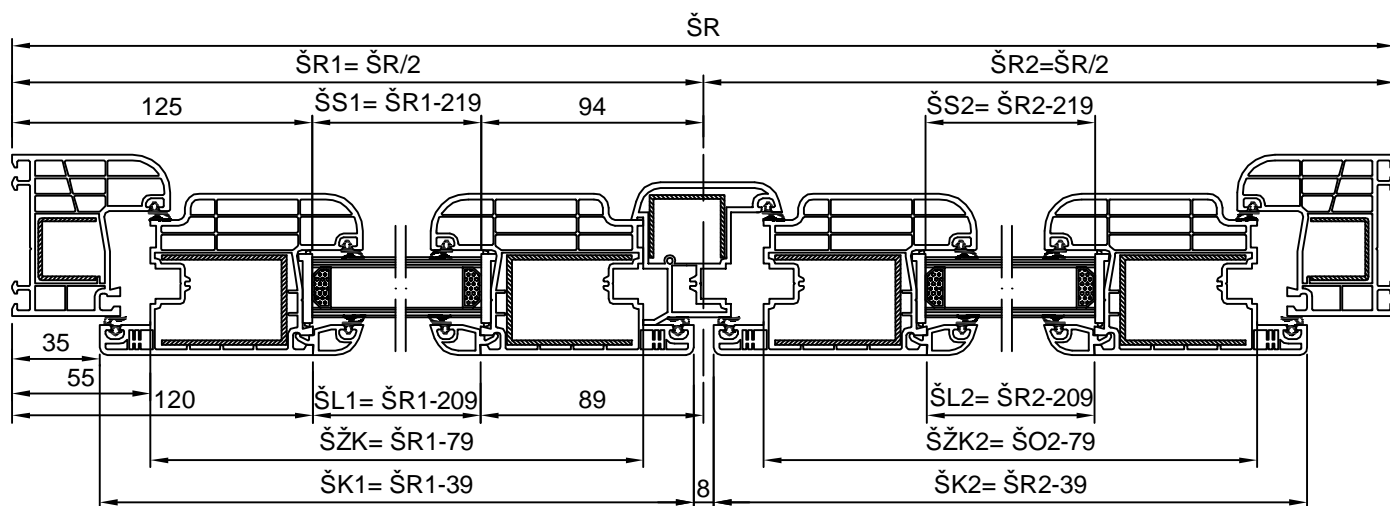
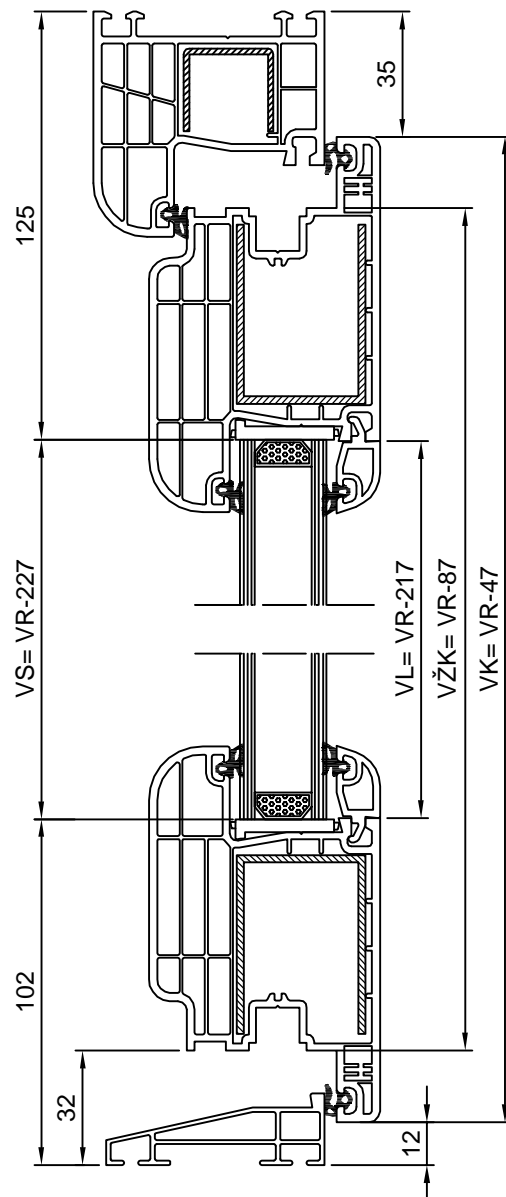
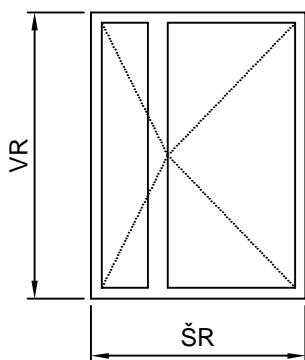
PRESEK VRATA KRILO-STUB-KRILO SISTEM 500



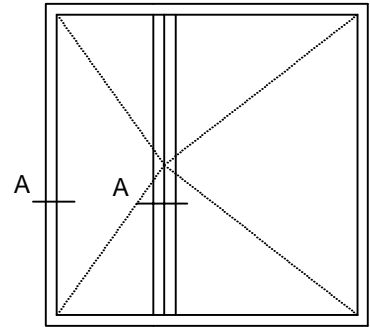
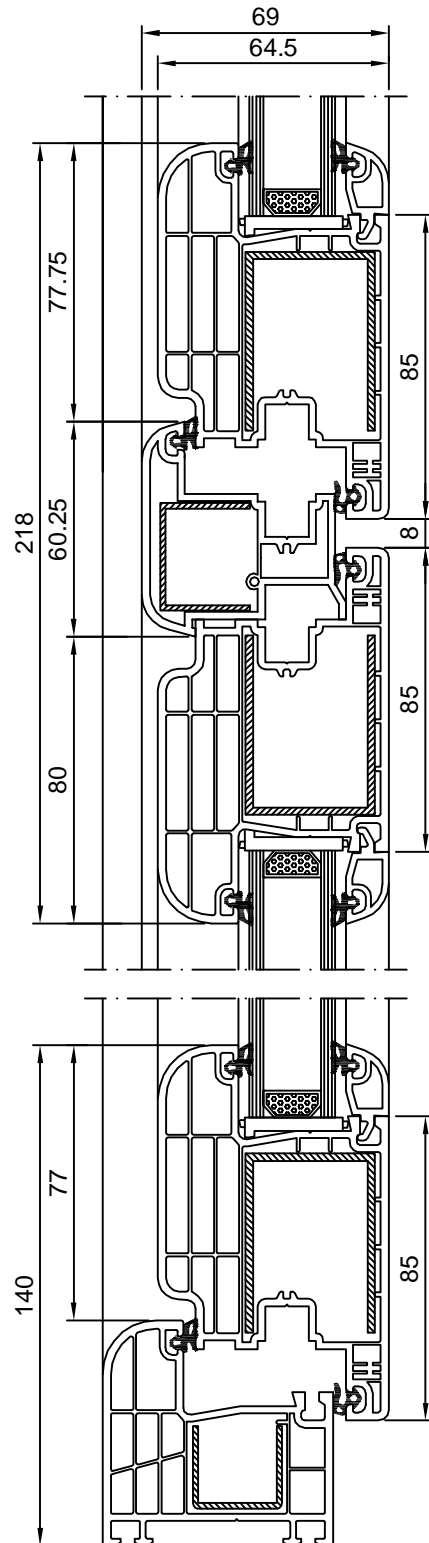
DVOKRILNA ULAZNA VRATA SISTEM 500

LEGENDA

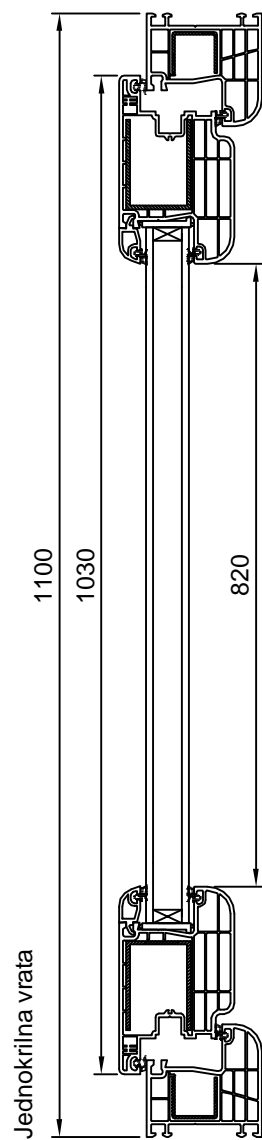
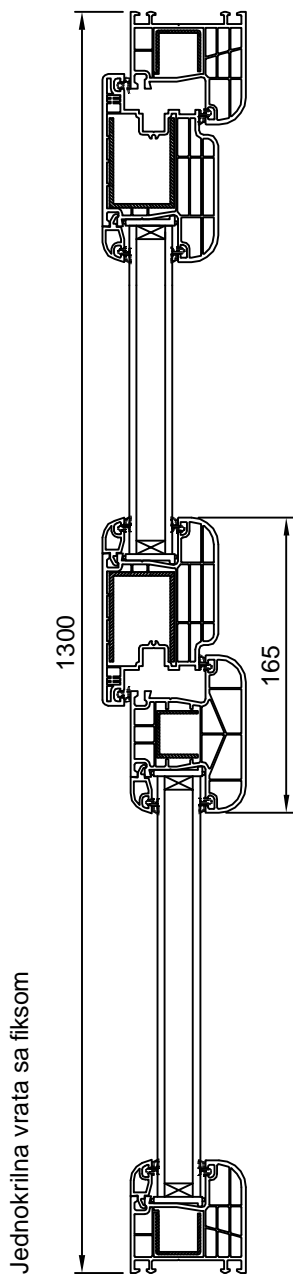
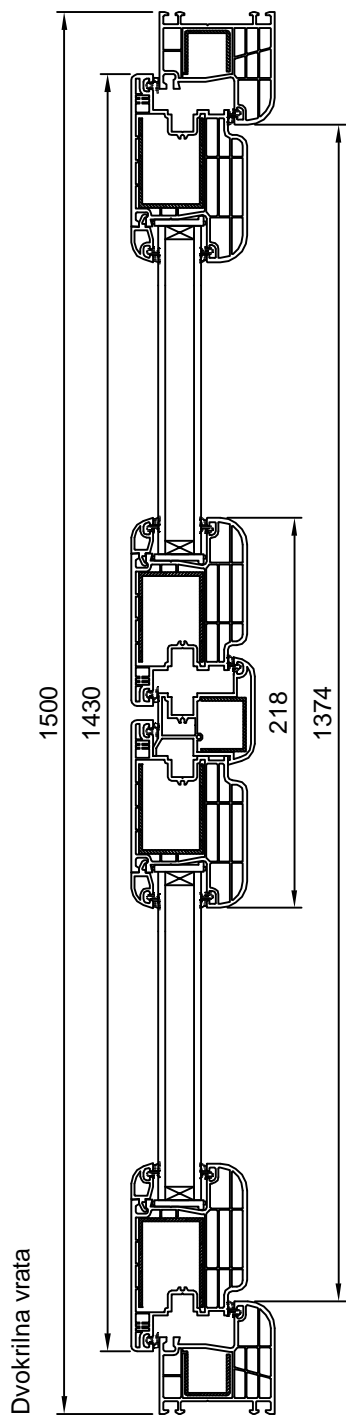
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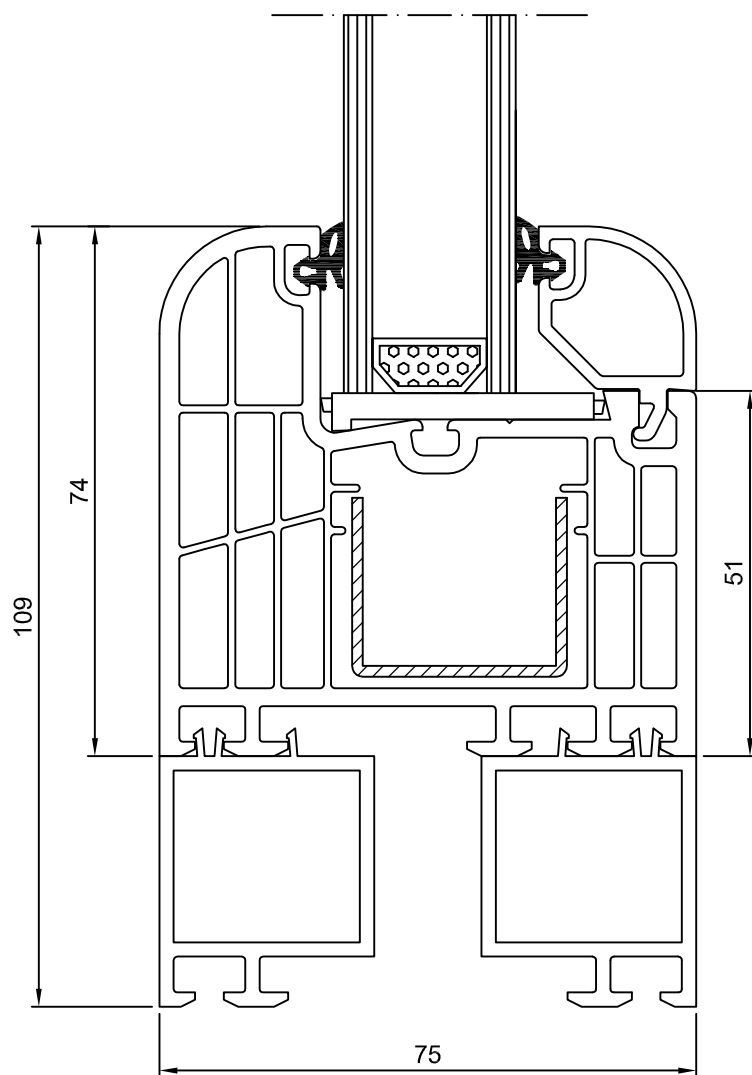
DVOKRILNA ULAZNA VRATA SISTEM 500



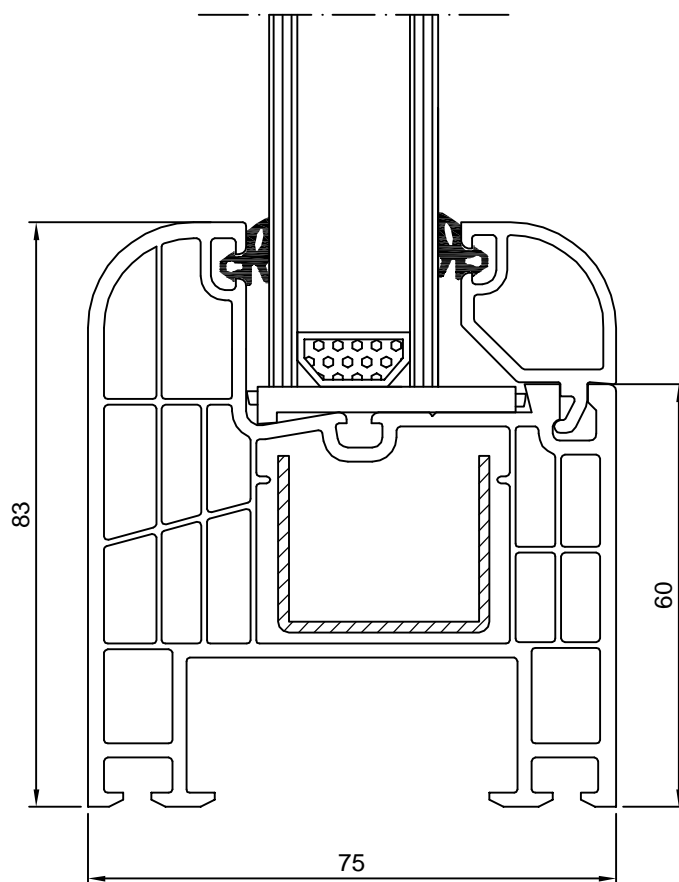
PRIKAZ MOGUĆNOSTI OTVARANJA ULAZNIH VRATA SISTEM 500



PRESEK PROZORA
NASTAVAK RAMA - RAM
SISTEM 600



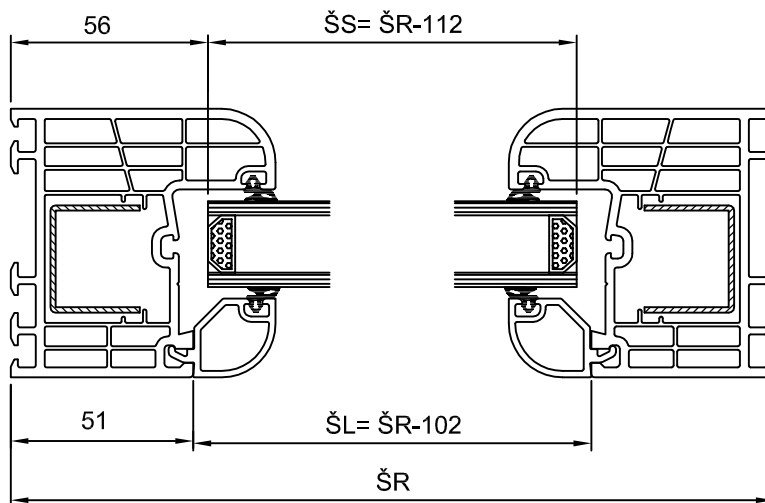
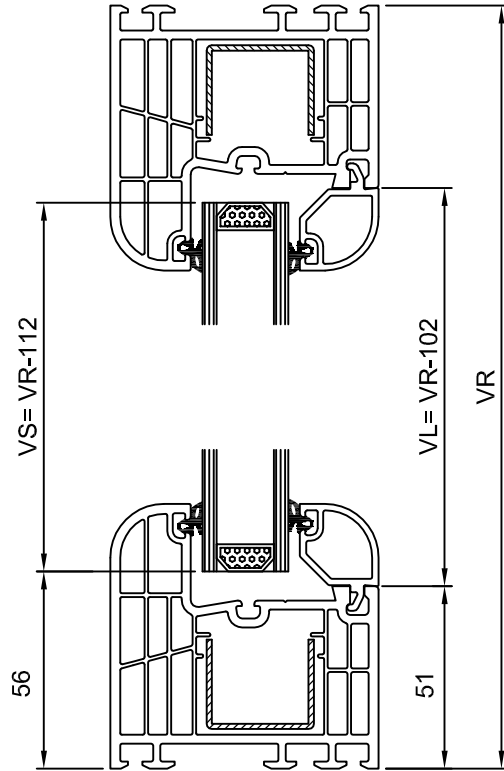
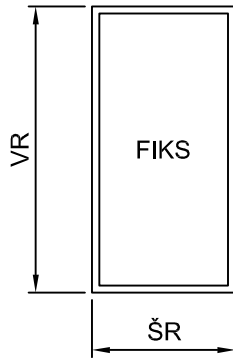
PRESEK PROZORA PRO ŠIRENI RAM SISTEM 600



FIKSNİ PROZOR SİSTEM 600

LEGENDA

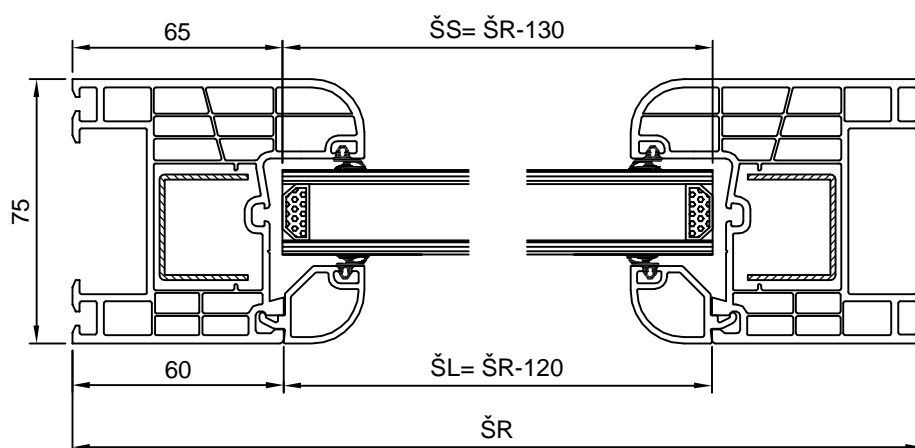
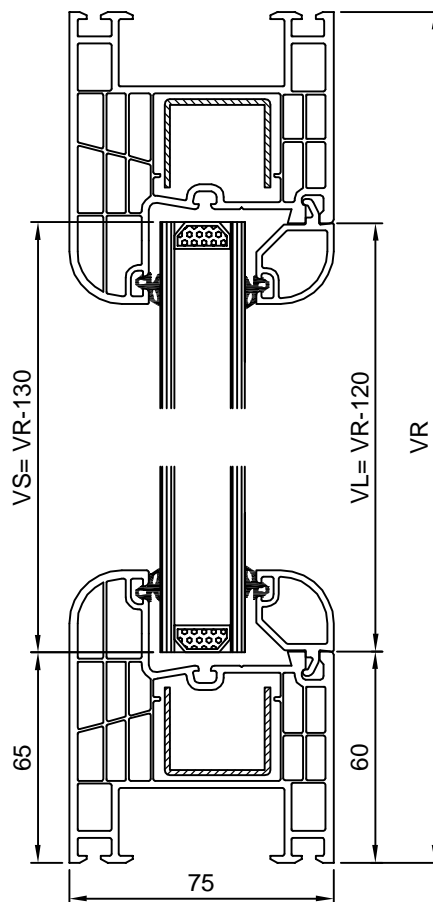
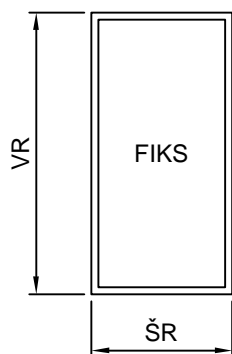
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VL=VISINA LAJSNE
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VS= VISINA STAKLA



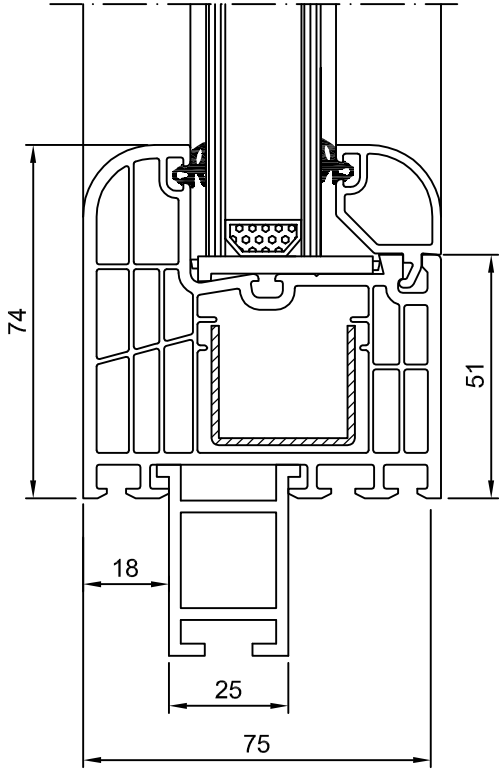
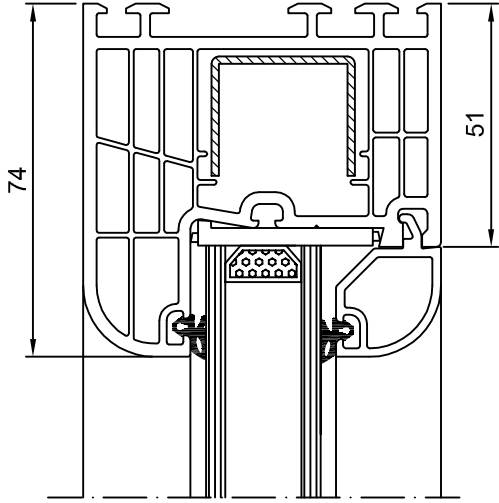
FIKSNI PROZOR SA PROŠIRENIM RAMOM SISTEM 600

LEGENDA

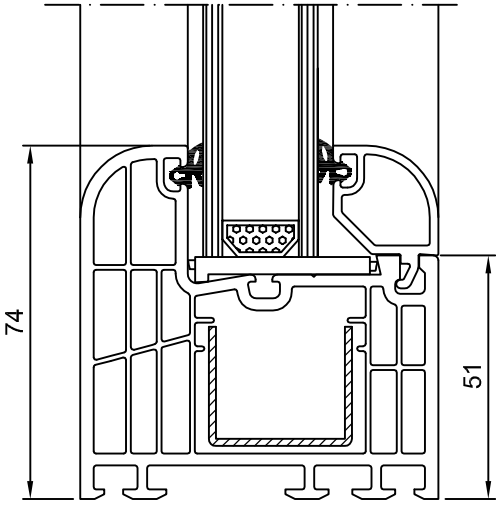
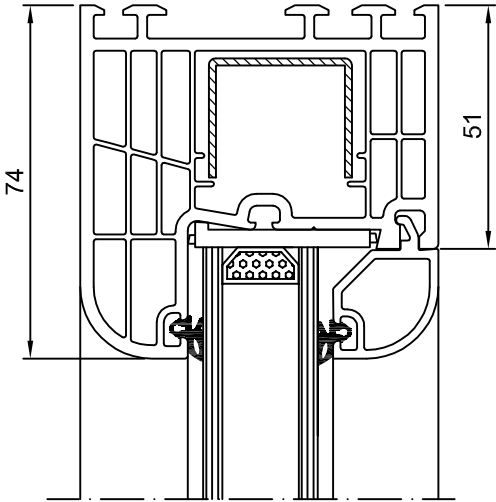
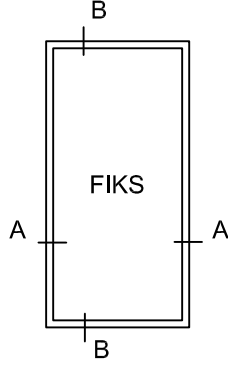
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FIKSNI PROZOR SISTEM 600

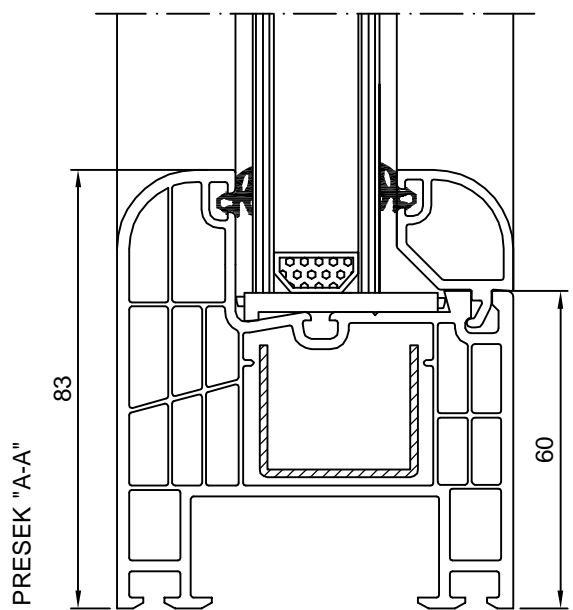
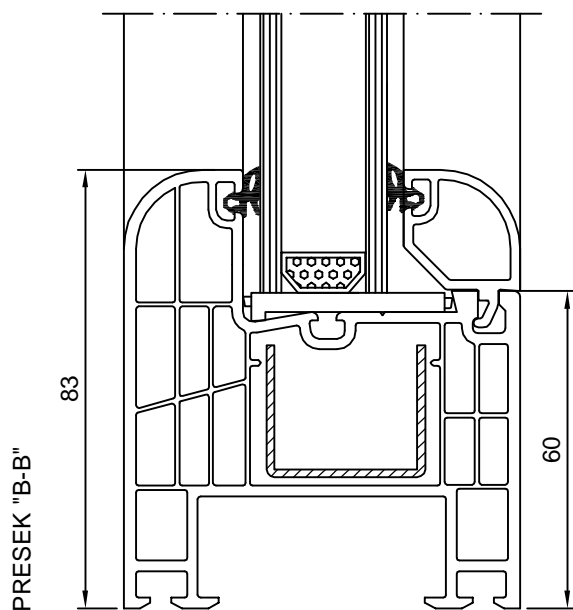
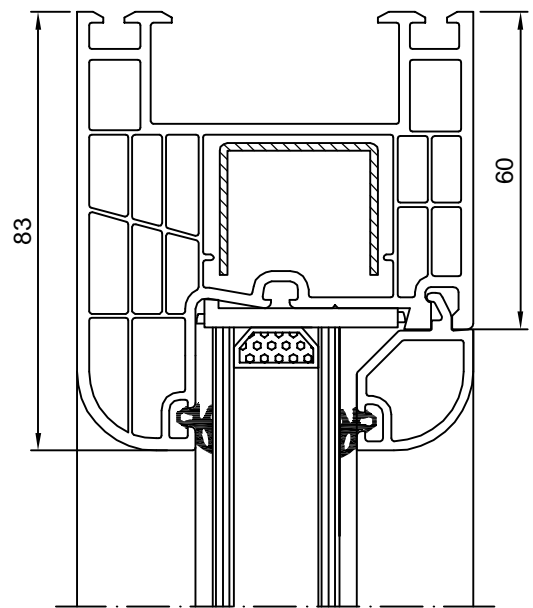
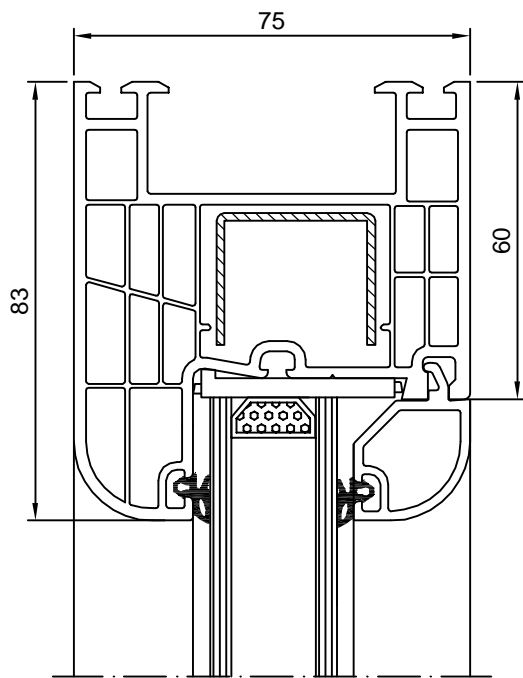
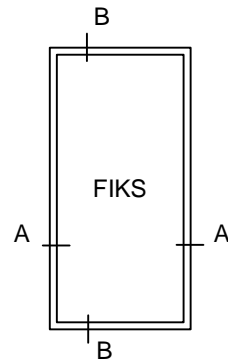


PRESEK "B-B"

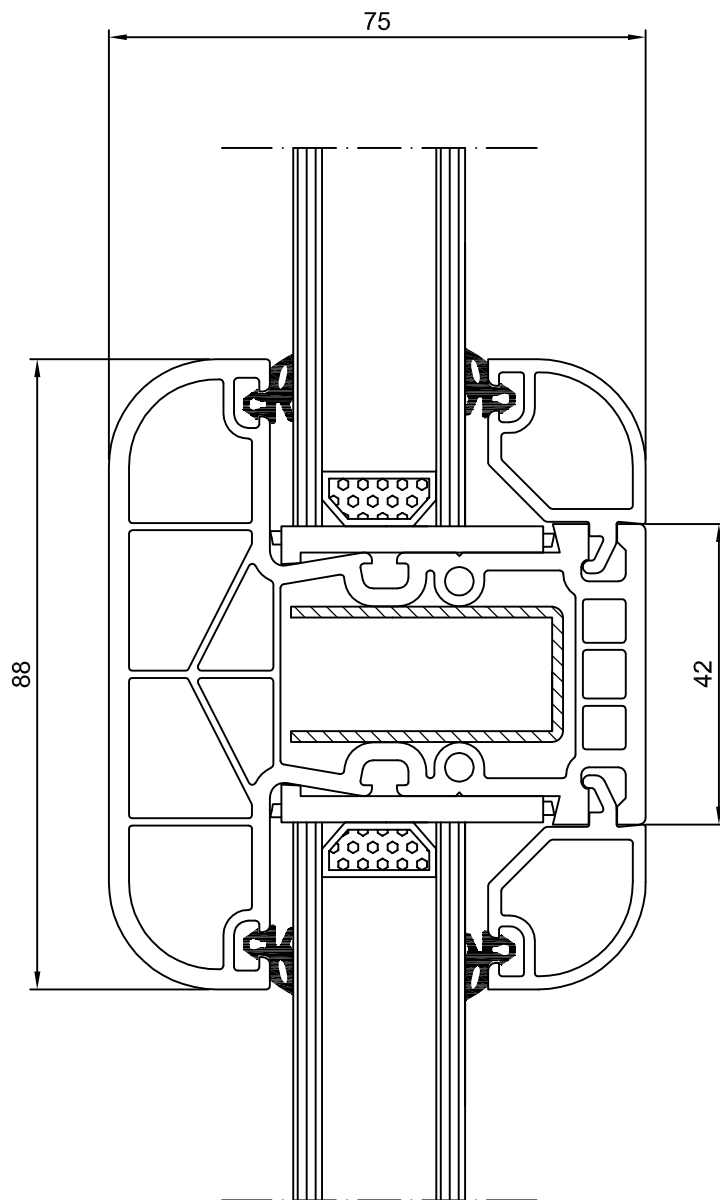


PRESEK "A-A"

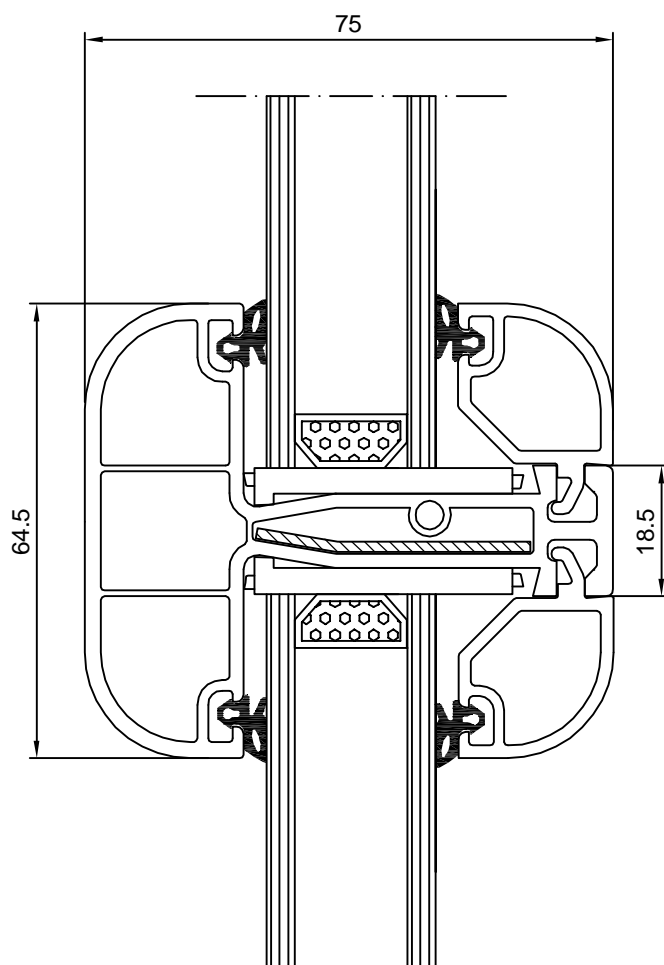
FIKSNI PROZOR SA PROŠIRENIM RAMOM SISTEM 600



PRESEK PROZORA
STUB-LAJNSNA ZA STAKLO
SYSTEM 600



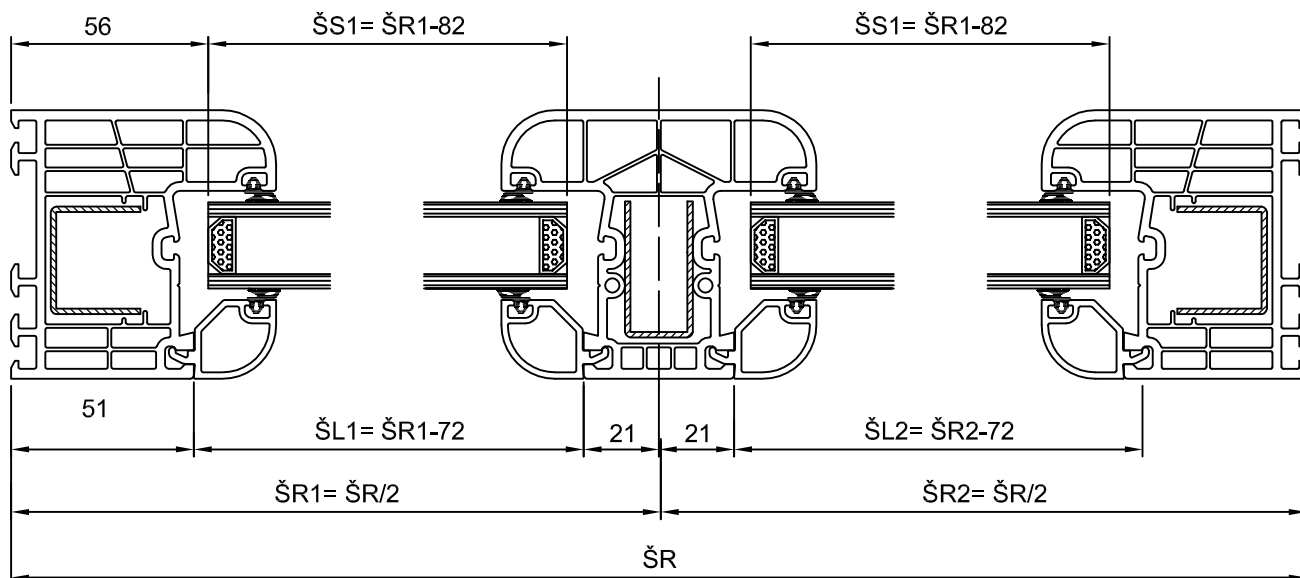
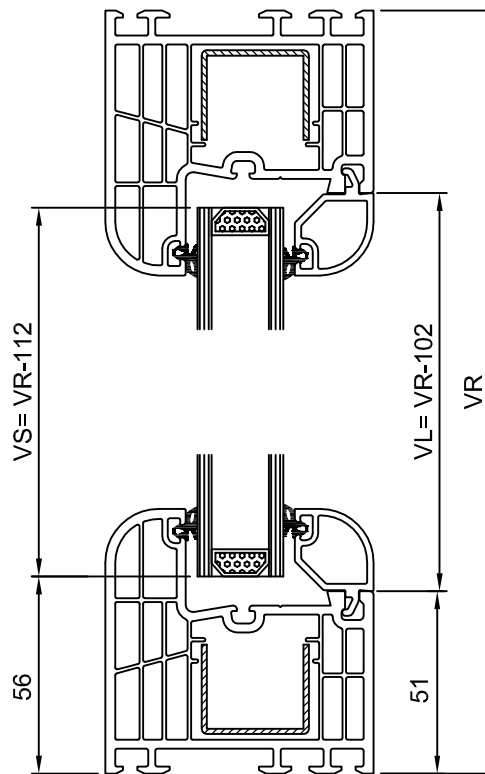
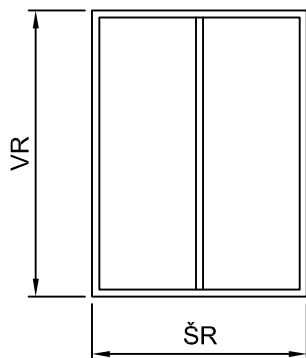
PRESEK PROZORA
STUB 622 - LAJSNA ZA STAKLO
SISTEM 600



FIKSNI PROZOR SA STUBOM SISTEM 600

LEGENDA

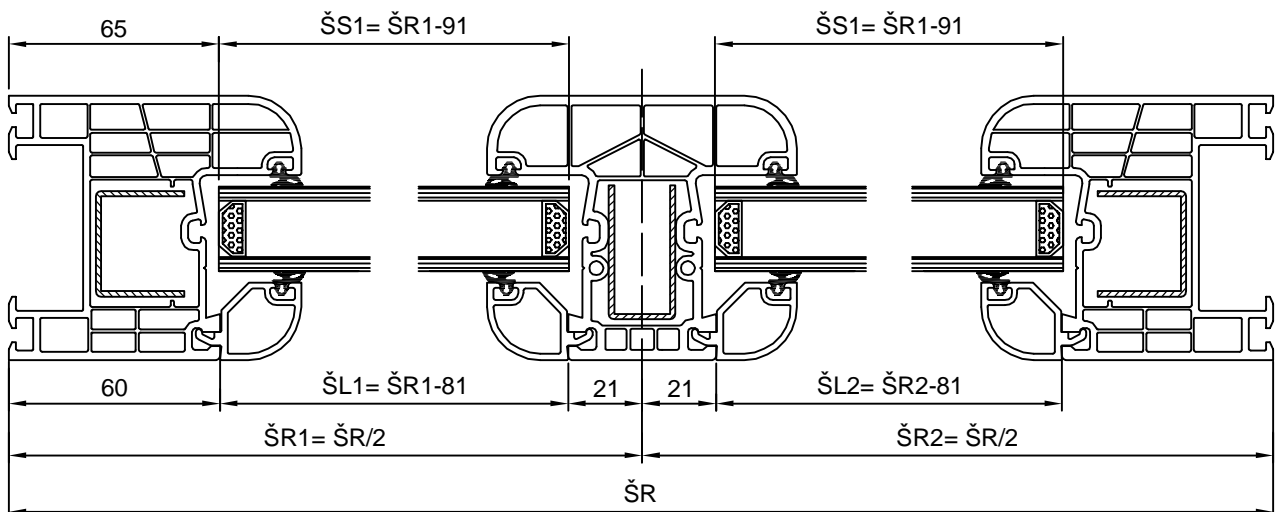
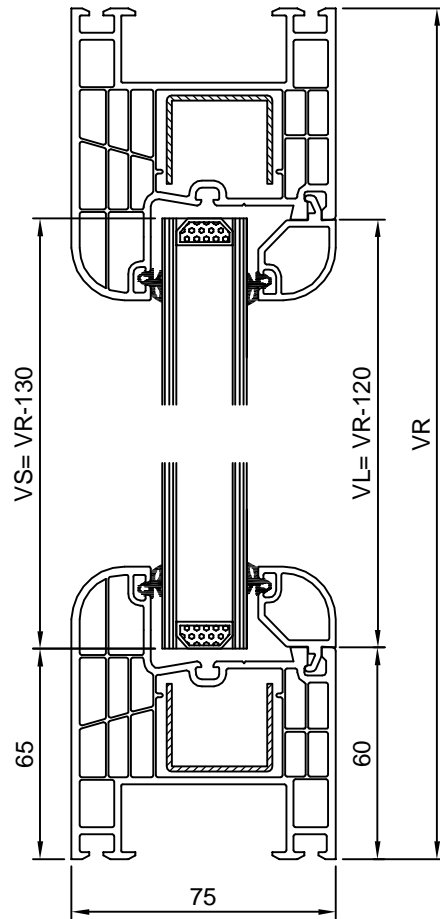
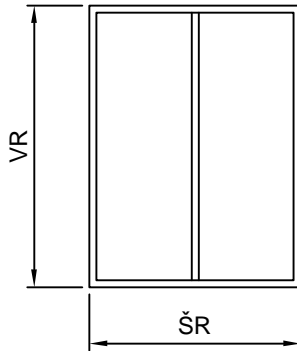
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 VS= VISINA STAKLA



FIKSNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 600

LEGENDA

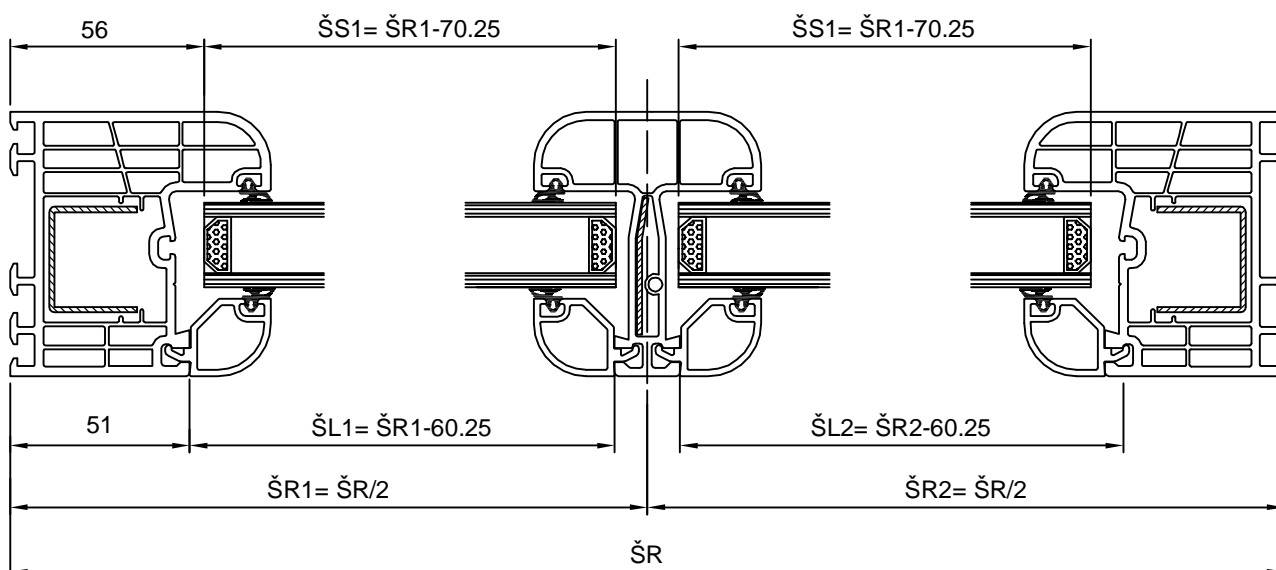
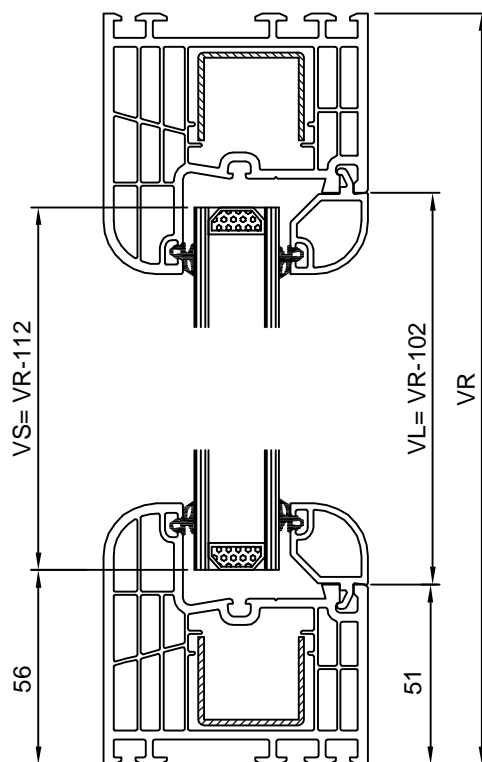
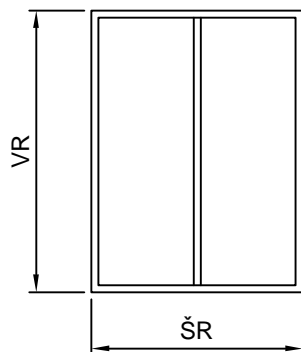
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 ŠL=ŠIRINA LAJSNE
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 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



FIKSNI PROZOR SA STUBOM 622 SISTEM 600

LEGENDA

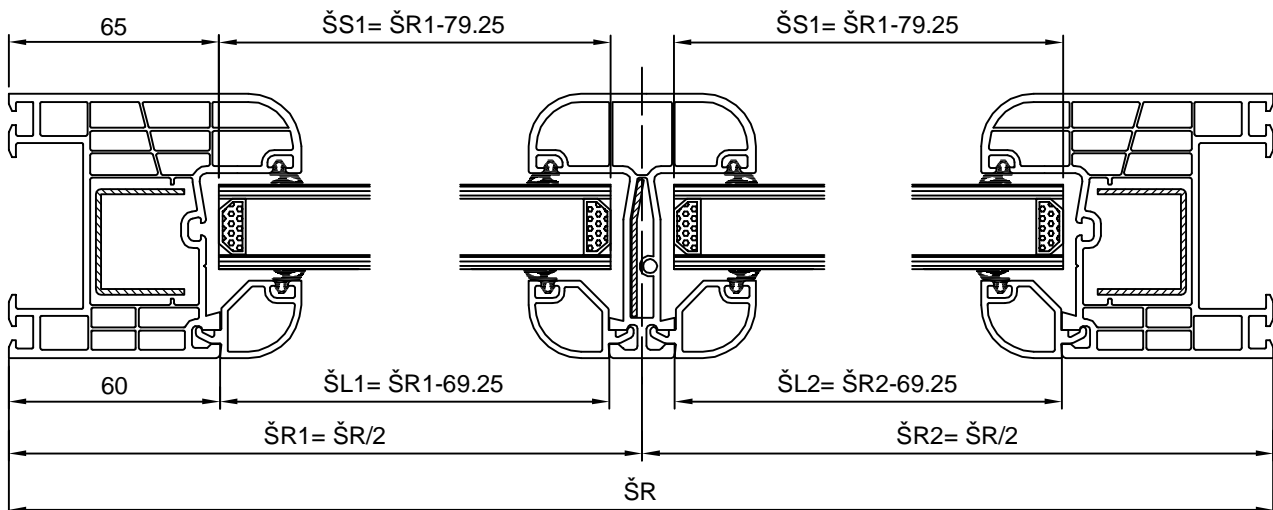
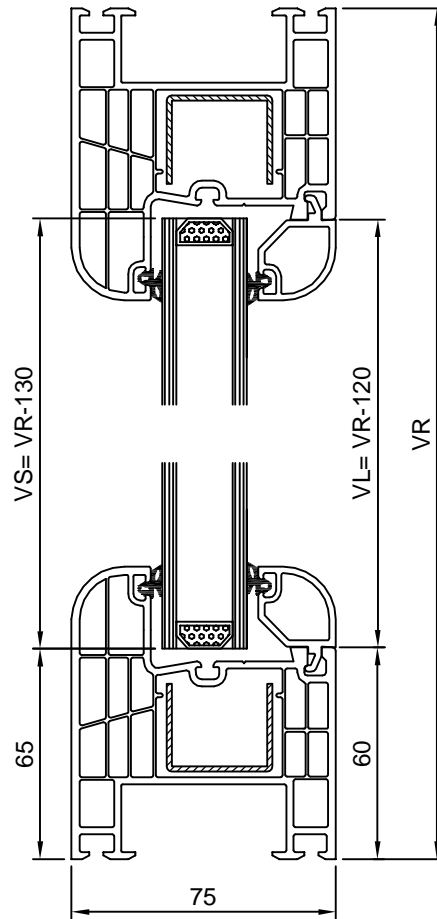
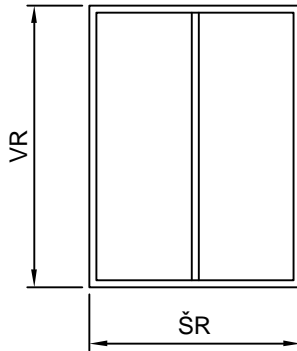
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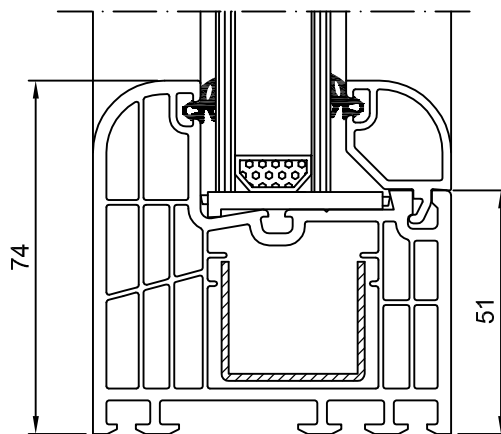
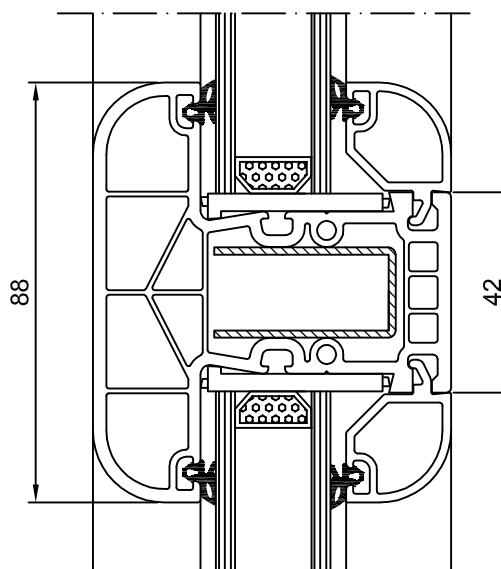
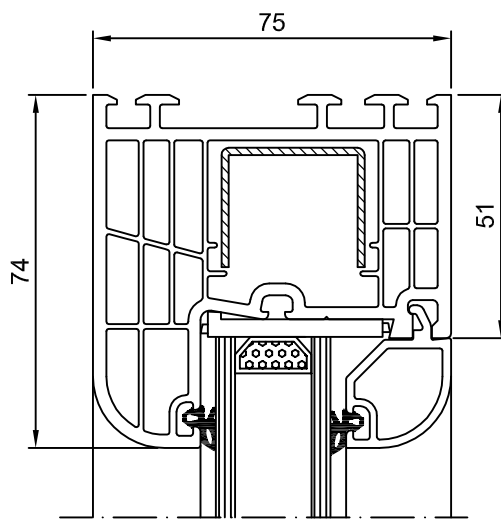
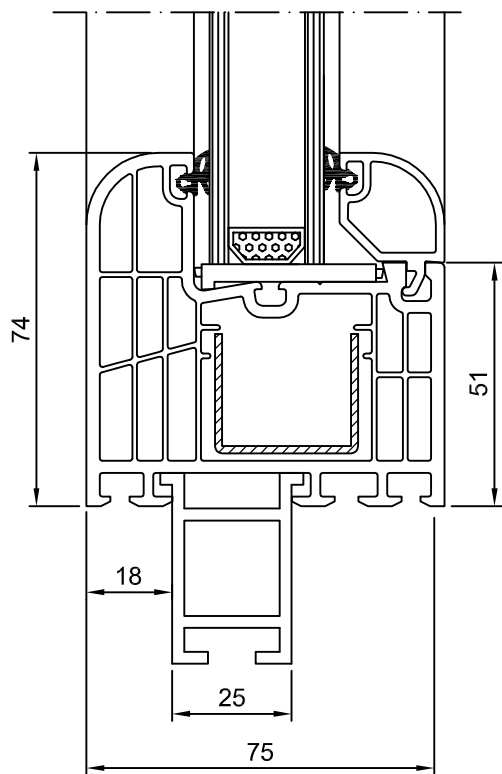
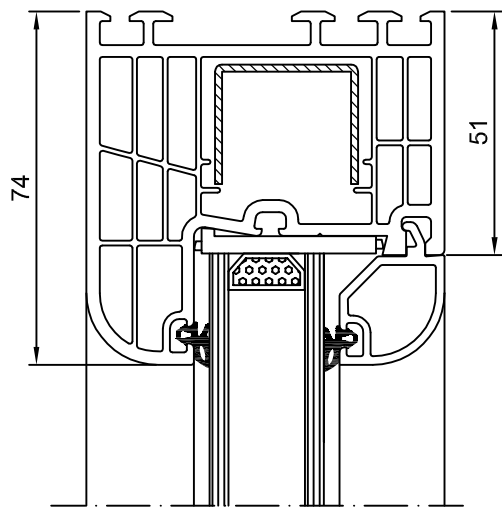
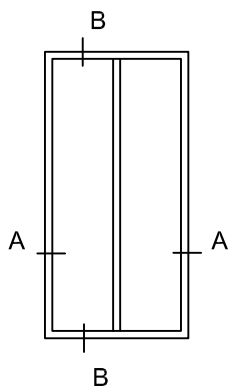
FIKSNI PROZOR SA STUBOM 622 I PROŠIRENIM RAMOM SISTEM 600

LEGENDA

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 VL=VISINA LAJSNE
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 VS= VISINA STAKLA



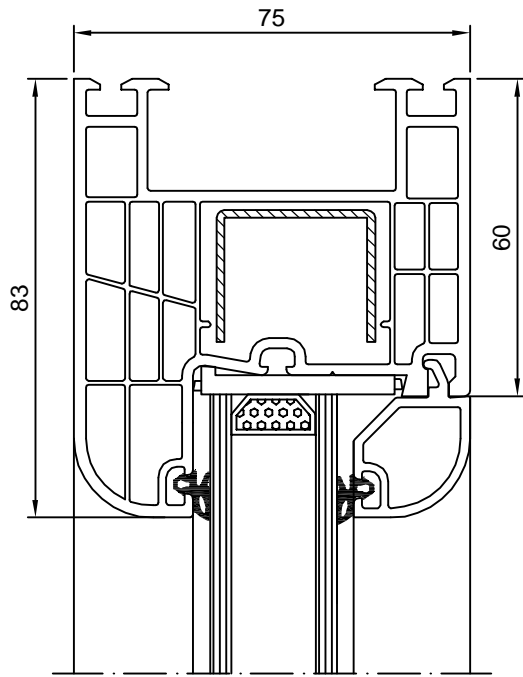
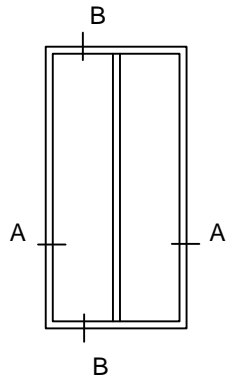
FIKSNI PROZOR SA STUBOM SISTEM 600



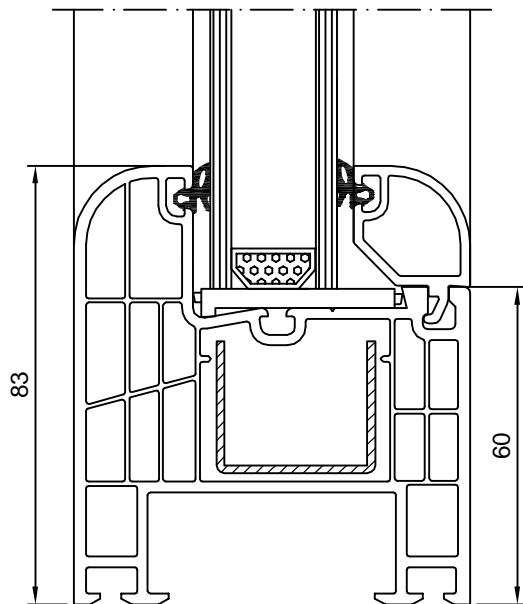
PRESEK "B-B"

PRESEK "A-A"

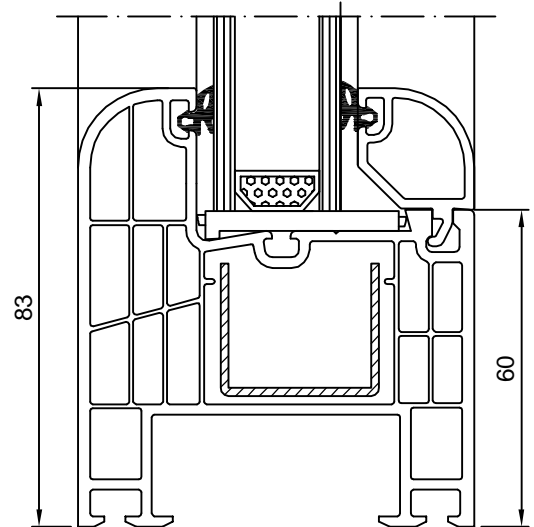
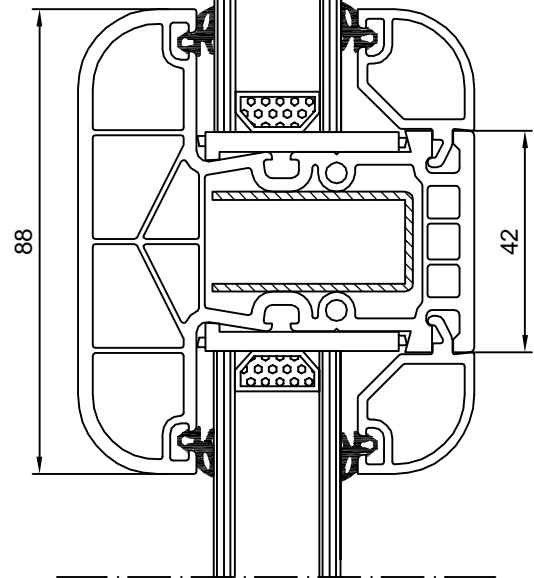
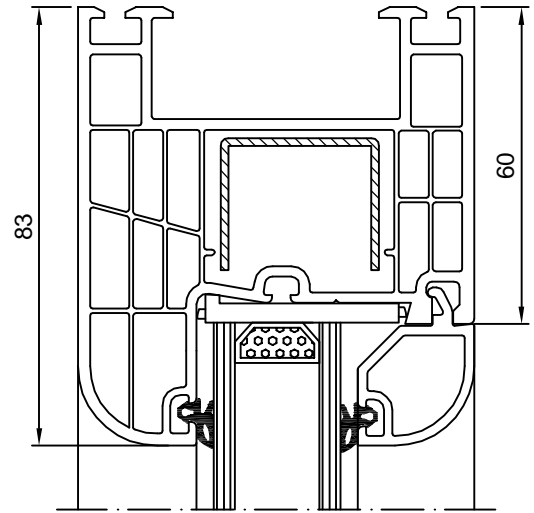
FIKSNİ PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 600



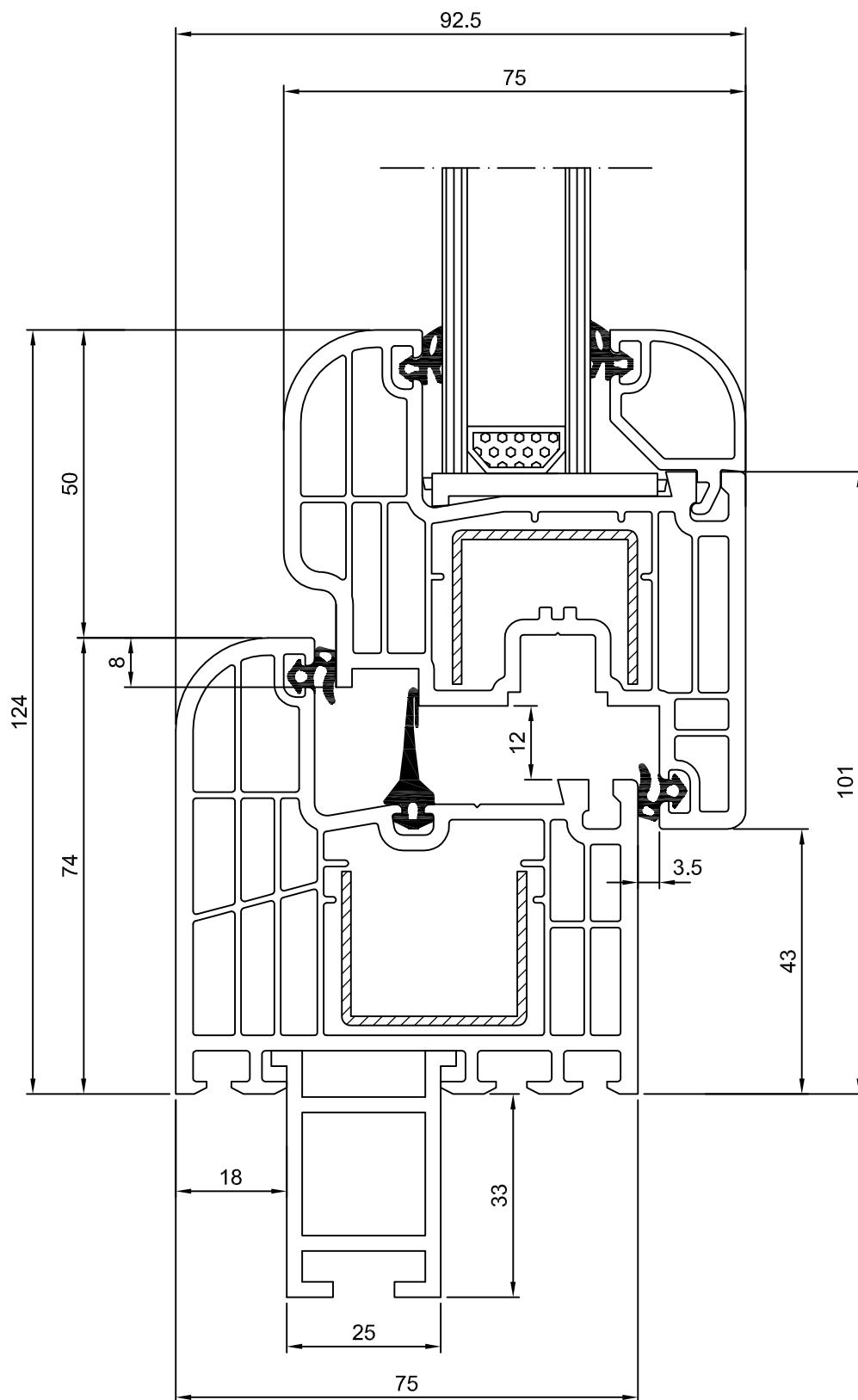
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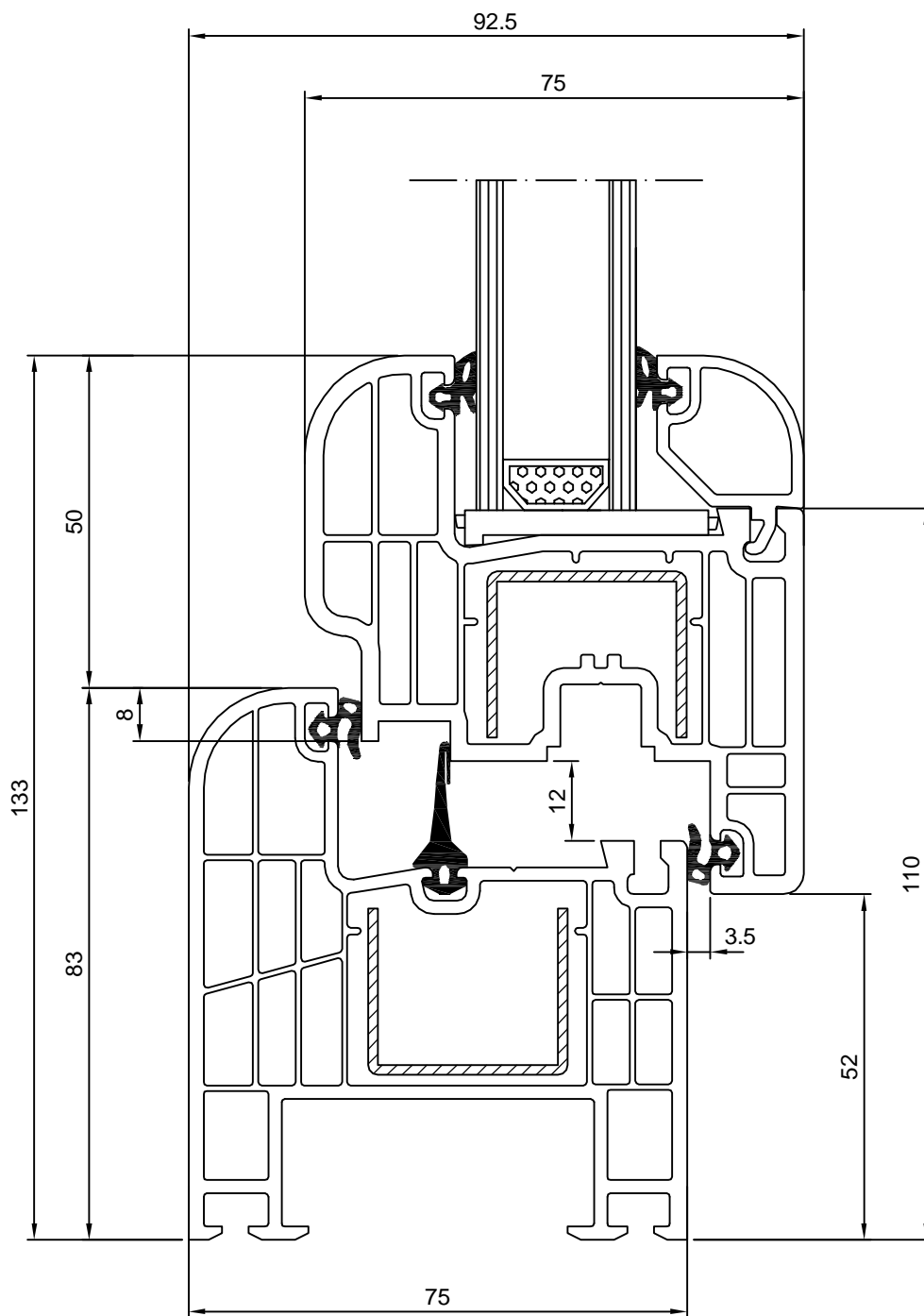
PRESEK "A-A"



PRESEK PROZORA
PODMETAČ-RAM-KRILO
SISTEM 600



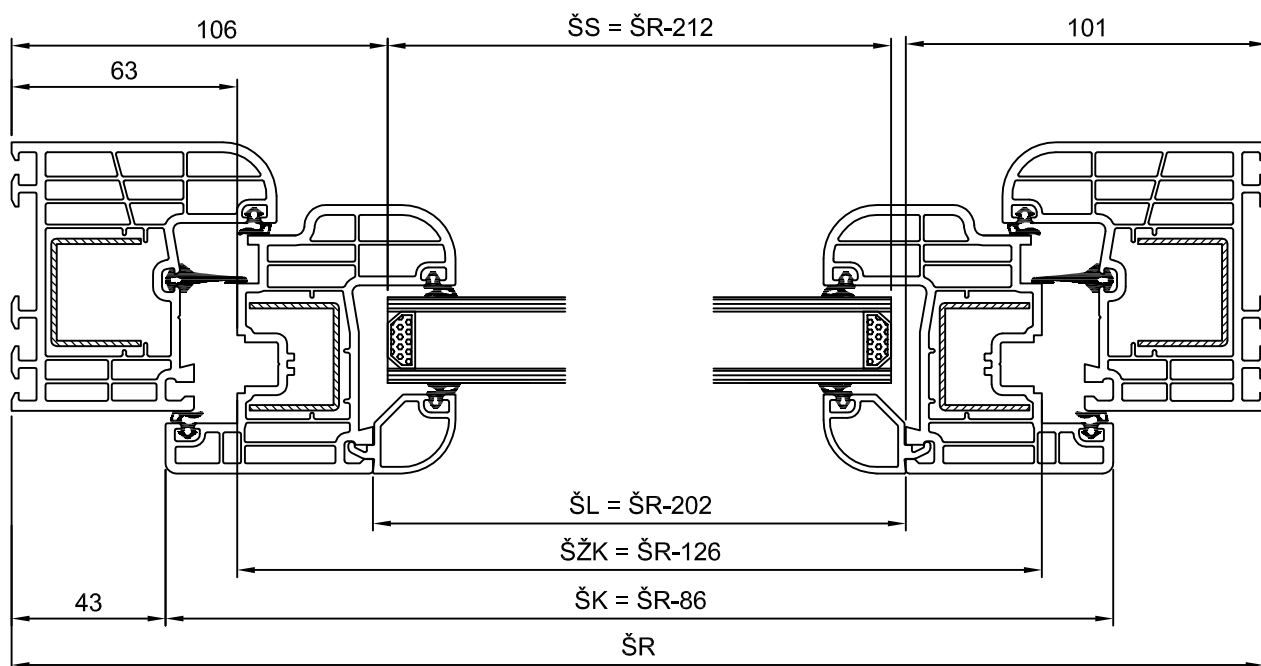
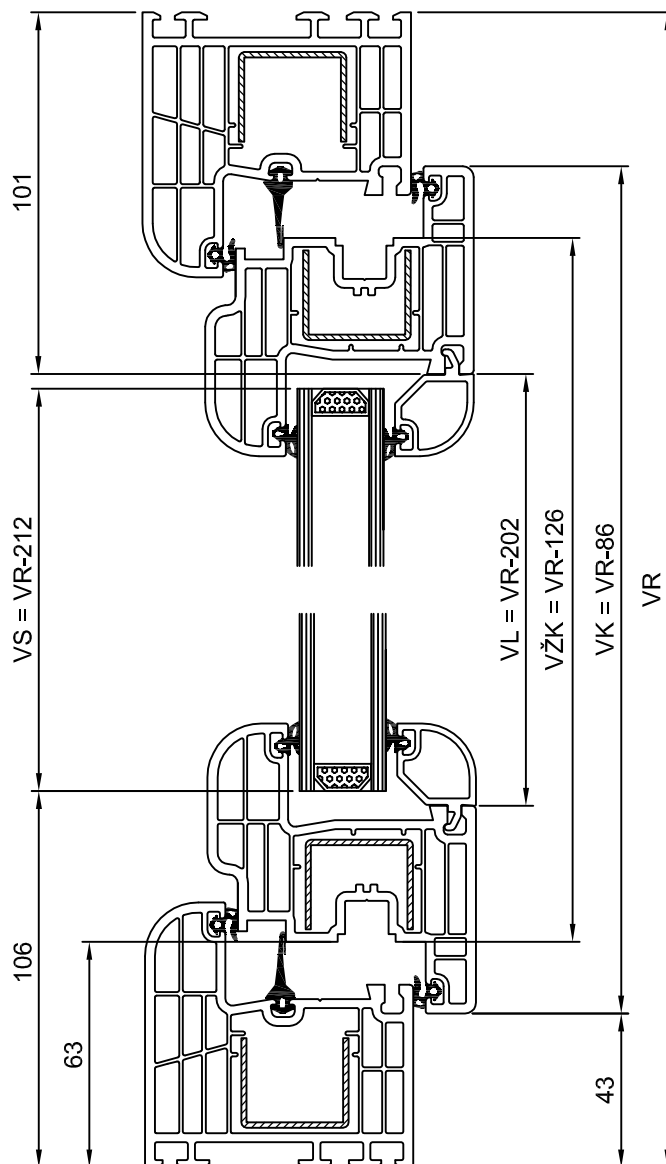
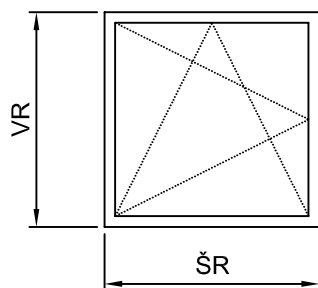
PRESEK PROZORA
PROŠIRENI RAM-KRILO
SISTEM 600



JEDNOKRILNI PROZOR SISTEM 600

LEGENDA

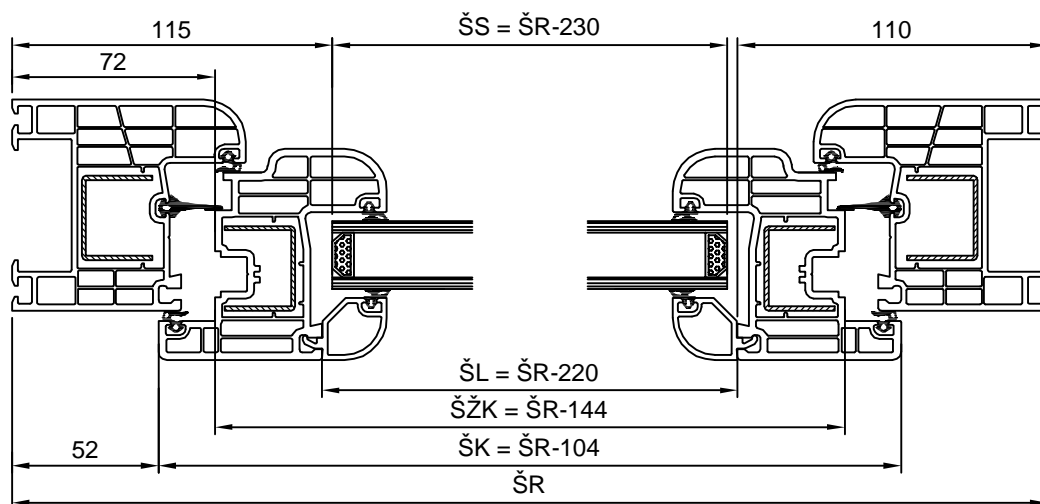
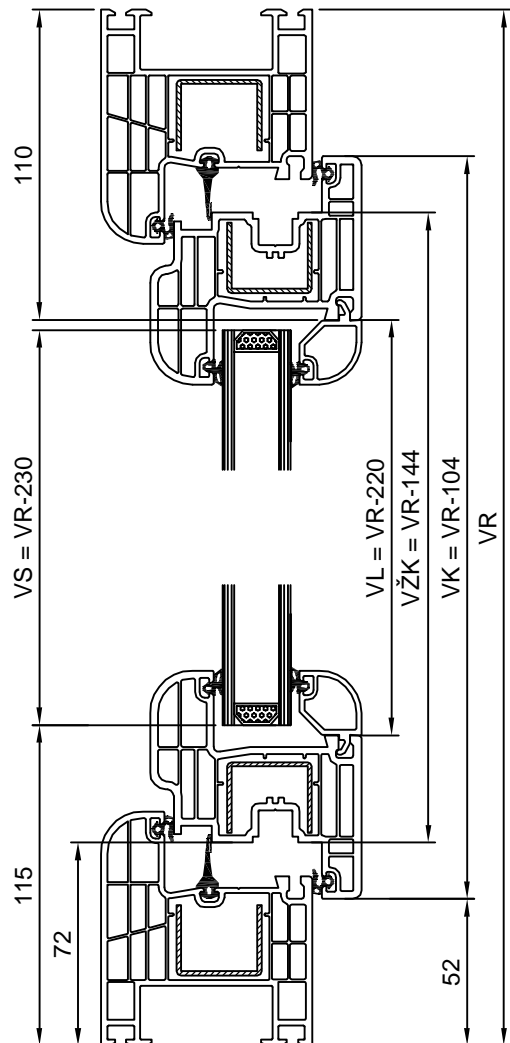
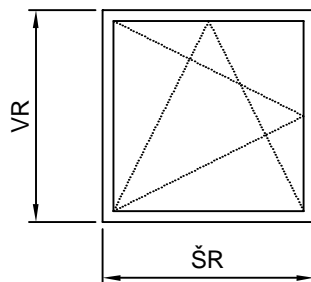
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 VK= VISINA KRILA
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 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



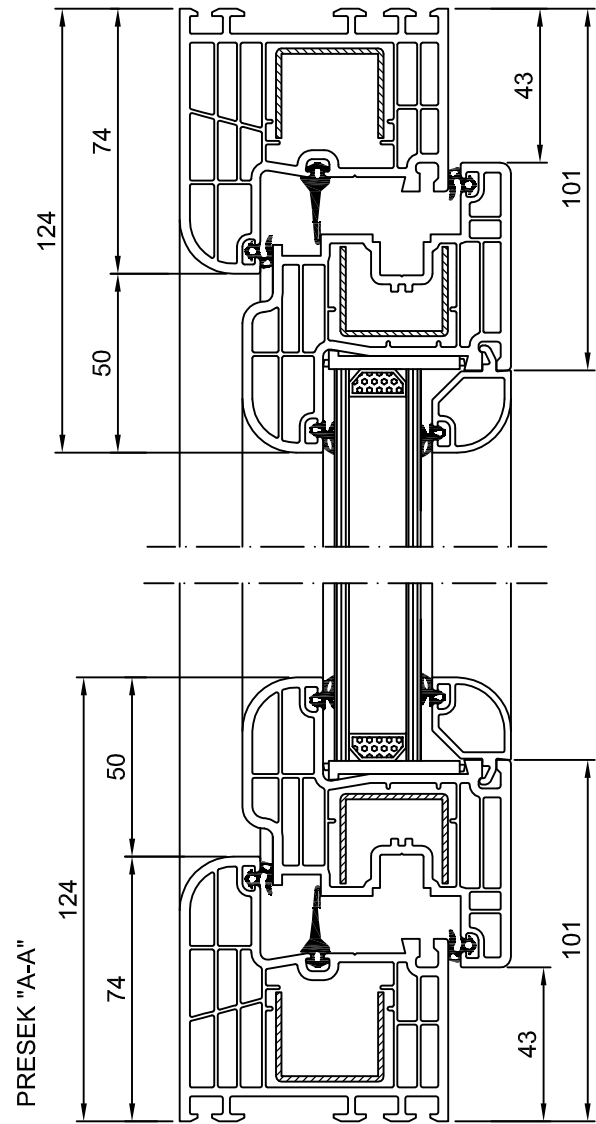
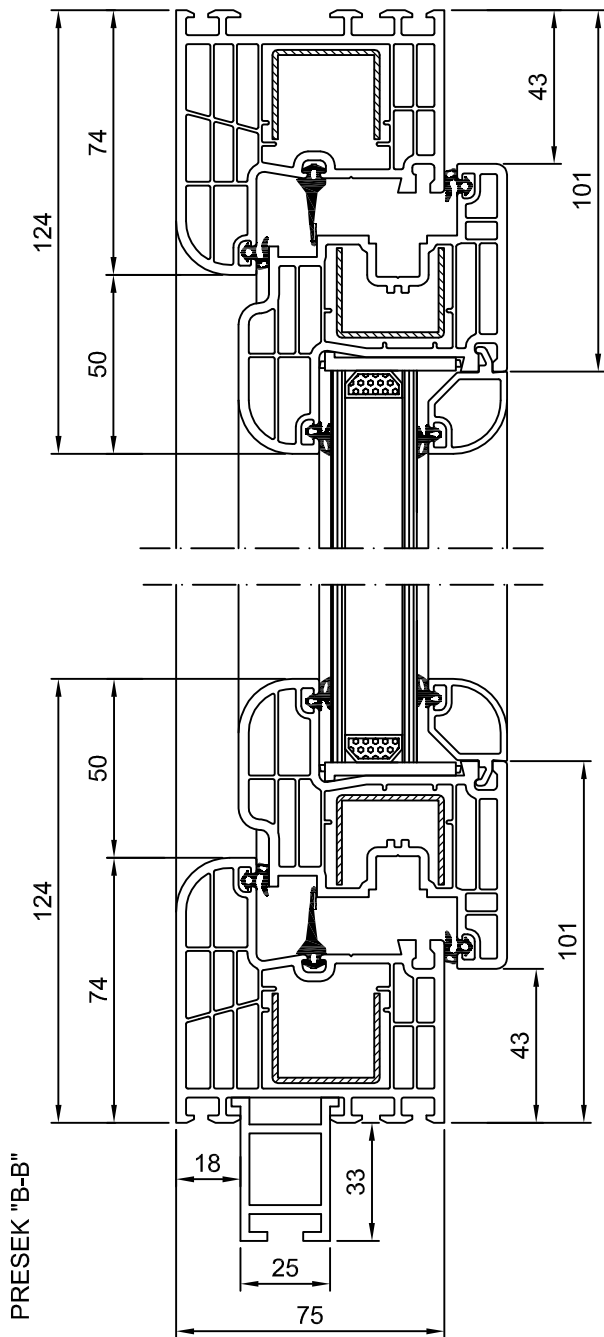
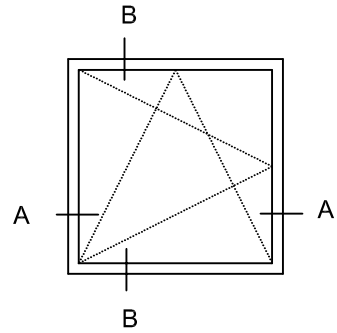
JEDNOKRILNI PROZOR SA PROŠIRENIM RAMOM SISTEM 600

LEGENDA

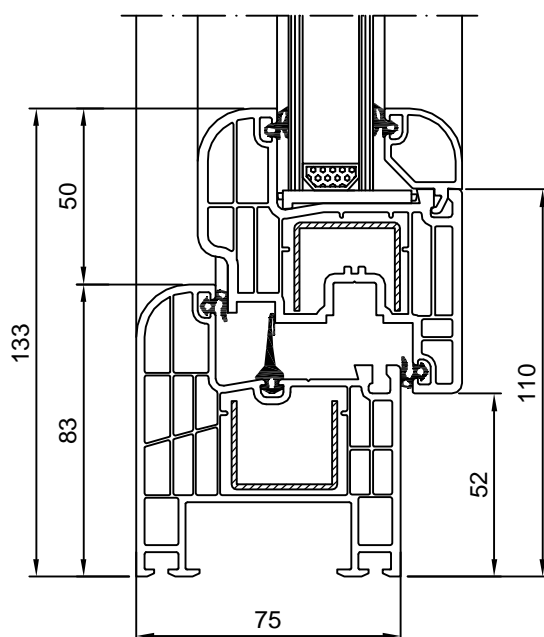
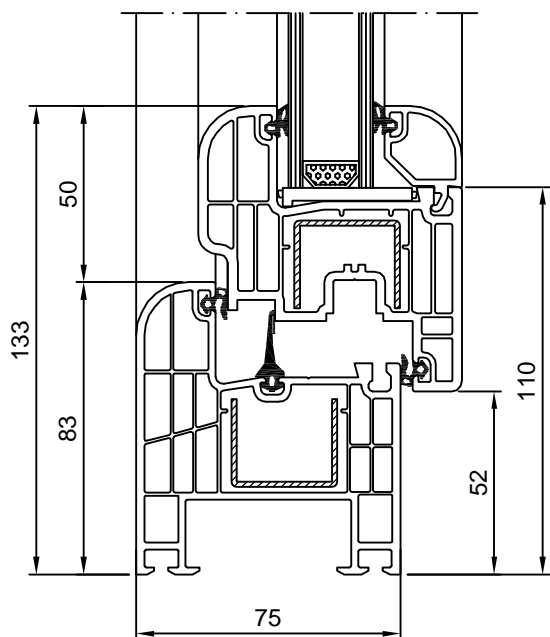
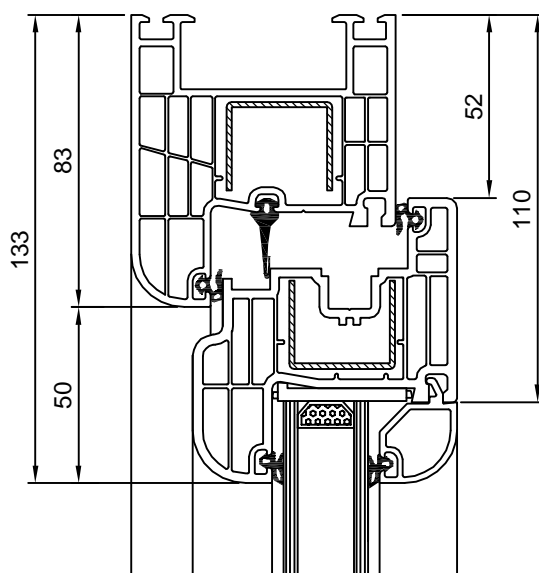
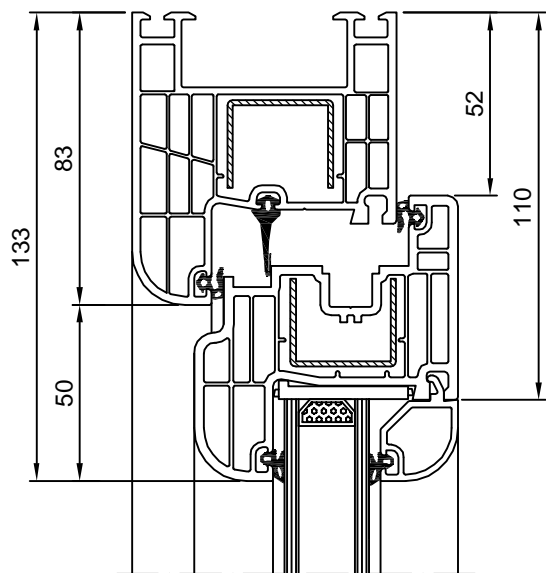
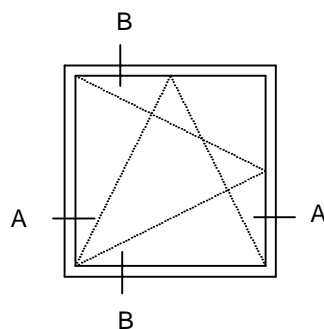
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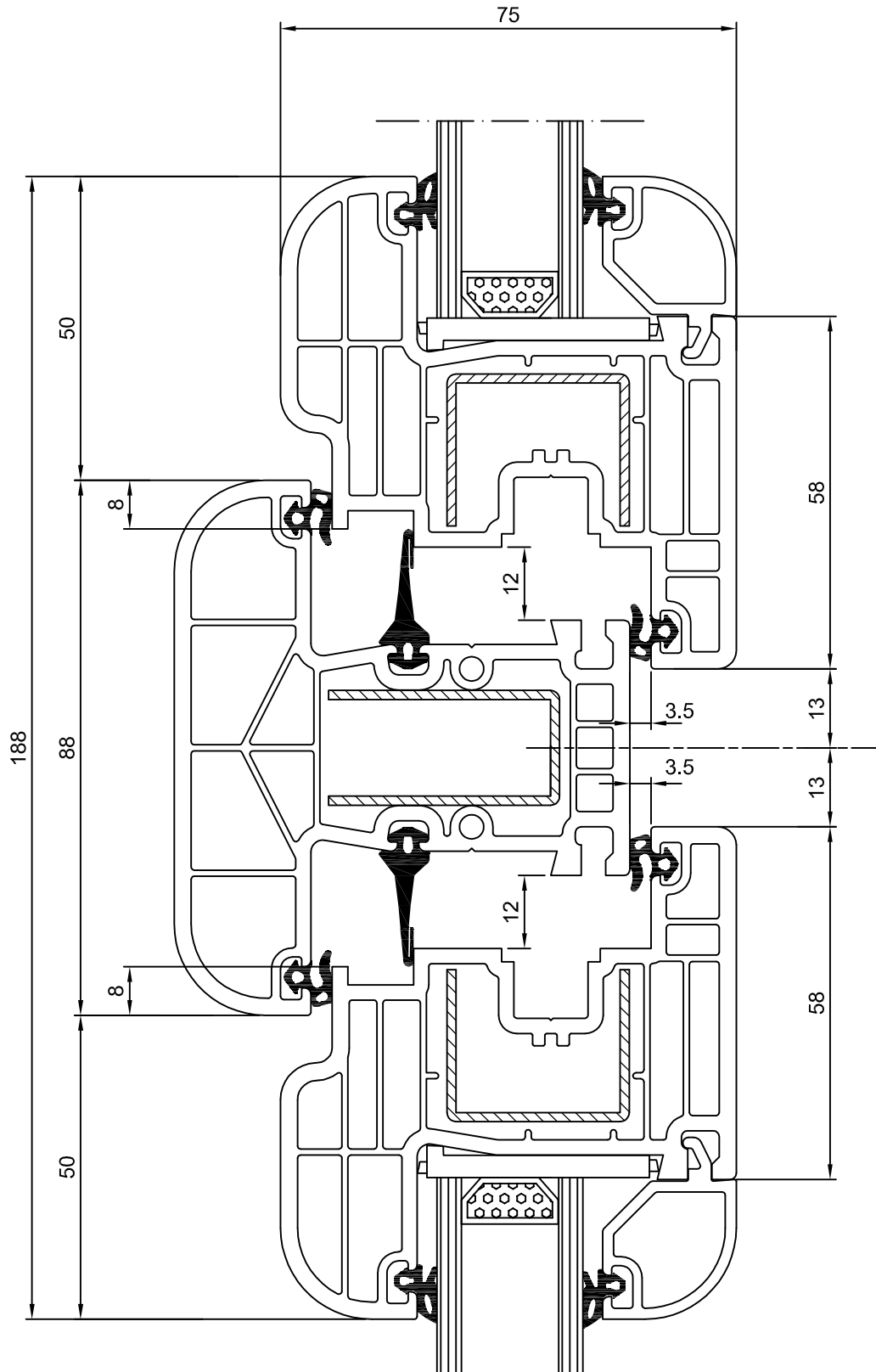
JEDNOKRILNI PROZOR SISTEM 600



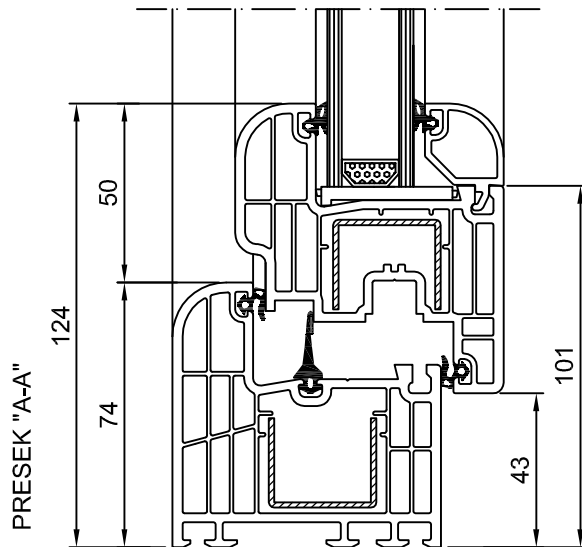
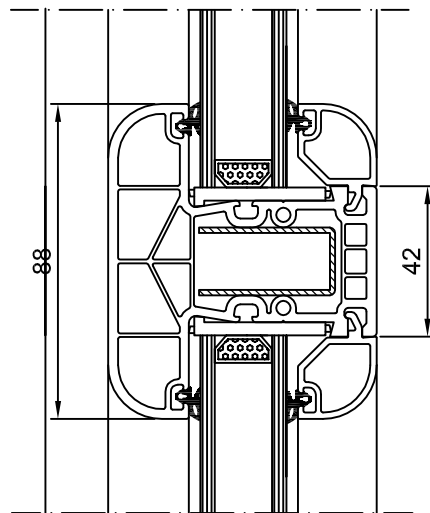
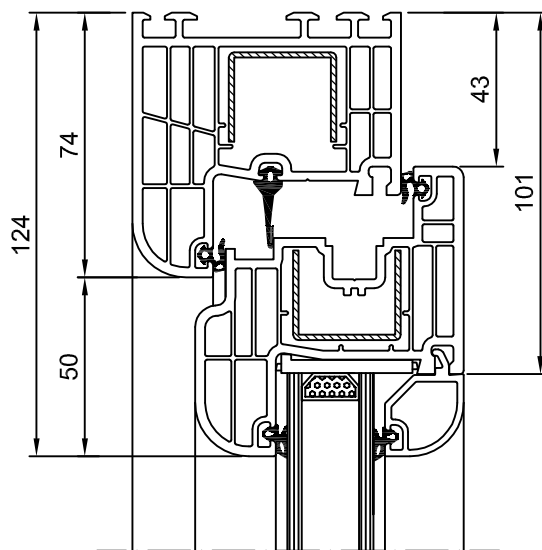
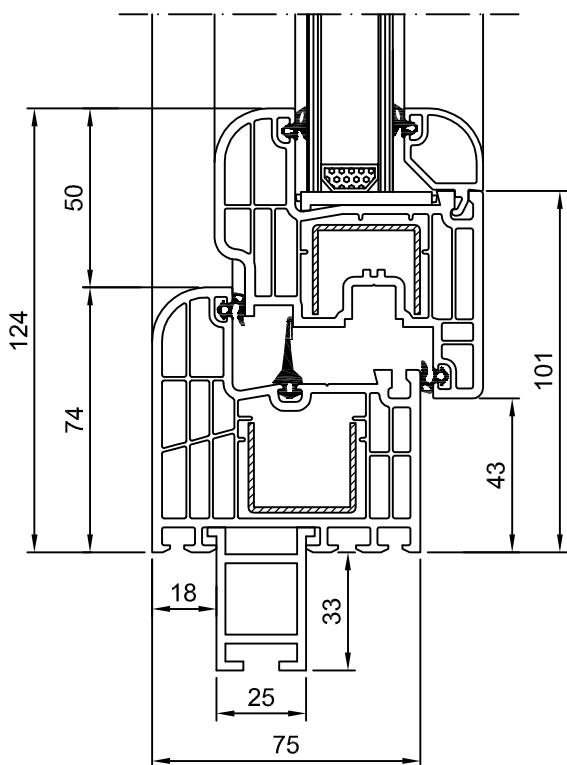
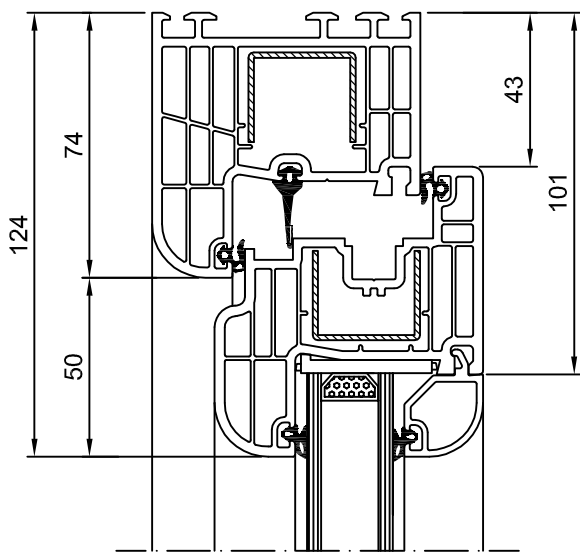
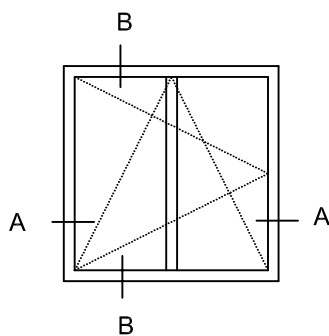
JEDNOKRILNI PROZOR SA PRO ŠIRENIM RAMOM SISTEM 600



PRESEK PROZORA
KRILO-STUB-KRILO
SISTEM 600



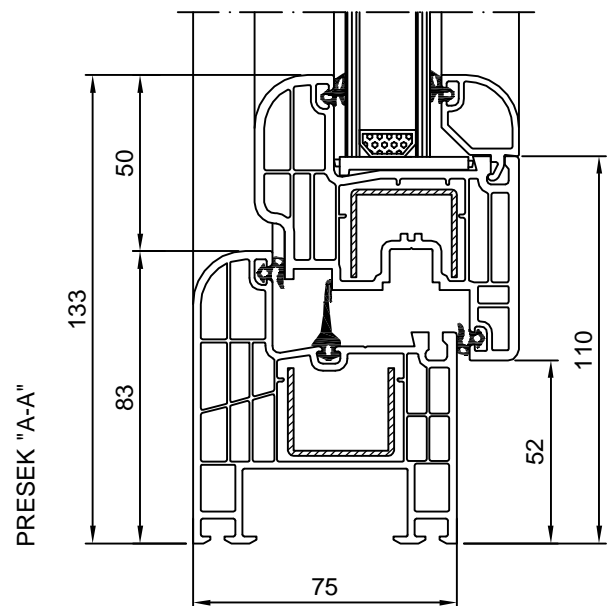
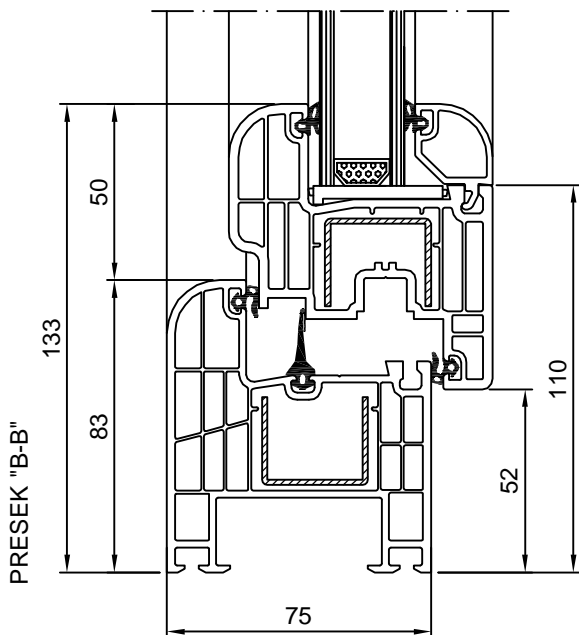
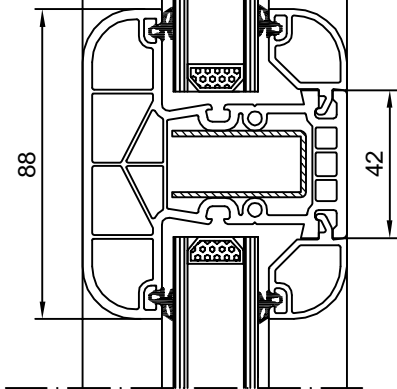
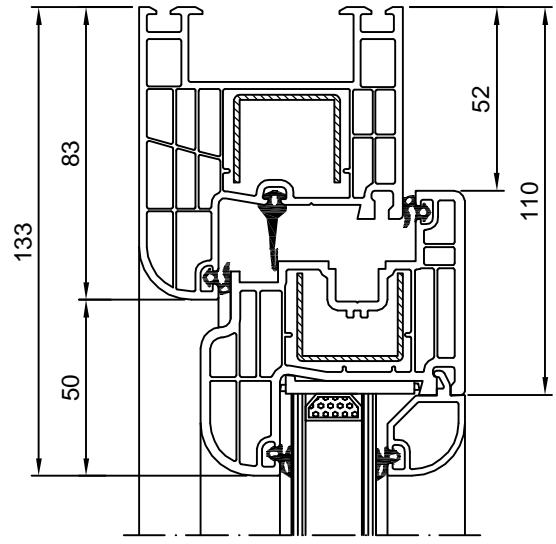
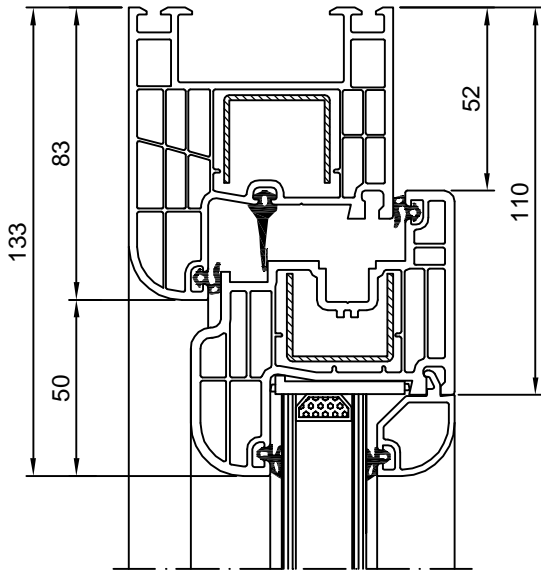
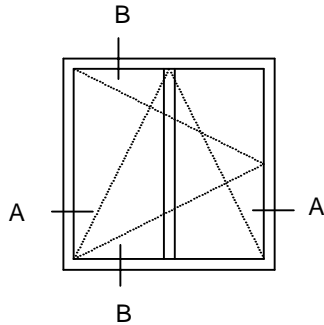
JEDNOKRILNI PROZOR SA STUBOM SISTEM 600



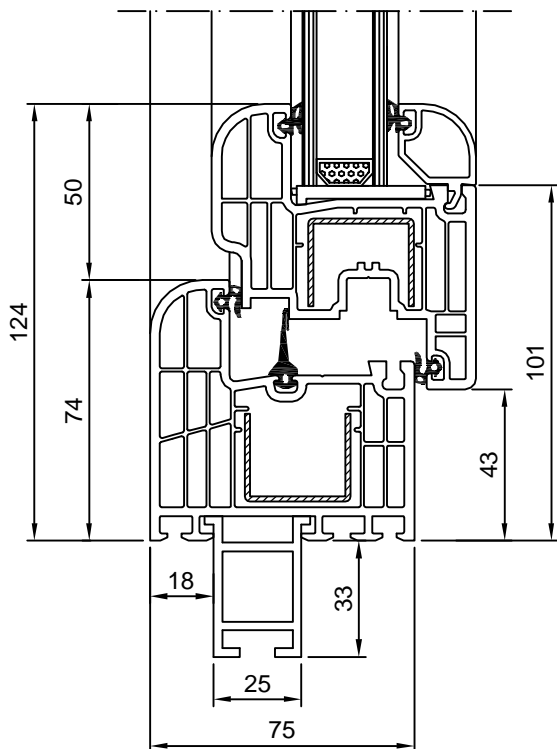
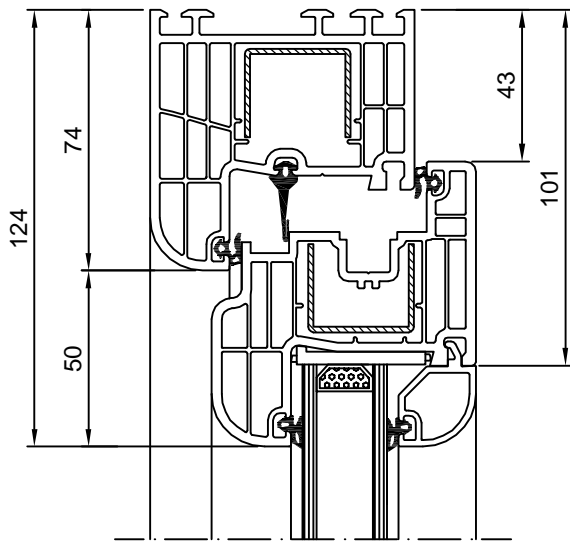
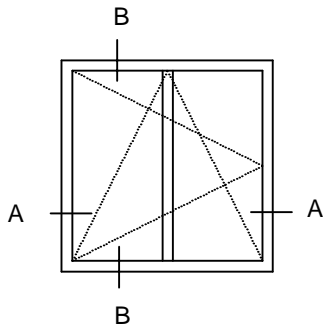
PRESEK "B-B"

PRESEK "A-A"

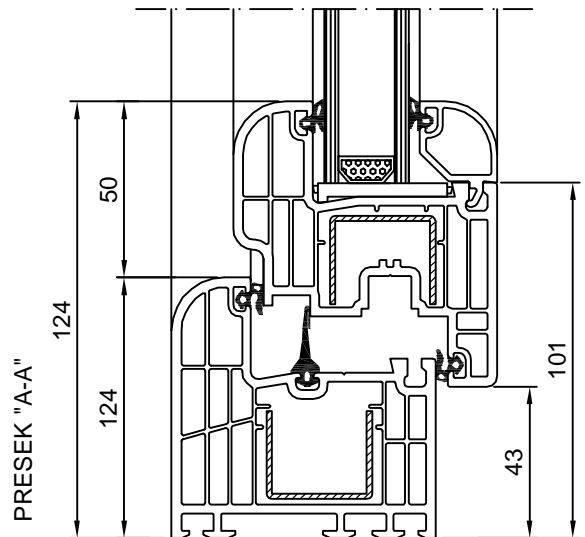
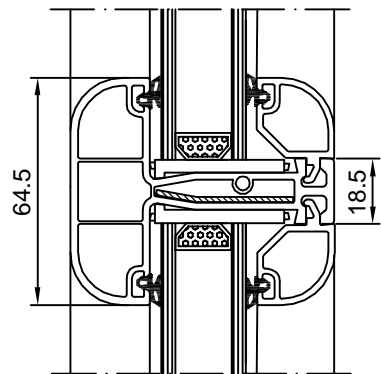
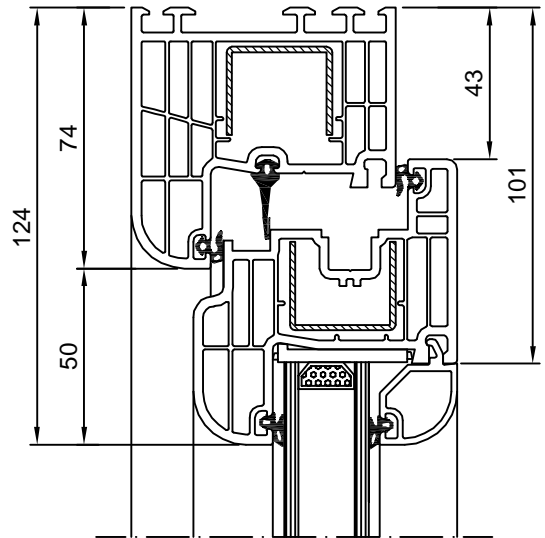
JEDNOKRILNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 600



JEDNOKRILNI PROZOR SA STUBOM 622 SISTEM 600

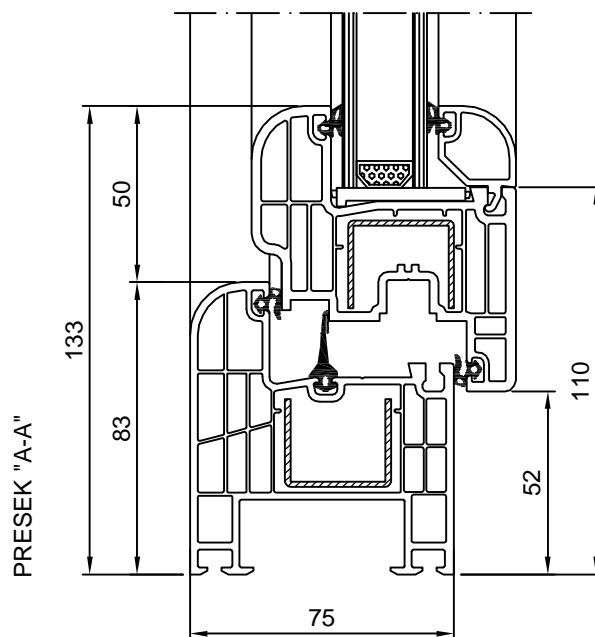
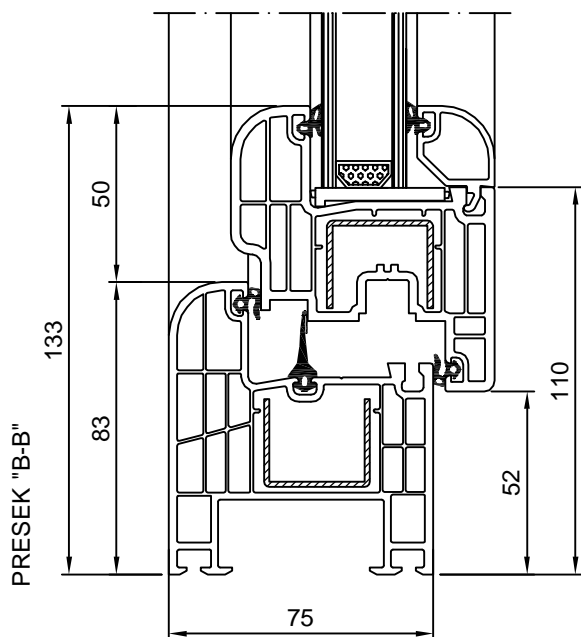
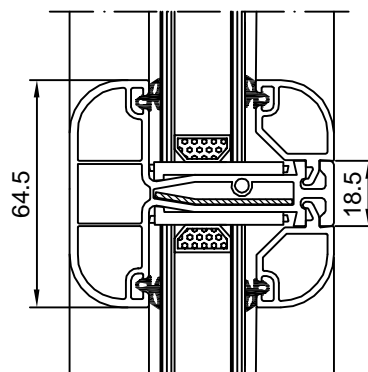
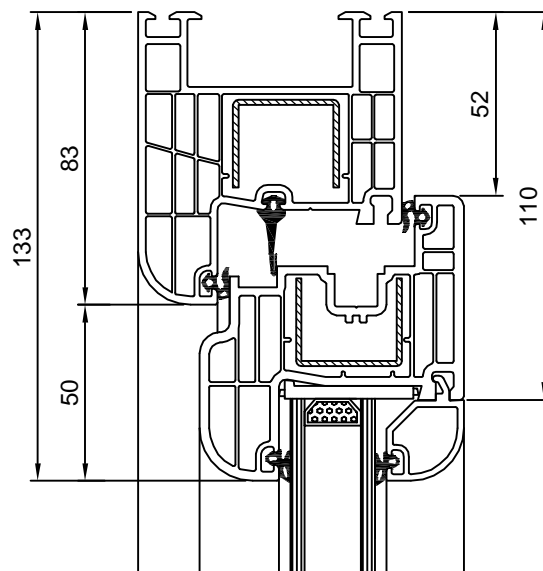
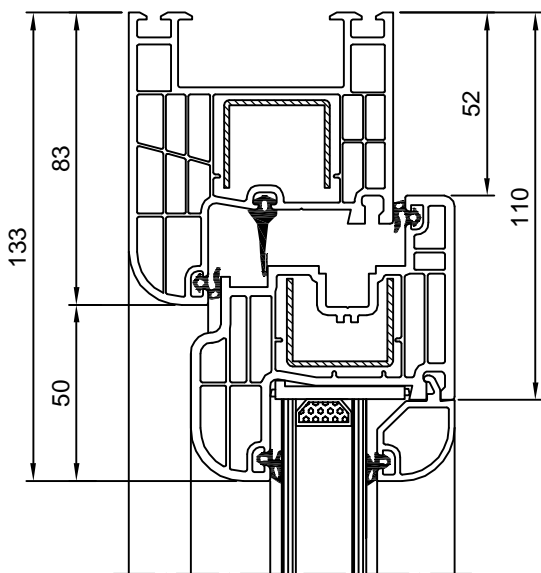
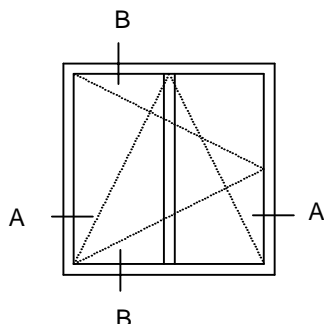


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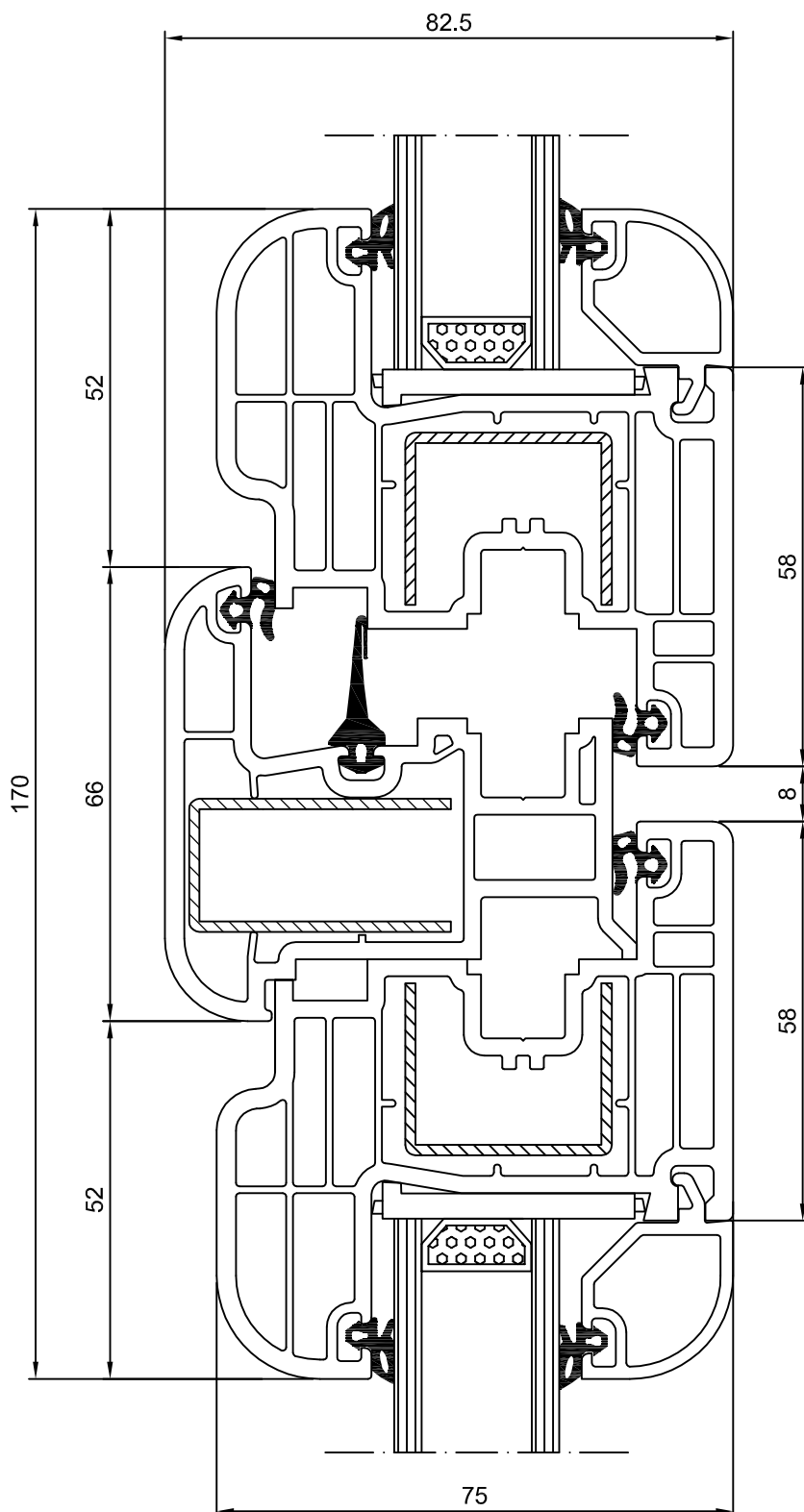


PRESEK "A-A"

JEDNOKRILNI PROZOR SA STUBOM 622 I PROŠIRENIM RAMOM SISTEM 600



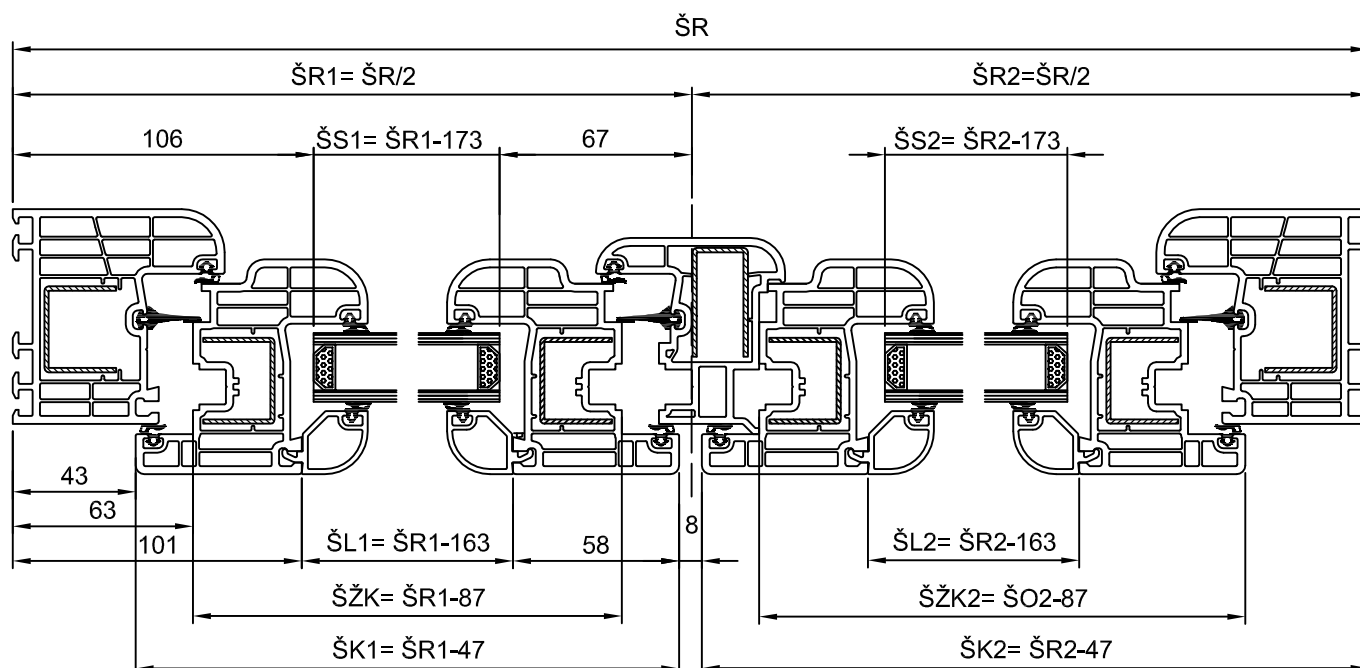
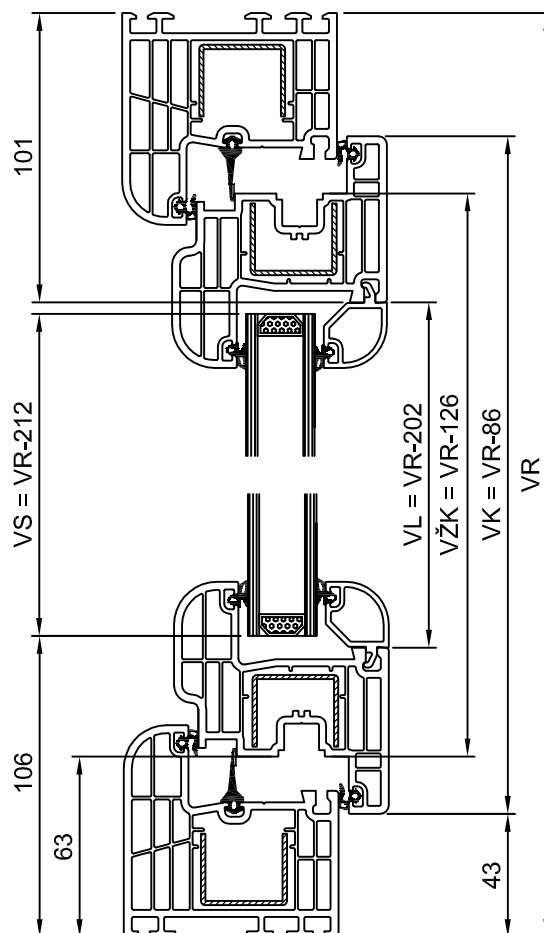
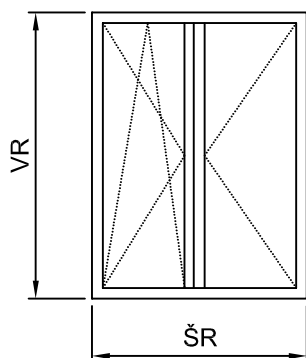
PRESEK PROZORA KRILO-PREKLOP-KRILO SISTEM 600



DVOKRILNI PROZOR SA PREKLOPOM SISTEM 600

LEGENDA

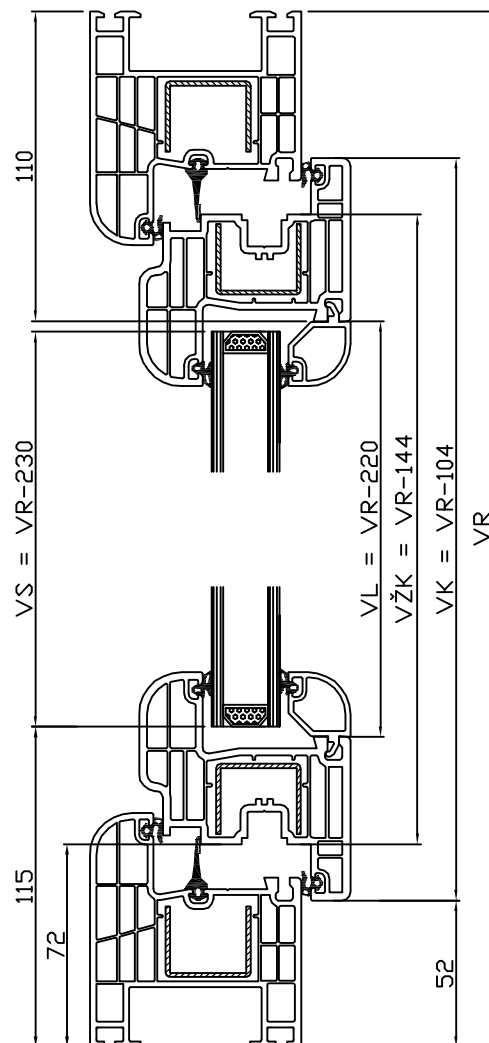
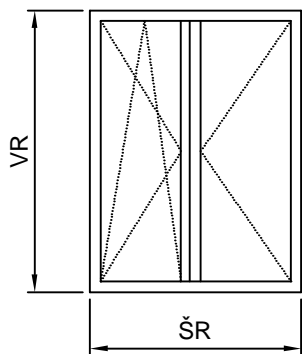
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 VS= VISINA STAKLA



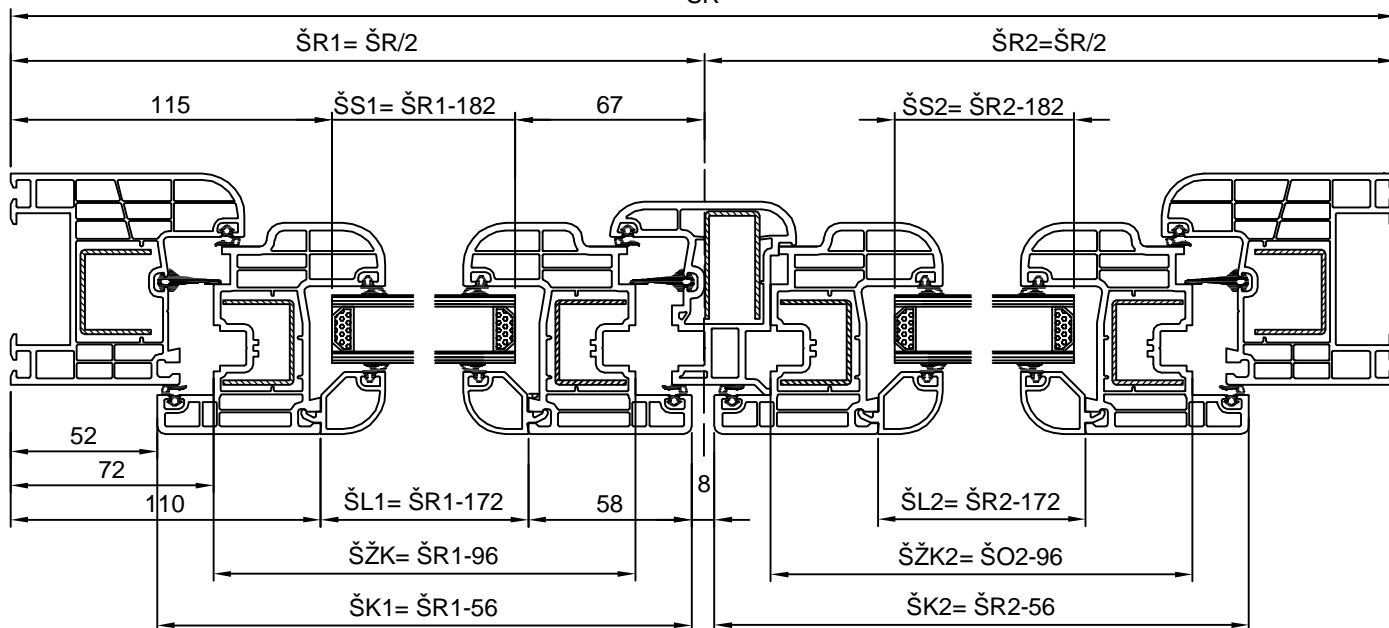
DVOKRILNI PROZOR SA PREKLOPOM I PROŠIRENIM RAMOM SISTEM 600

LEGENDA

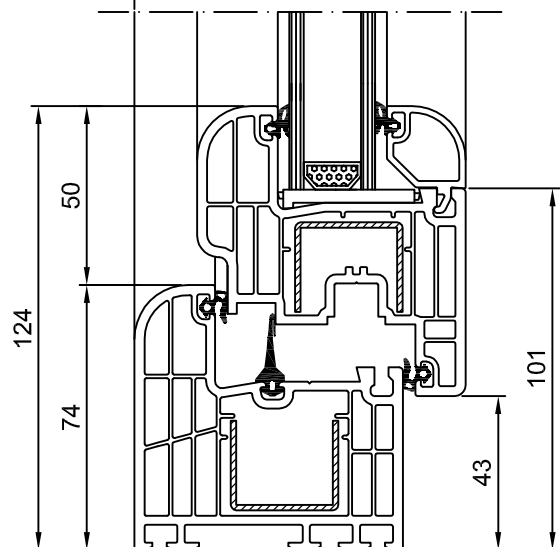
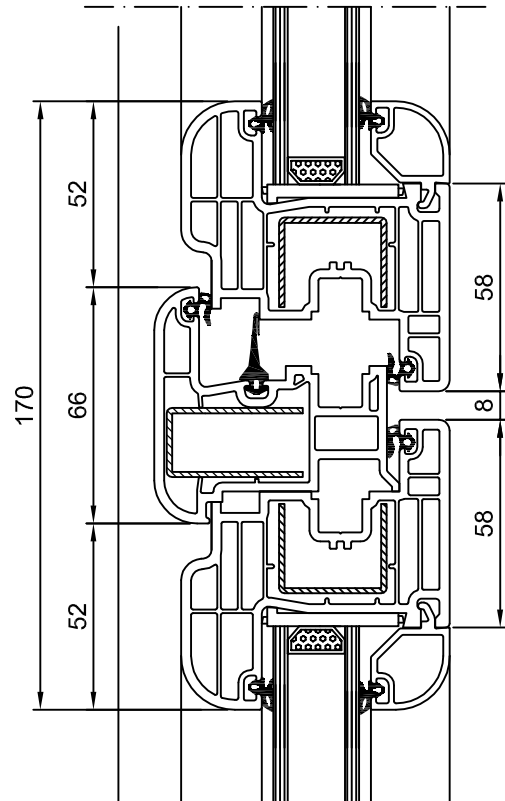
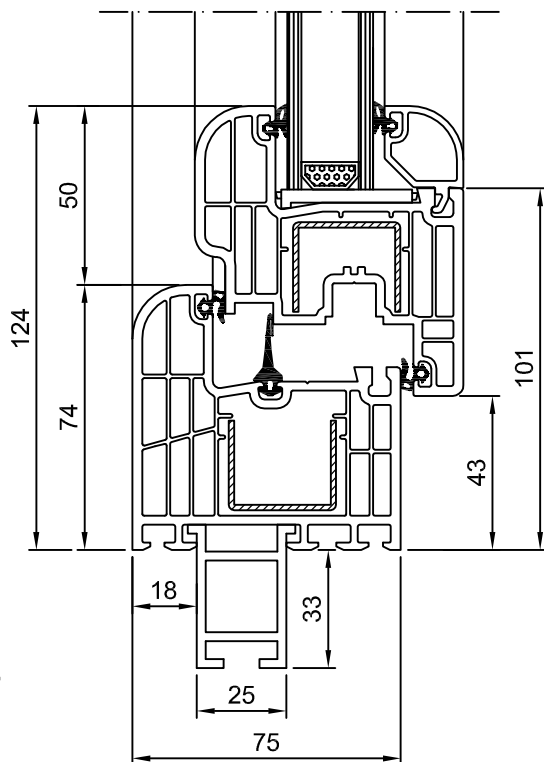
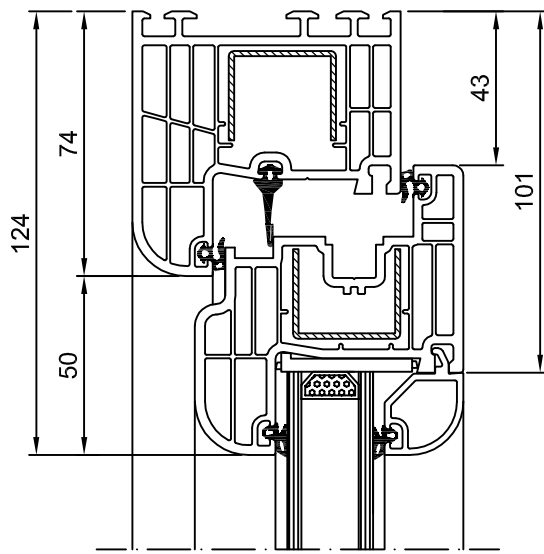
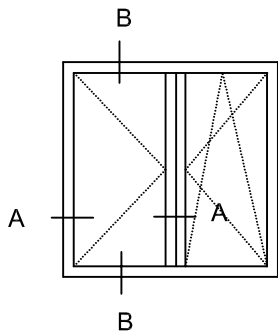
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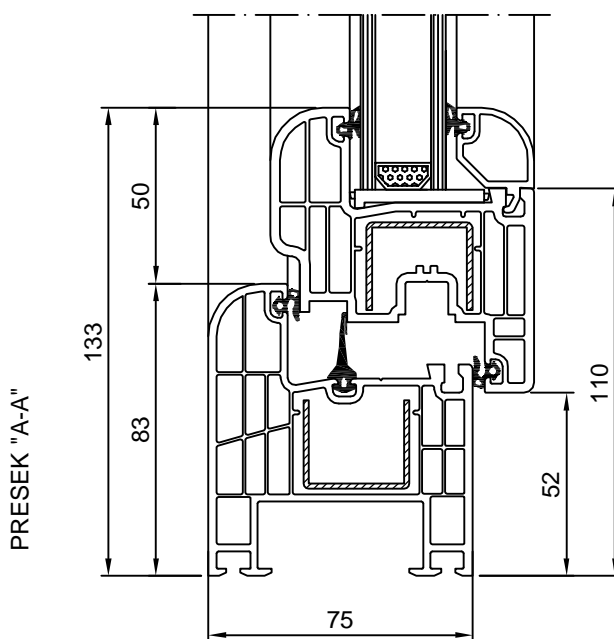
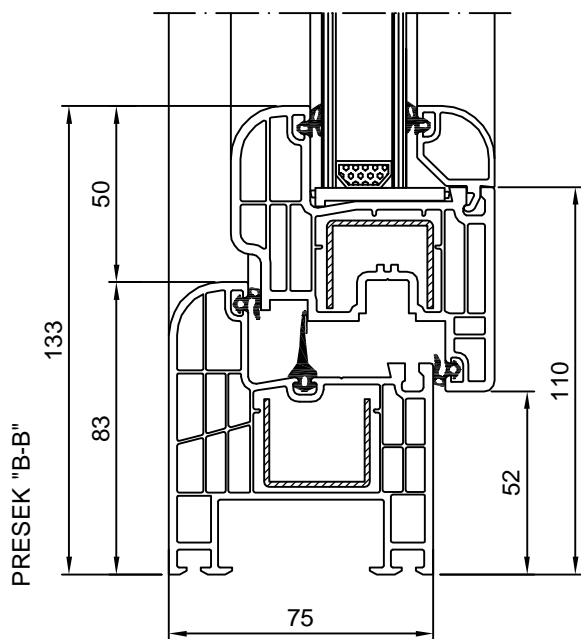
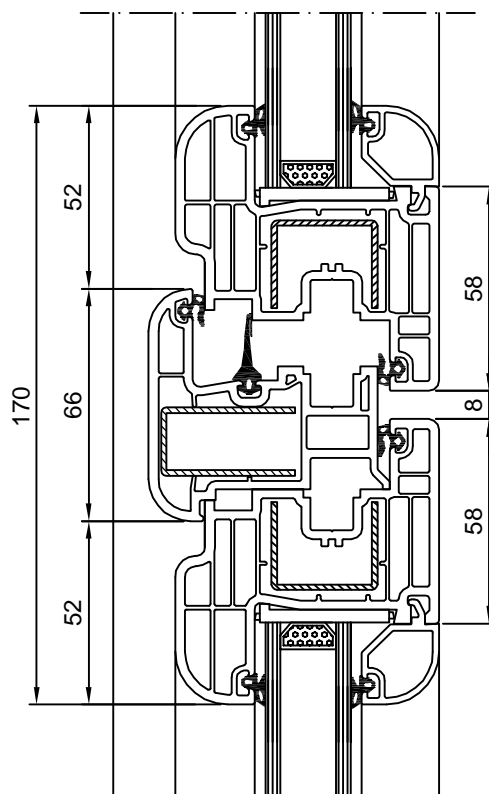
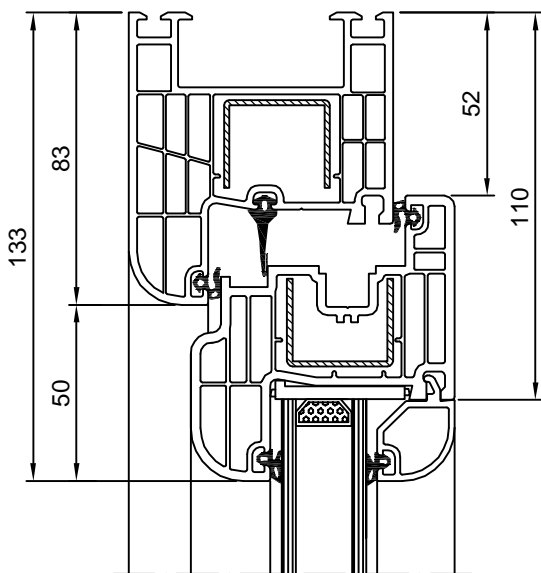
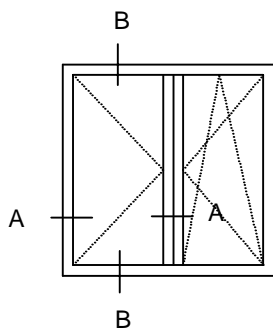
ŠR



DVOKRILNI PROZOR SA PREKLOPOM SISTEM 600



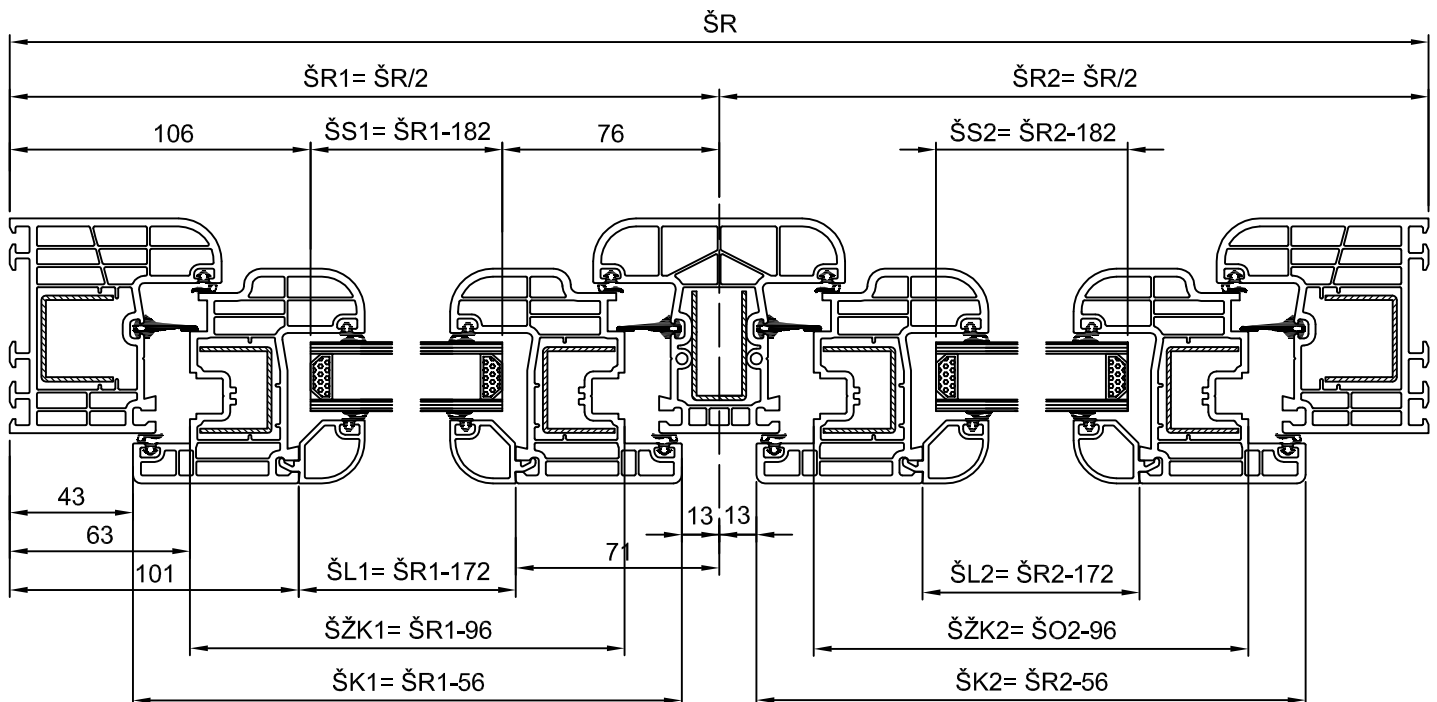
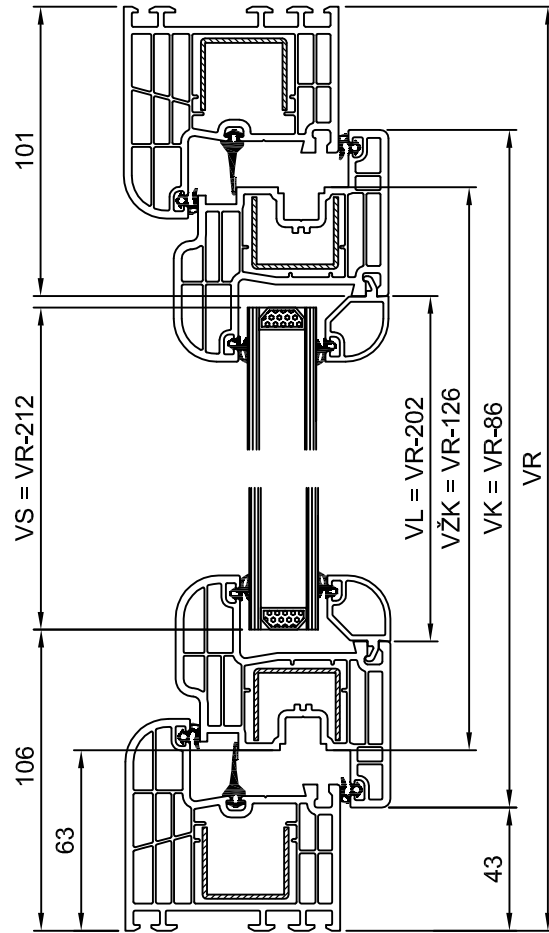
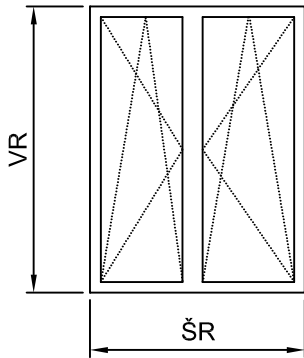
DVOKRILNI PROZOR SA PREKLOPOM I PROŠIRENIM RAMOM SISTEM 600



DVOKRILNI PROZOR SA STUBOM SISTEM 600

LEGENDA

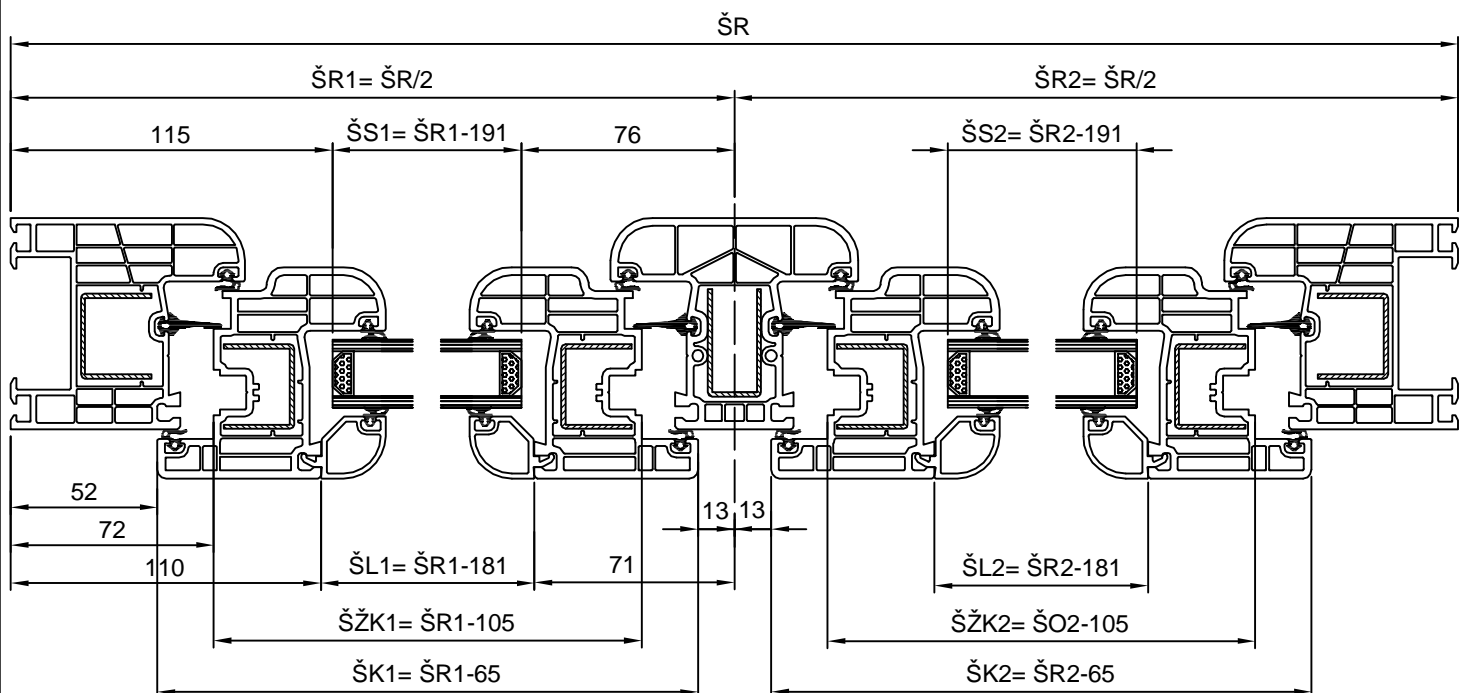
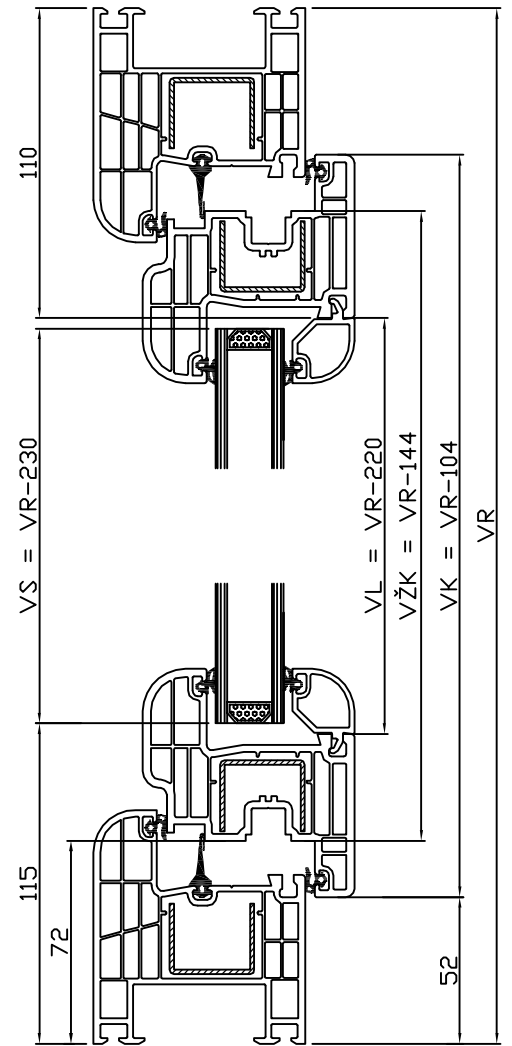
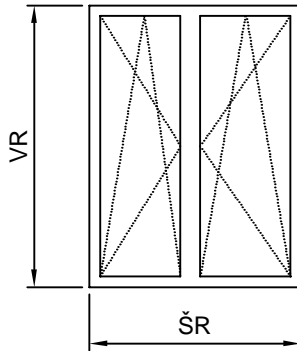
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 ŠL=ŠIRINA LAJSNE
 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



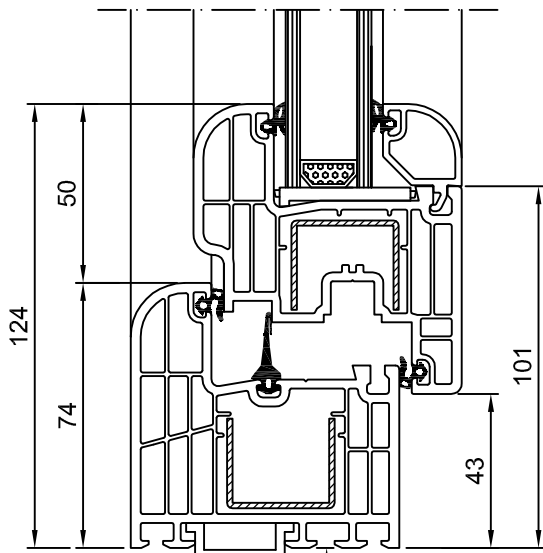
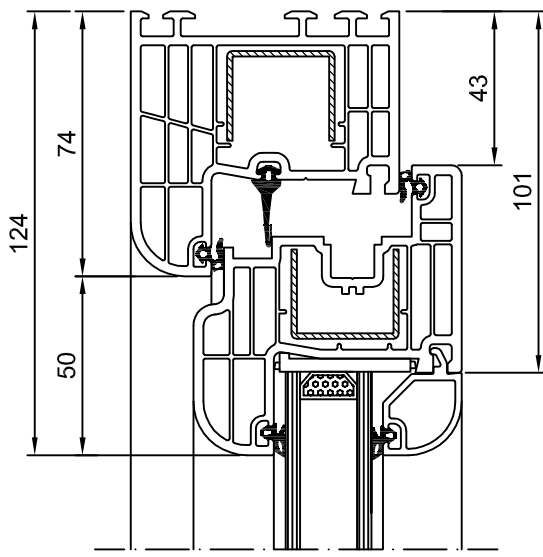
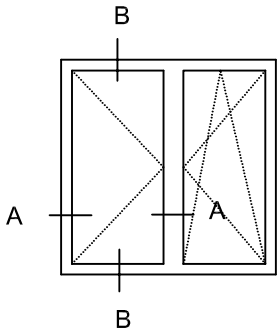
DVOKRILNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 600

LEGENDA

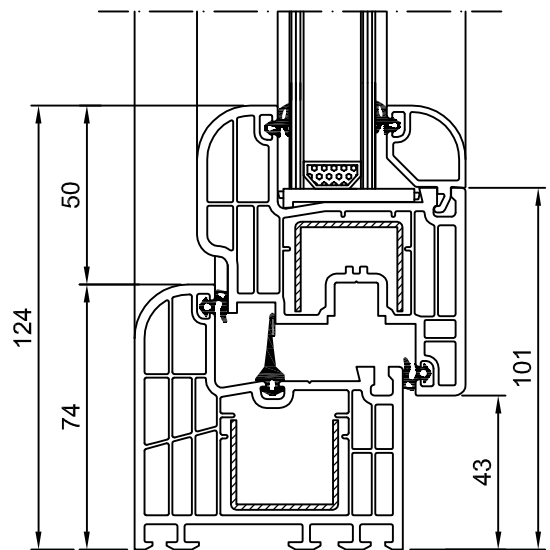
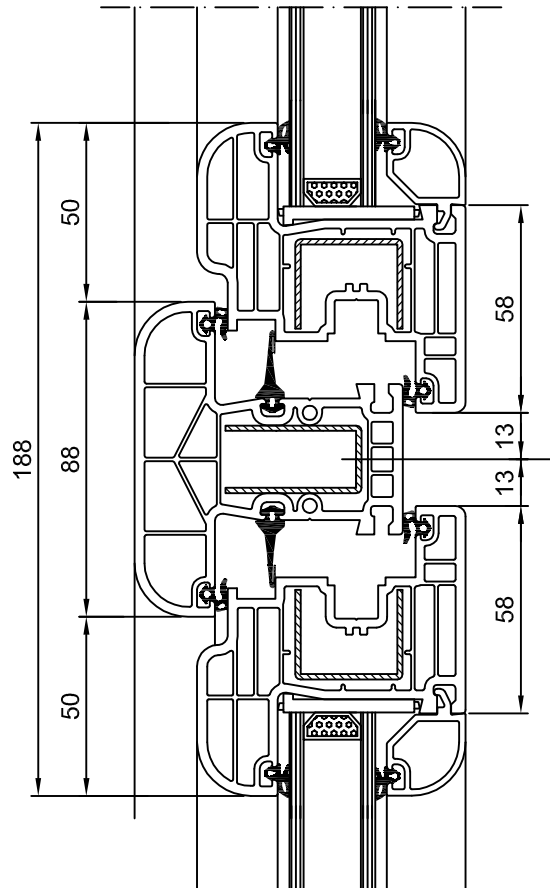
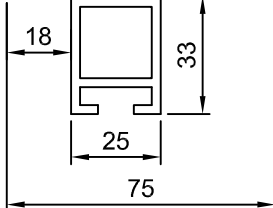
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 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



DVOKRILNI PROZOR SA STUBOM SISTEM 600

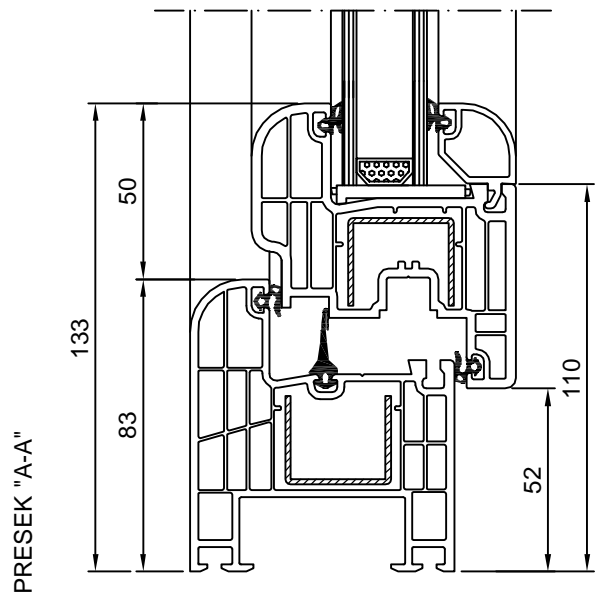
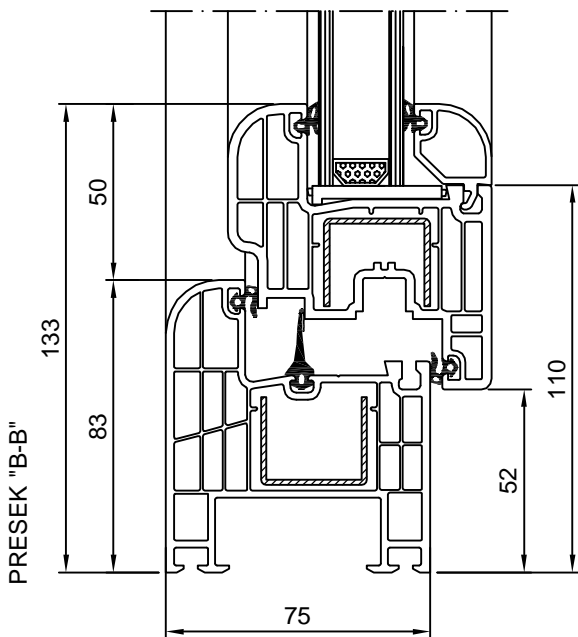
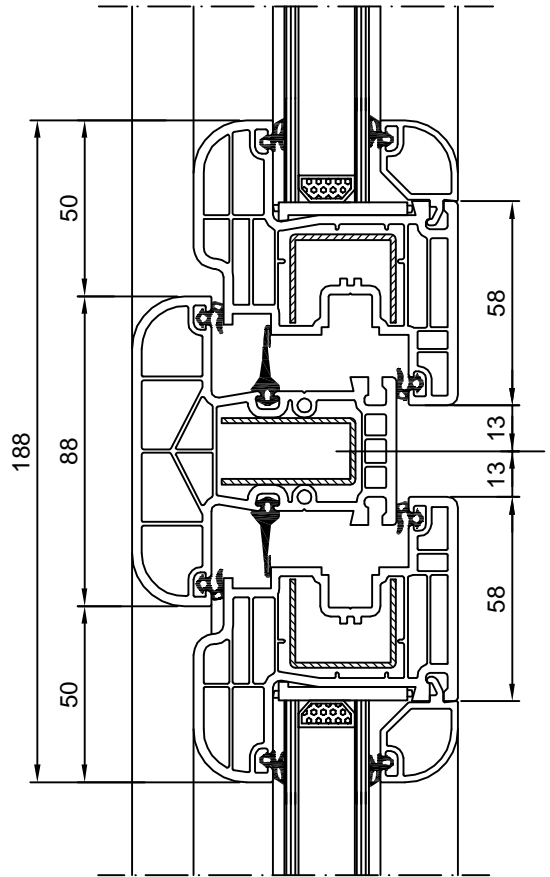
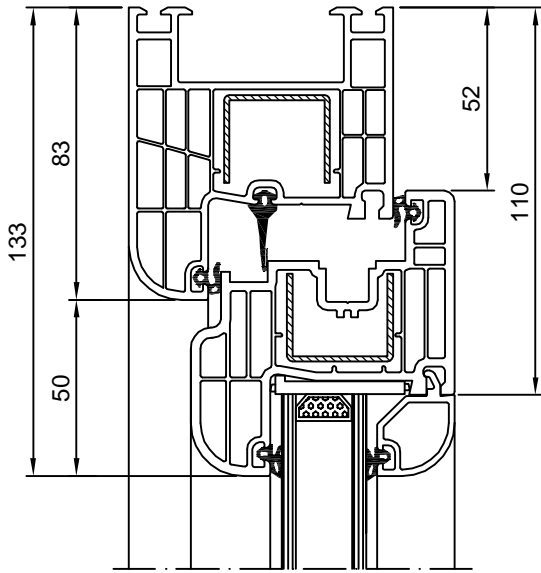
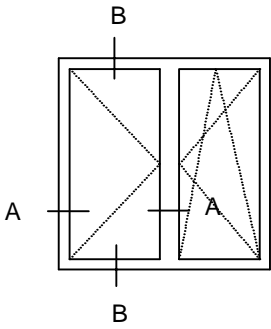


PRESEK "B-B"



PRESEK "A-A"

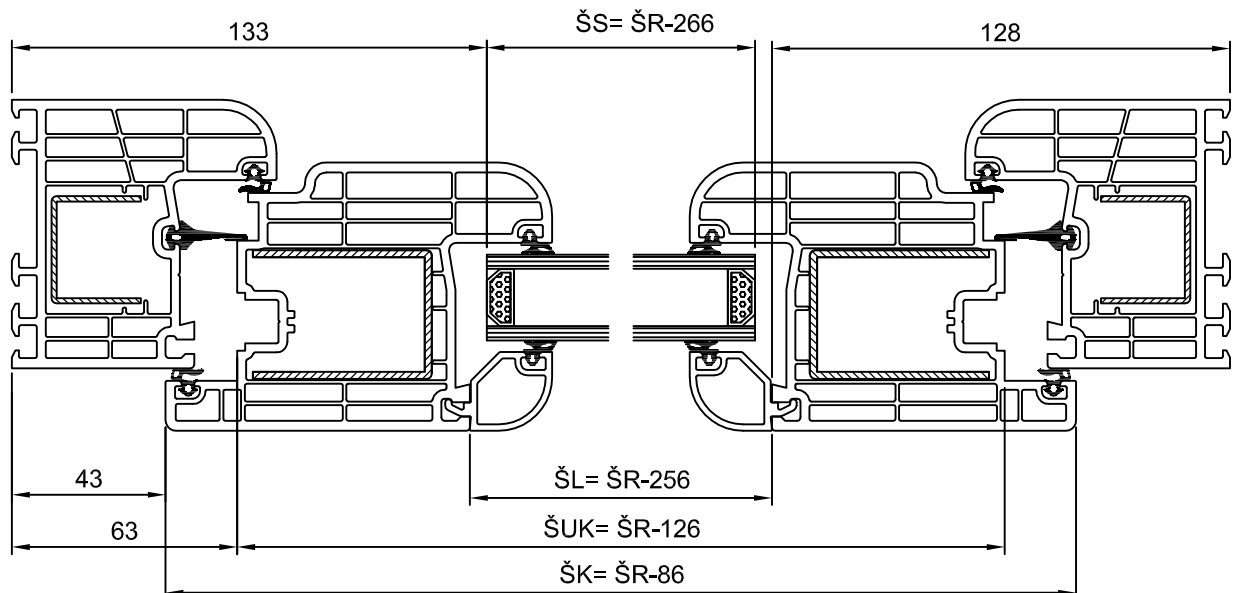
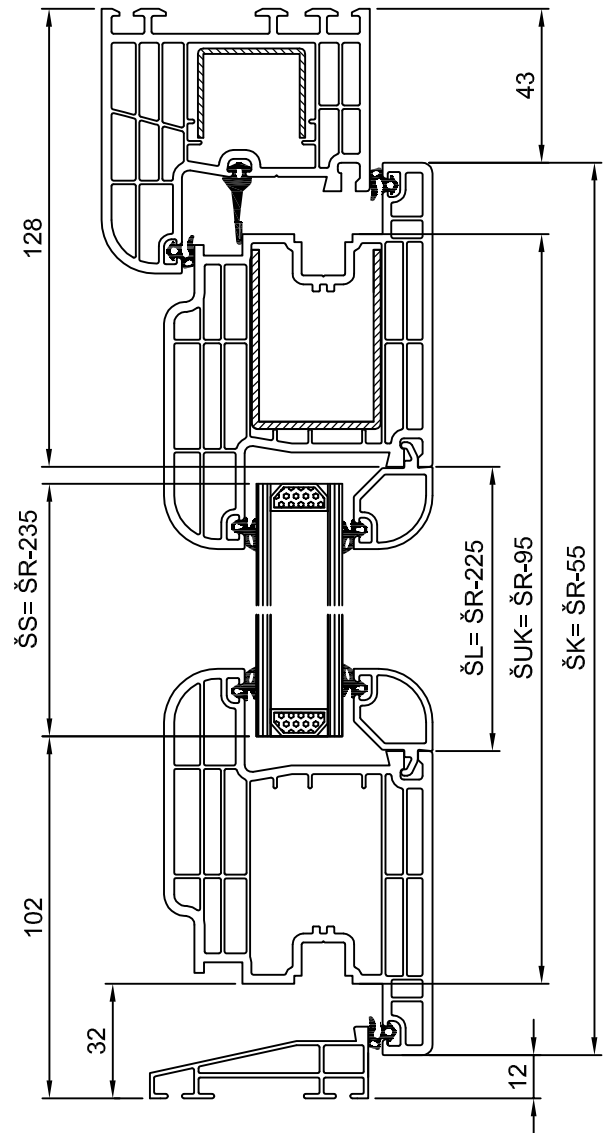
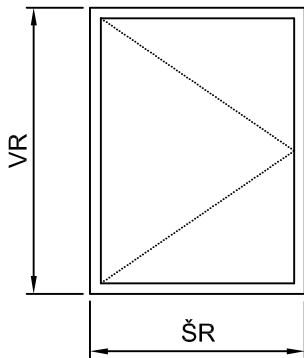
DVOKRILNI PROZOR SA STUBOM I PROŠIRENIM RAMOM SISTEM 600



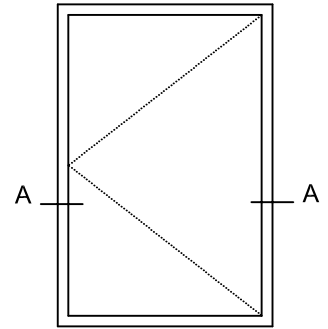
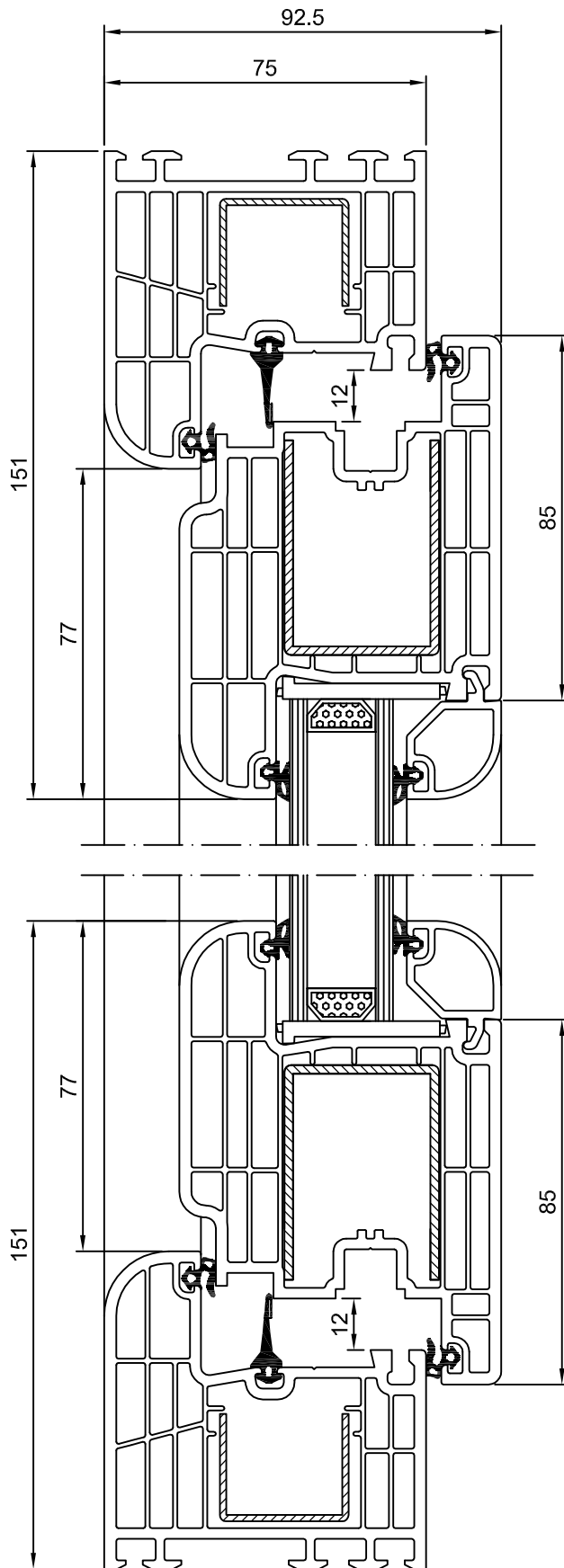
ULAZNA VRATA SISTEM 600

LEGENDA

ŠR= ŠIRINA RAMA
 VR= VISINA RAMA
 ŠK= ŠIRINA KRILA
 VK= VISINA KRILA
 ŠŽK= ŠIRINA ŽLJEBA KRILA
 VŽK= VISINA ŽLJEBA KRILA
 ŠL=ŠIRINA LAJSNE
 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



ULAZNA VRATA SISTEM 600

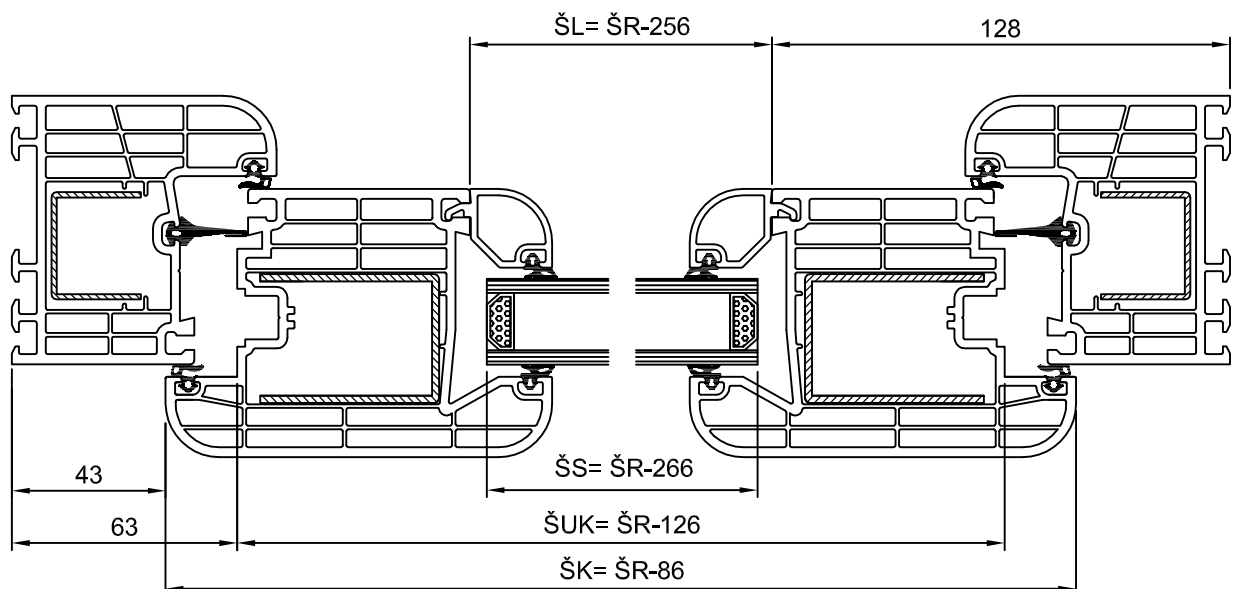
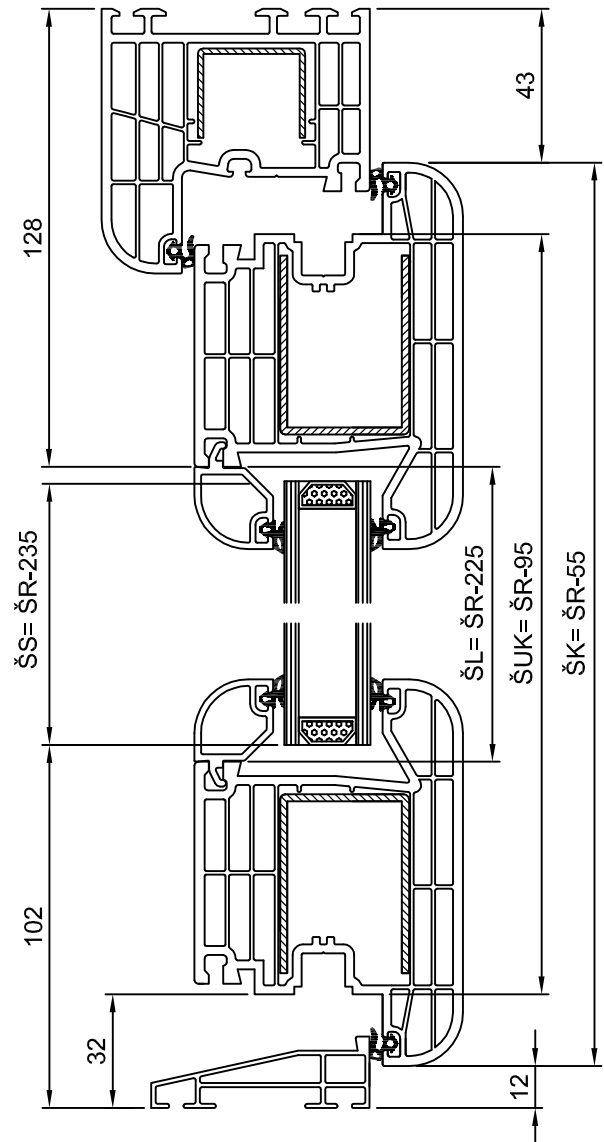
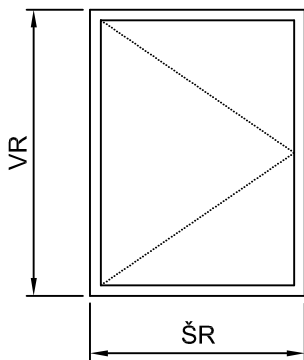


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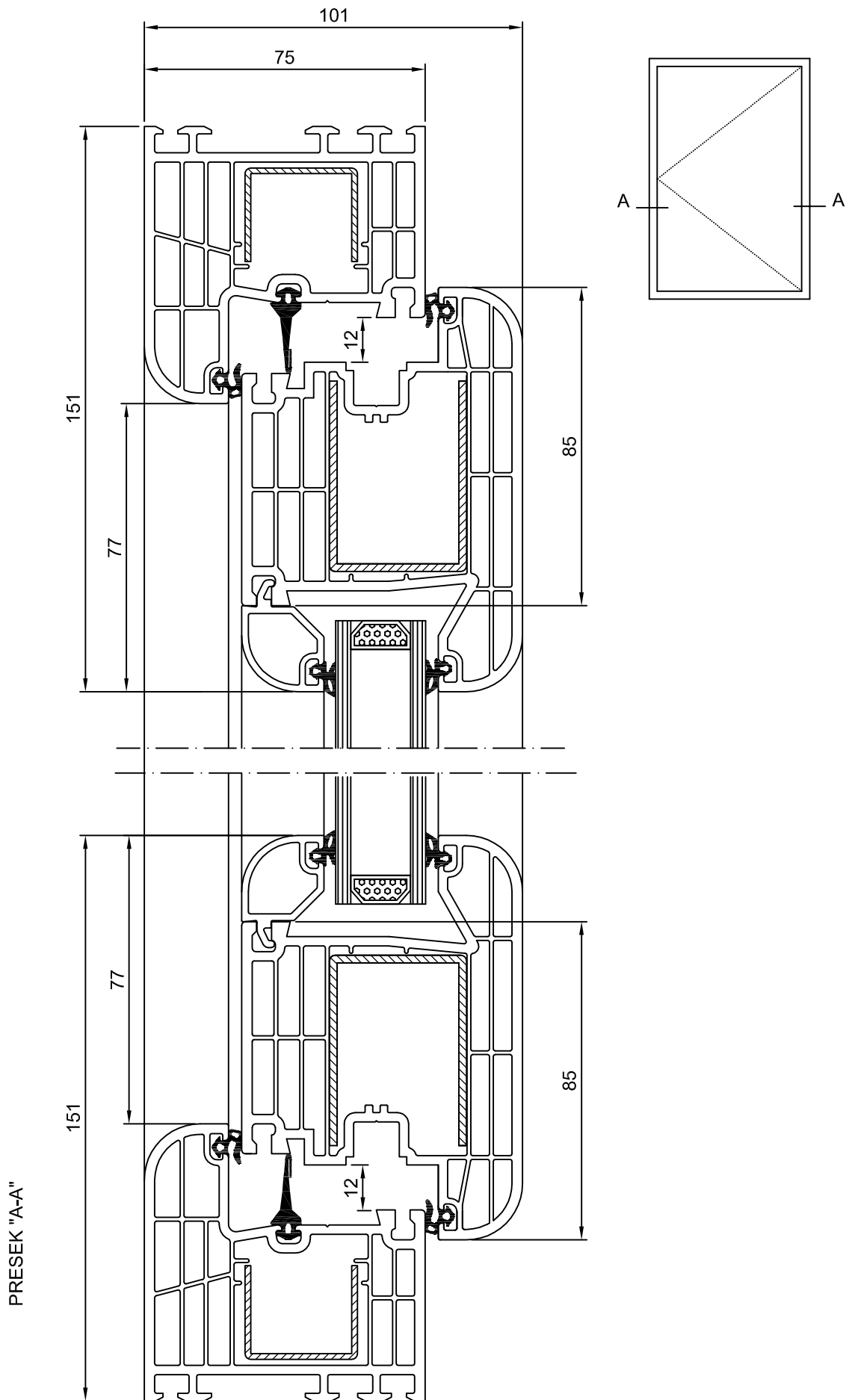
ULAZNA VRATA SA SPOLJAŠNIM OTVARANJEM SISTEM 600

LEGENDA

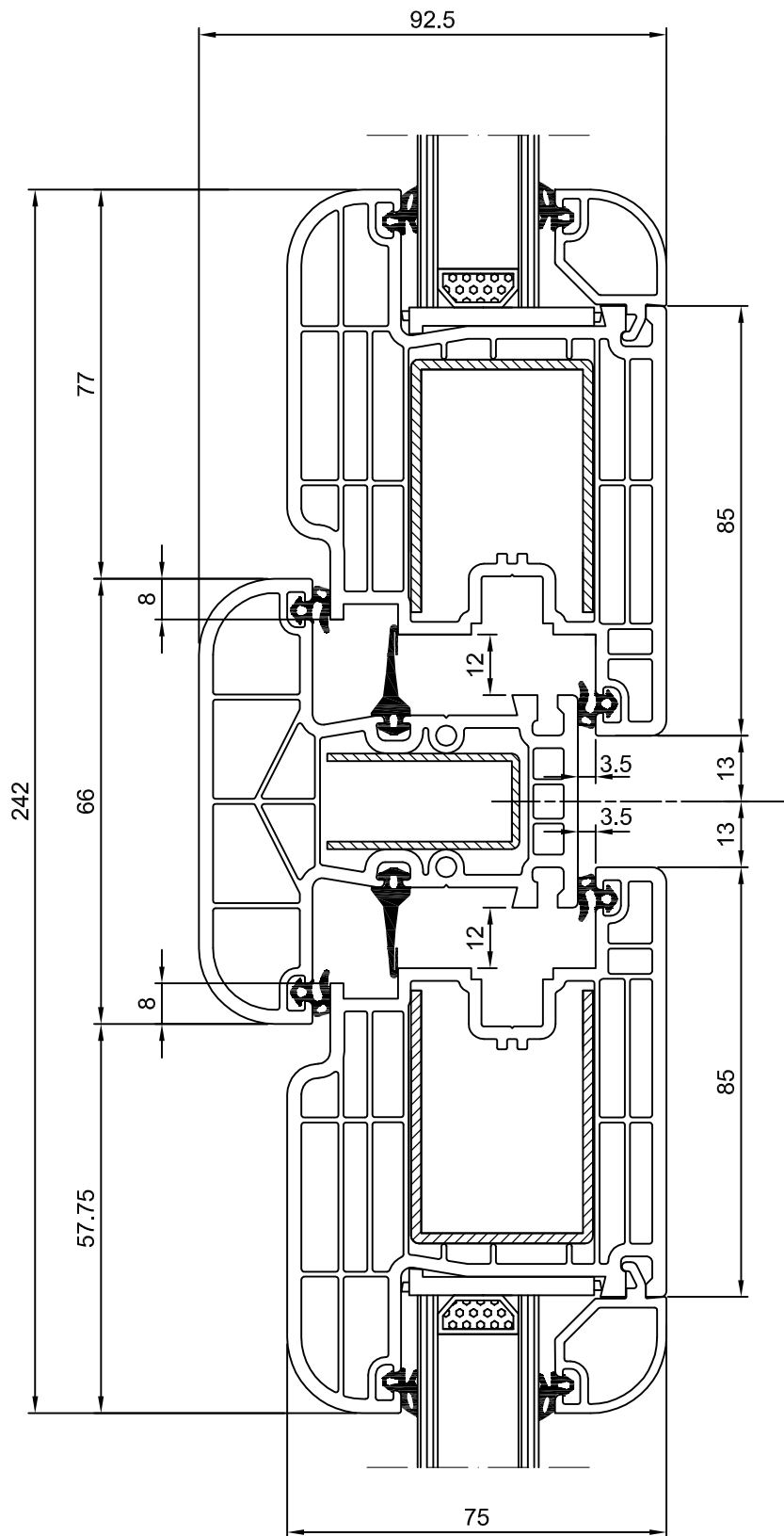
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 VK= VISINA KRILA
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 VS= VISINA STAKLA



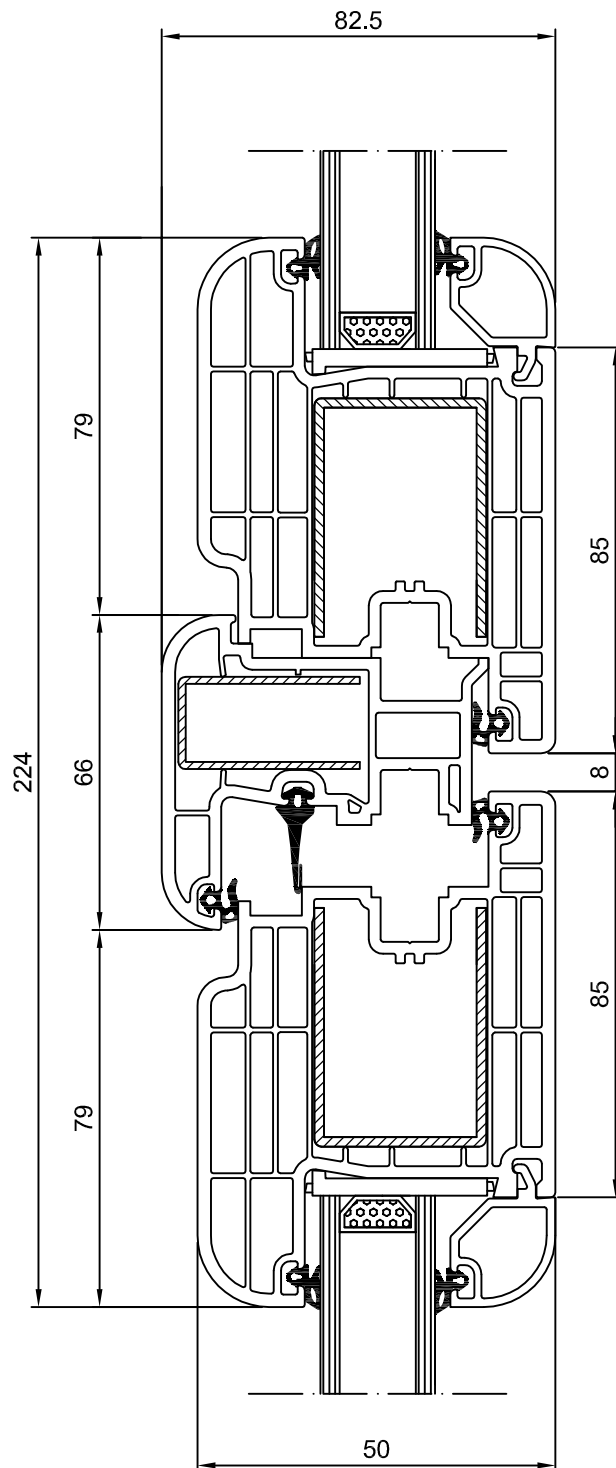
ULAZNA VRATA SA SPOLJAŠNJIM OTVARANJEM SISTEM 600



PRESEK VRATA KRILO-STUB-KRILO SISTEM 600



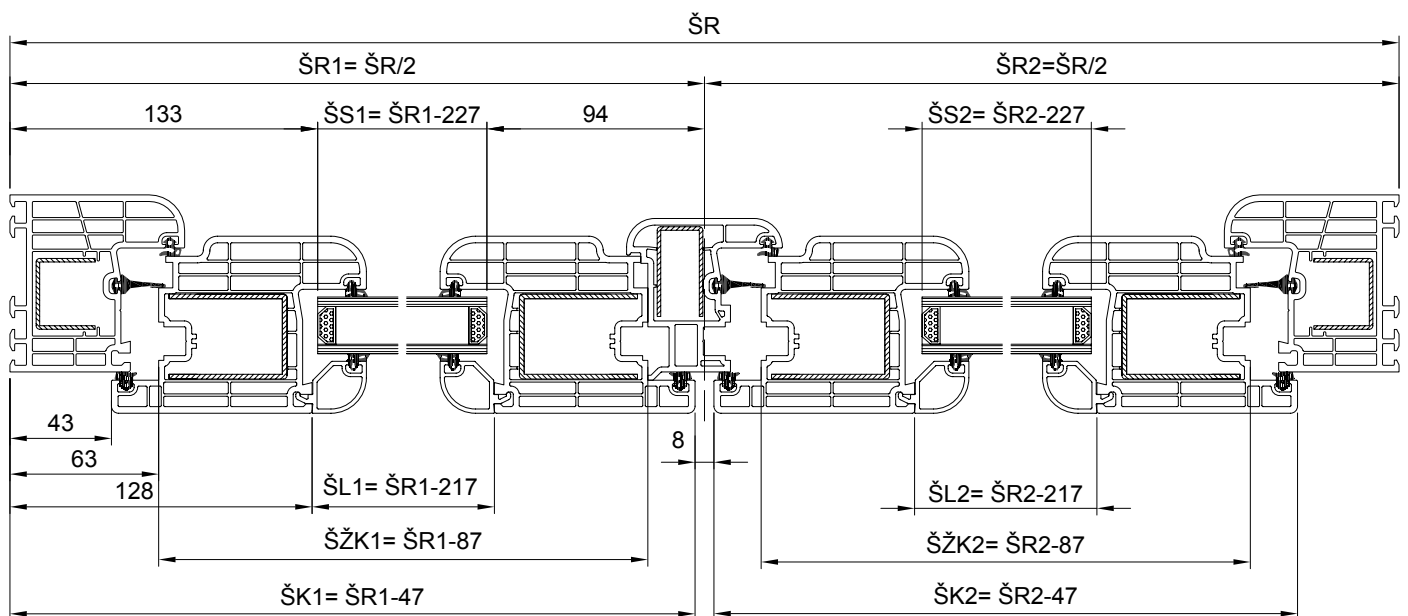
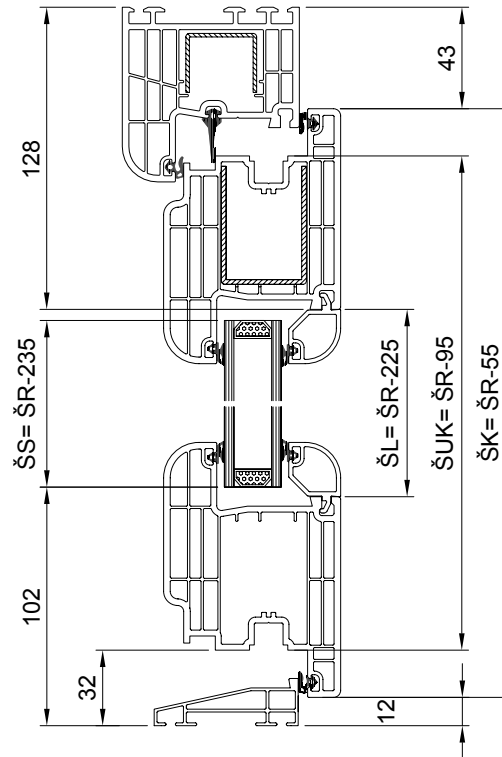
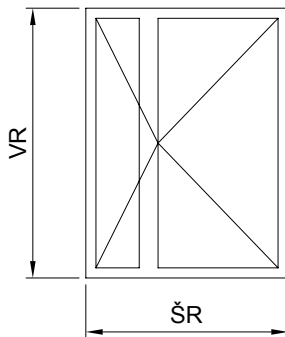
PRESEK VRATA
KRILO-PREKLOP-KRILO
SISTEM 600



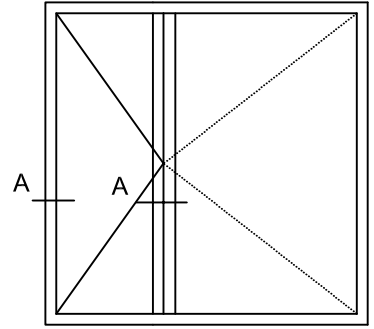
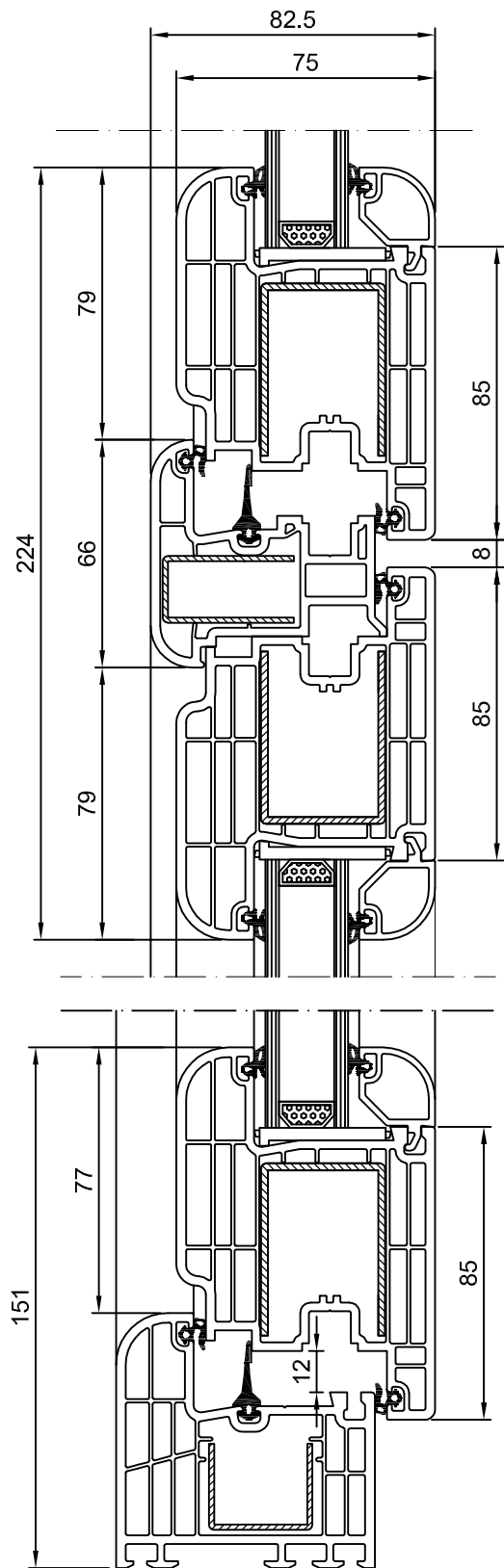
DVOKRILNA ULAZNA VRATA SISTEM 600

LEGENDA

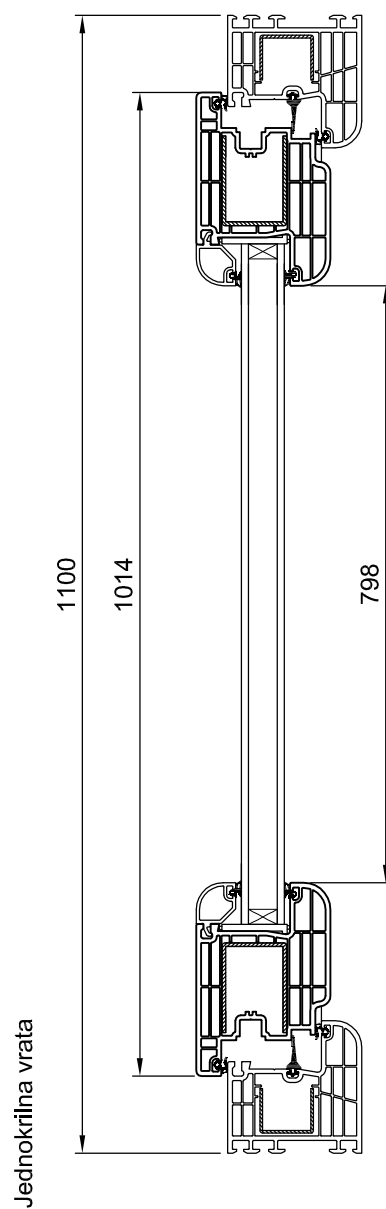
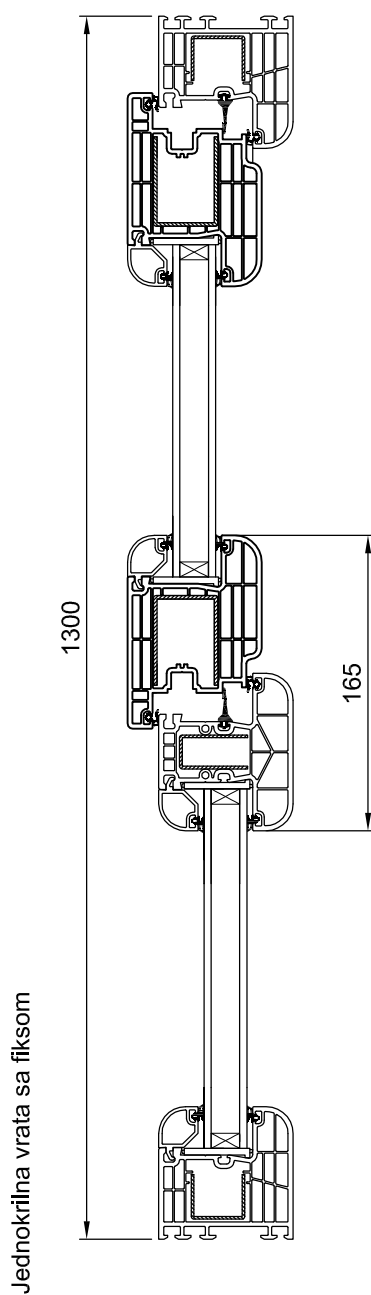
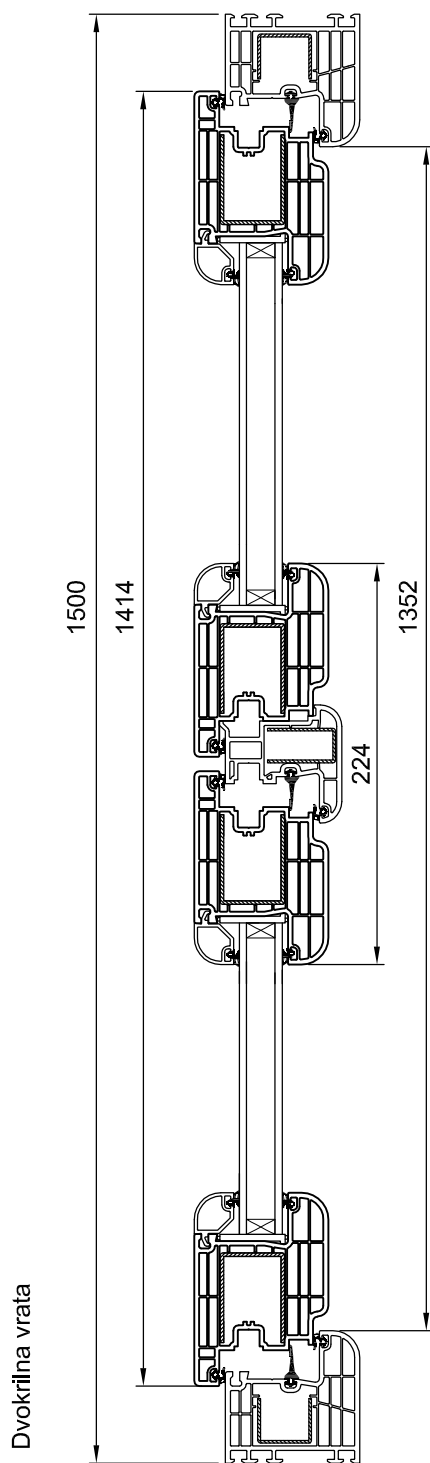
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 ŠK= ŠIRINA KRILA
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 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



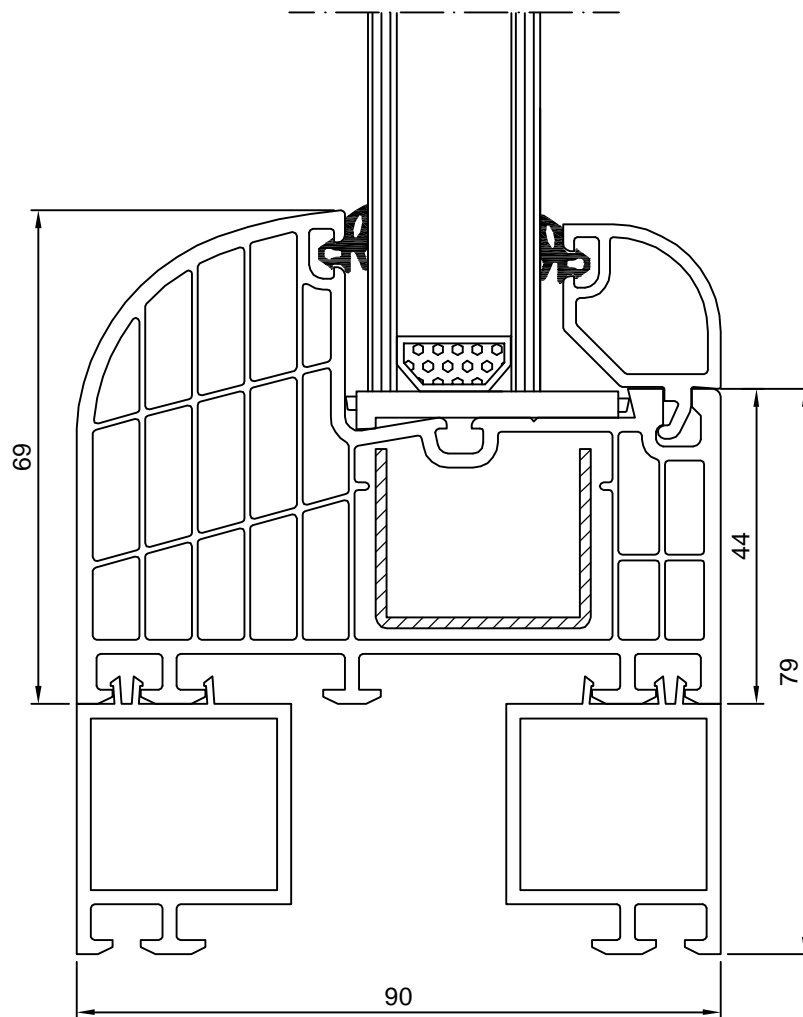
DVOKRILNA ULAZNA VRATA SISTEM 600



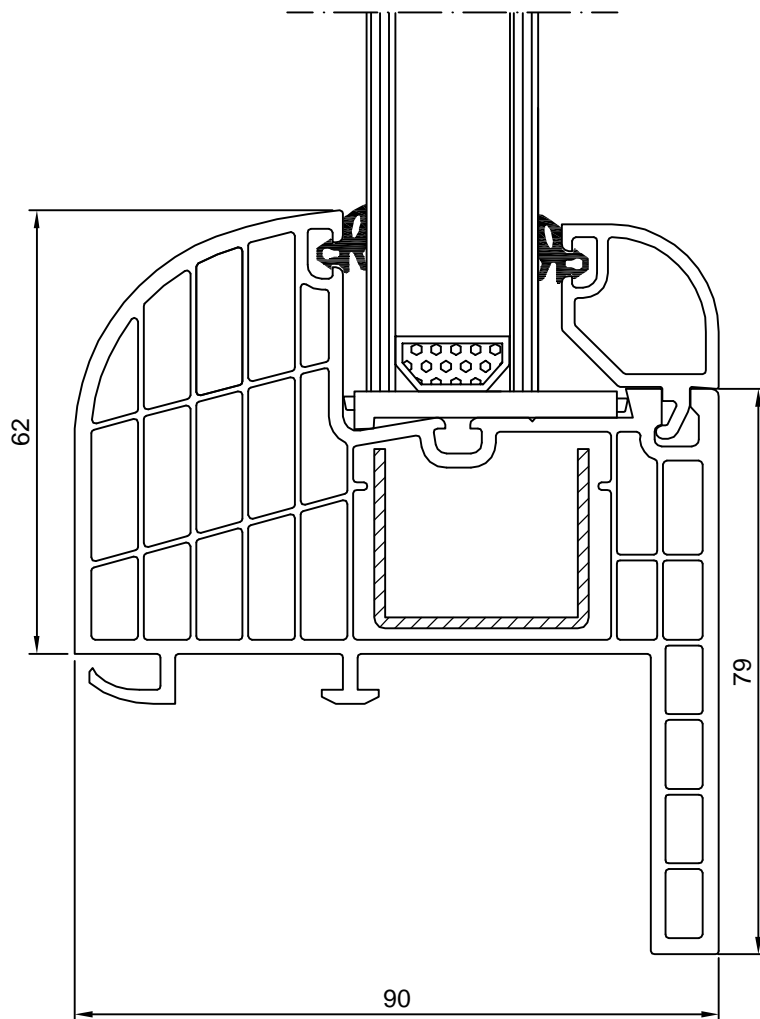
PRIKAZ MOGUĆNOSTI OTVARANJA ULAZNIH VRATA SISTEM 600



PRESEK PROZORA
NASTAVAK RAMA - RAM
SYSTEM 800



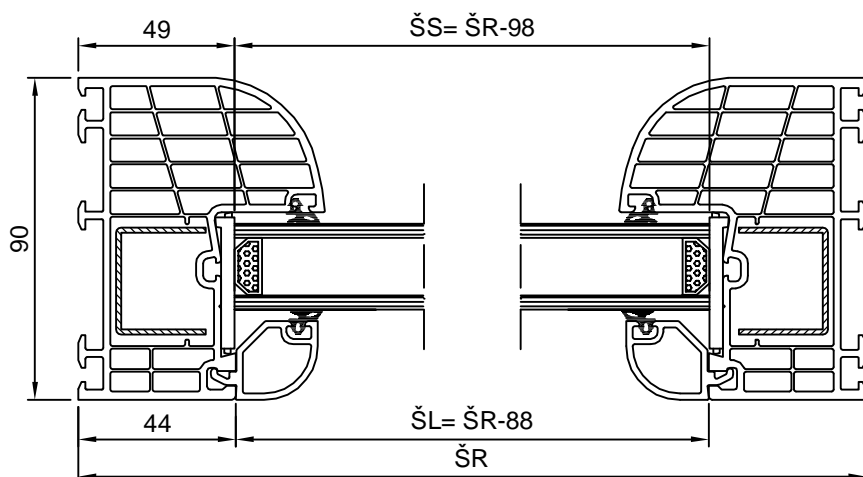
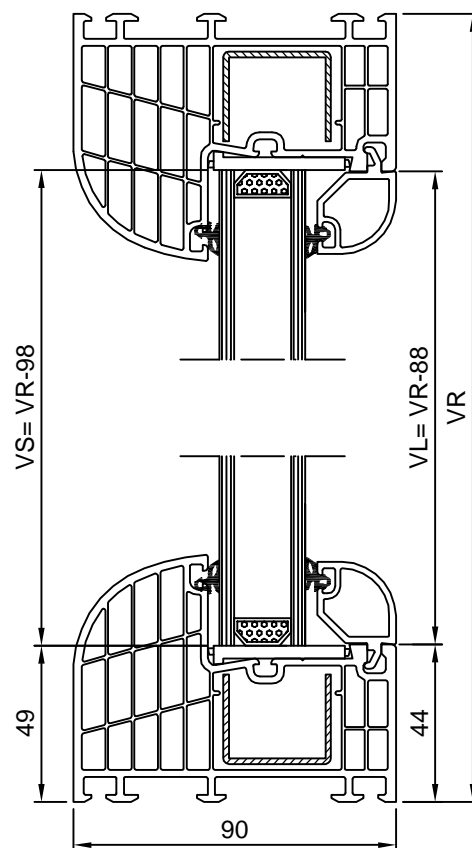
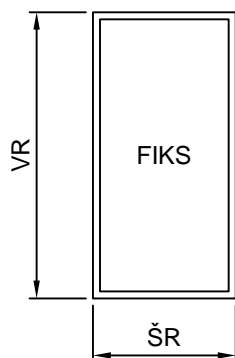
PRESEK PROZORA
RAM SA PEROM
SISTEM 800



FIKSNİ PROZOR SISTEM 800

LEGENDA

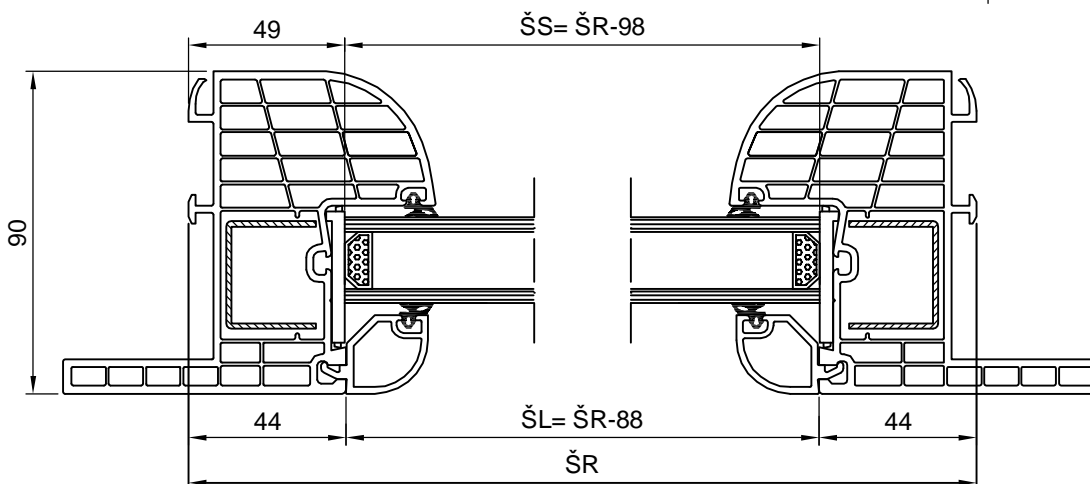
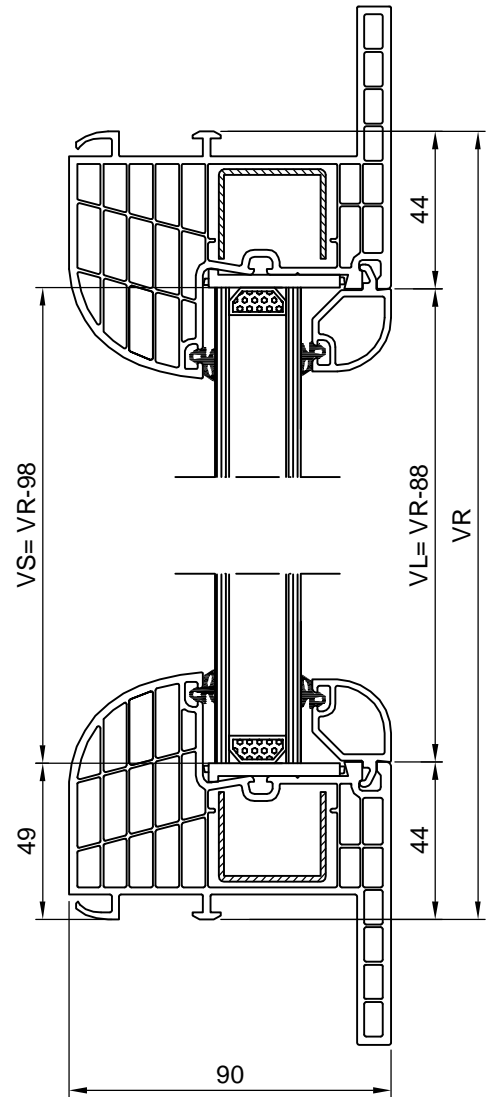
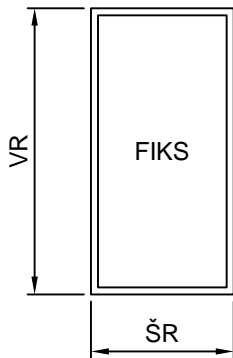
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VS= VISINA STAKLA



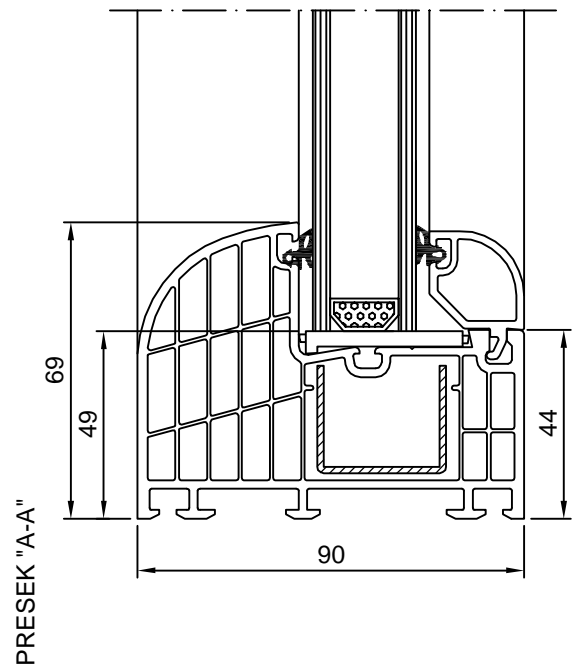
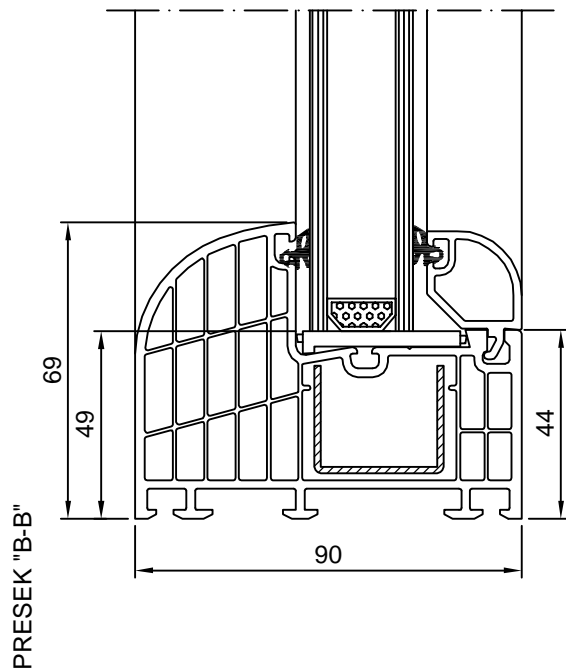
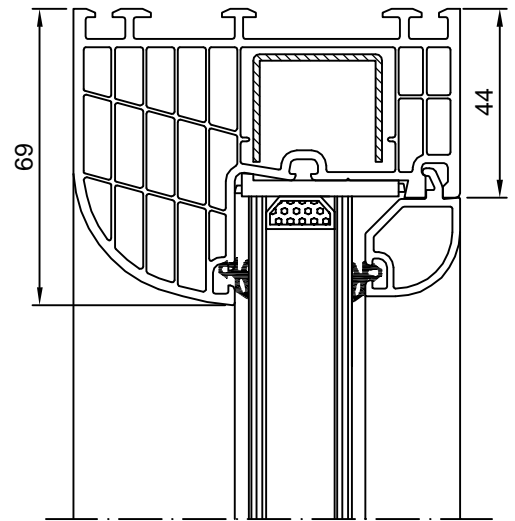
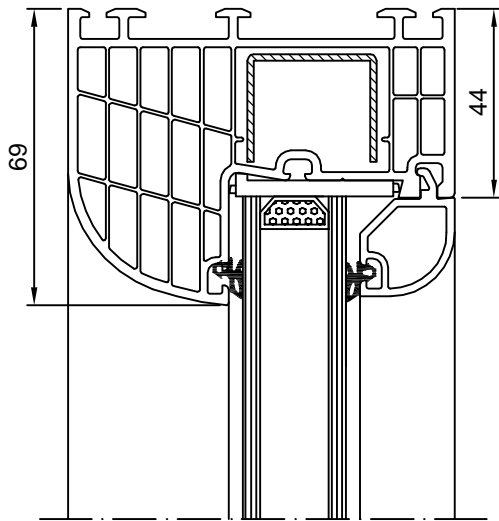
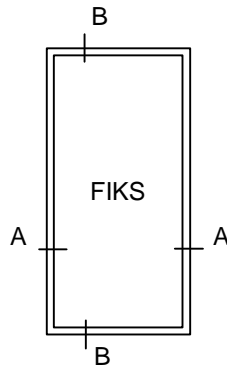
FIKSNİ PROZOR RAM SA PEROM SİSTEM 800

LEGENDA

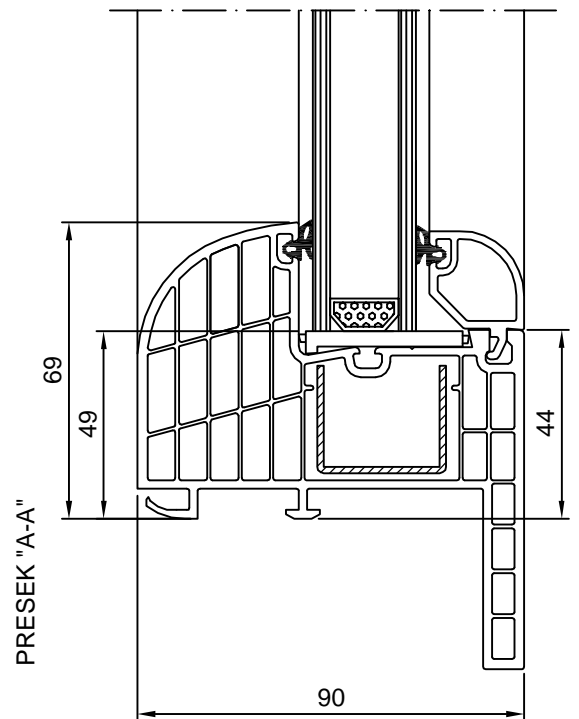
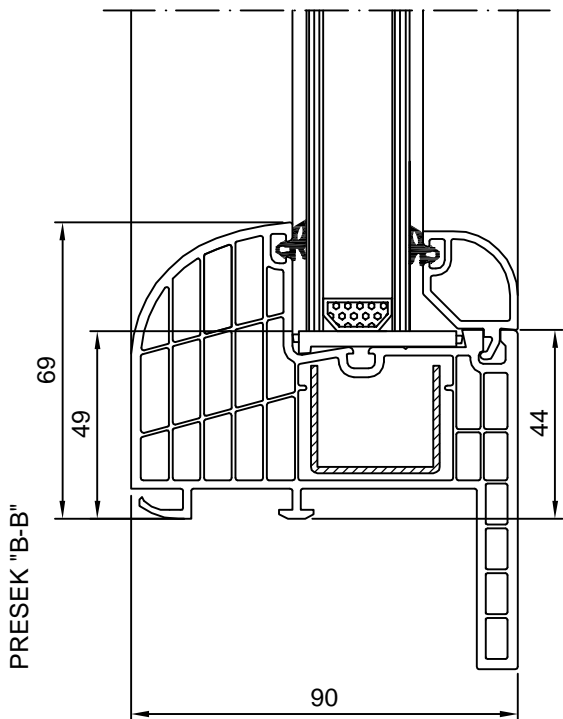
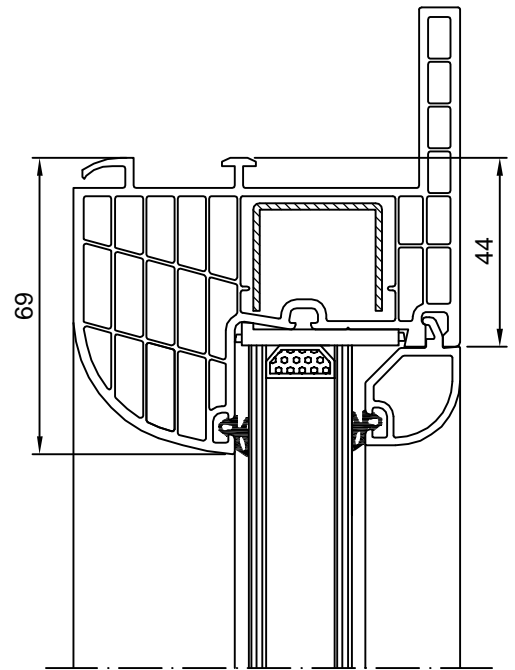
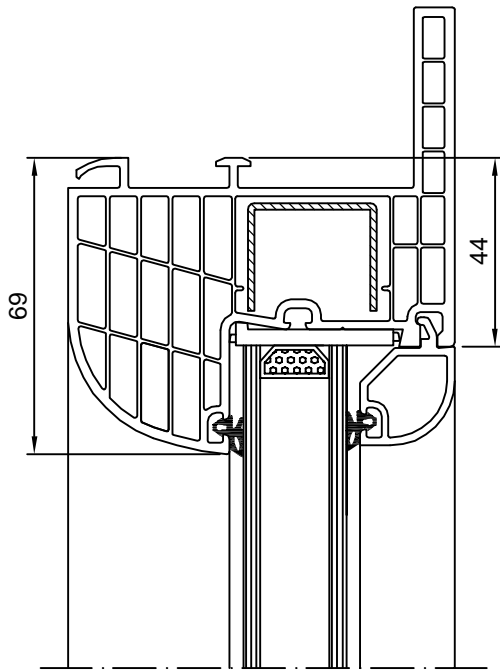
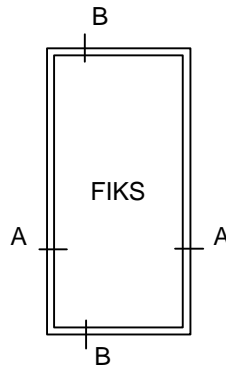
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 ŠS= ŠİRINA STAKLA
 VS= VISINA STAKLA



FIKSNI PROZOR SISTEM 800



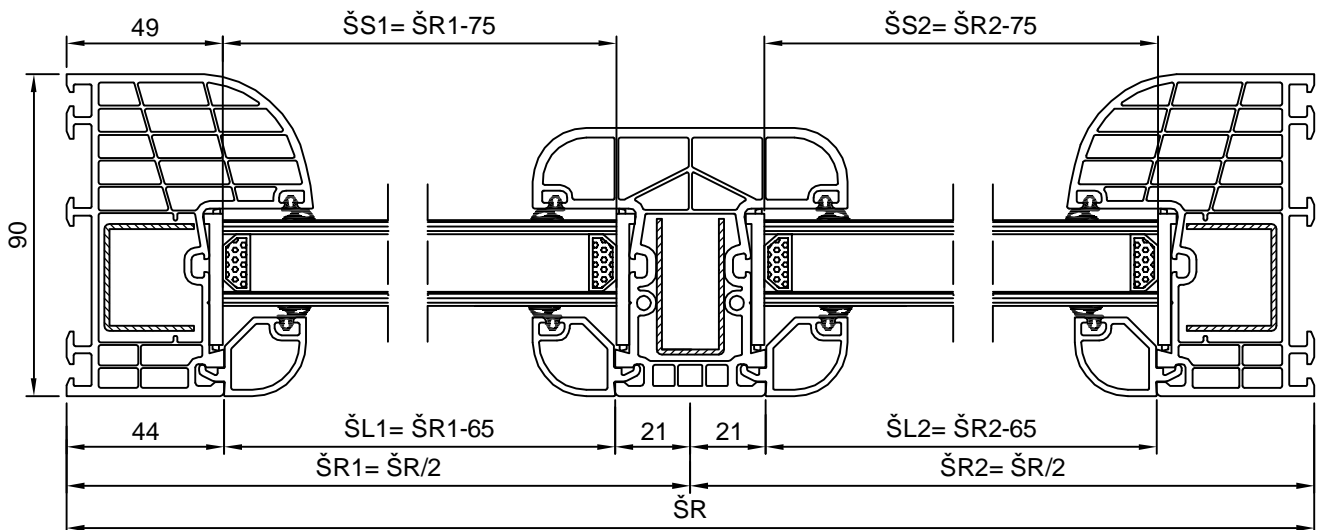
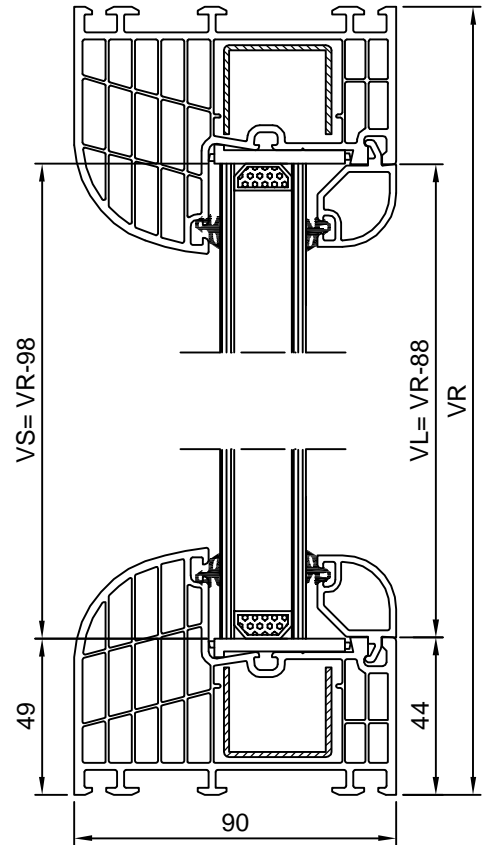
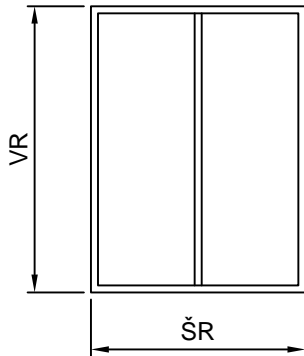
FIKSNI PROZOR RAM SA PEROM SISTEM 800



FIKSNİ PROZOR SA STUBOM SISTEM 800

LEGENDA

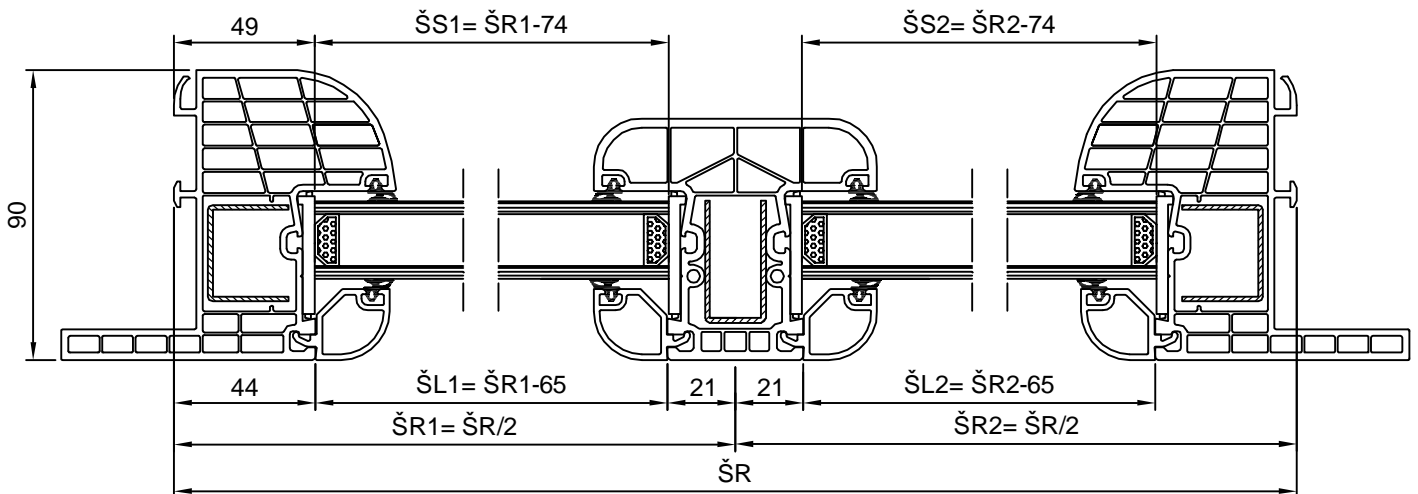
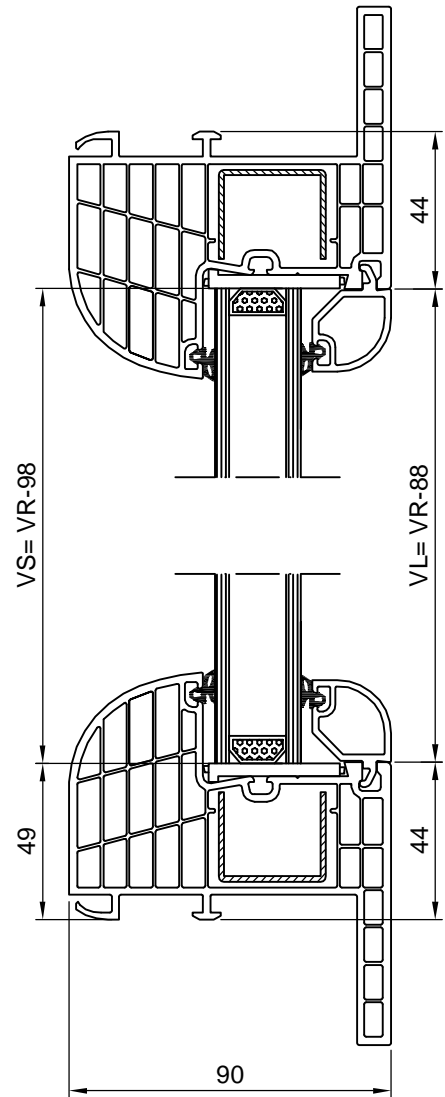
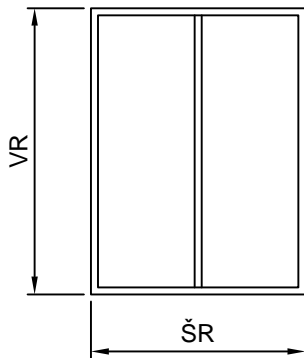
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VS= VISINA STAKLA



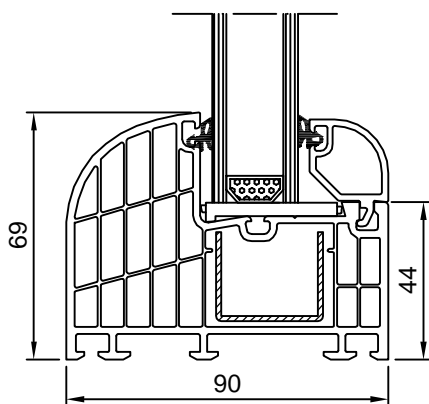
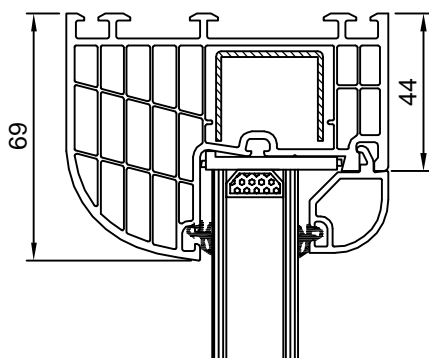
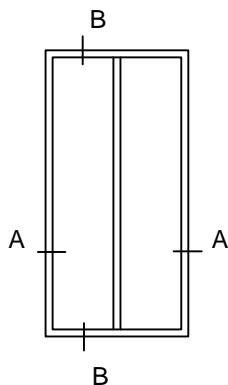
FIKSNI PROZOR SA STUBOM RAM SA PEROM SISTEM 800

LEGENDA

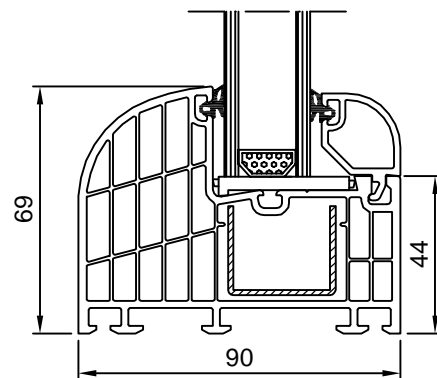
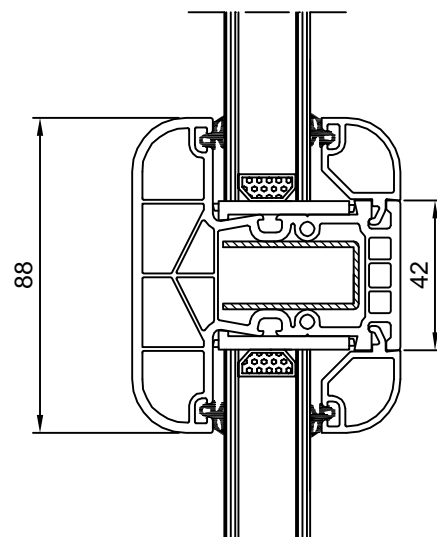
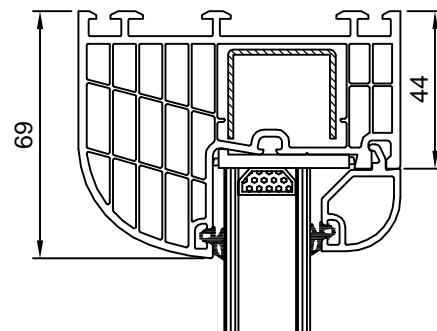
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FIKSNI PROZOR SA STUBOM SISTEM 800

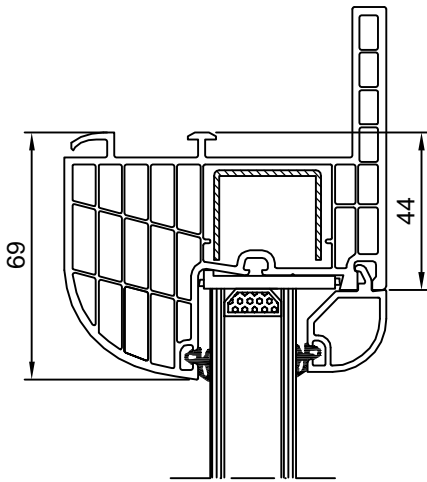
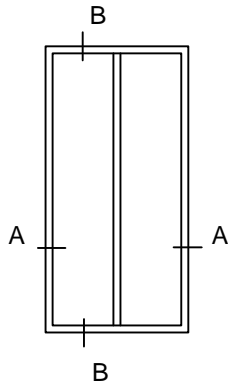


PRESEK "B-B"

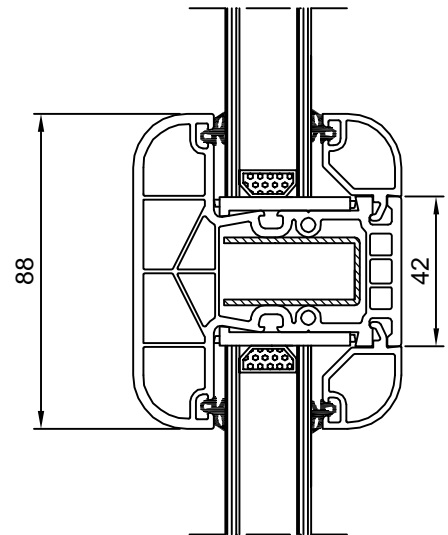
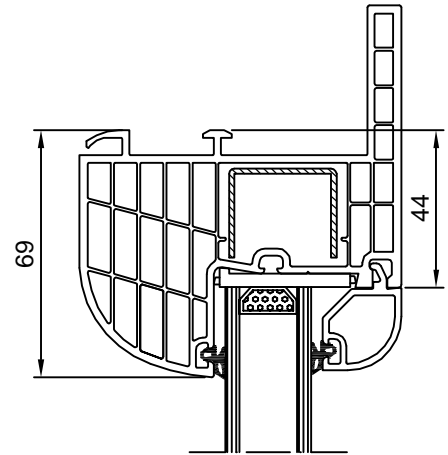
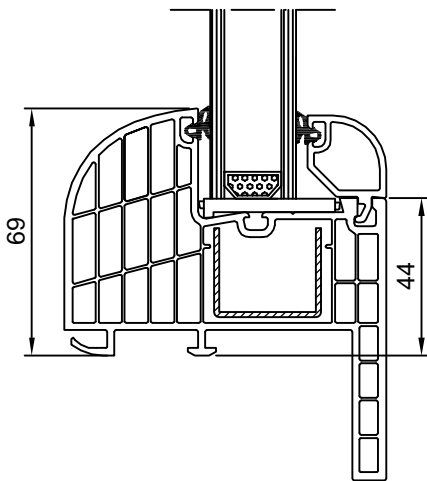


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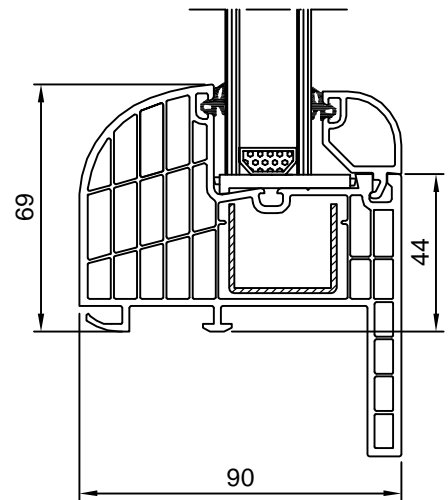
FIKSNI PROZOR SA STUBOM RAM SA PEROM SISTEM 800



PRESEK "B-B"



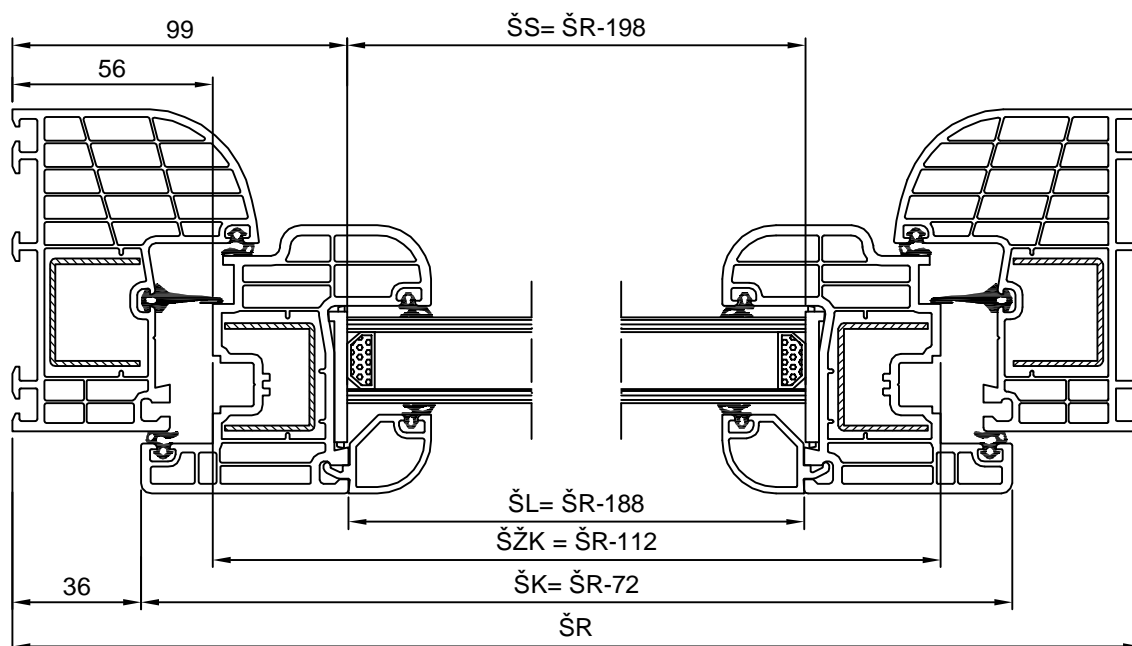
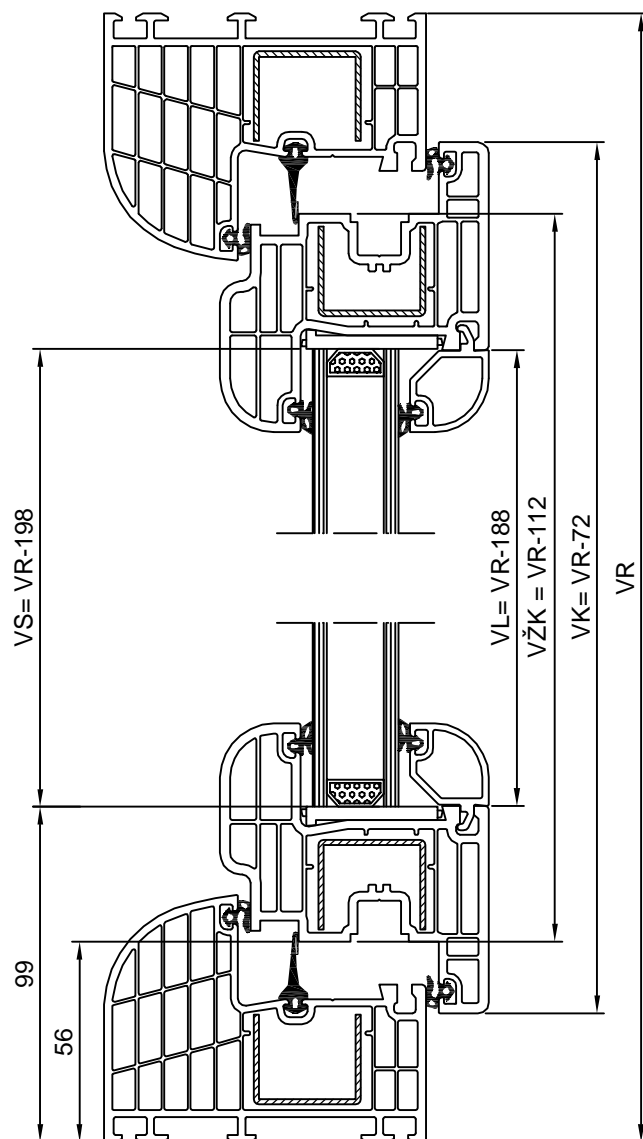
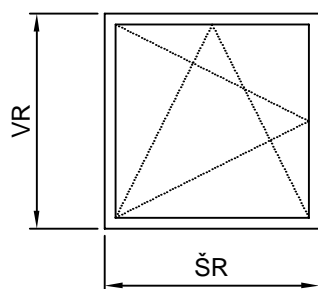
PRESEK "A-A"



JEDNOKRILNI PROZOR SISTEM 800

LEGENDA

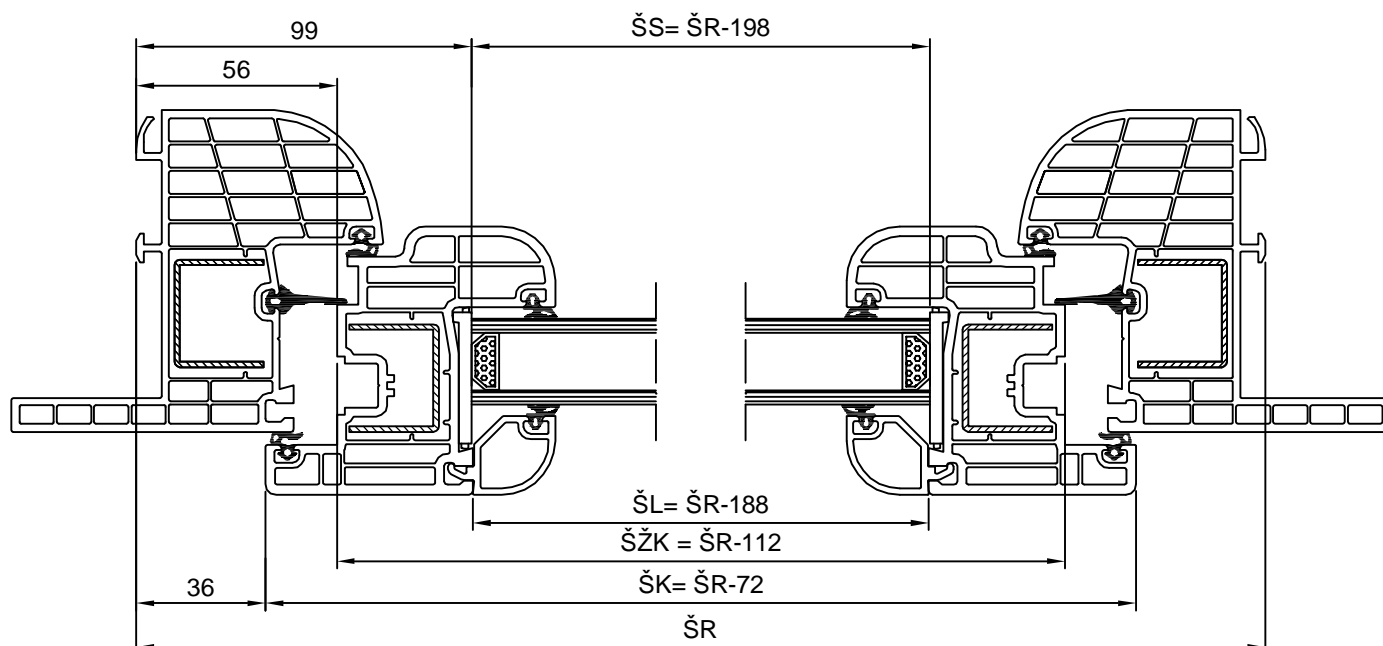
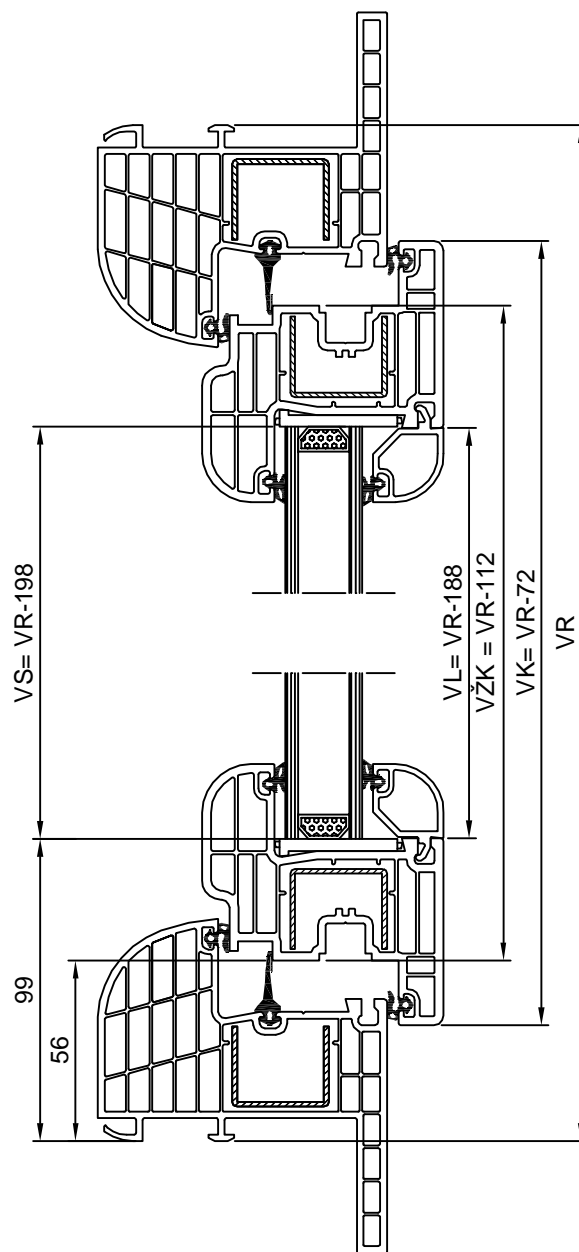
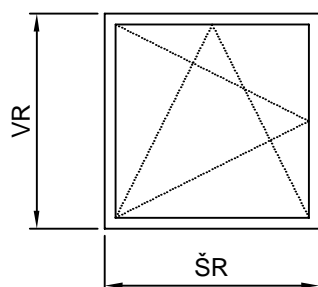
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 VR= VISINA RAMA
 ŠK= ŠIRINA KRILA
 VK= VISINA KRILA
 ŠŽK= ŠIRINA ŽLEBA KRILA
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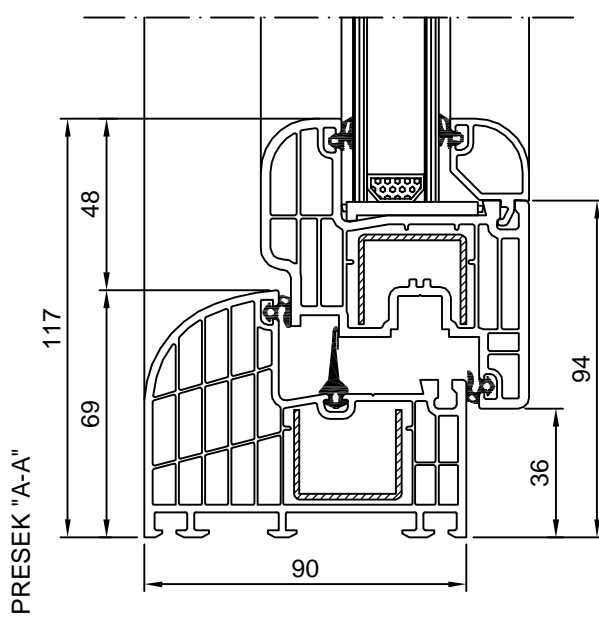
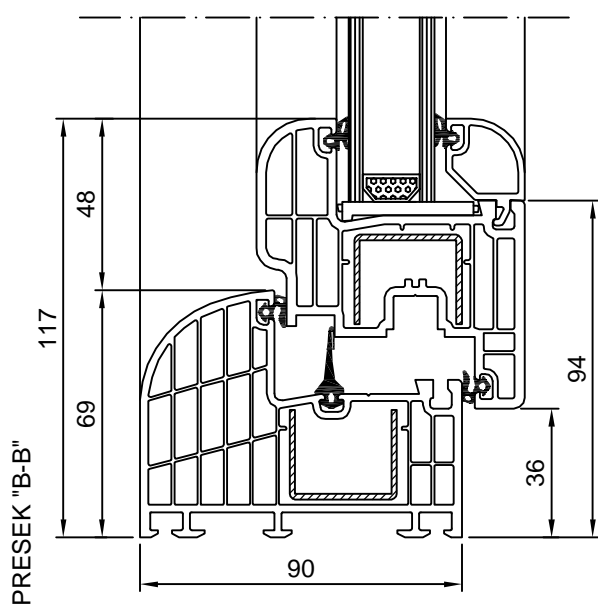
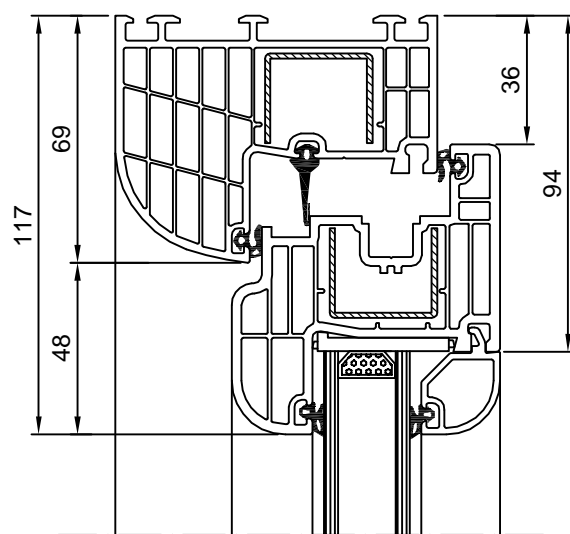
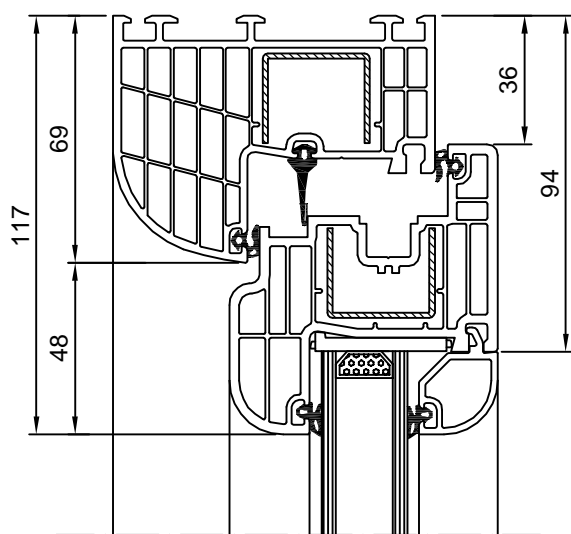
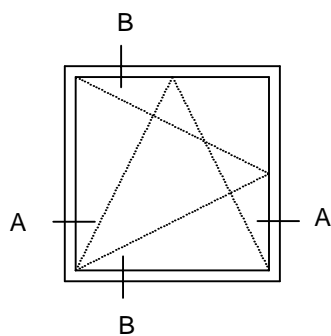
JEDNOKRILNI PROZOR RAM SA PEROM SISTEM 800

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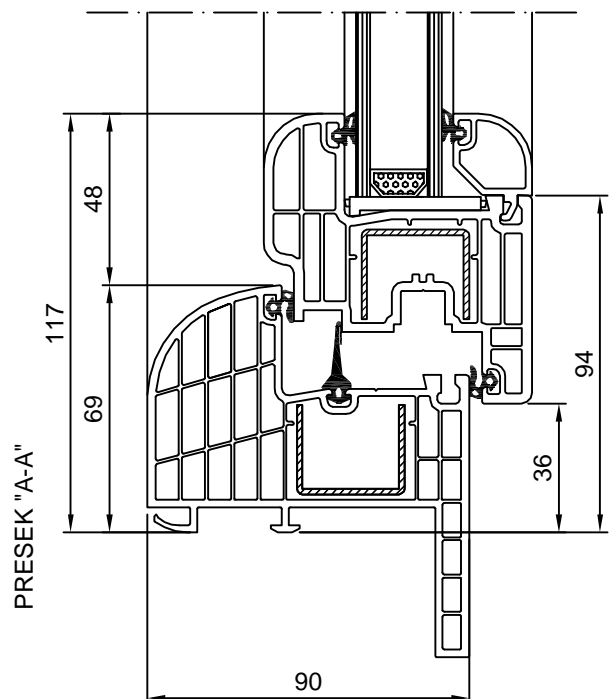
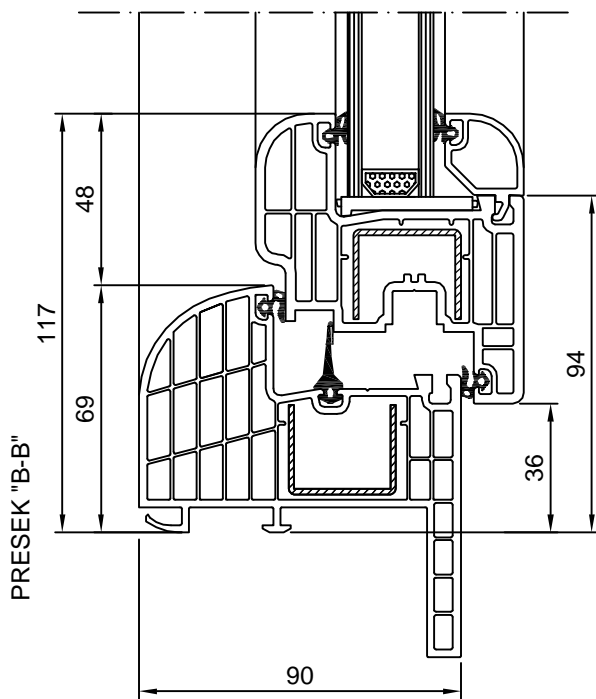
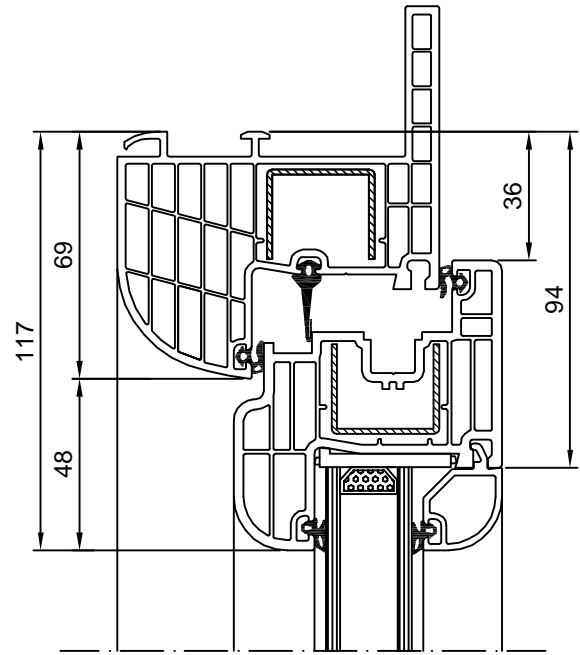
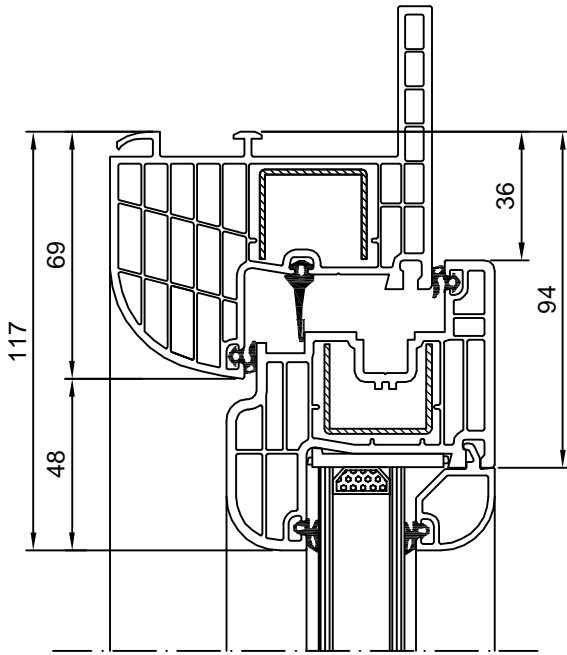
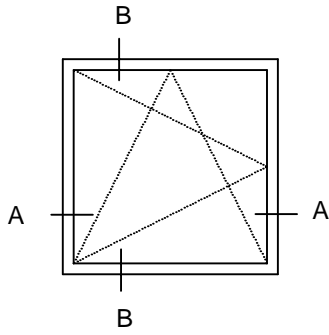
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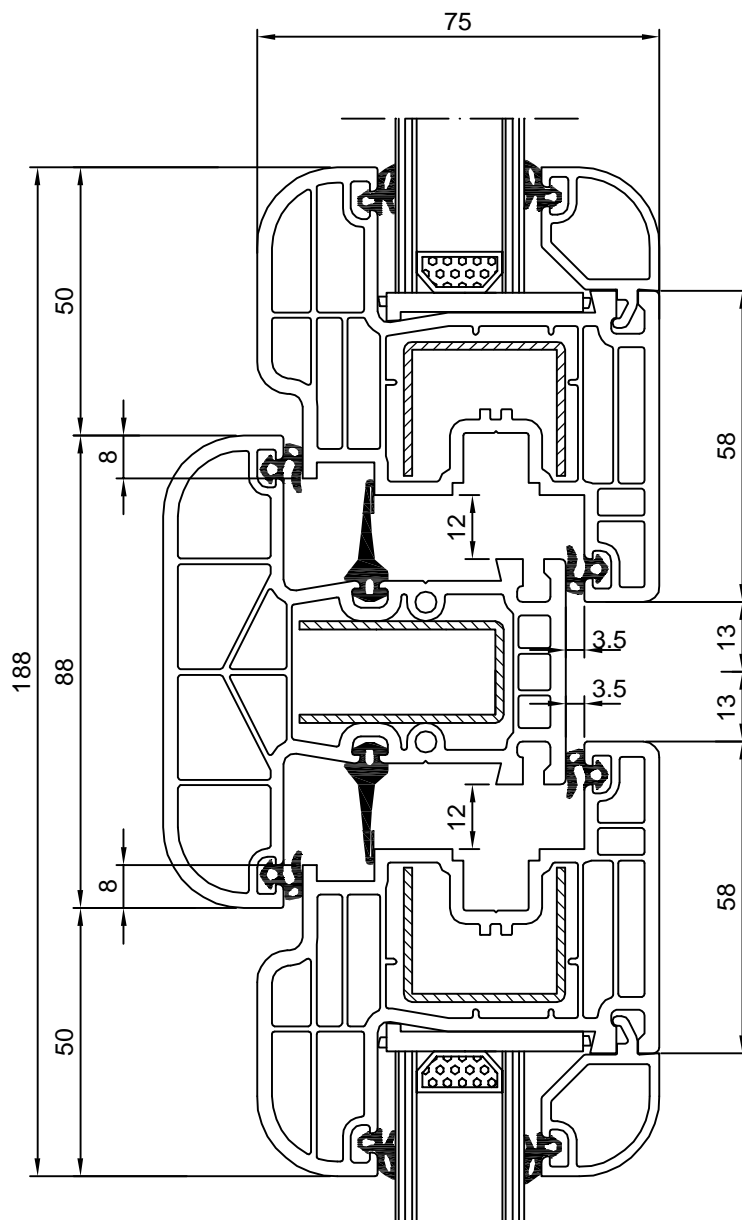
JEDNOKRILNI PROZOR SISTEM 800



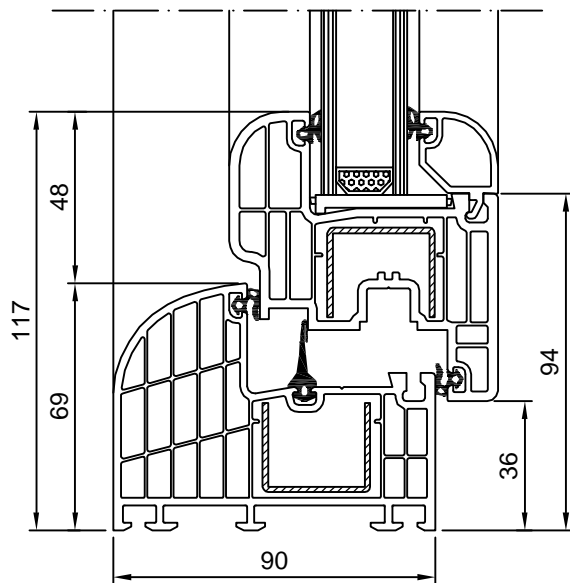
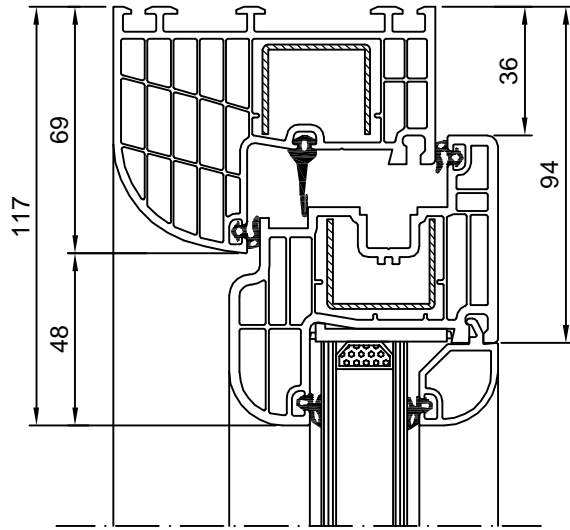
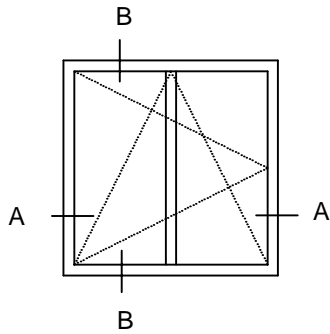
JEDNOKRILNI PROZOR RAM SA PEROM SISTEM 800



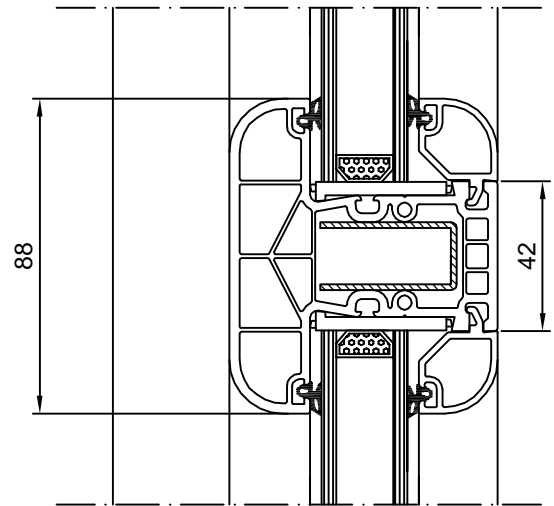
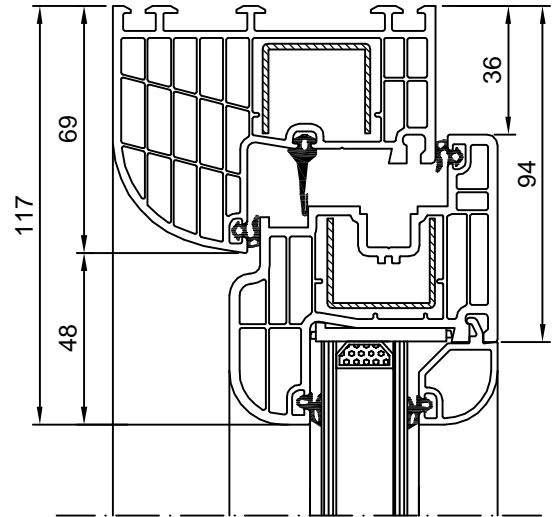
PRESEK PROZORA KRILO-STUB-KRILO SISTEM 600/800



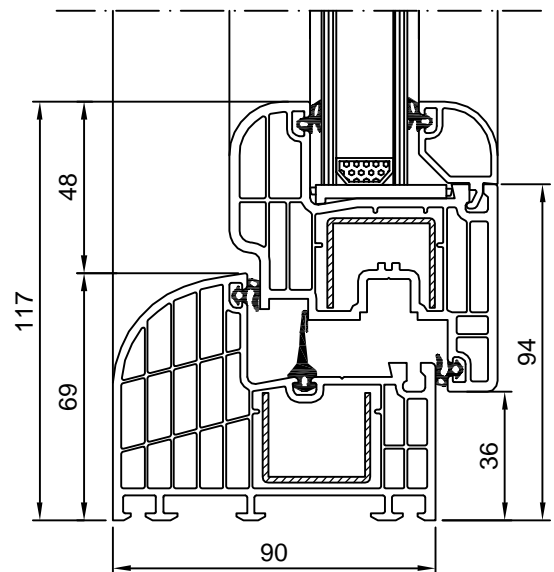
JEDNOKRILNI PROZOR SA STUBOM SISTEM 800



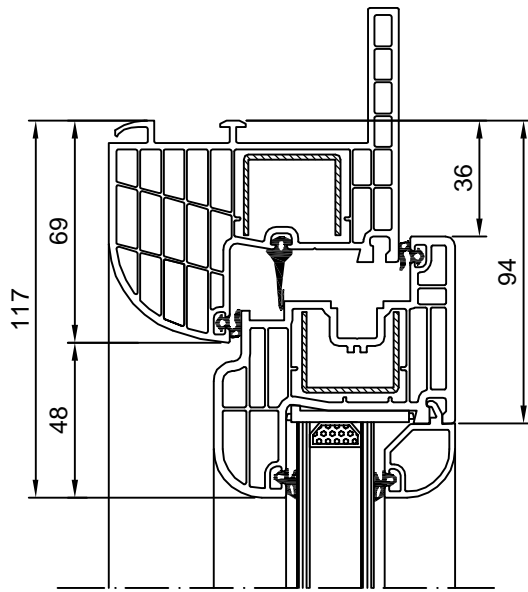
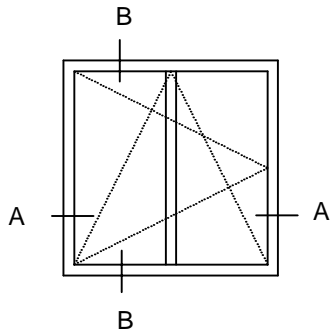
PRESEK "B-B"



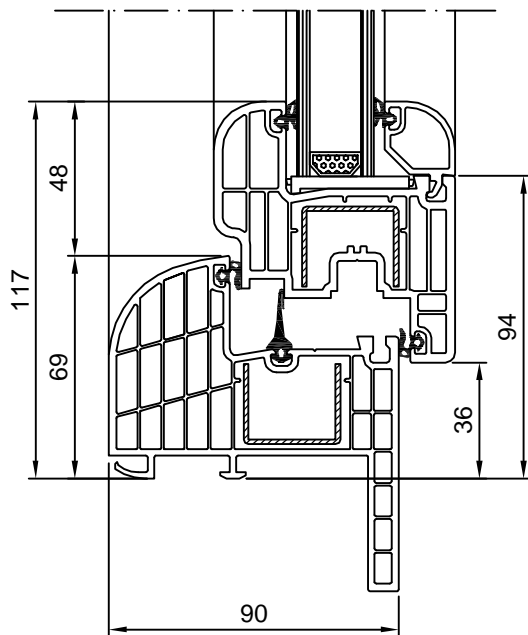
PRESEK "A-A"



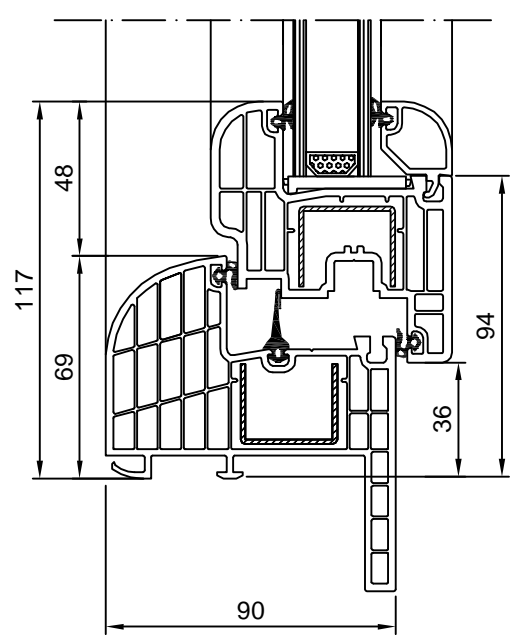
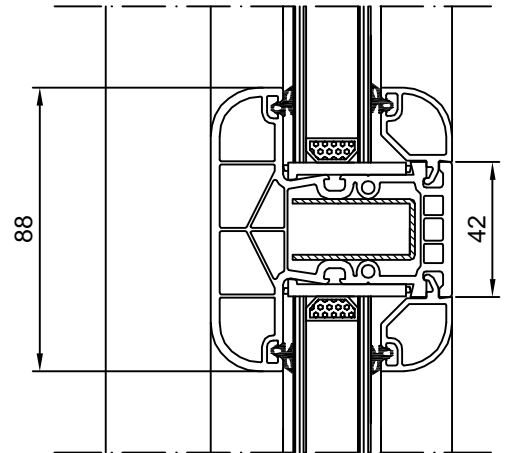
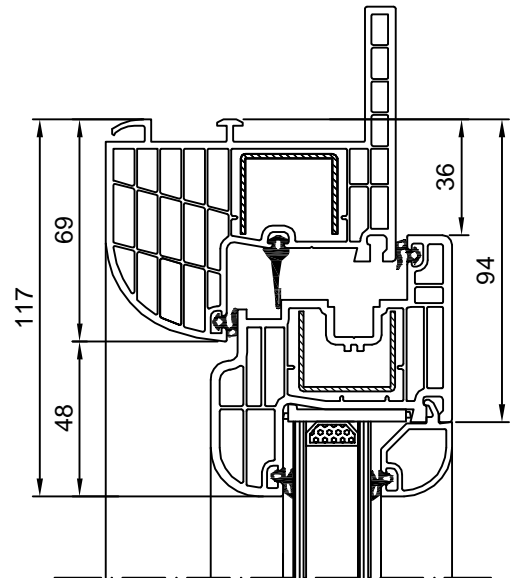
JEDNOKRILNI PROZOR SA STUBOM RAM SA PEROM SISTEM 800



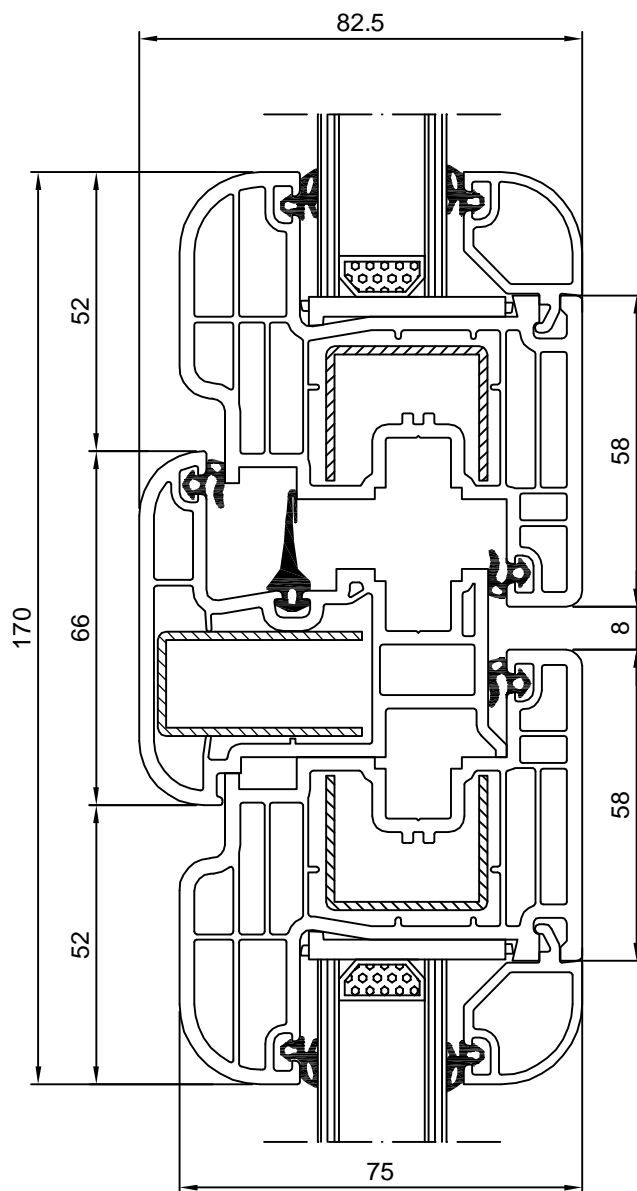
PRESEK "B-B"



PRESEK "A-A"



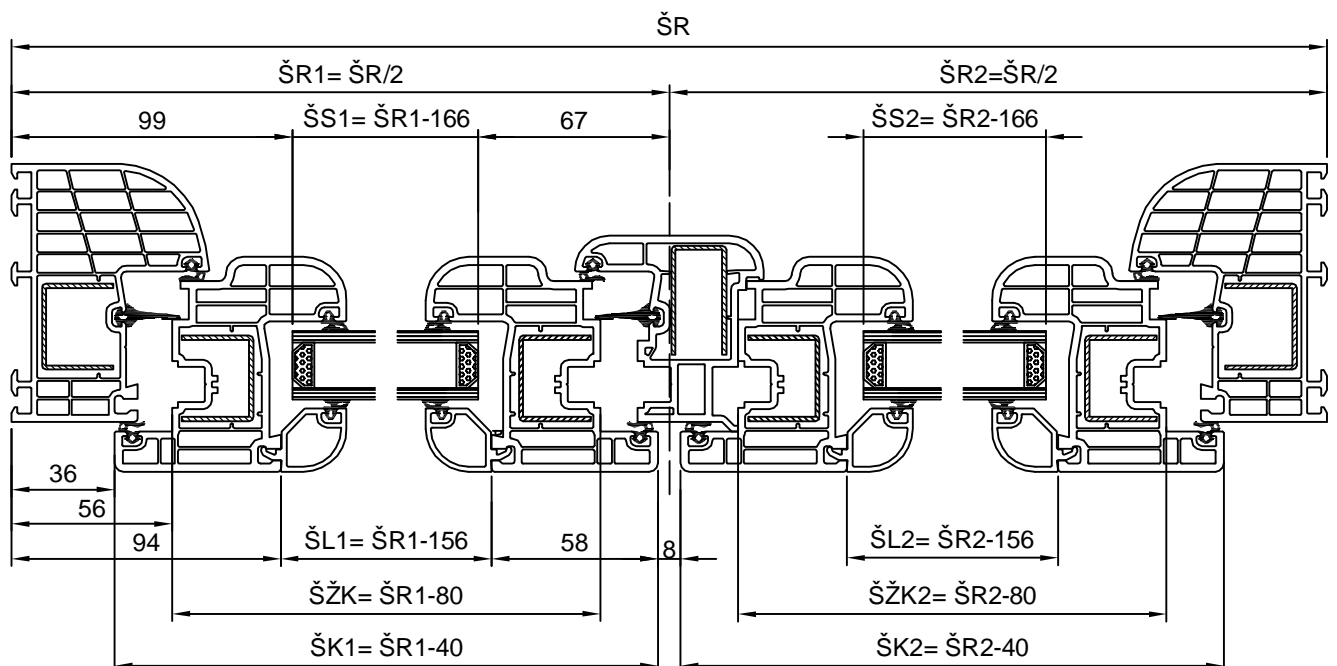
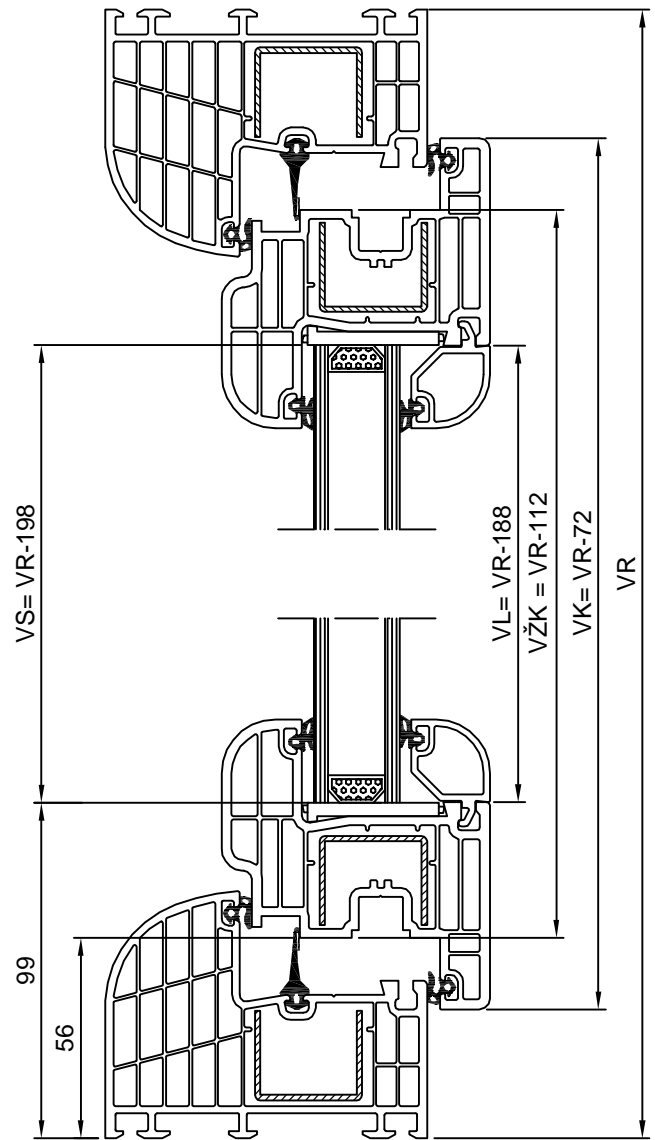
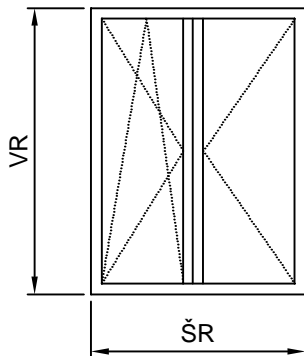
PRESEK PROZORA
KRILO-PREKLOP-KRILO
SISTEM 600/800



DVOKRILNI PROZOR SA PREKLOPOM SISTEM 800

LEGENDA

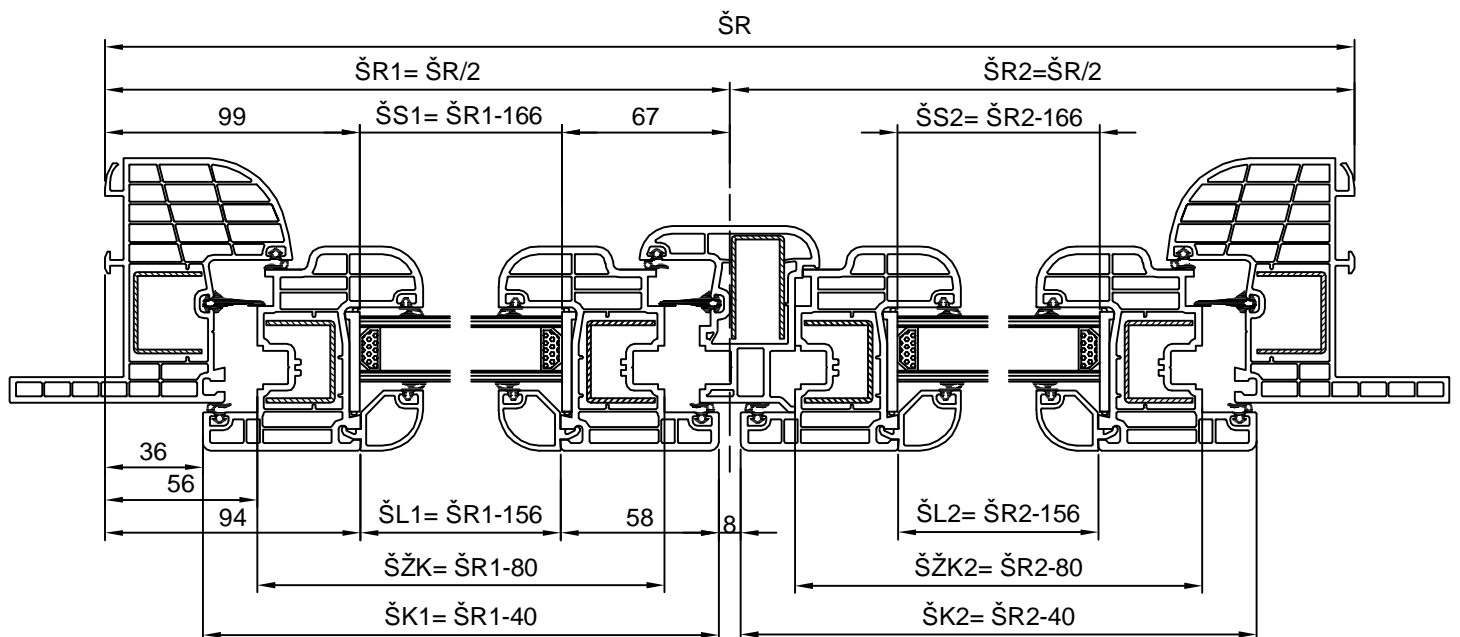
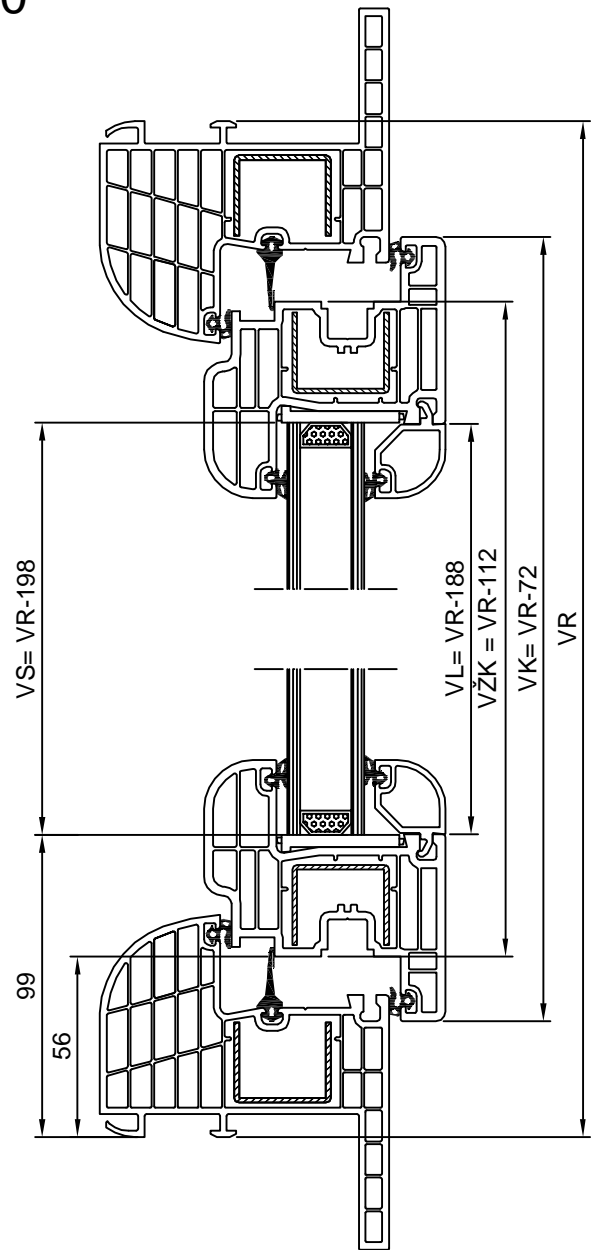
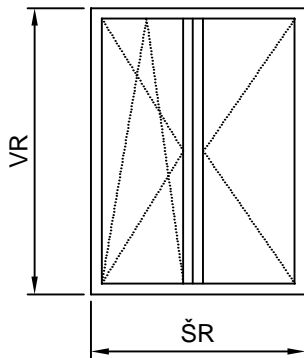
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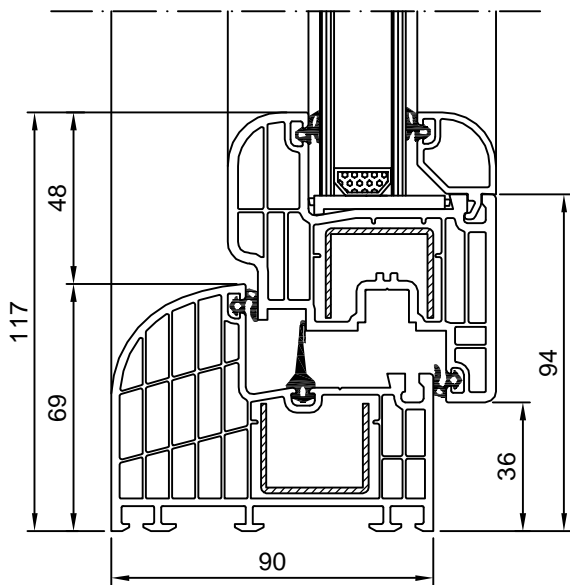
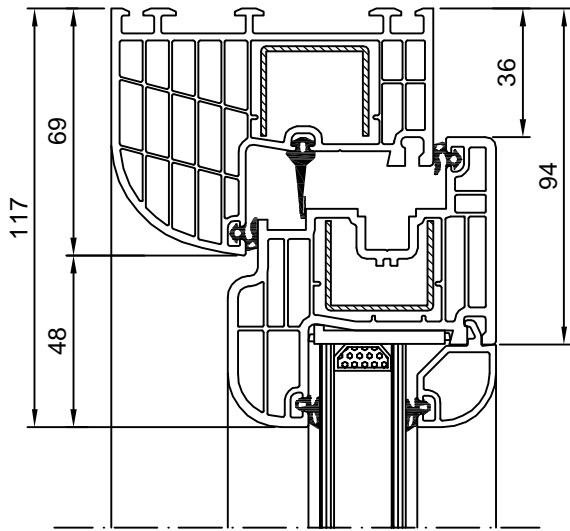
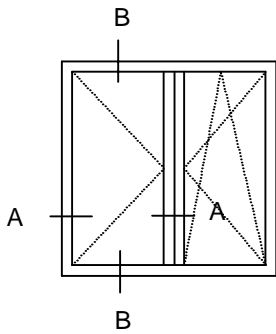
DVOKRILNI PROZOR SA PREKLOPOM RAM SA PEROM SISTEM 800

LEGENDA

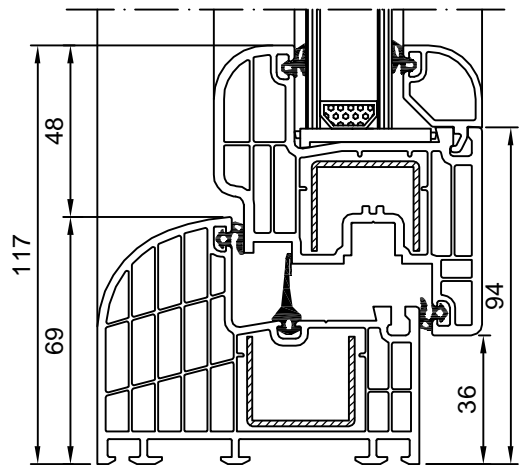
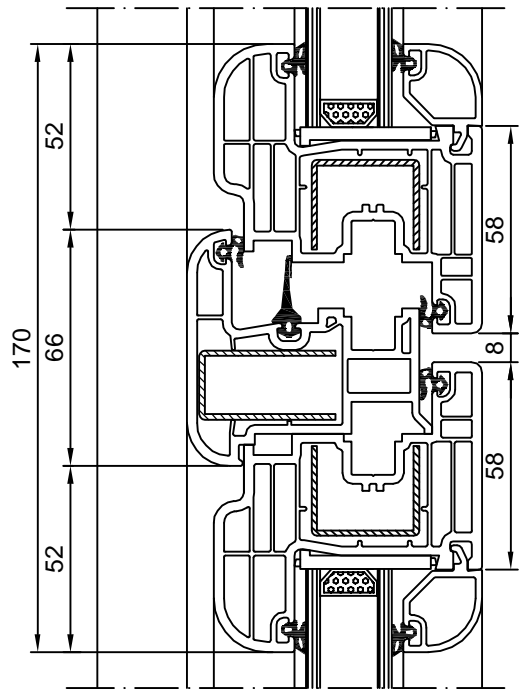
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DVOKRILNI PROZOR SA PREKLOPOM SISTEM 800

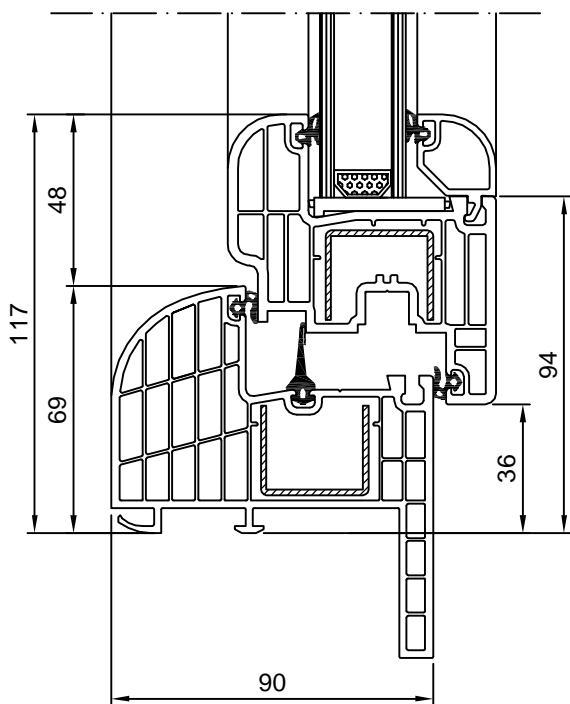
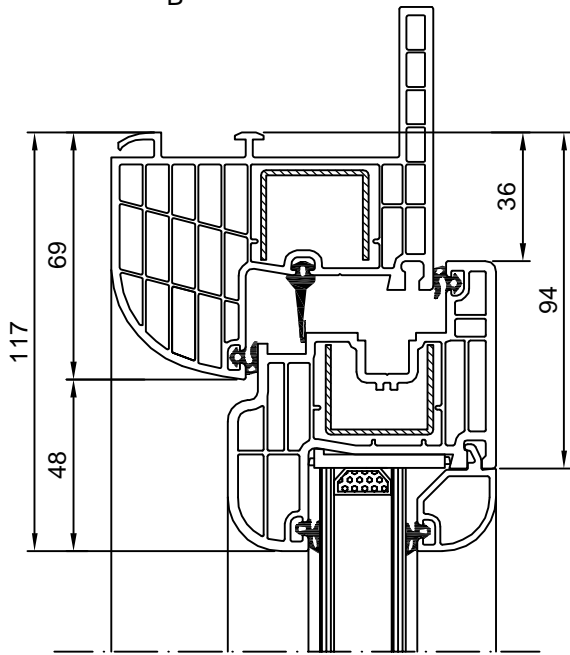
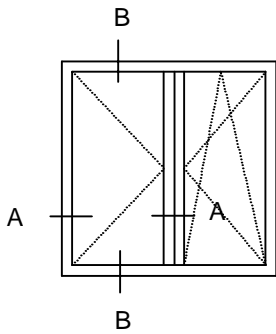


PRESEK "B-B"

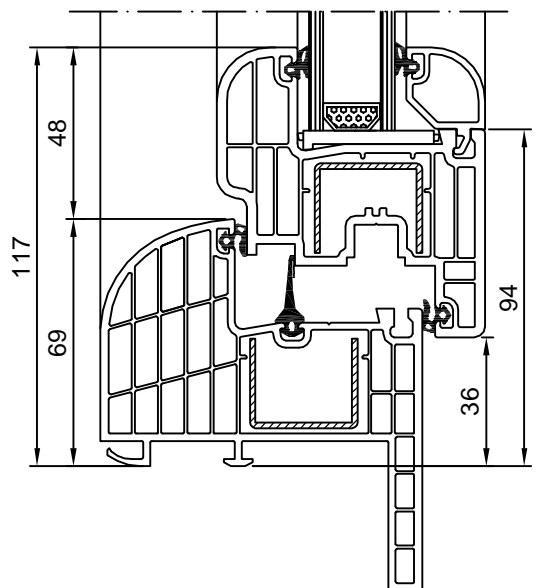
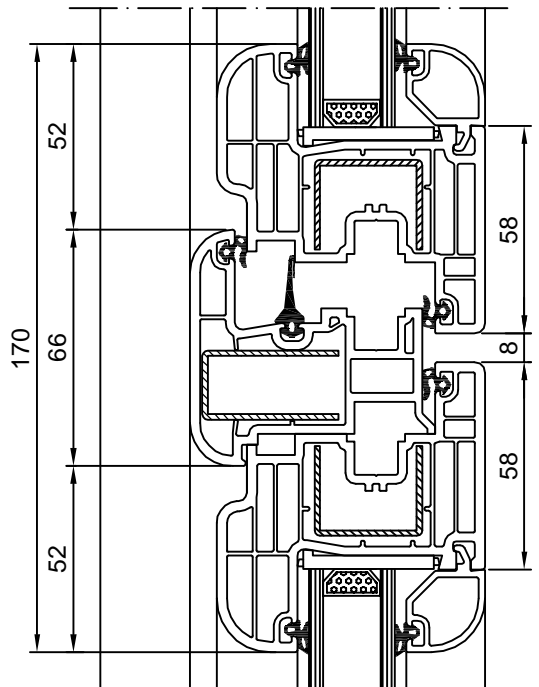


PRESEK "A-A"

DVOKRILNI PROZOR SA PREKLOPOM RAM SA PEROM SISTEM 800



PRESEK "B-B"

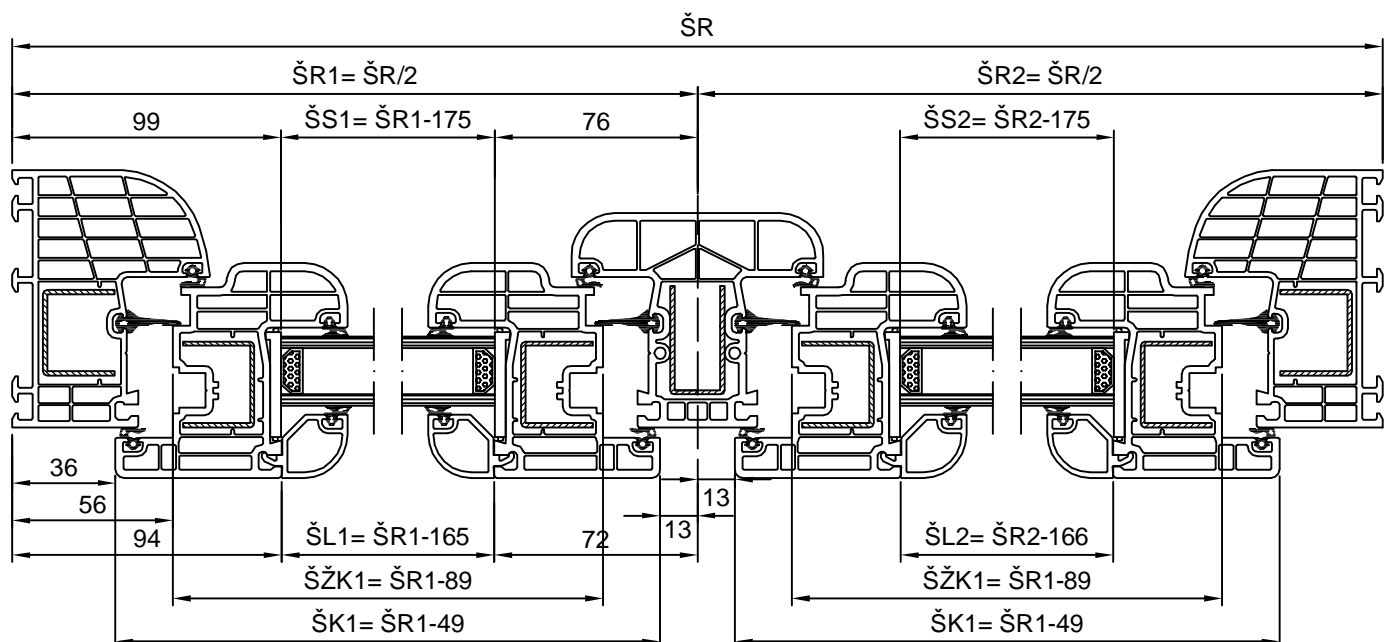
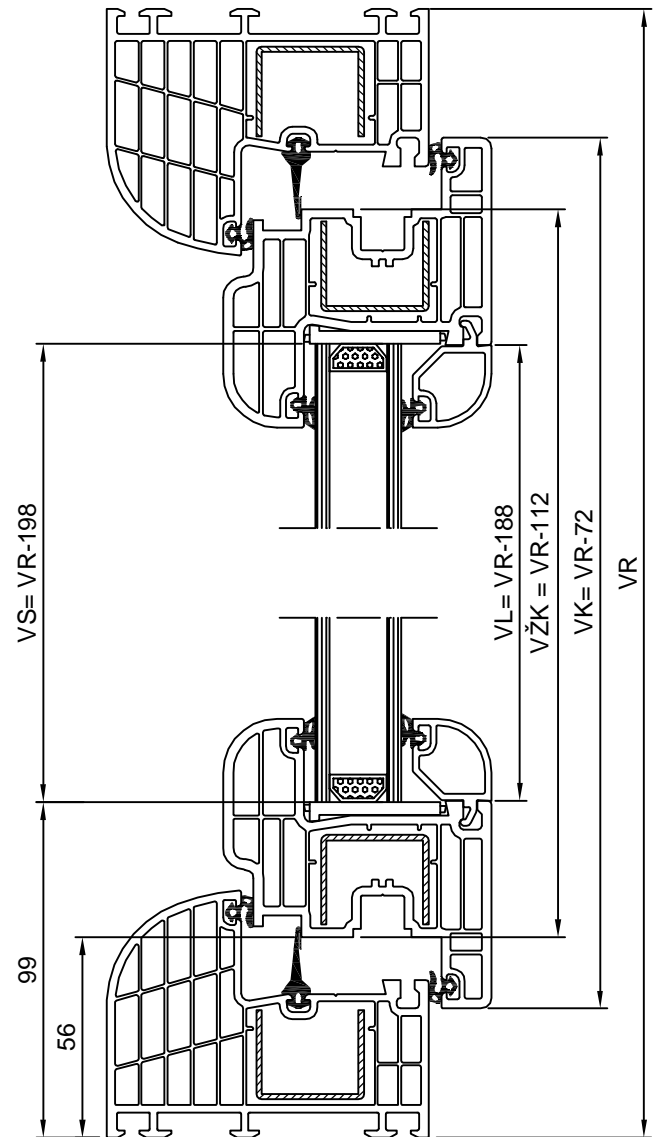
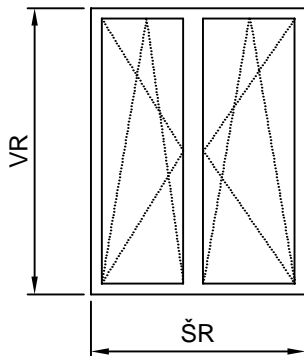


PRESEK "A-A"

DVOKRILNI PROZOR SA STUBOM SISTEM 800

LEGENDA

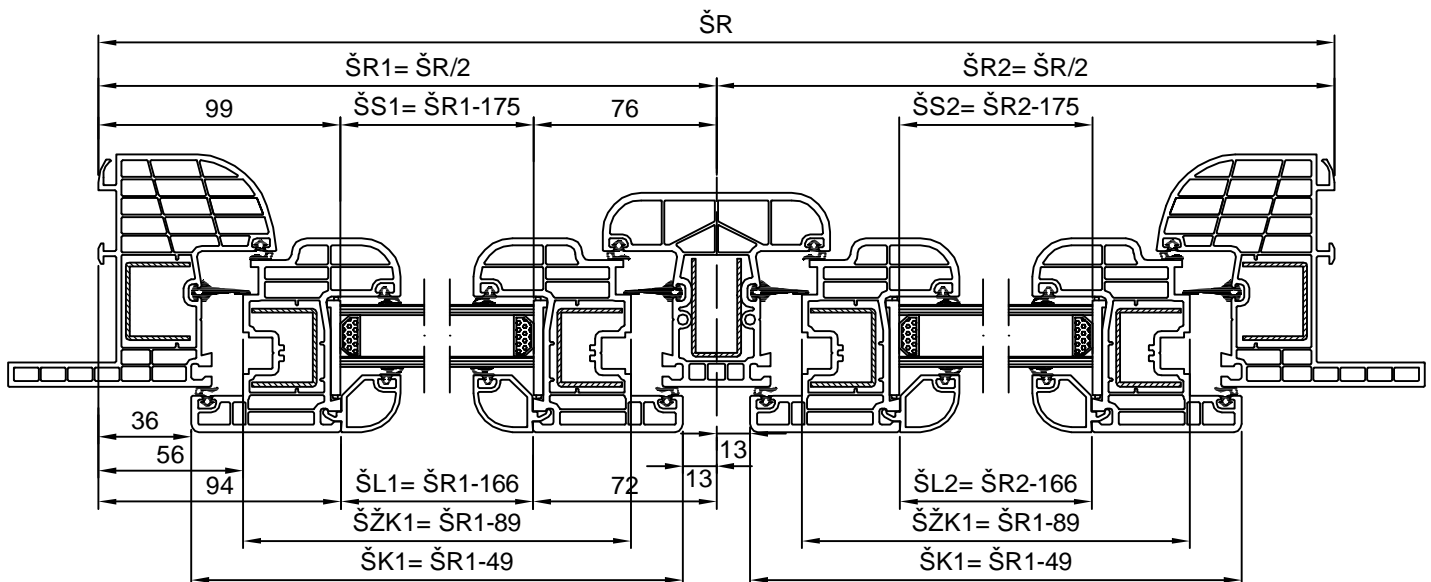
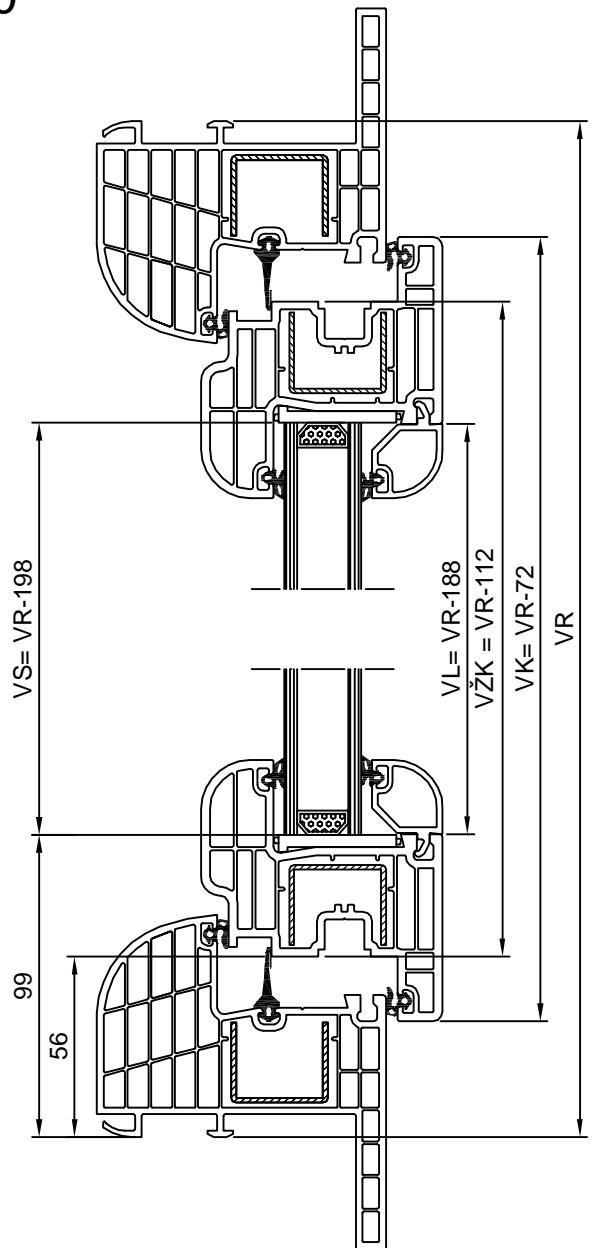
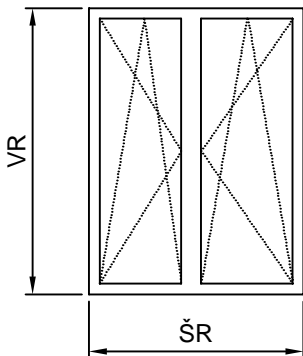
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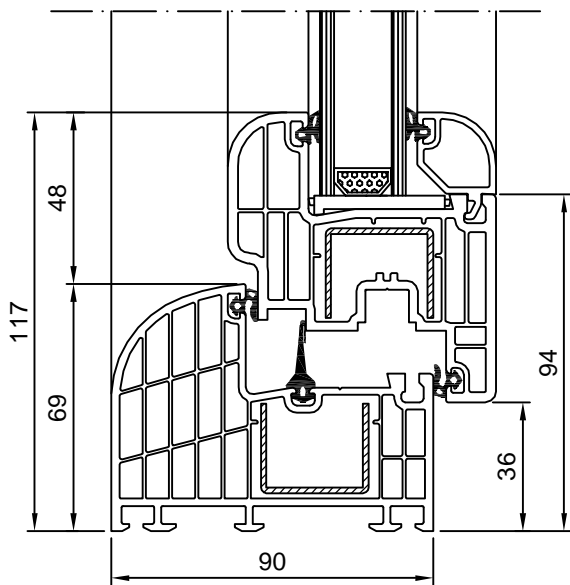
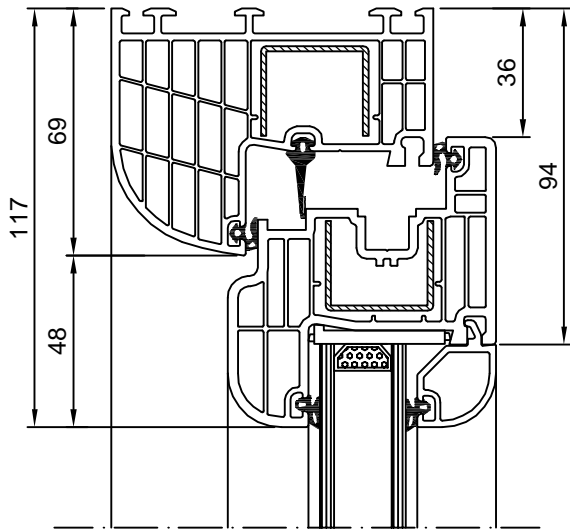
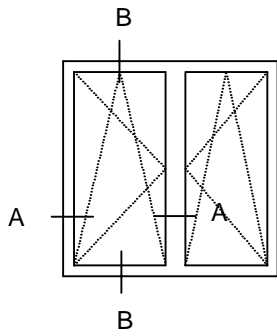
DVOKRILNI PROZOR SA STUBOM RAM SA PEROM SISTEM 800

LEGENDA

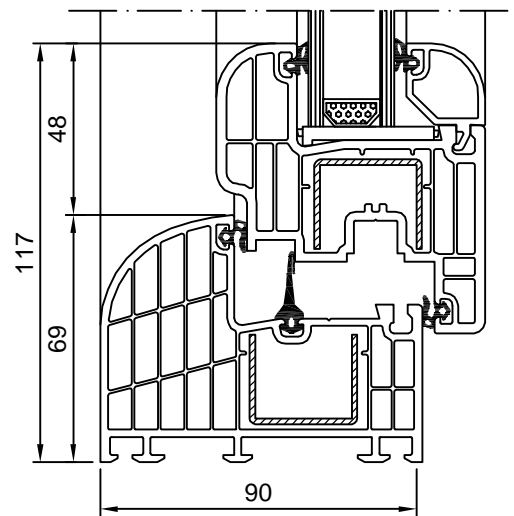
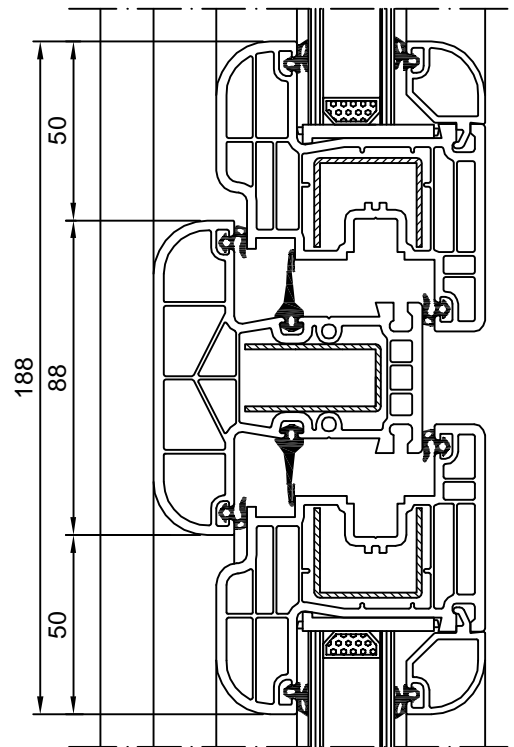
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DVOKRILNI PROZOR SA STUBOM SISTEM 800

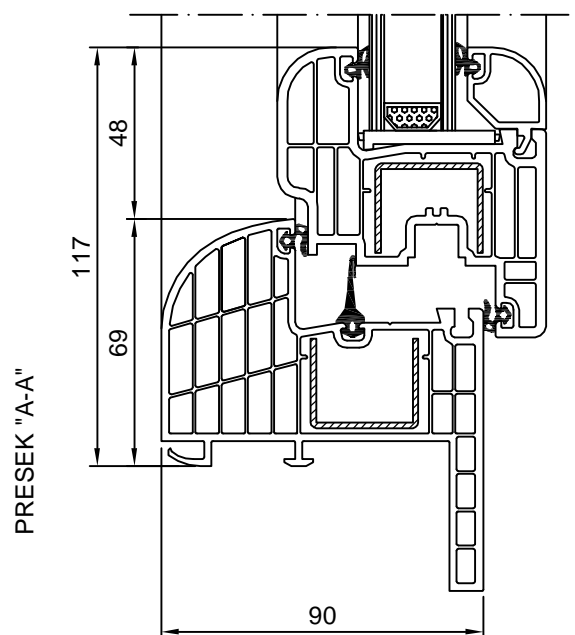
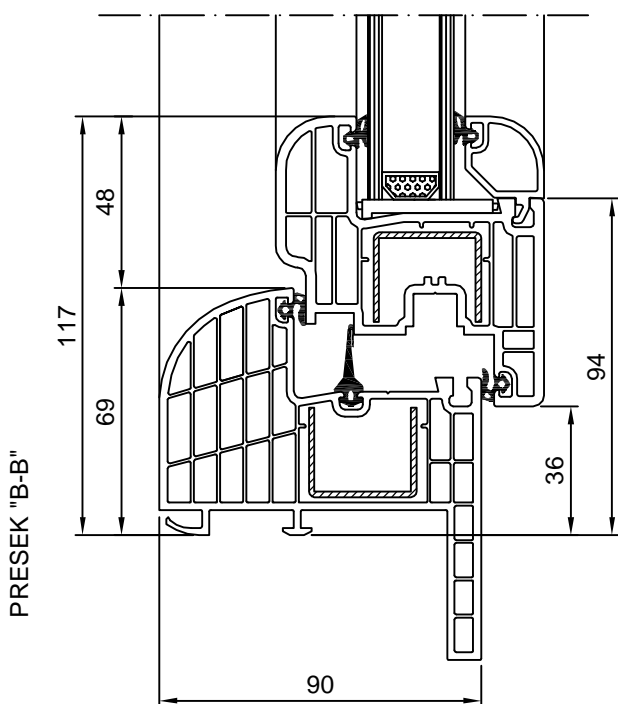
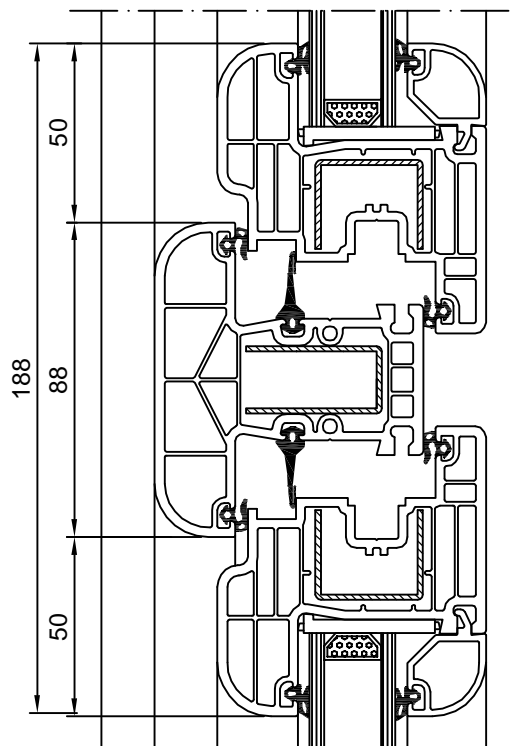
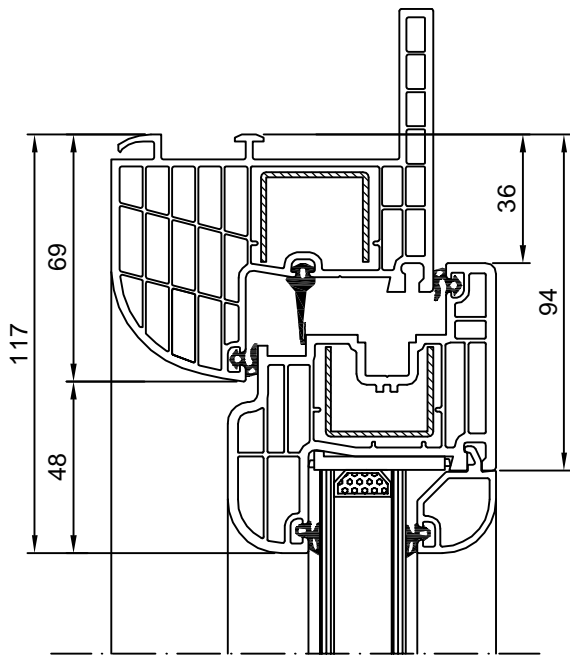
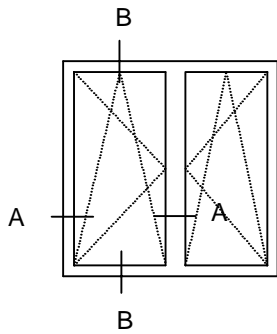


PRESEK "B-B"



PRESEK "A-A"

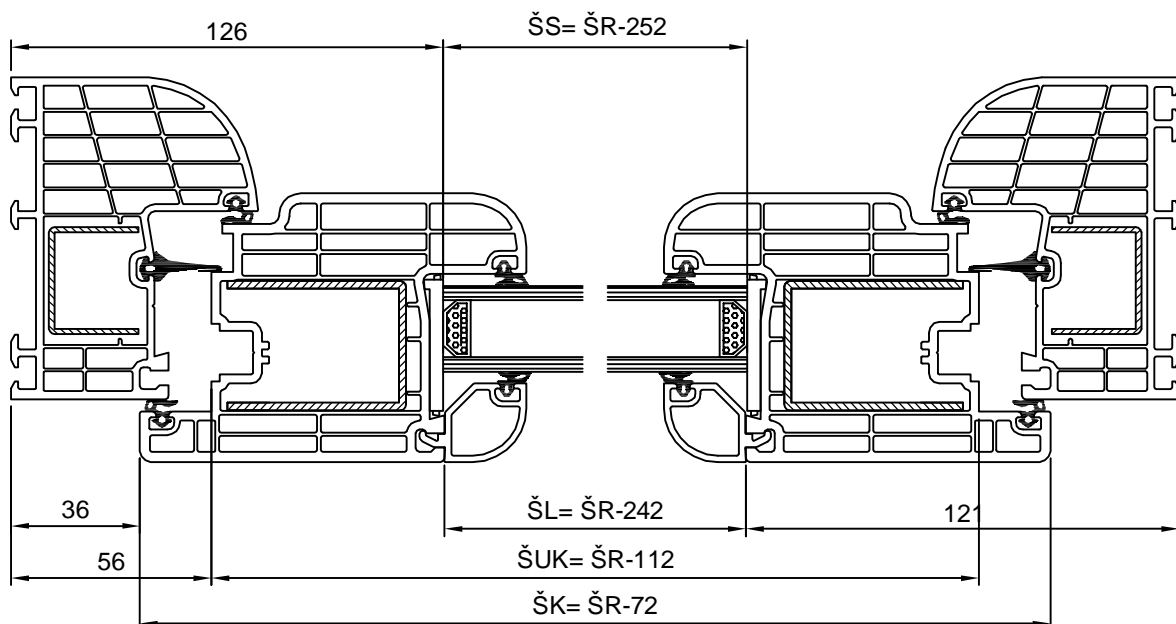
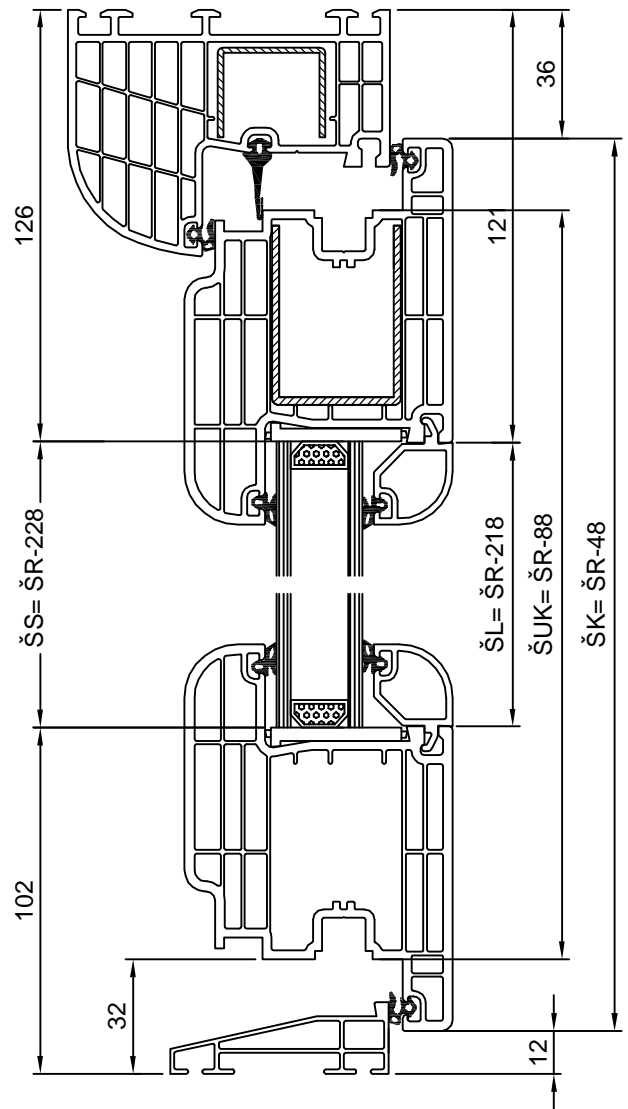
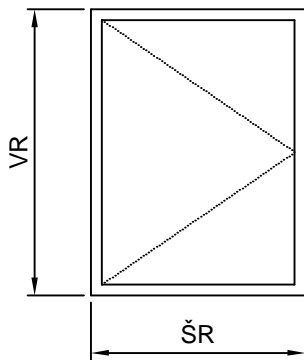
DVOKRILNI PROZOR SA STUBOM RAM SA PEROM SISTEM 800



ULAZNA VRATA SISTEM 800

LEGENDA

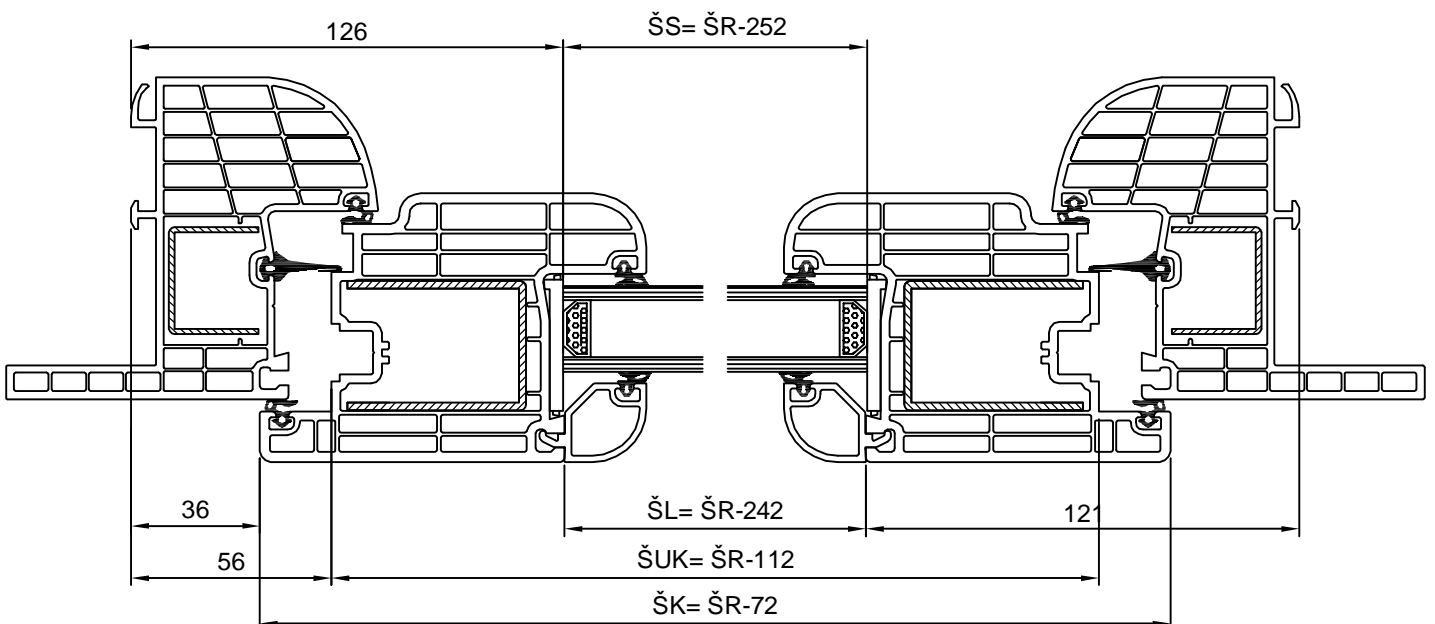
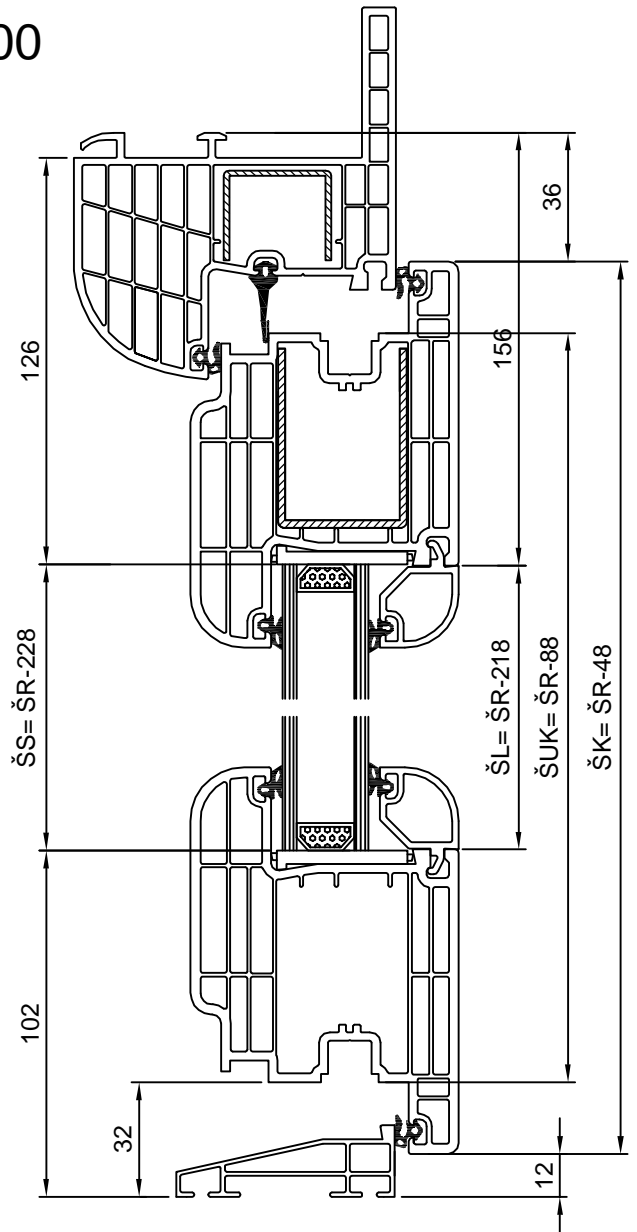
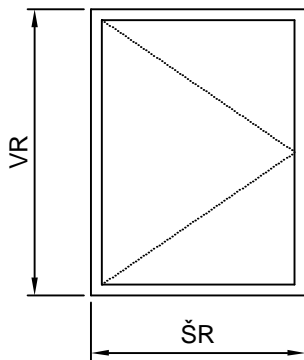
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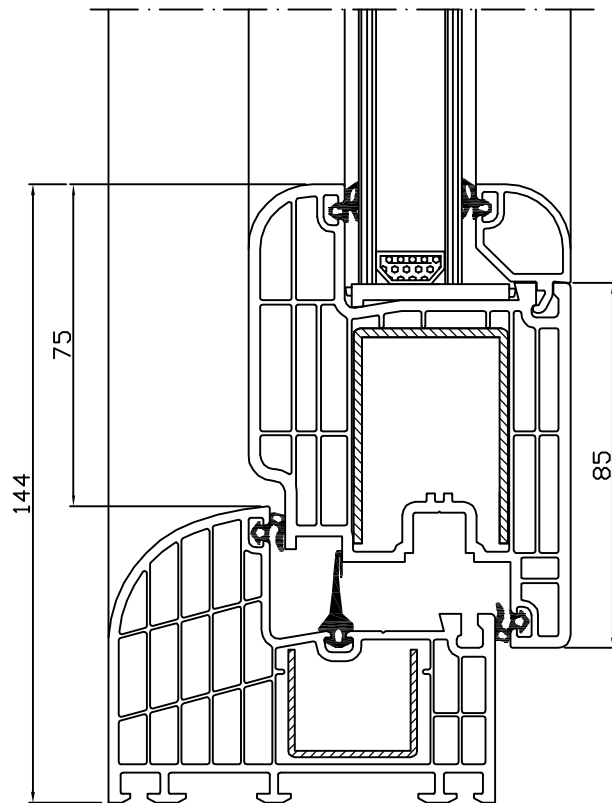
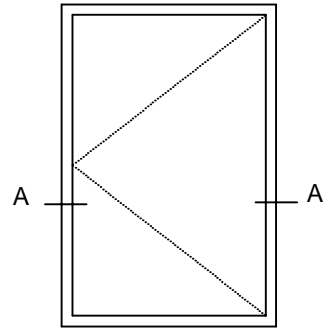
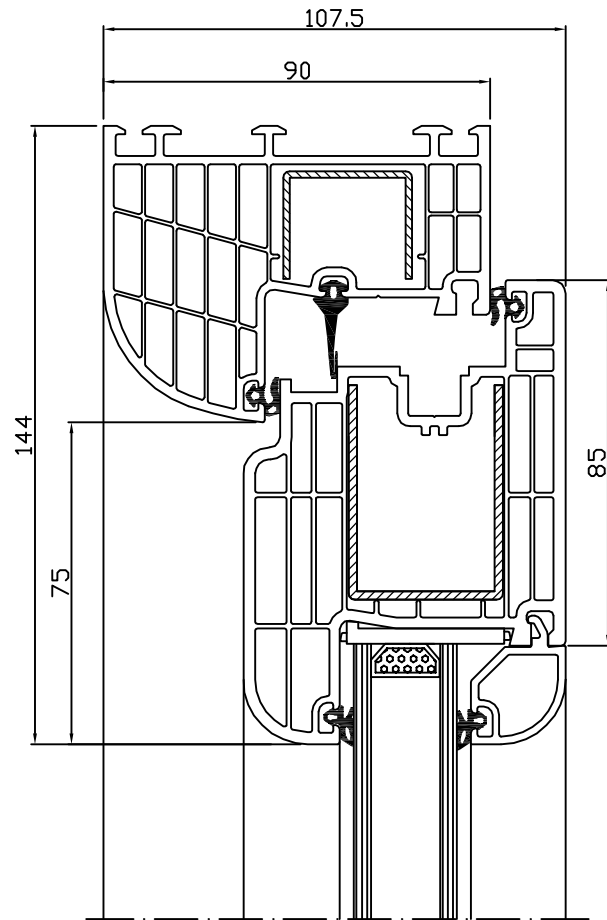
ULAZNA VRATA RAM SA PEROM SISTEM 800

LEGENDA

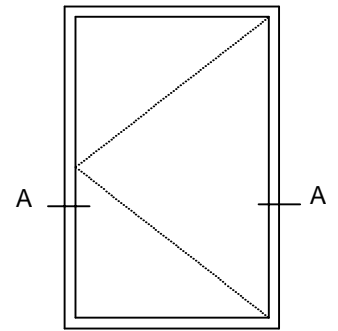
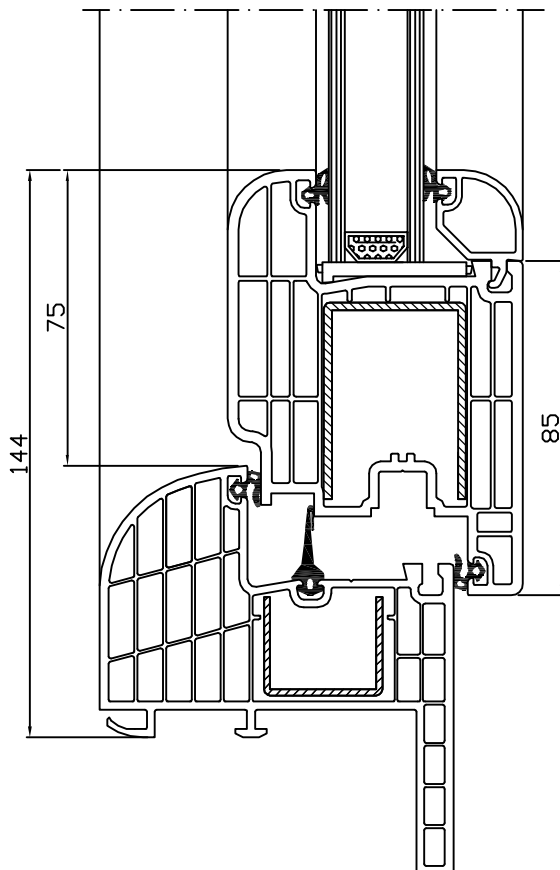
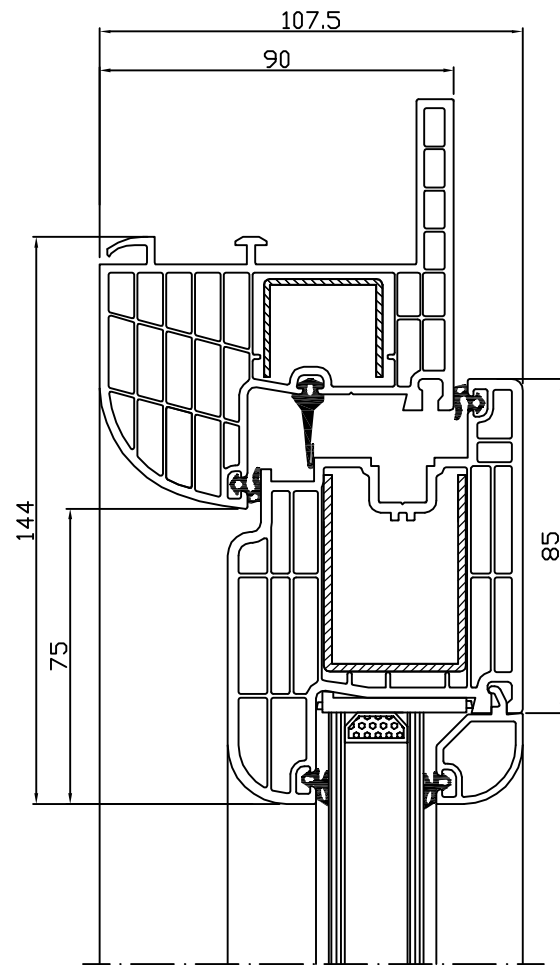
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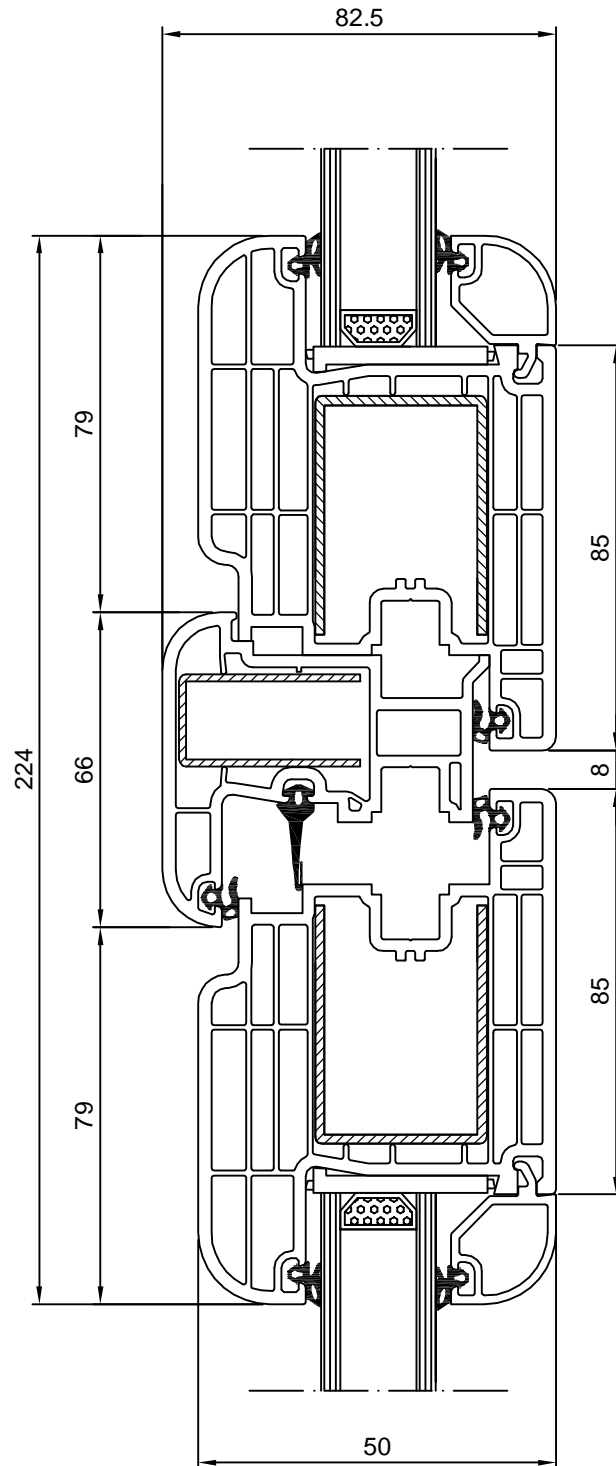
ULAZNA VRATA SISTEM 800



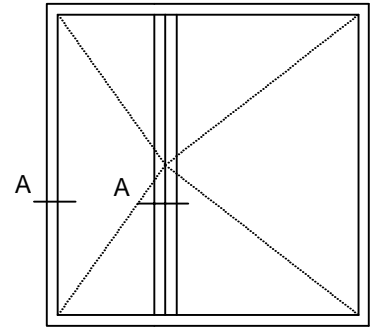
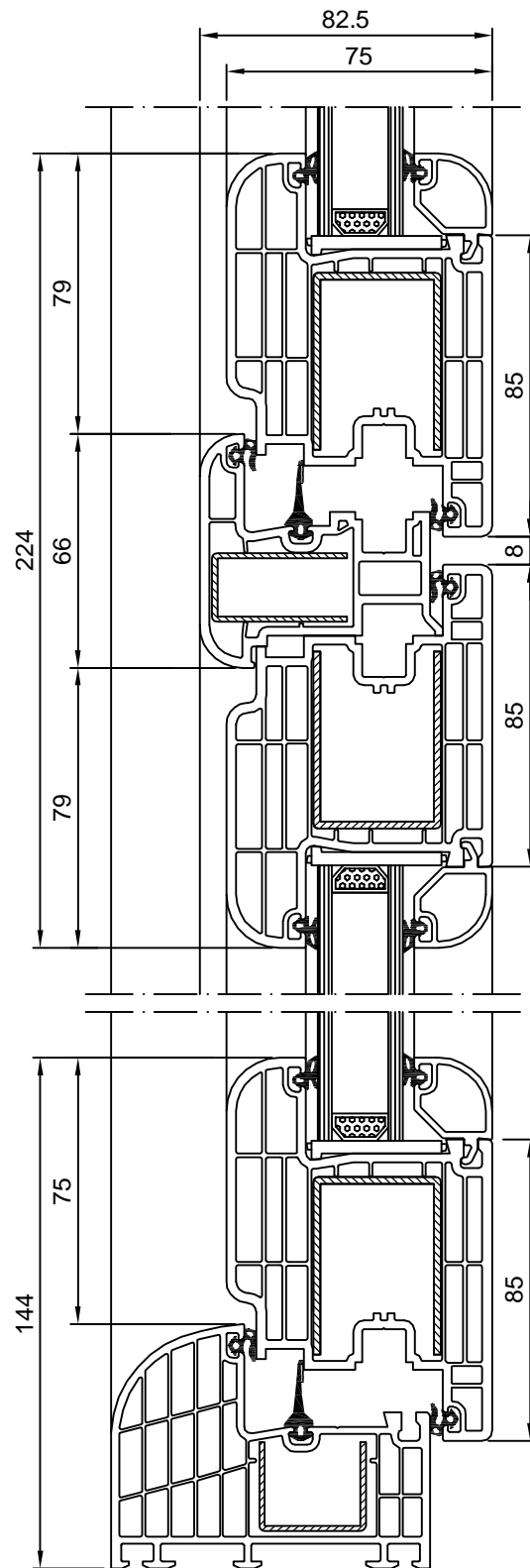
ULAZNA VRATA RAM SA PEROM SISTEM 800



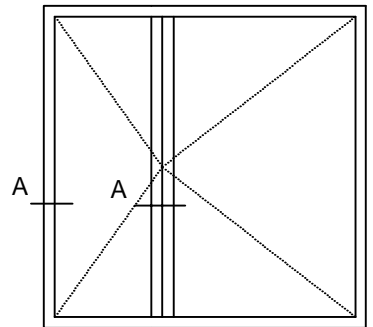
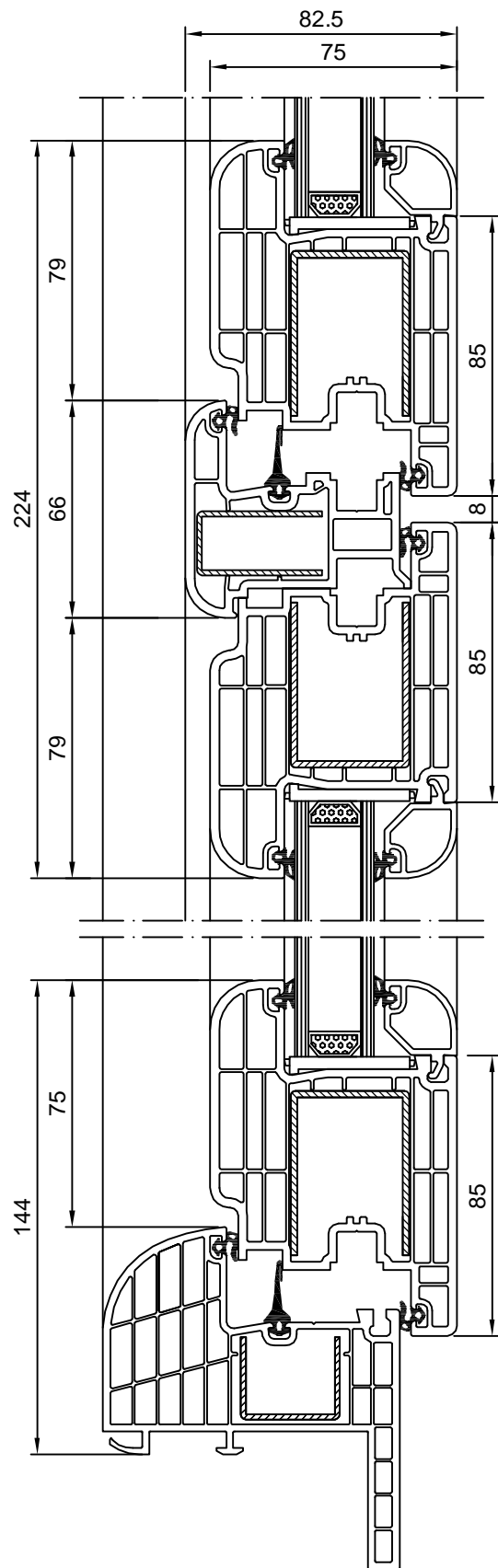
PRESEK VRATA
KRILO-PREKLOP-KRILO
SISTEM 600/800



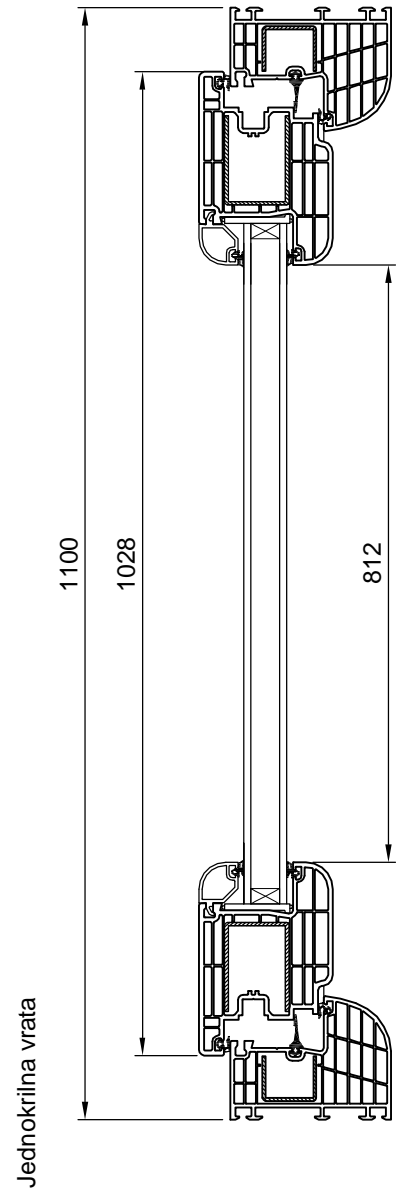
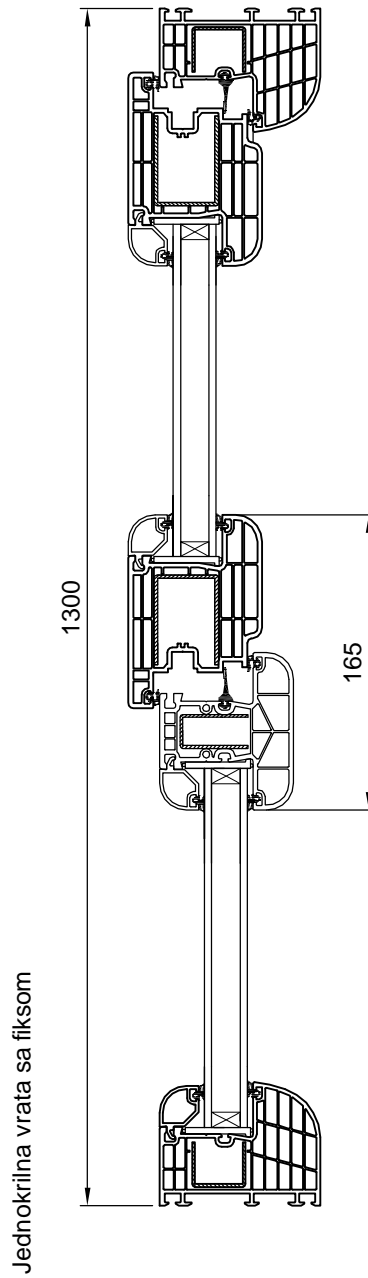
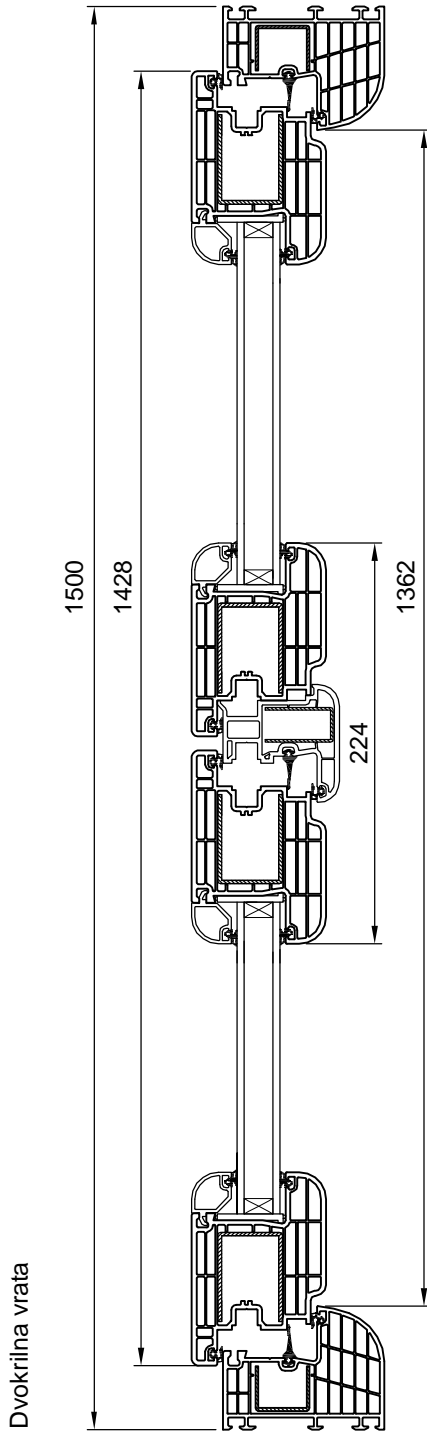
DVOKRILNA ULAZNA VRATA SISTEM 800



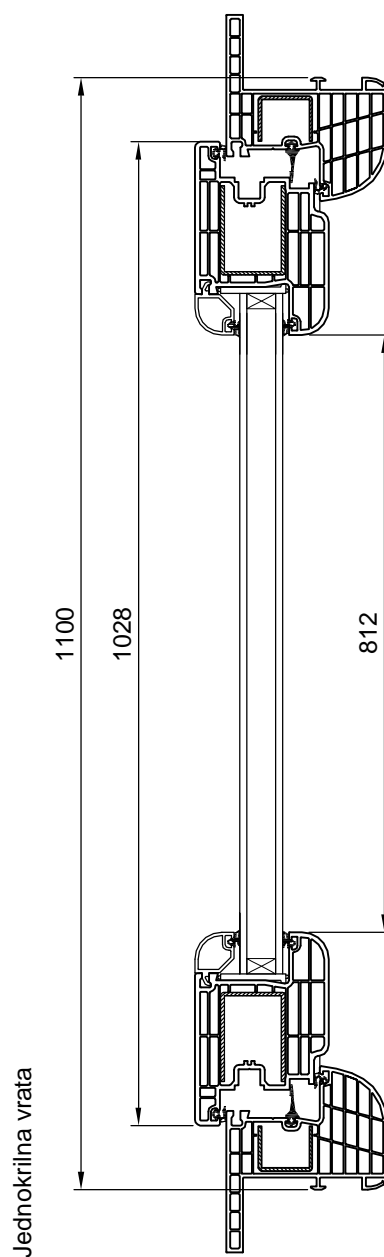
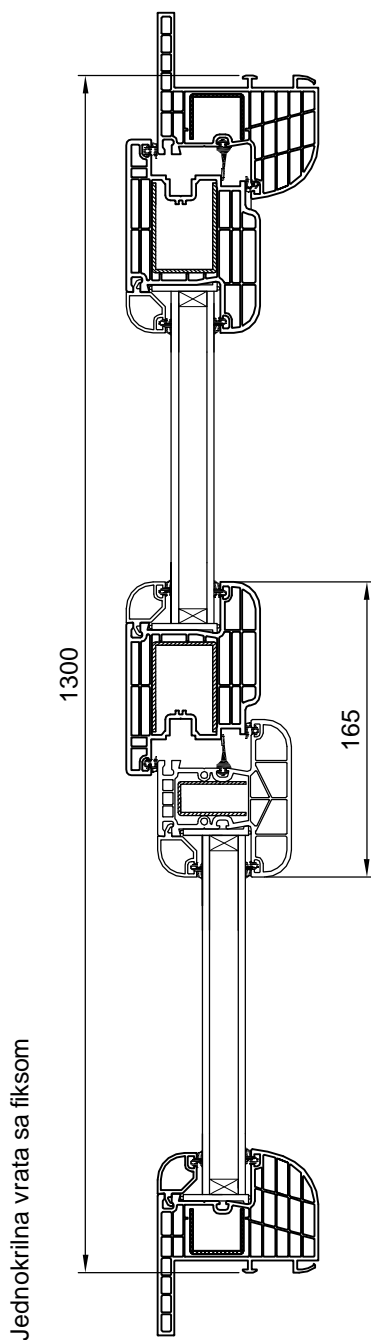
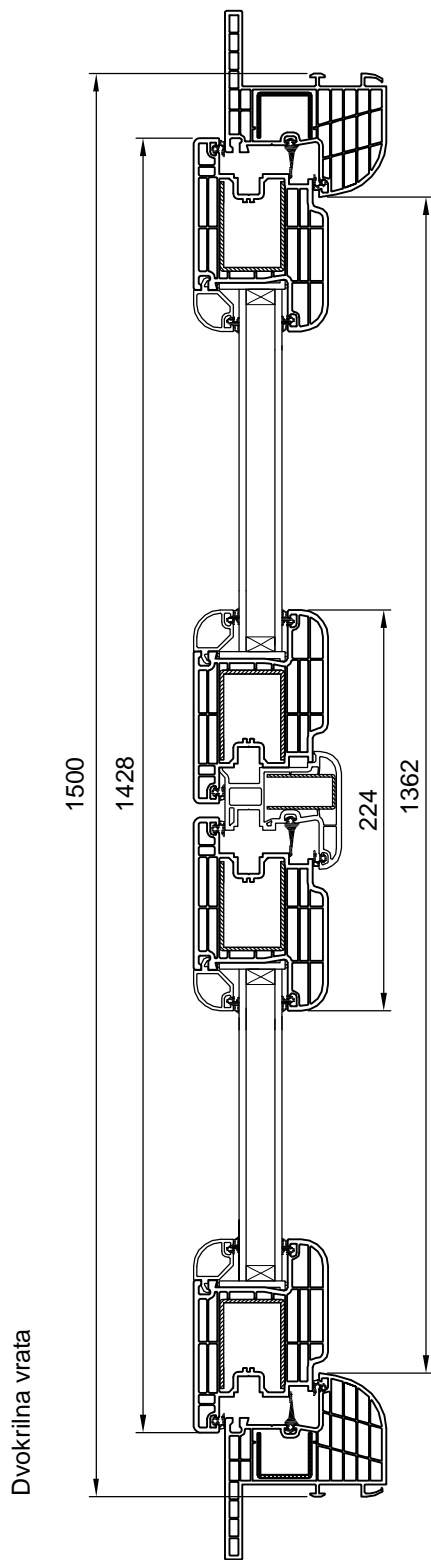
DVOKRILNA ULAZNA VRATA RAM SA PEROM SISTEM 800



PRIKAZ MOGUĆNOSTI OTVARANJA ULAZNIH VRATA SISTEM 800



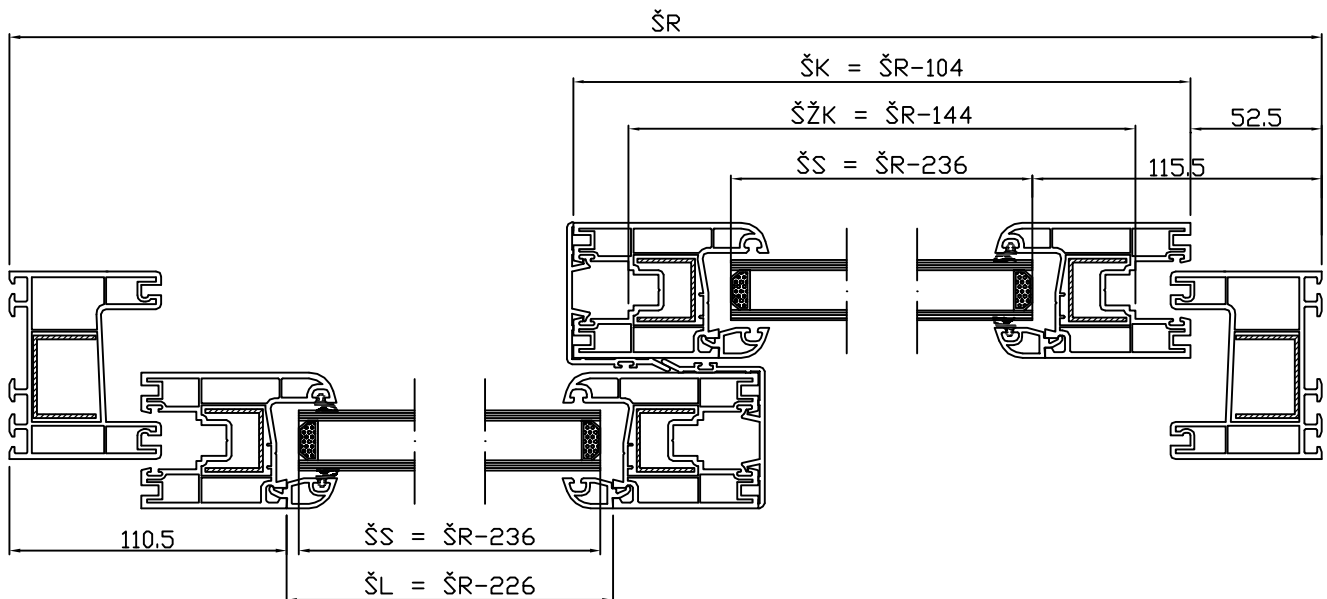
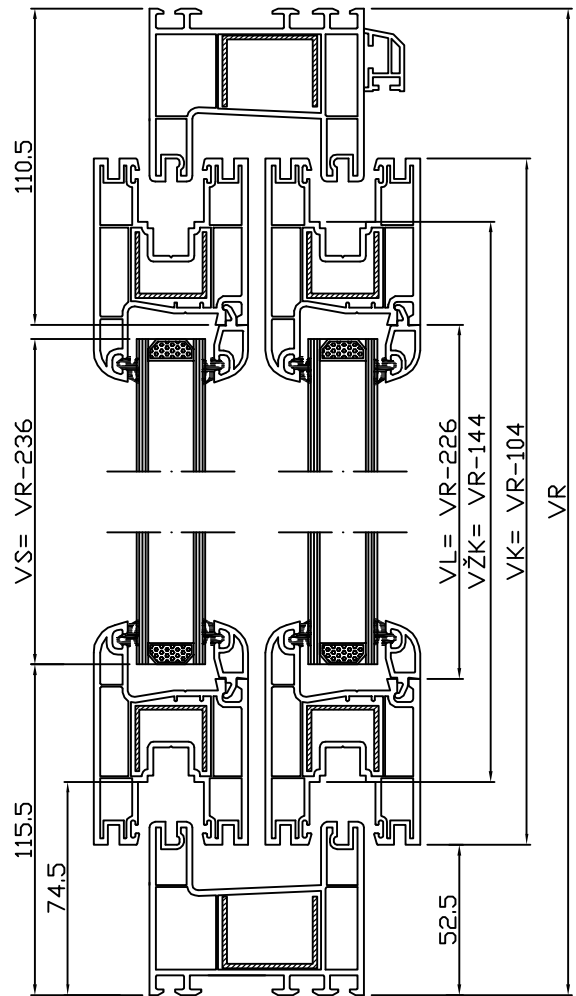
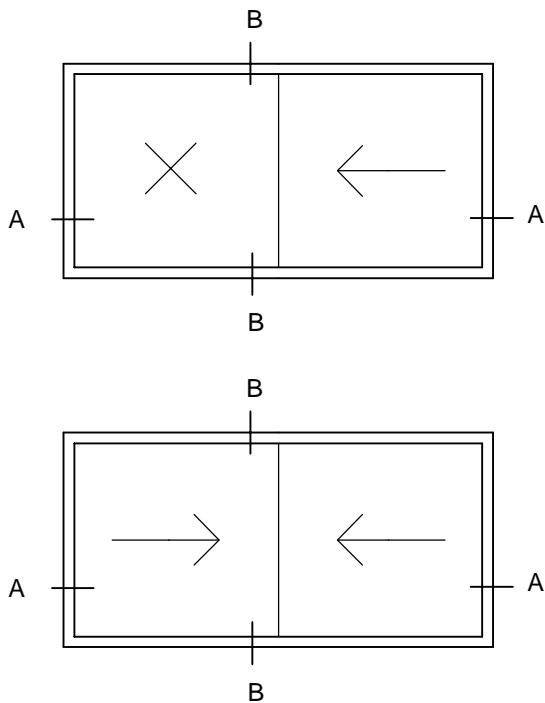
PRIKAZ MOGUĆNOSTI OTVARANJA ULAZNIH VRATA RAM SA PEROM SISTEM 800



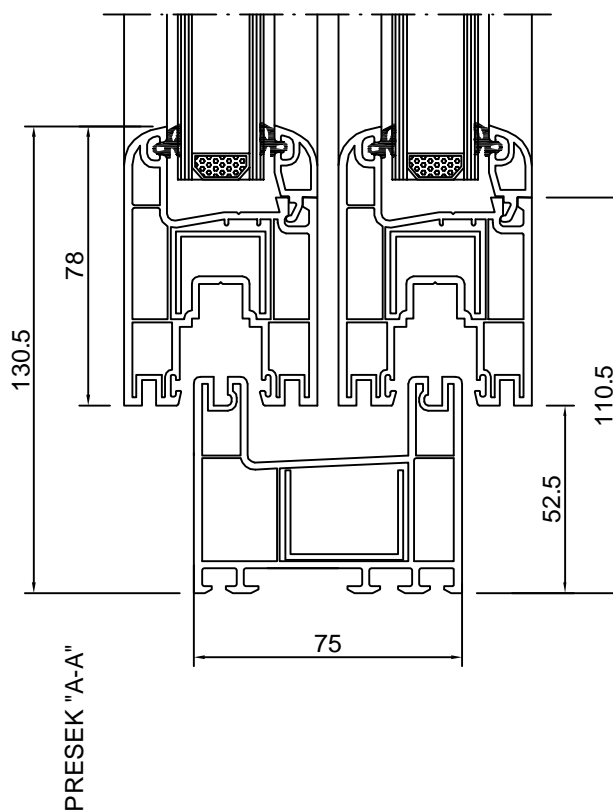
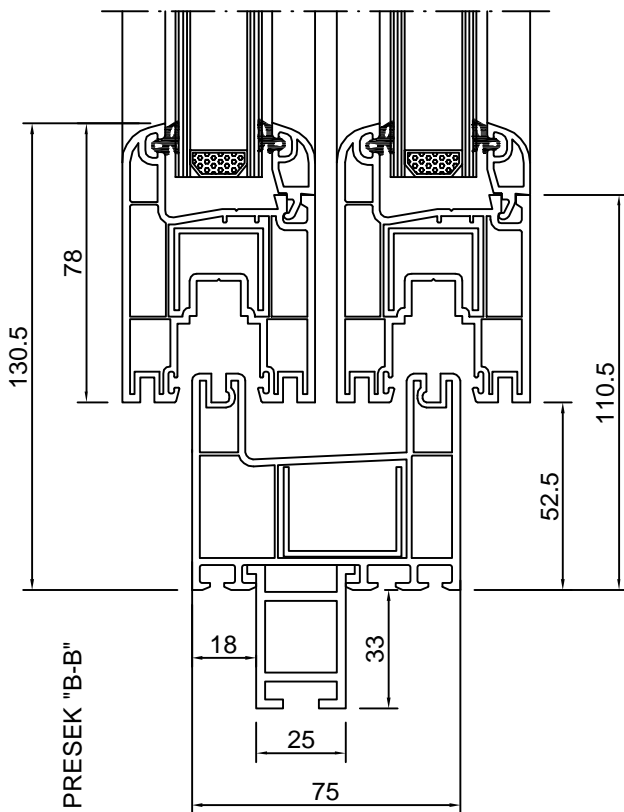
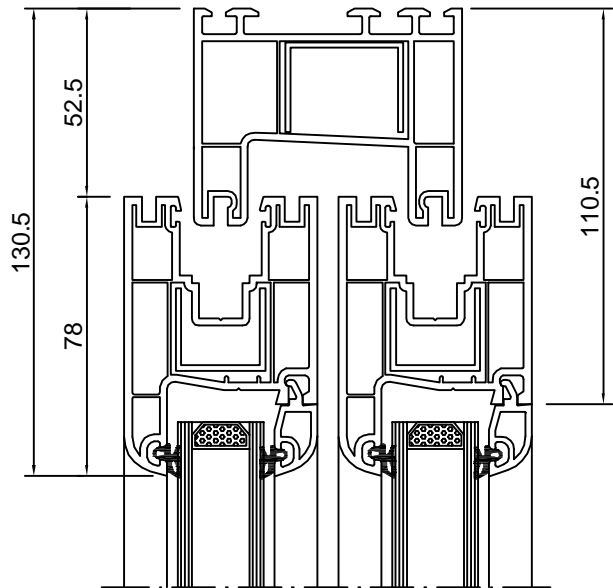
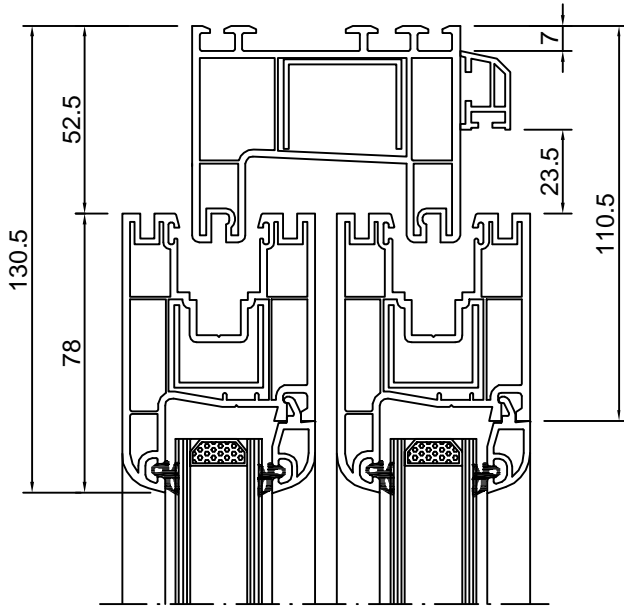
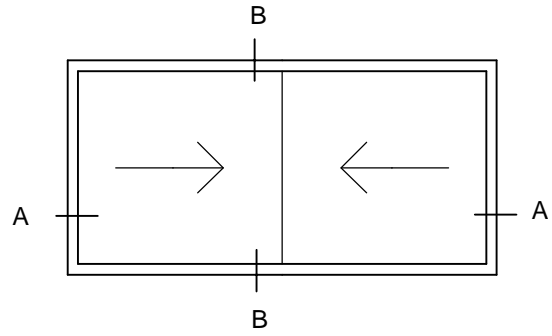
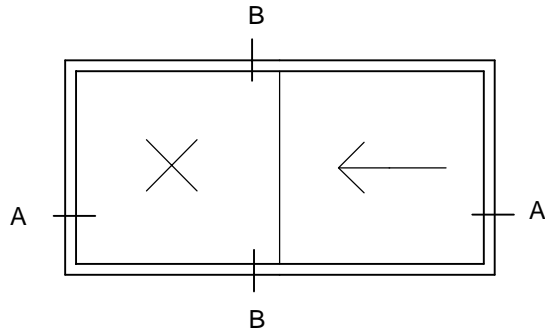
KLIZNI PROZOR SISTEM 800

LEGENDA

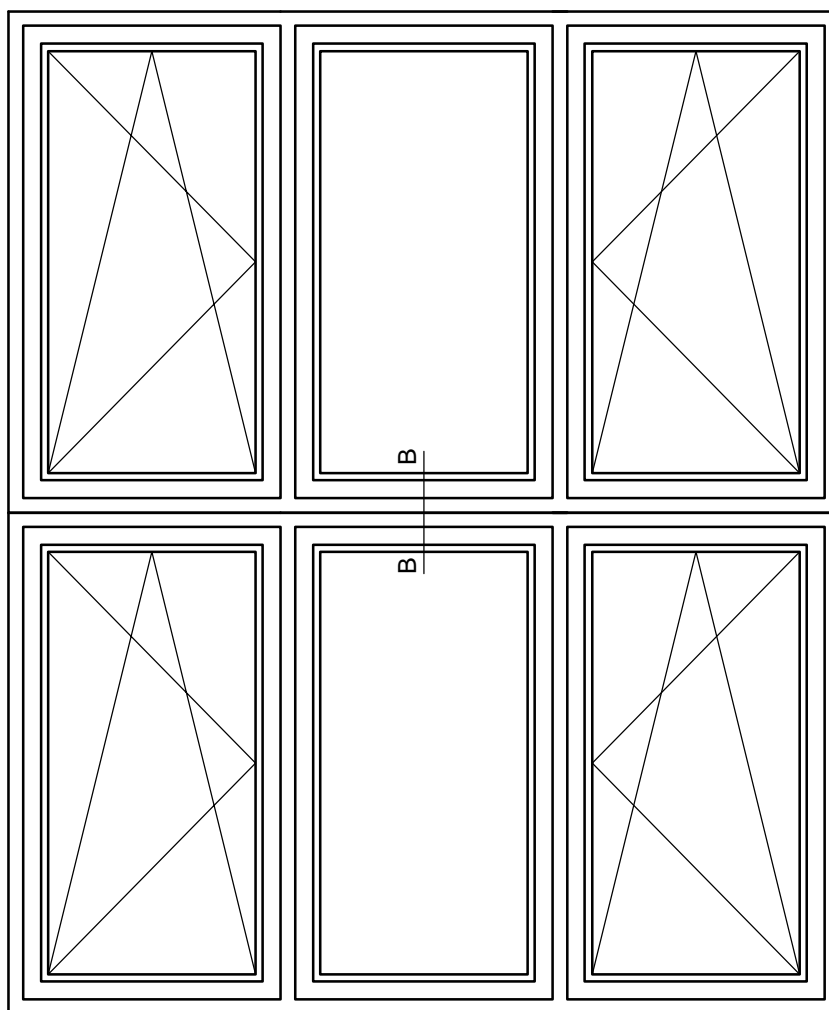
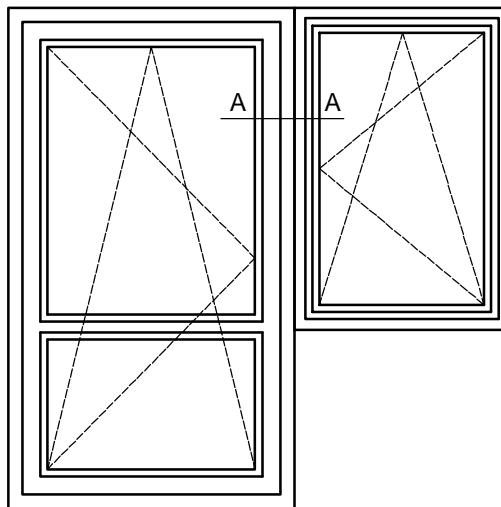
ŠR= ŠIRINA RAMA
 VR= VISINA RAMA
 ŠK= ŠIRINA KRILA
 VK= VISINA KRILA
 ŠŽK= ŠIRINA ŽLEBA KRILA
 VŽK= VISINA ŽLEBA KRILA
 ŠL=ŠIRINA LAJSNE
 VL=VISINA LAJSNE
 ŠS= ŠIRINA STAKLA
 VS= VISINA STAKLA



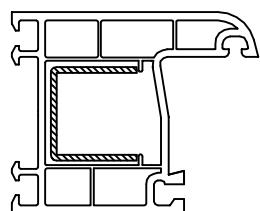
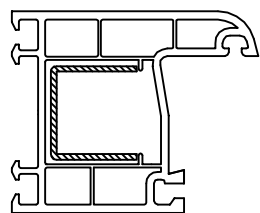
KLIZNI PROZOR SISTEM 800



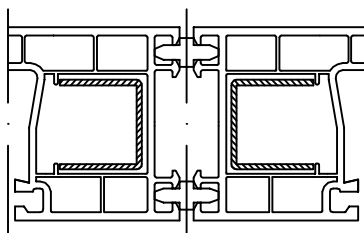
5.MOGUĆNOST SPAJANJA ELEMENATA



**MOGUĆNOST SPAJANJA ELEMENATA
SISTEM 300**



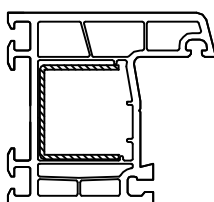
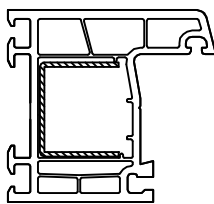
Presek A-A



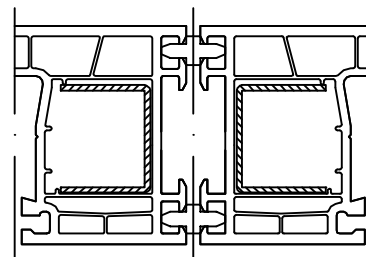
Lajsna za spajanje

SISTEM 301/301

**MOGUĆNOST SPAJANJA ELEMENATA
SISTEM 400**

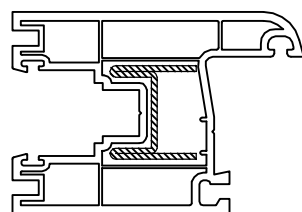
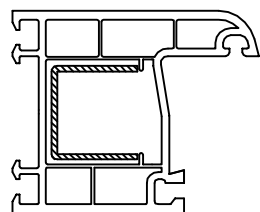


Presek A-A

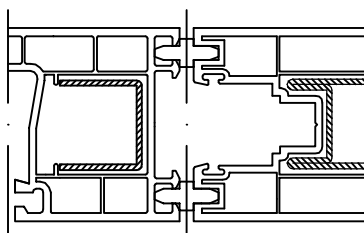


Lajsna za spajanje

SISTEM 401/401

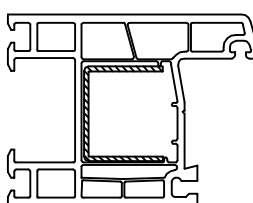
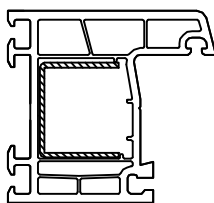


Presek A-A

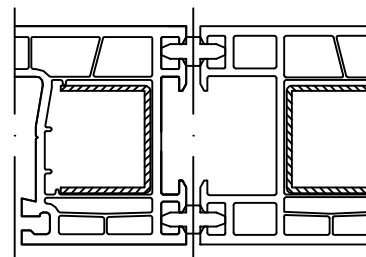


Lajsna za spajanje

SISTEM 301/810

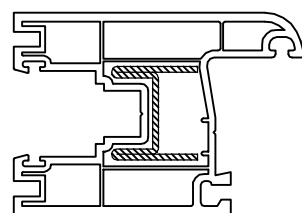
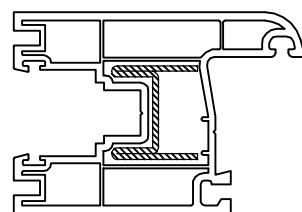


Presek A-A

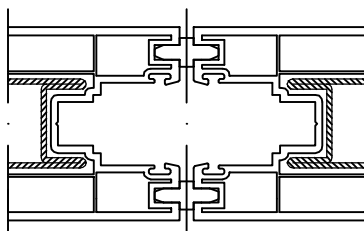


Lajsna za spajanje

SISTEM 401/403

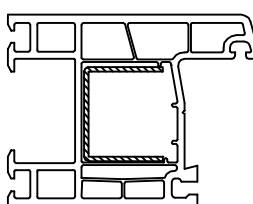
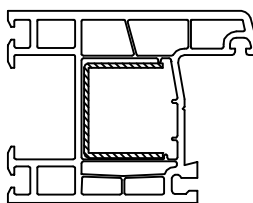


Presek A-A

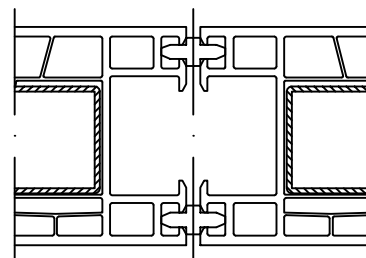


Lajsna za spajanje

SISTEM 810/810



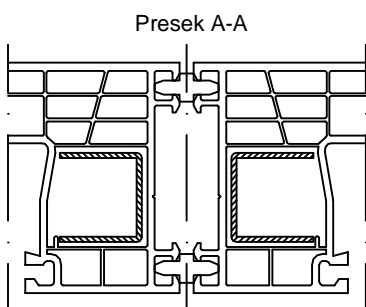
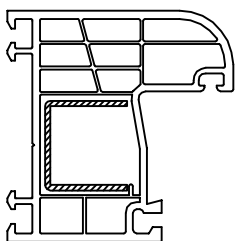
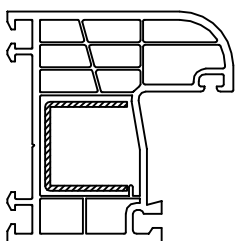
Presek A-A



Lajsna za spajanje

SISTEM 403/403

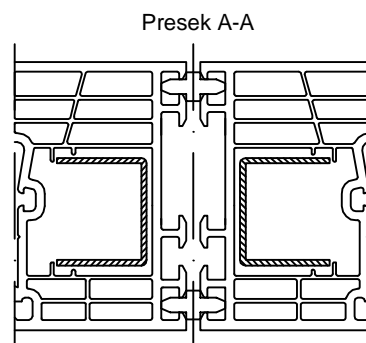
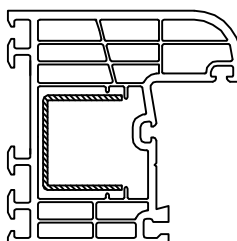
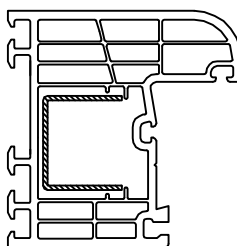
**MOGUĆNOST SPAJANJA ELEMENATA
SISTEM 500**



Lajsna za spajanje

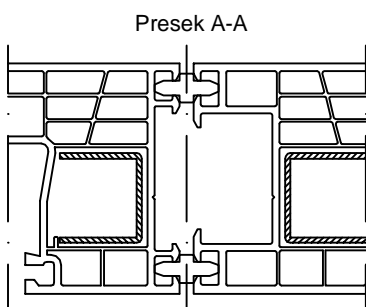
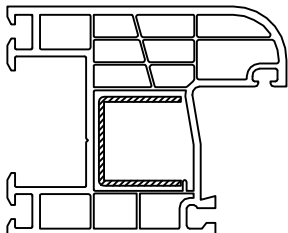
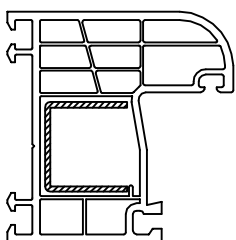
SISTEM 501/501

**MOGUĆNOST SPAJANJA ELEMENATA
SISTEM 600**



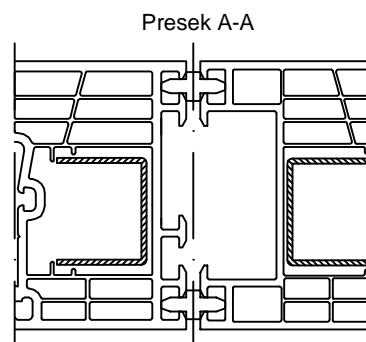
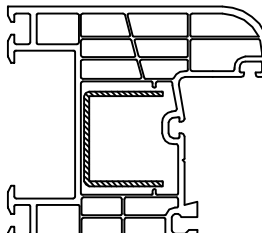
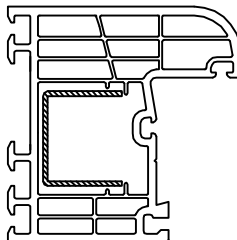
Lajsna za spajanje

SISTEM 601/601



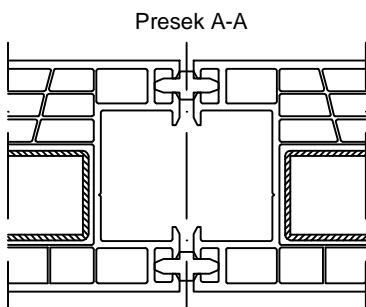
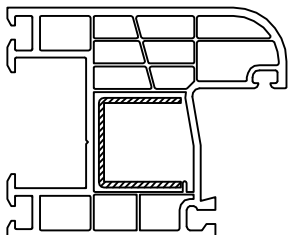
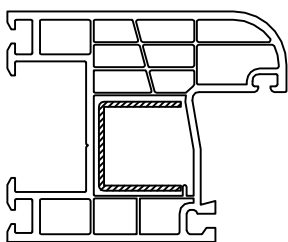
Lajsna za spajanje

SISTEM 501/503



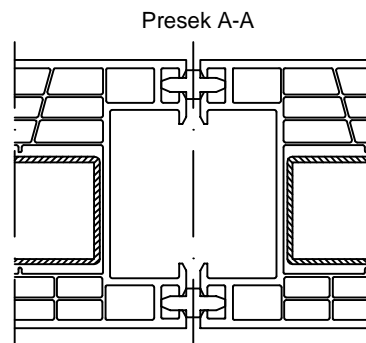
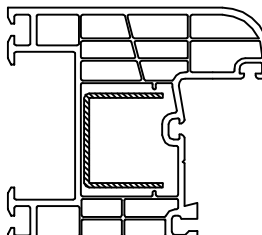
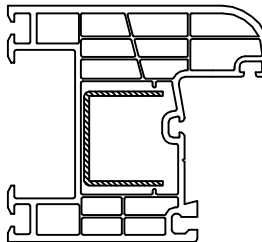
Lajsna za spajanje

SISTEM 601/603



Lajsna za spajanje

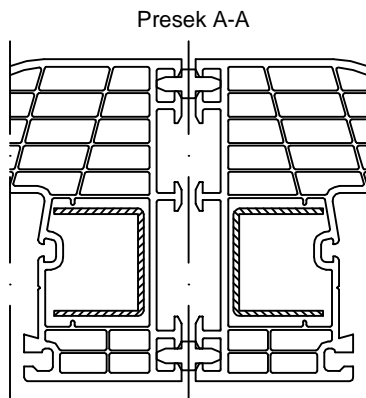
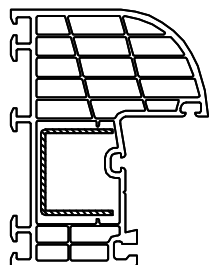
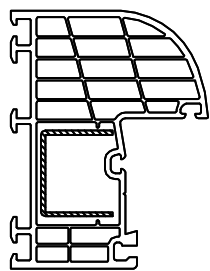
SISTEM 503/503



Lajsna za spajanje

SISTEM 603/603

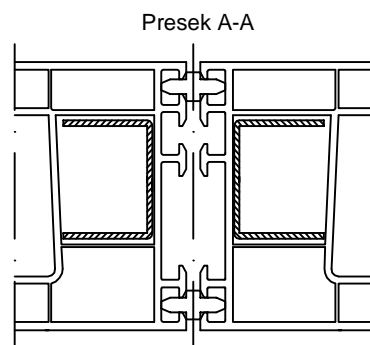
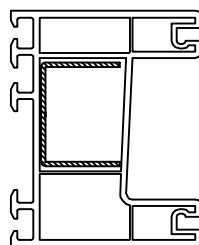
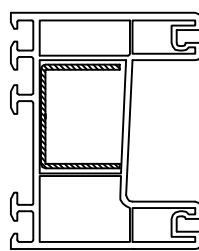
**MOGUĆNOST SPAJANJA ELEMENATA
SISTEM 800**



Lajsna za spajanje

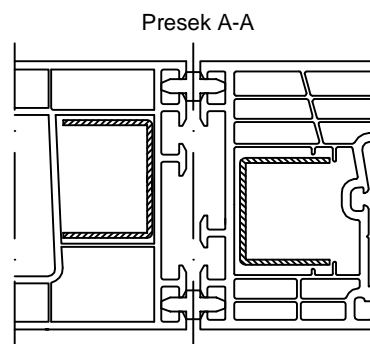
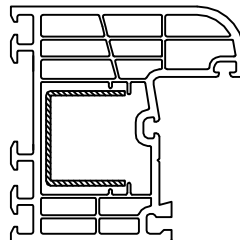
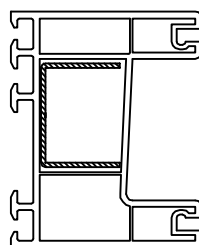
SISTEM 802/802

**MOGUĆNOST SPAJANJA ELEMENATA
SISTEM 800 - ŠIBER**



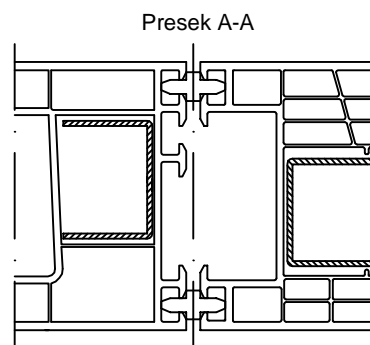
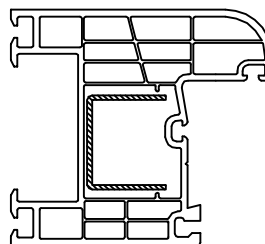
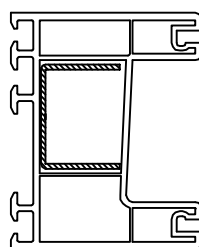
Lajsna za spajanje

SISTEM 801/801



Lajsna za spajanje

SISTEM 801/601

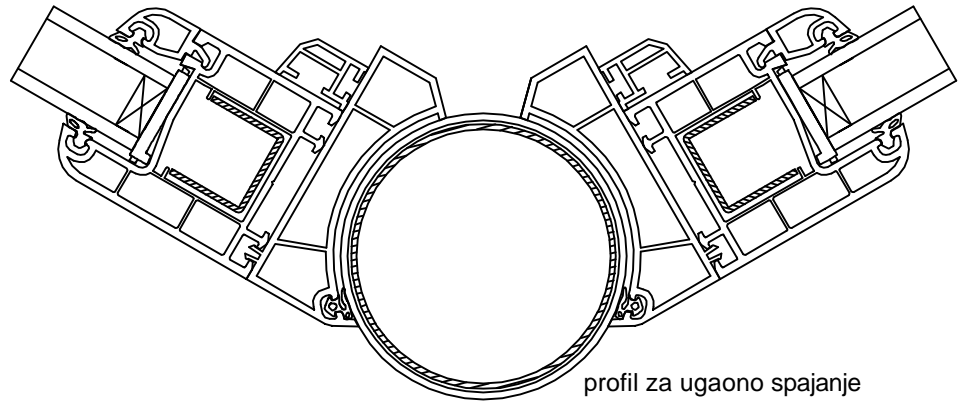
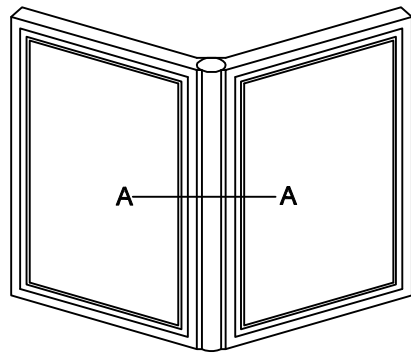


Lajsna za spajanje

SISTEM 801/603

SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 300

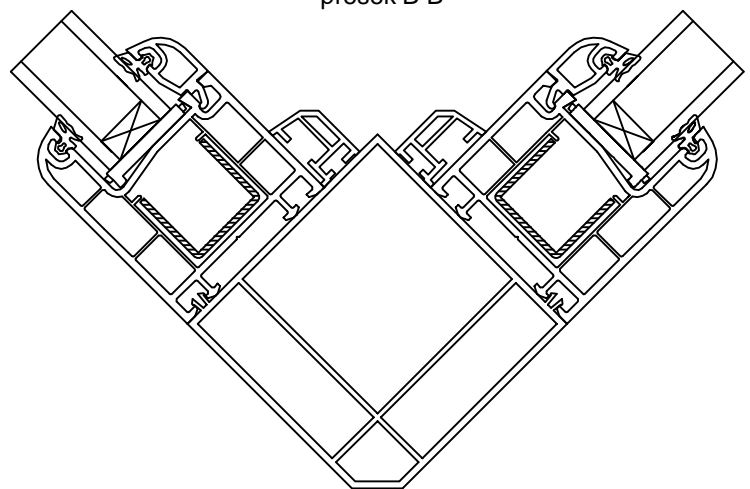
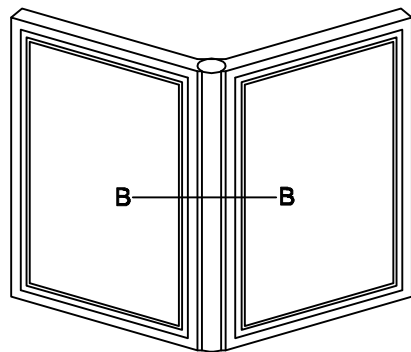
presek A-A



profil za ugaono spajanje

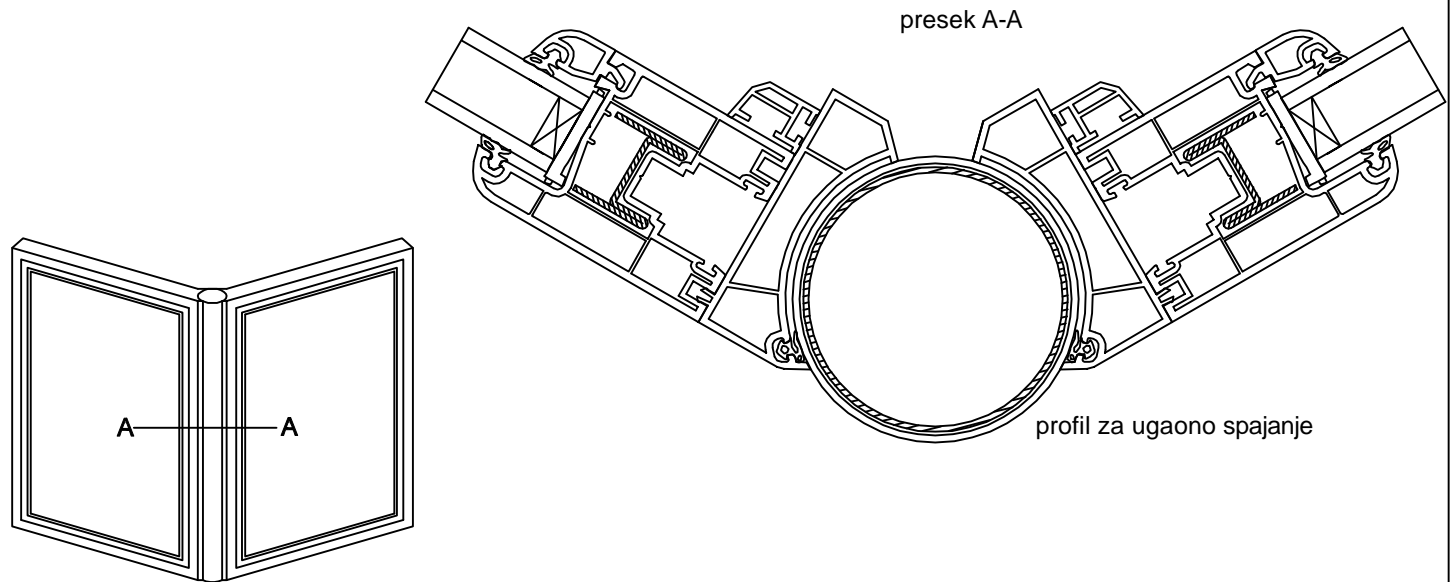
SPAJANJE POD UGLOM 90° SISTEM 300

presek B-B

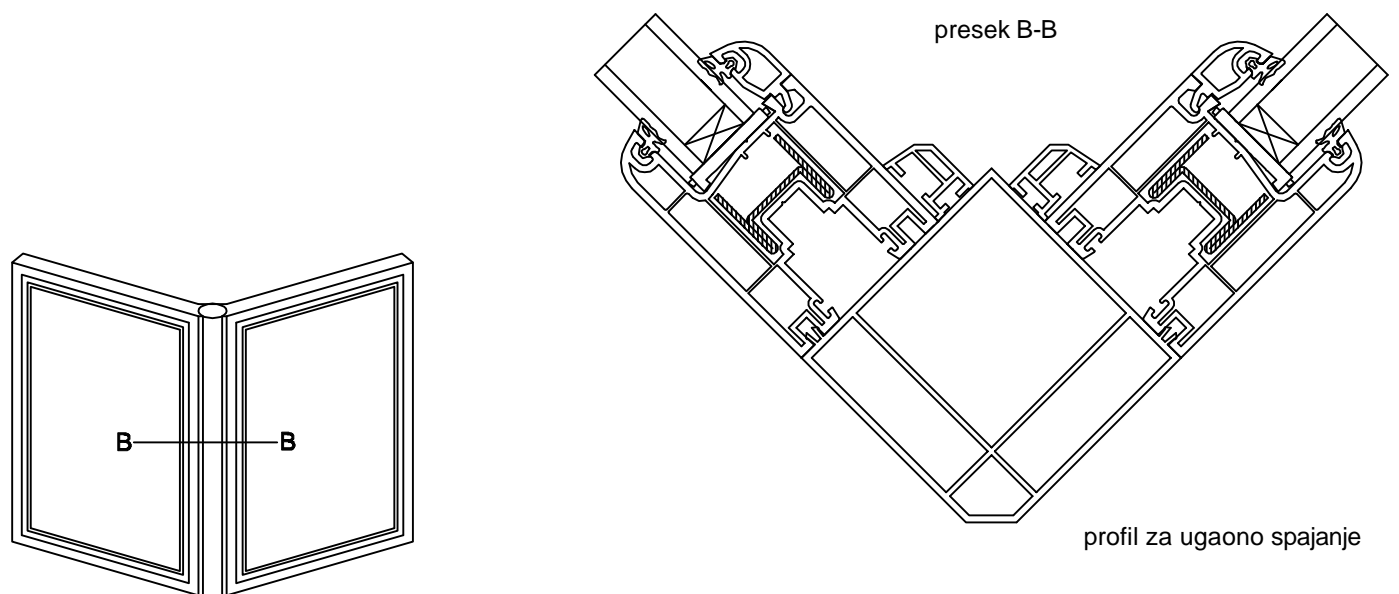


profil za ugaono spajanje

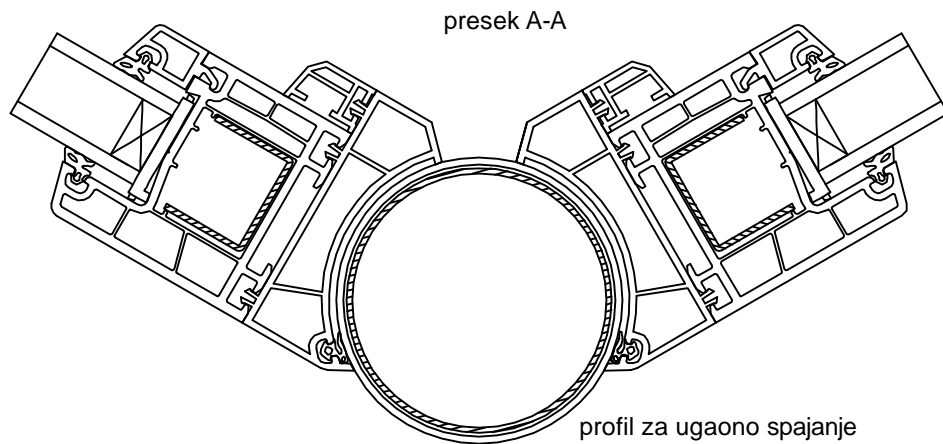
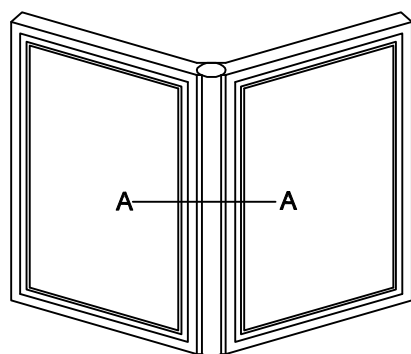
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 300



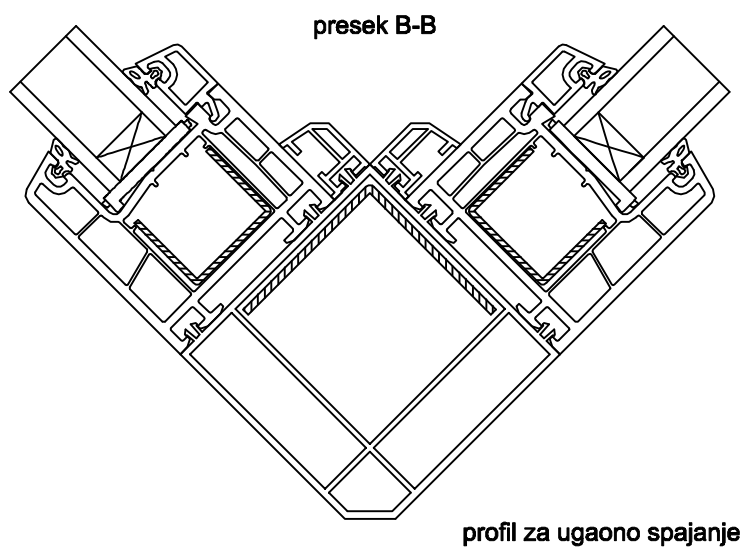
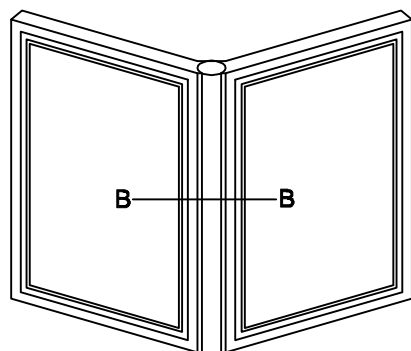
SPAJANJE POD UGLOM 90° SISTEM 300



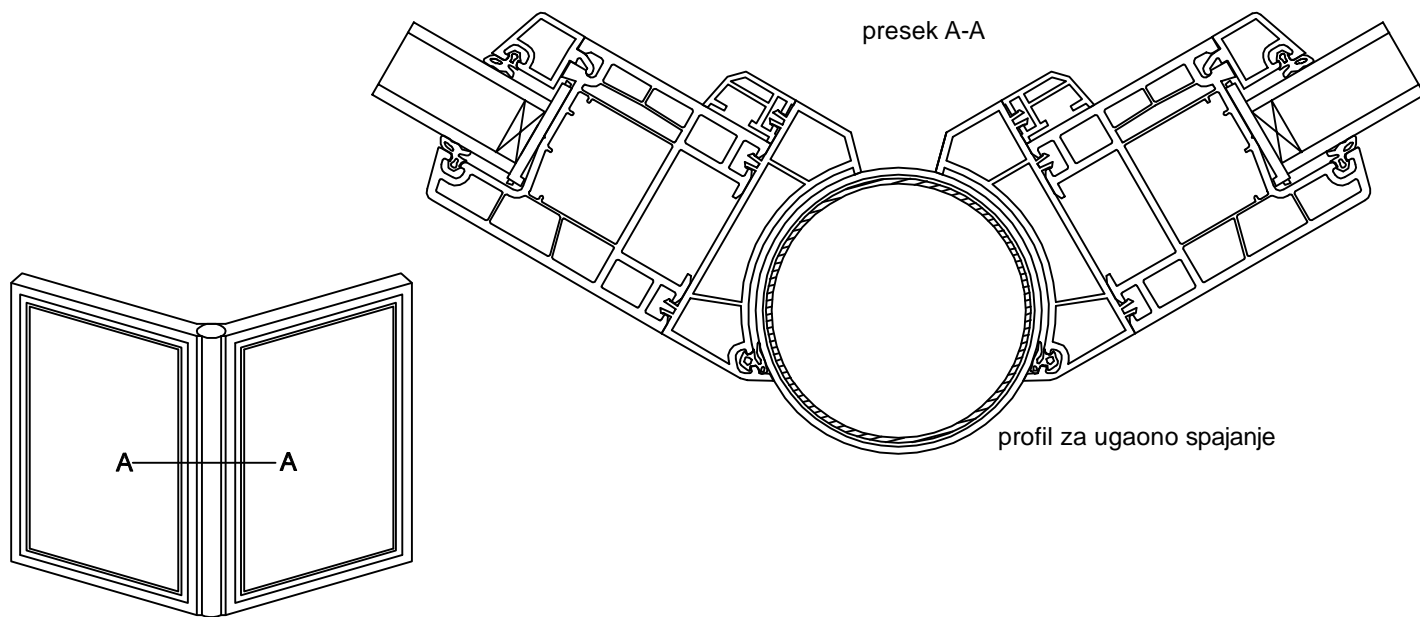
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 400



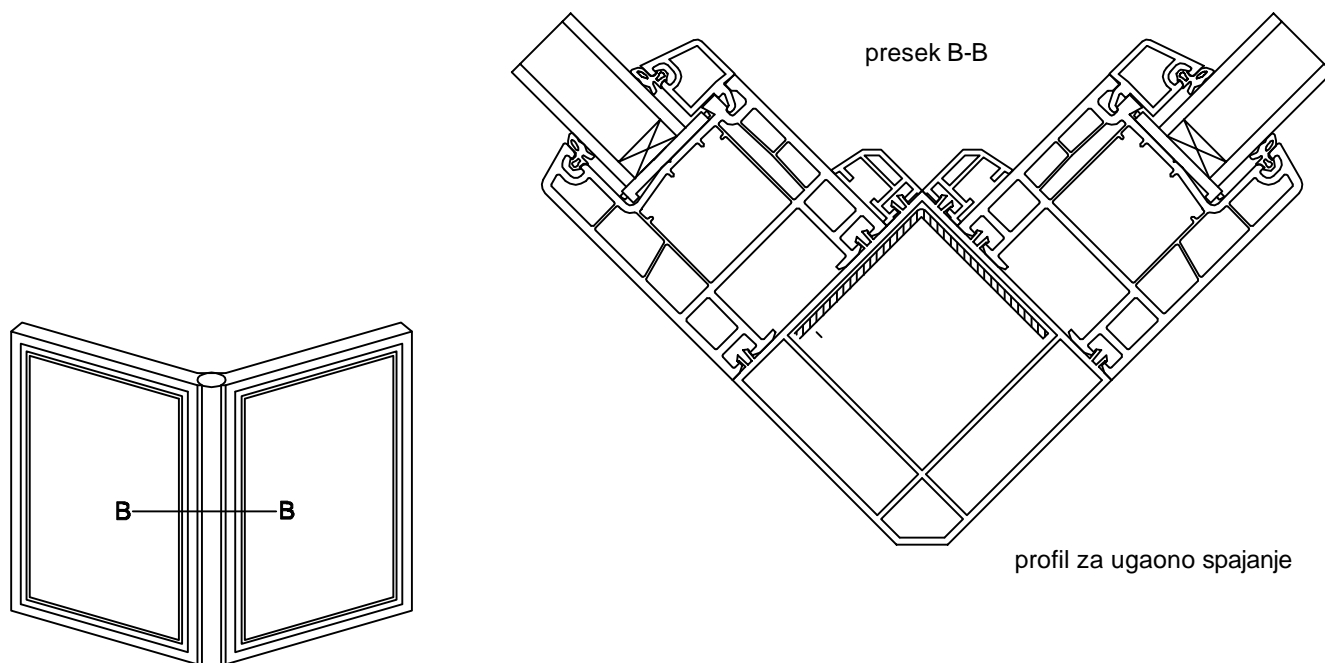
SPAJANJE POD UGLOM 90° SISTEM 400



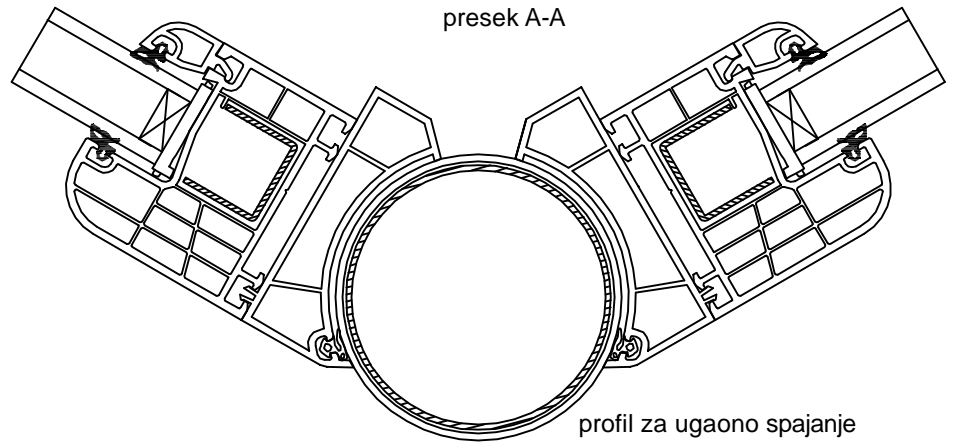
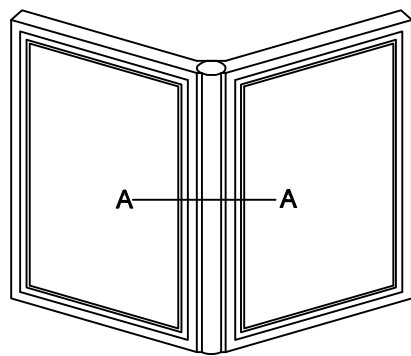
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 400



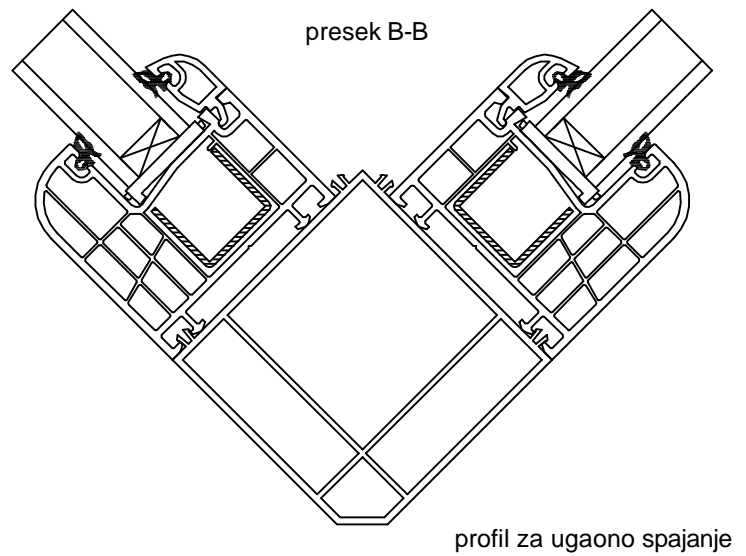
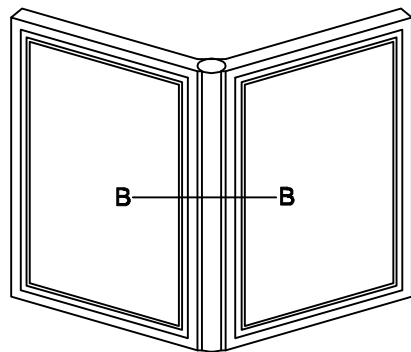
SPAJANJE POD UGLOM 90° SISTEM 400



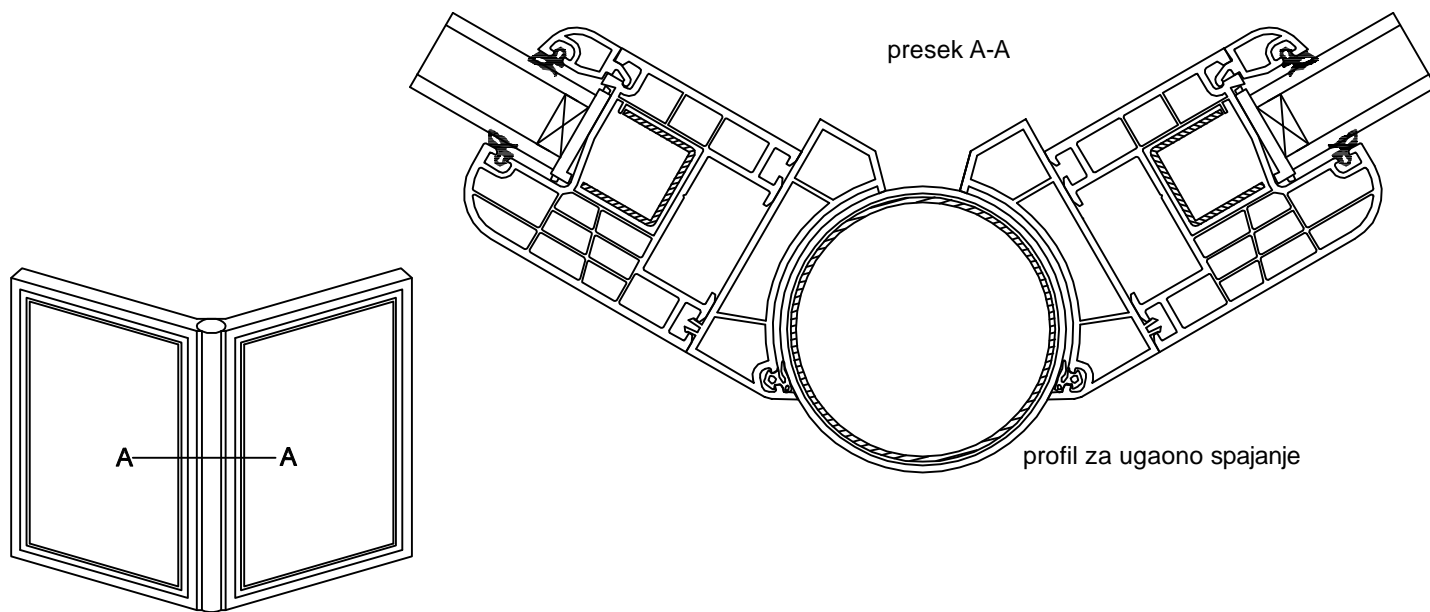
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 500



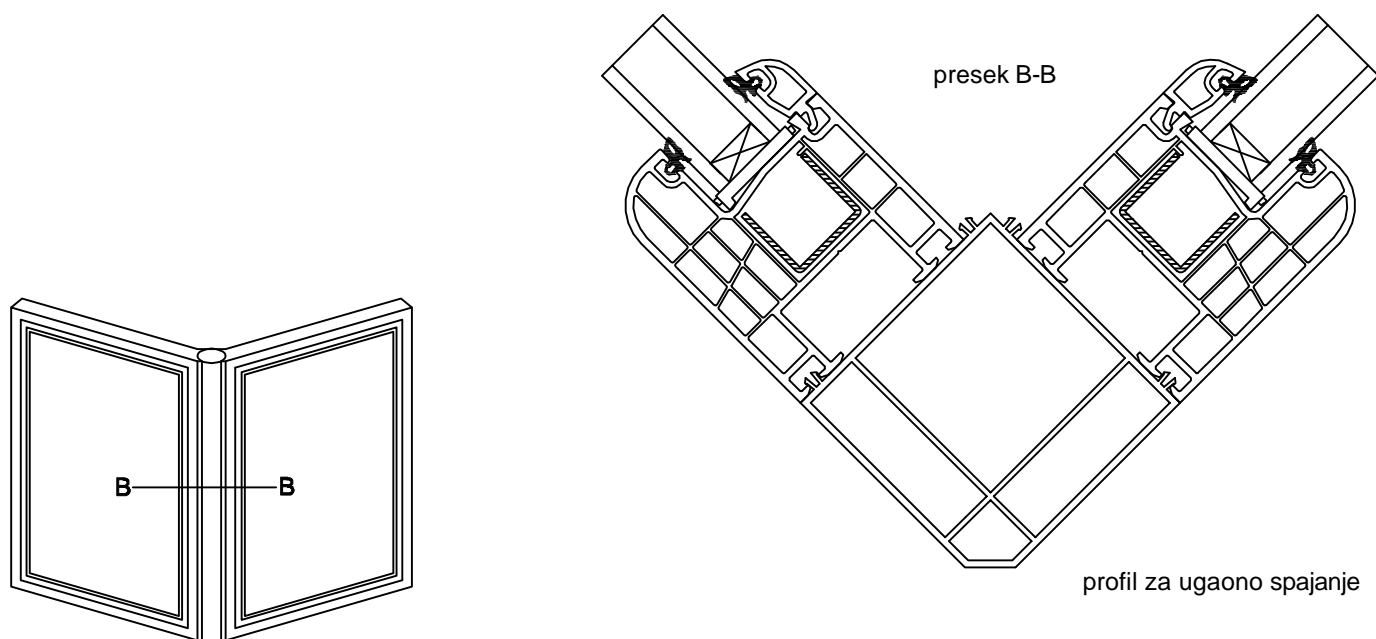
SPAJANJE POD UGLOM 90° SISTEM 500



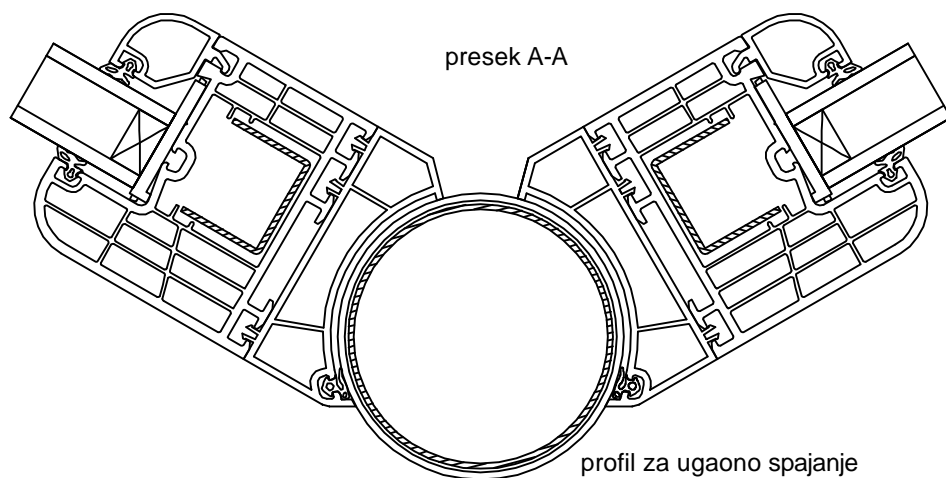
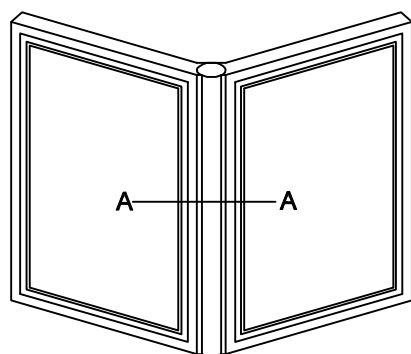
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 500



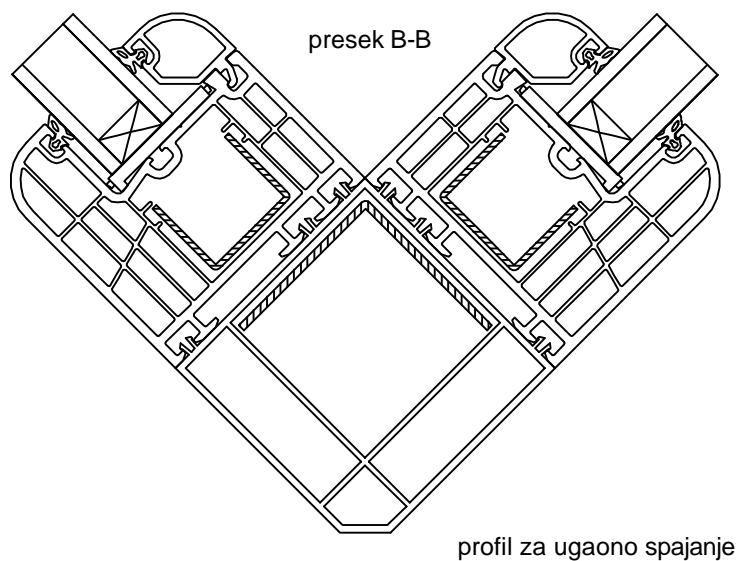
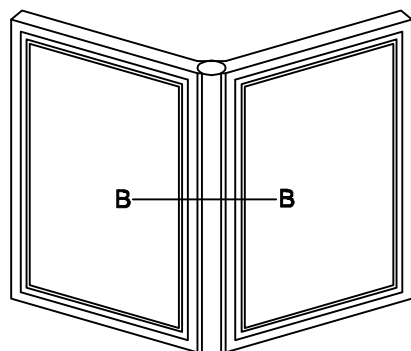
SPAJANJE POD UGLOM 90° SISTEM 500



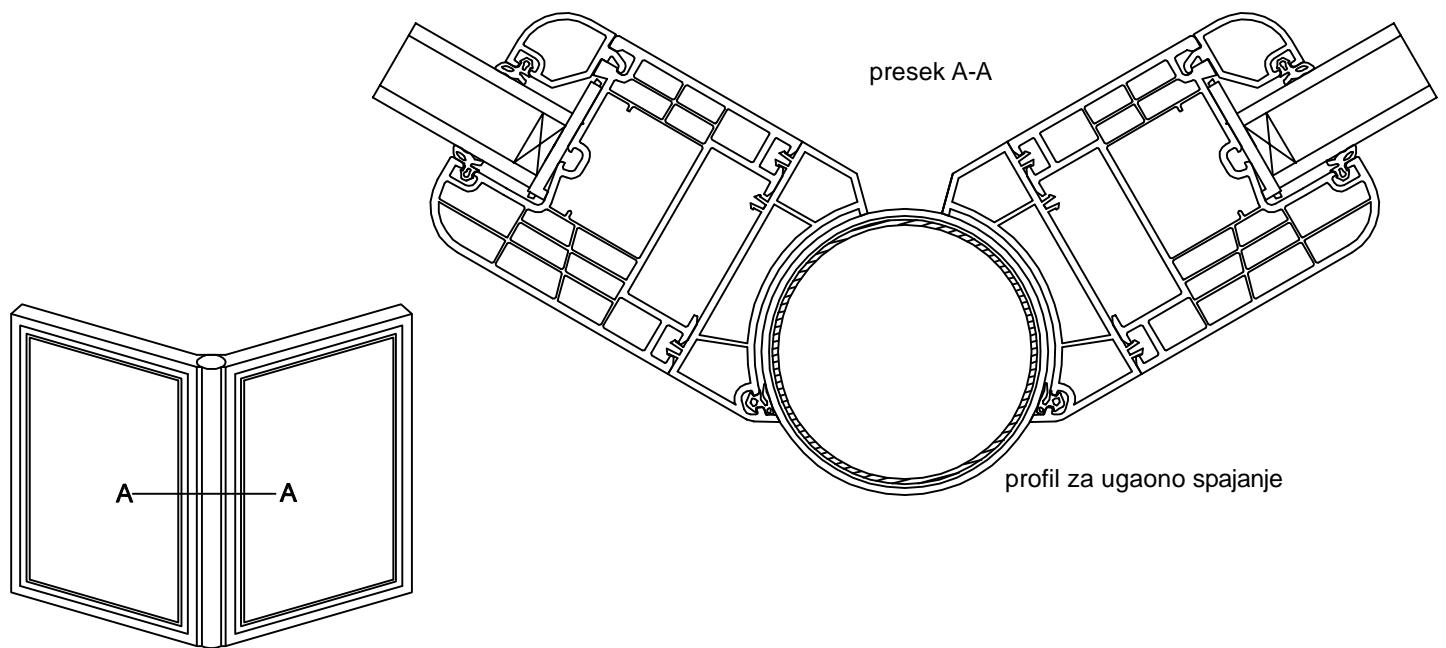
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 600



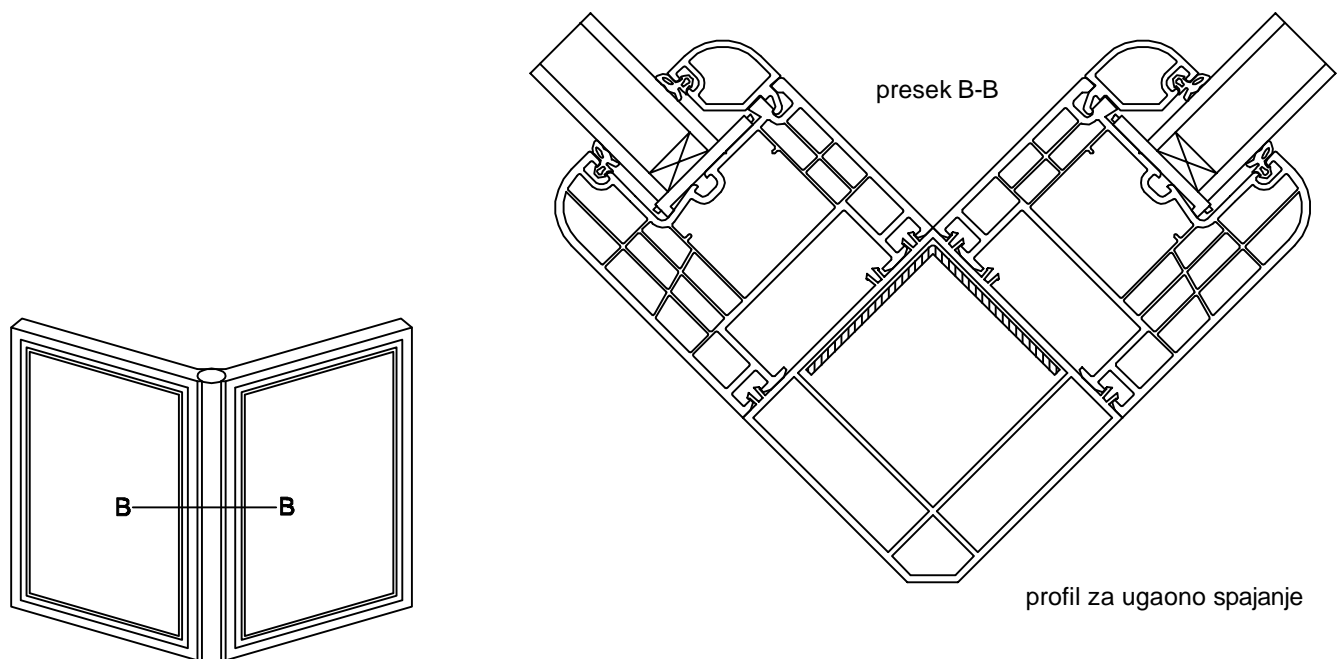
SPAJANJE POD UGLOM 90° SISTEM 600



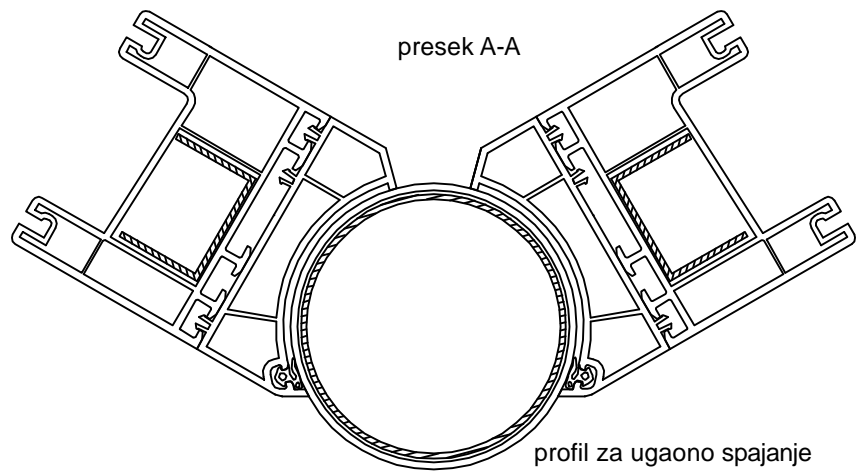
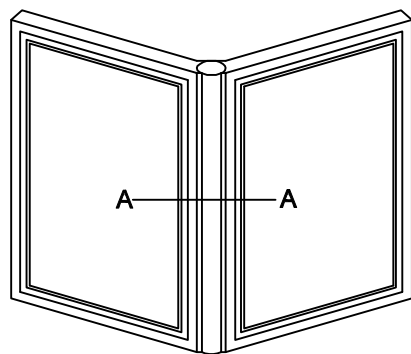
SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 600



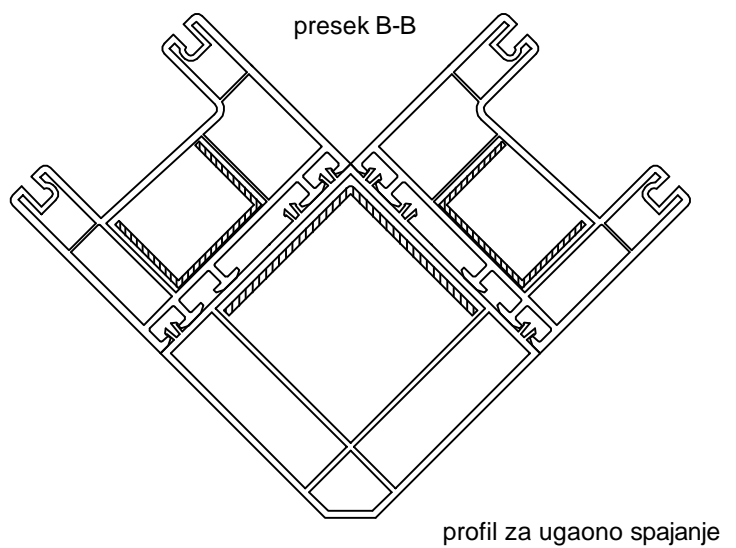
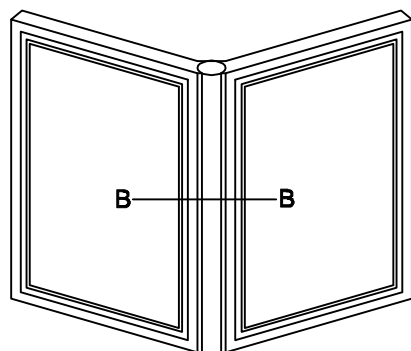
SPAJANJE POD UGLOM 90° SISTEM 600



SPAJANJE POD PODEŠAVAJUĆIM UGLOM SISTEM 800



SPAJANJE POD UGLOM 90° SISTEM 800



6. OJAČANJE PROFILA

Statički proračun nekog građevinskog elementa treba dokazati da će taj element sigurno podneti sile koje na njega deluju i da se pri tome neće trajno deformisati ili uništiti. Prozor mora podneti sile koje deluju direktno na njega i preneti ih na zid.

Iako je prema DIN 18056 "Stakleni zidovi, mere i izvođenje", statički dokaz potreban tek za staklene zidove površine iznad 9 m² i dužine 2 m. Statički proračun potreban je ipak i za manje elemente, ali u tom slučaju pismeni dokaz nije potreban.

Osnove statičkog proračuna

Ugibu koji nastaje zbog opterećenja vetra i vlastite težine, materijal rama suprostavlja se svojim momentom inercije i svojom elastičnošću izraženom modulom elastičnosti E. Savojna elastičnost nekog profila izražava se proizvodom momenta inercije i modula elastičnosti E.

Moment inercije

Moment inercije je vrednost koja se može izračunati iz geometrije preseka. Ta vrednost zavisi od preseka profila.

Modul elastičnosti

Za razliku od momenta inercije, modul elastičnosti (E–modul) je veličina koja zavisi od materijala. E–modul je mera za otpornost nekog materijala na elastičnu deformaciju.

E – moduli različitih materijala za izradu prozora

Materijal	E – modul u N/mm ²
tvrdi PVC	ca 2.700
drvo	ca 10.000
aluminijum	ca 70.000
čelik	ca 210.000

Zbog malog E–modula elastičnosti materijala PVC profili se moraju ojačavati kod određenih opterećenja i iznad određene dužine.

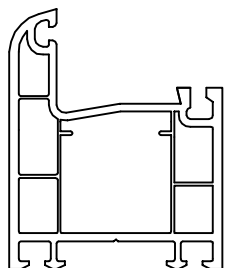
Dozvoljeni ugibi

Dozvoljeni ugibi navedeni su u DIN 18056. Ugib za fiksnu prečku pod pravim uglom na ravan prozora ne sme biti veći od 1/300 dužine profila. Dalje kod ugrađivanja višeslojnog izo–stakla maksimalni ugib stakla ne sme prelaziti 8 mm. Kod podeljenih površina izo–stakla i specijalnih vrsta stakla merodavne su upute proizvođača stakla.

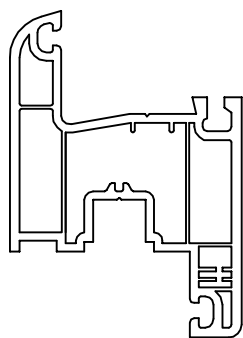
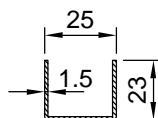
Ograničenja ugiba povezana sa ostakljivanjem obavezno se moraju poštovati jer osetljiva ivica izolacionog stakla lako može pući zbog rubnog ugiba.

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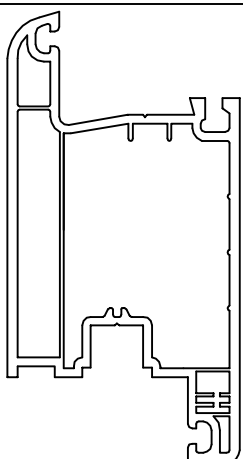
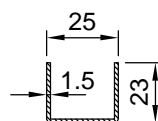
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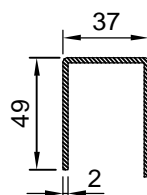
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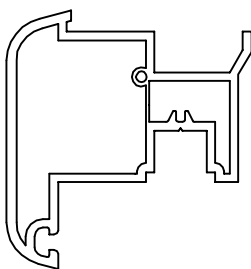
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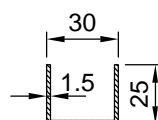
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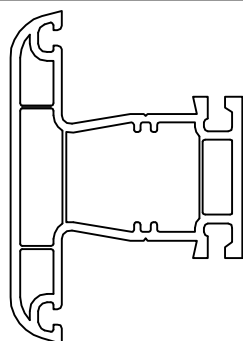
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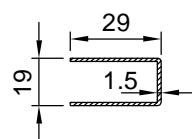
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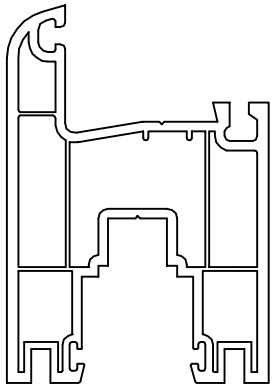
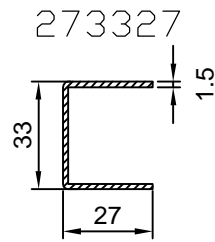
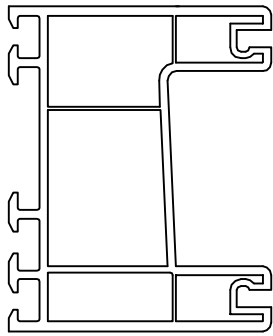


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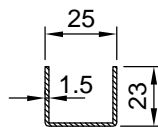


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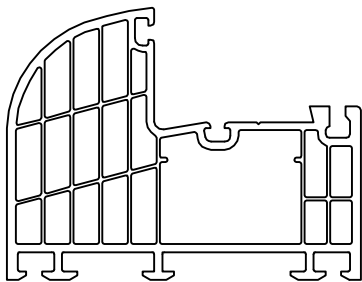
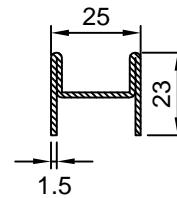
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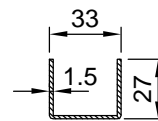
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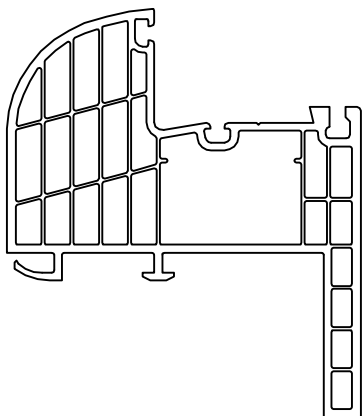
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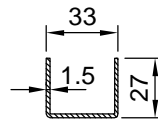
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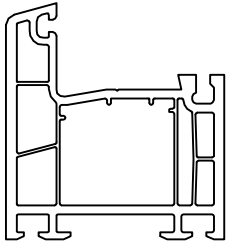
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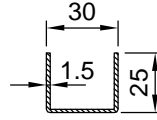
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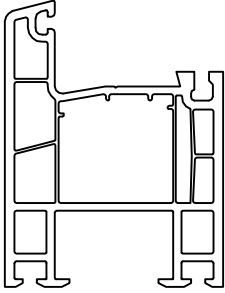
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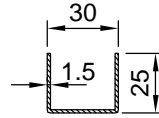
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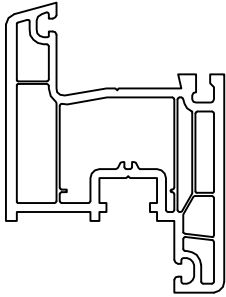
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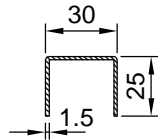
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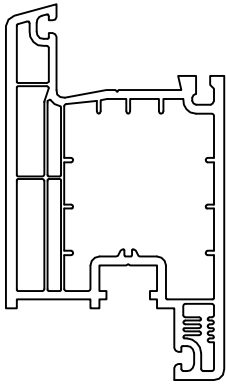
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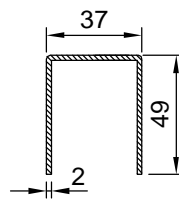
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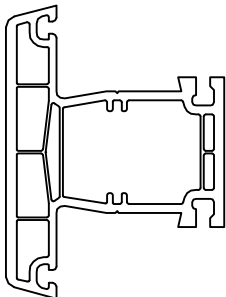
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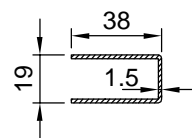
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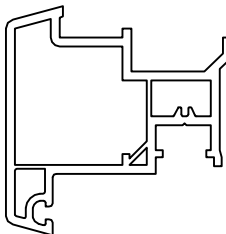
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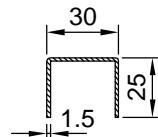
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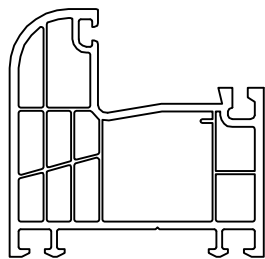
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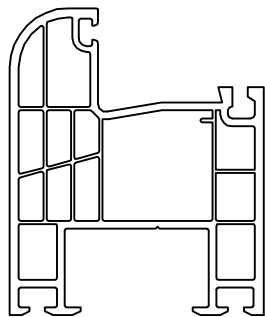
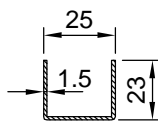
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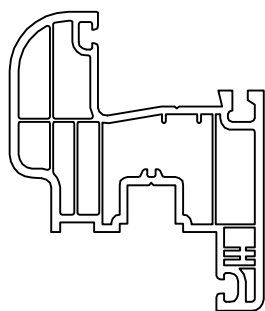
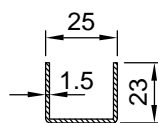
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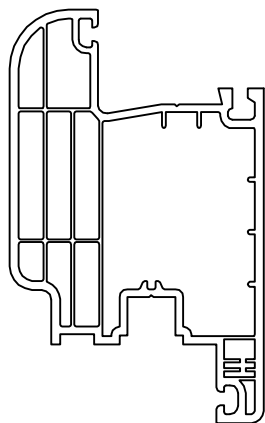
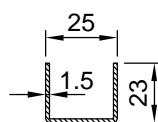
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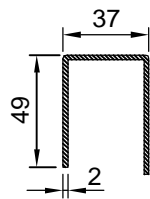
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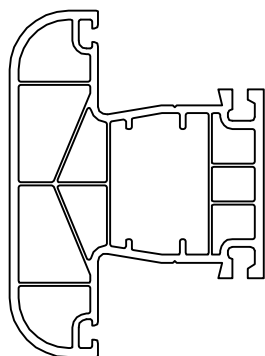
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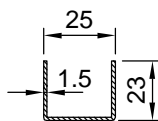
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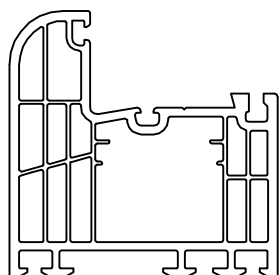


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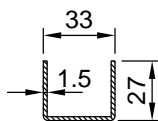


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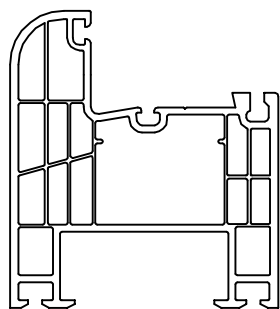
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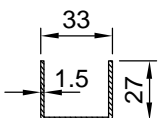
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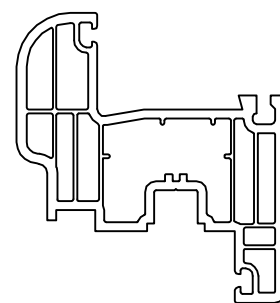
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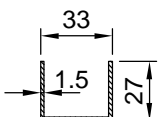
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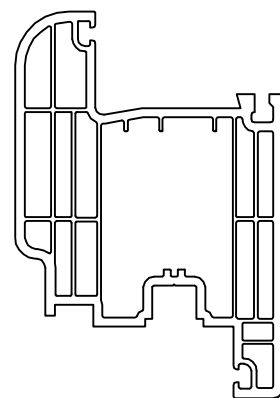
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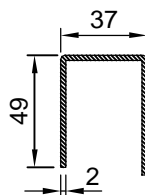
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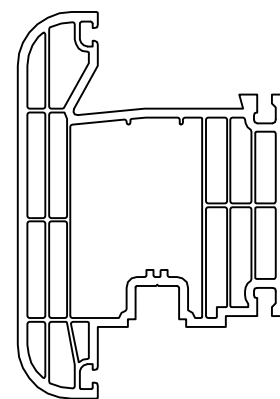
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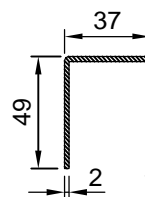
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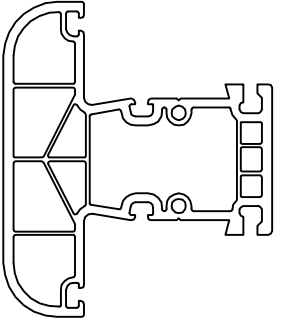
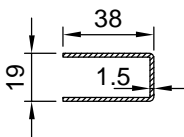
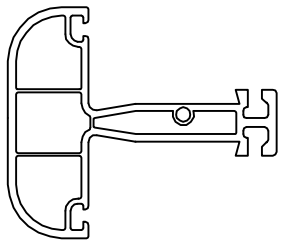
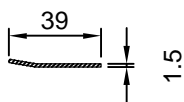
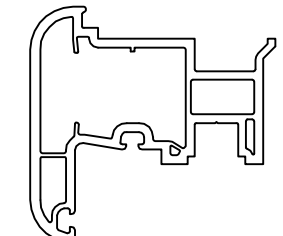
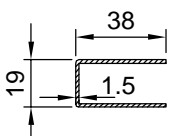
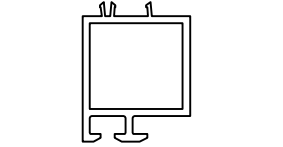
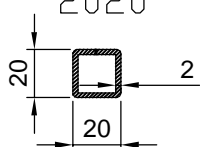
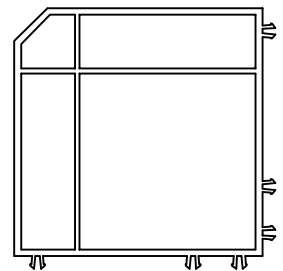
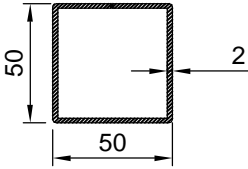
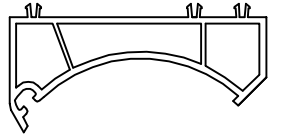
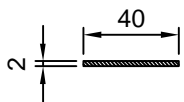
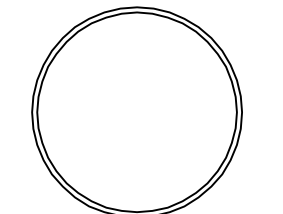
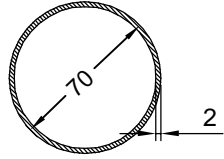
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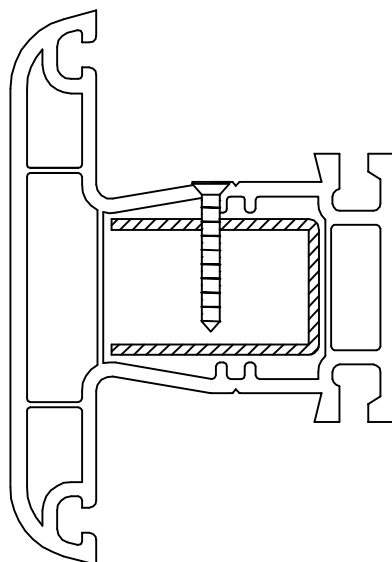
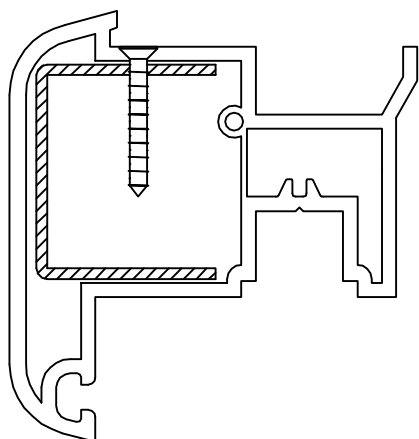
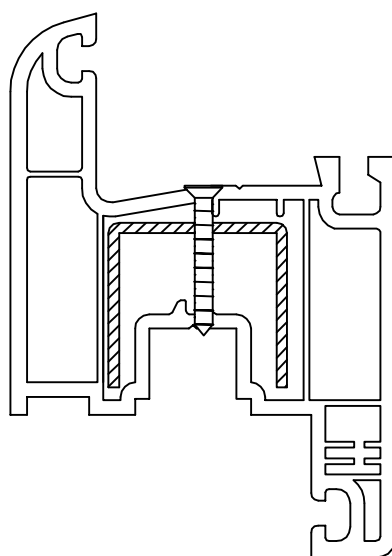
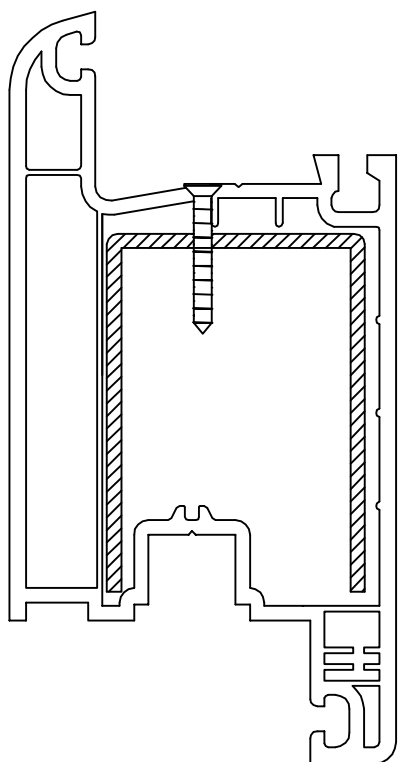
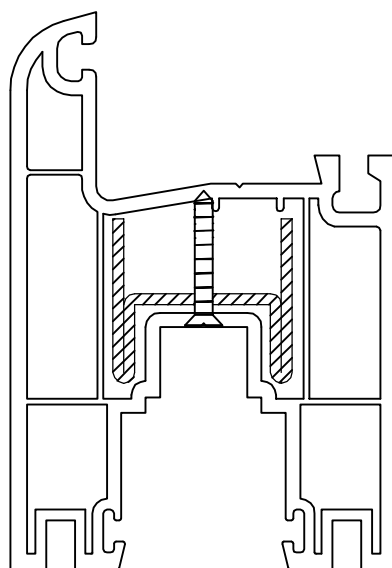
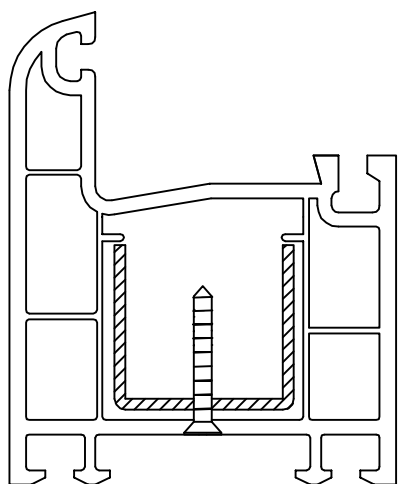
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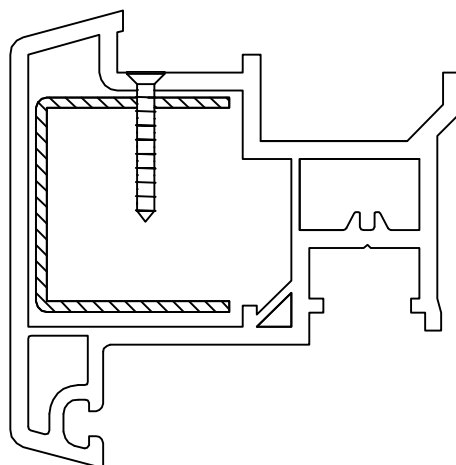
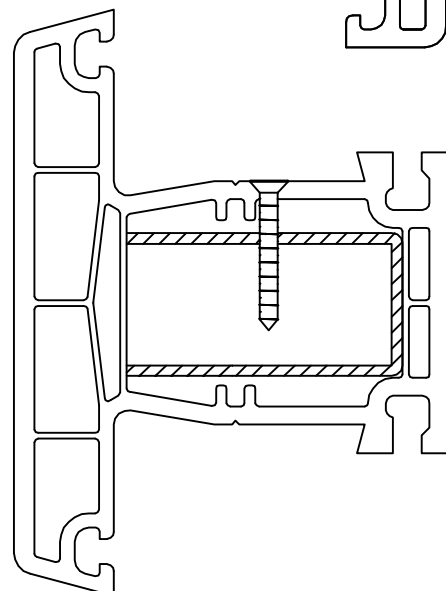
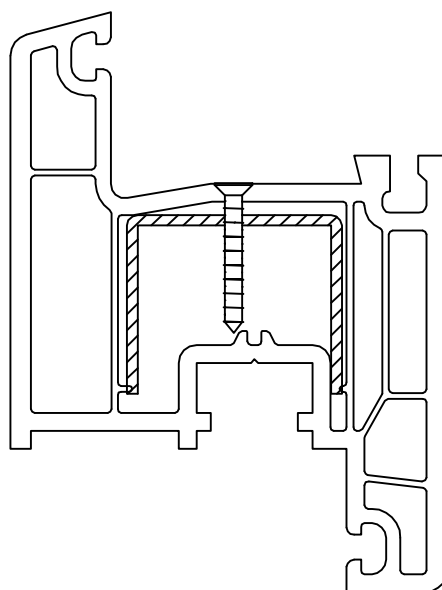
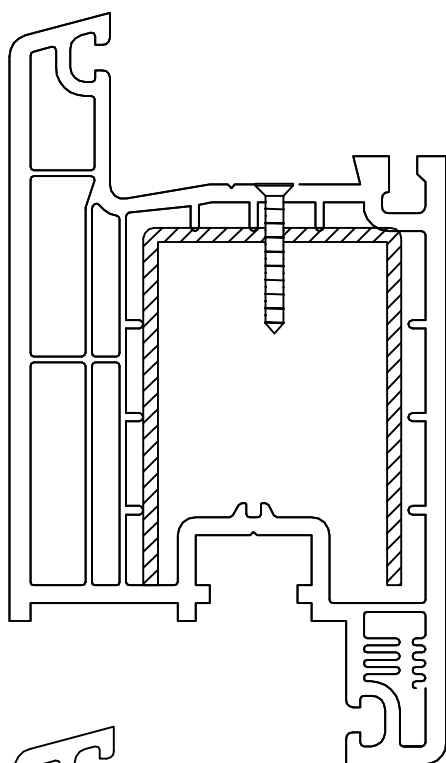
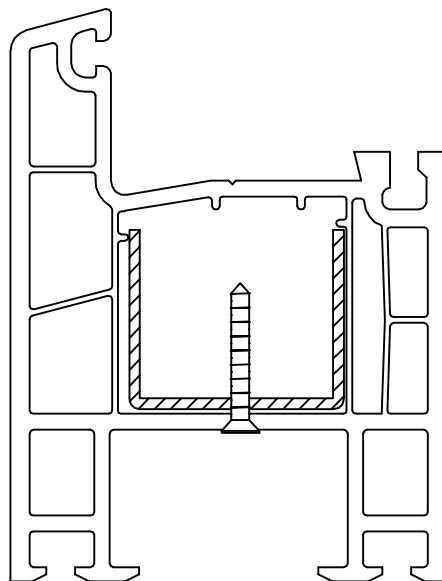
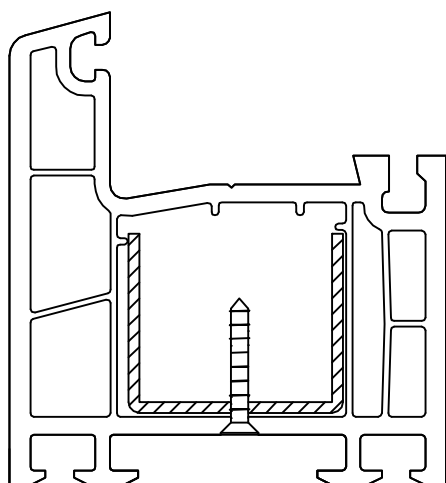
$I_x=6.93 \text{ cm}^4$
 $I_y=6.3 \text{ cm}^4$

Profil profile	ČELIČNO OJAČANJE
	<p>381938</p>  <p>$I_x=2.04 \text{ cm}^4$ $I_y=1.03 \text{ cm}^4$</p>
	<p>39x1.5</p> 
	<p>381938</p>  <p>$I_x=2.04 \text{ cm}^4$ $I_y=1.03 \text{ cm}^4$</p>
	<p>2020</p>  <p>$I_x=1.83 \text{ cm}^4$ $I_y=2.44 \text{ cm}^4$</p>
	<p>5050</p>  <p>$I_x=14.5 \text{ cm}^4$ $I_y=14.5 \text{ cm}^4$</p>
	<p>4002</p>  <p>$I_x=0.0026 \text{ cm}^4$ $I_y=1.1 \text{ cm}^4$</p>
	<p>FI 70</p>  <p>$I_x=18.3 \text{ cm}^4$ $I_y=18.3 \text{ cm}^4$</p>

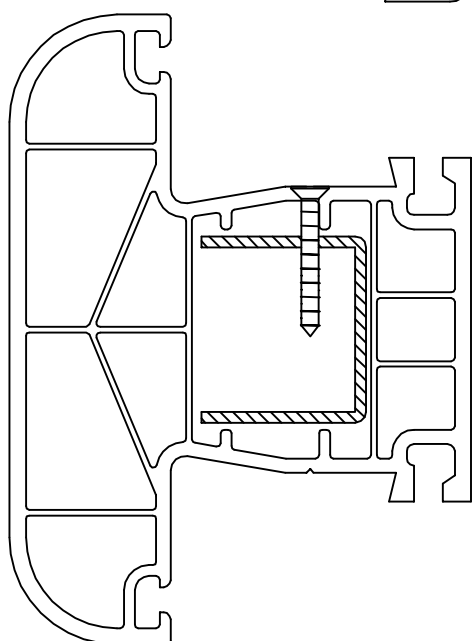
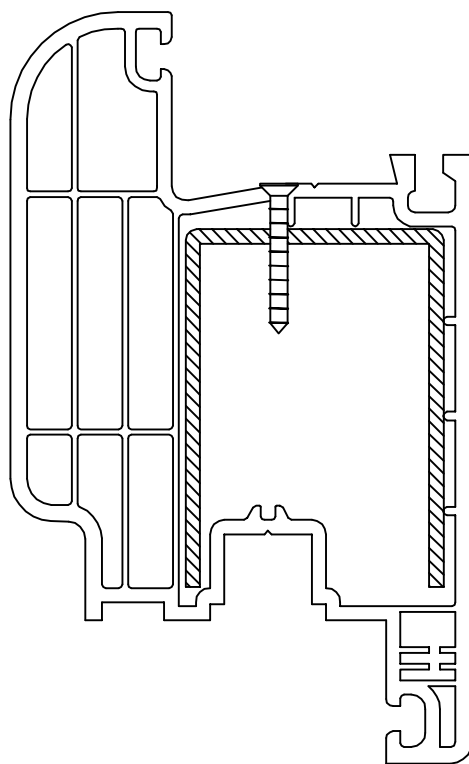
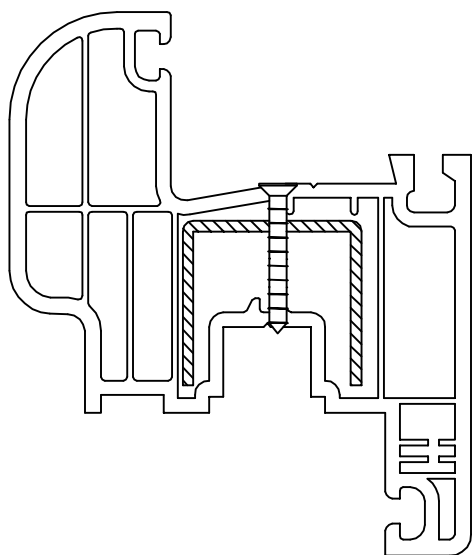
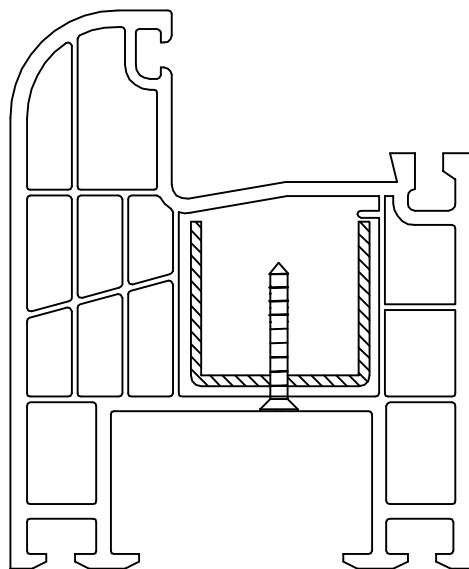
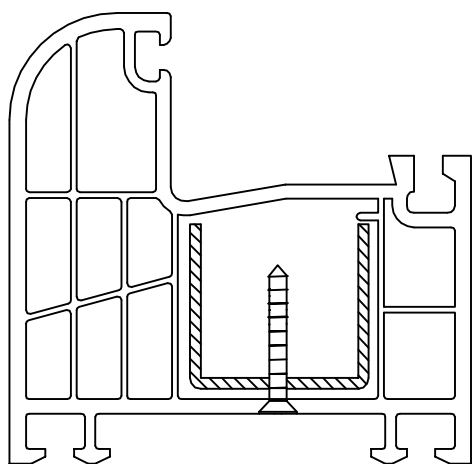
VEZA ČELIČNOG OJAČANJA SA PROFILIMA SISTEM 300



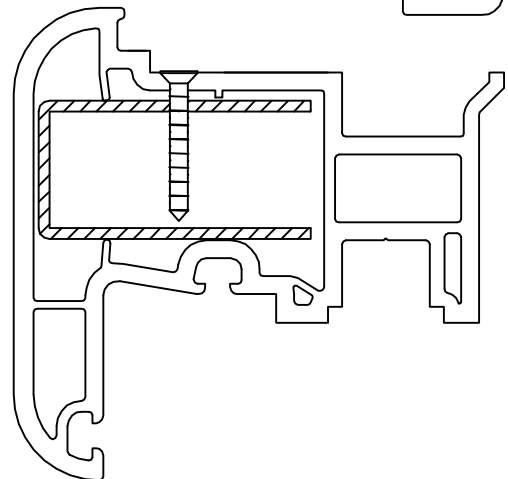
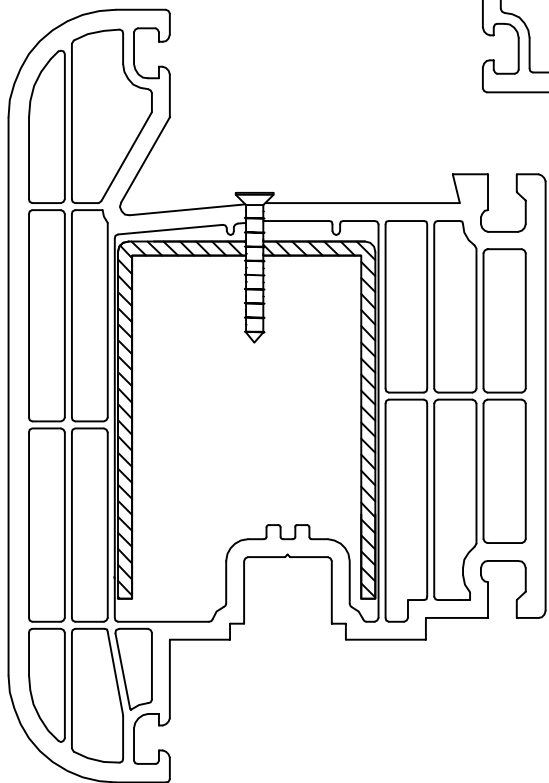
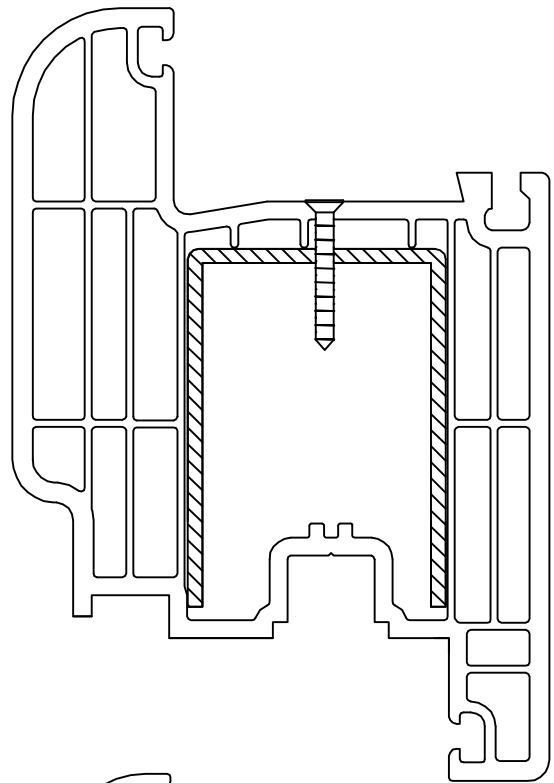
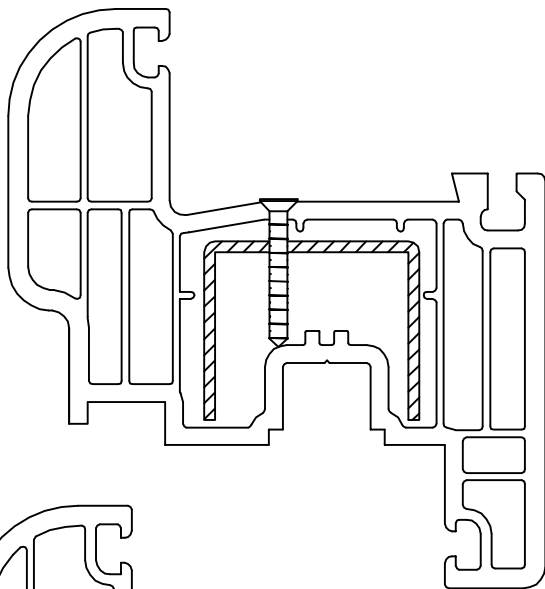
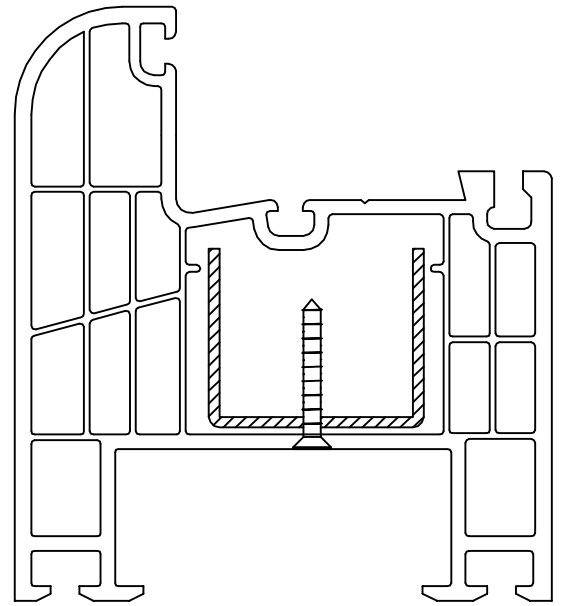
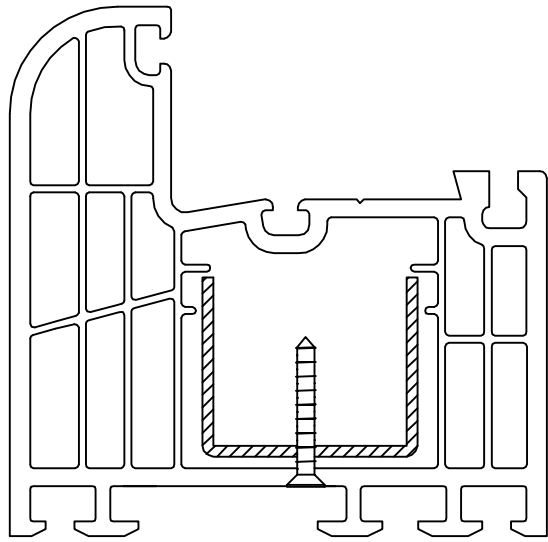
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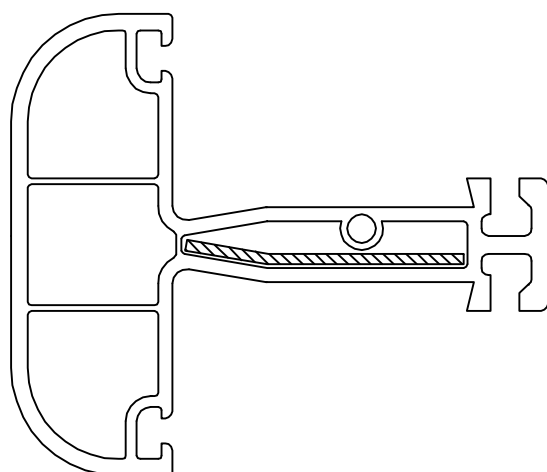
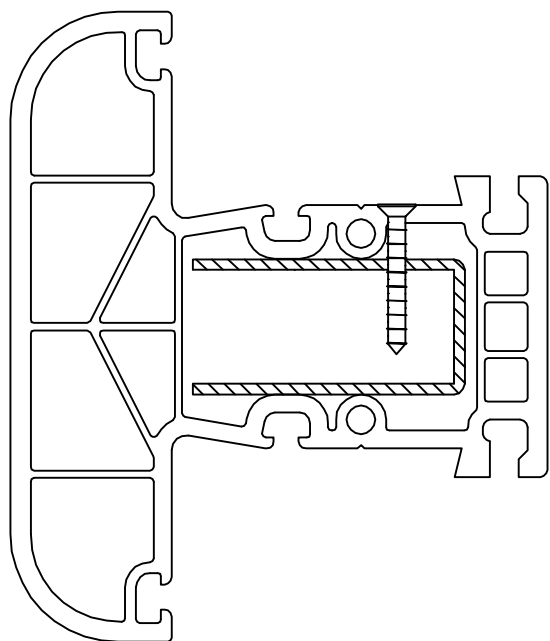


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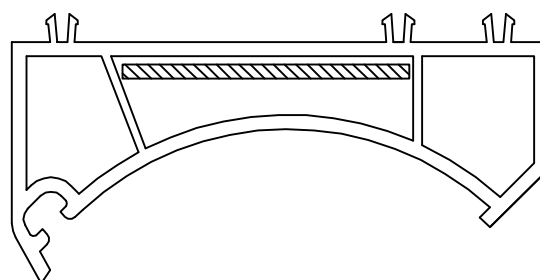
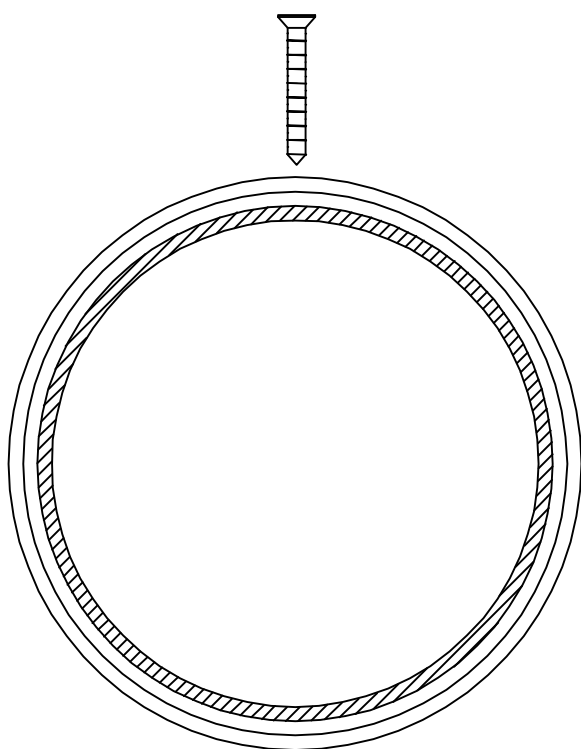
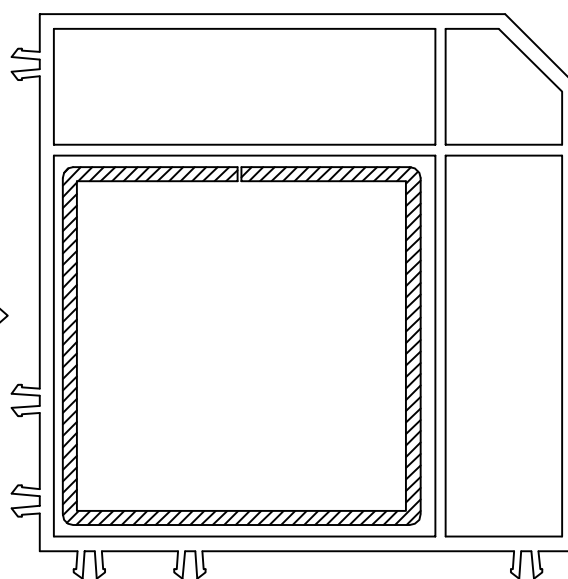
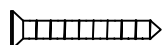
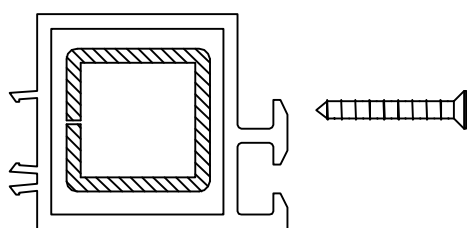


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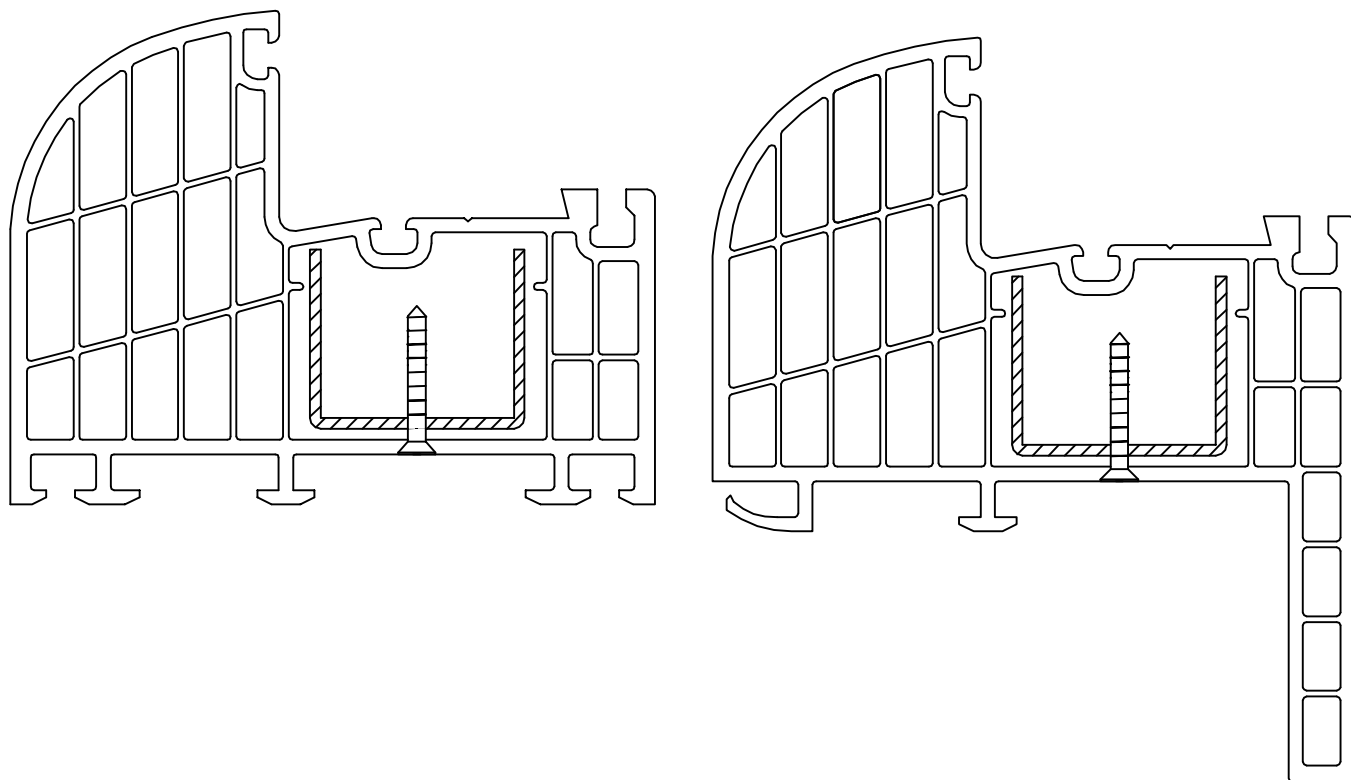




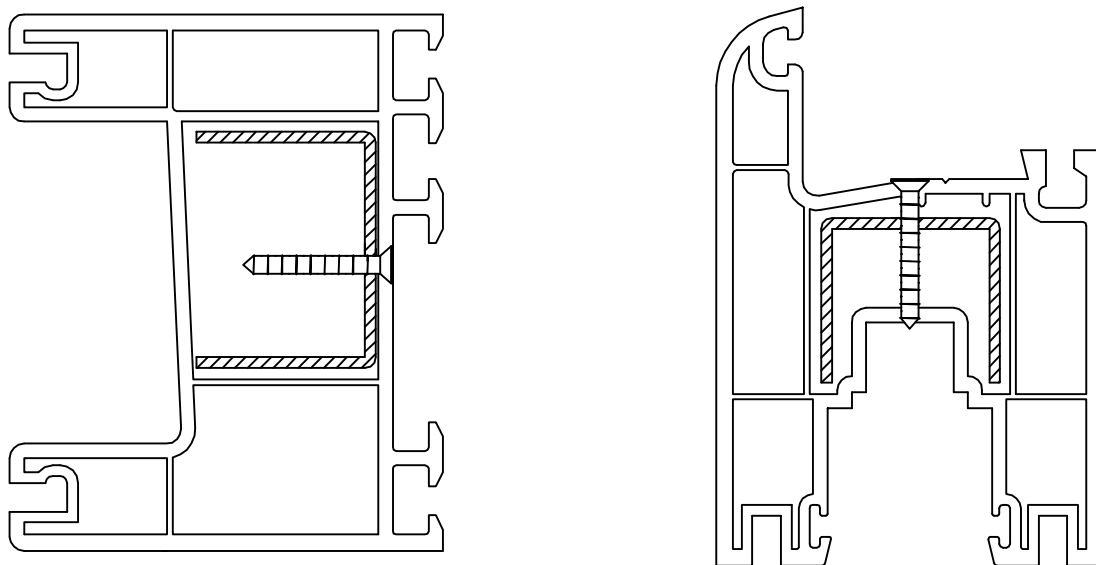
VEZA ČELIČNOG OJAČANJA SA POMOĆNIM PROFILIMA



VEZA ČELIČNOG OJAČANJA SA PROFILIMA SISTEM 800



VEZA ČELIČNOG OJAČANJA SA PROFILIMA SISTEM 800 - ŠIBER



7. ZAPTIVAČI

Zaptivači kao i prozori se izrađuju od različitih materijala. Ukoliko nisu odgovarajućeg kvaliteta gube vremenom funkcionalnost kao i izolacione karakteristike prozora.

Greške se javljaju kada se štedi na zaptivačima. Na račun male uštede može se napraviti velika šteta, a posledice oseća isključivo krajnji kupac. Zaptivači za staklo kao i spoljni zaptivači na ramu se prave od EPDM. To je materijal koji je veoma otporan na vremenske uticaje, posebno uticaj ultravioletnog zračenja iz sunčevog spektra. Lajsna za staklo se pravi koekstrudiranjem, prevlačenjem mekog PVC-a po osnovnom materijalu tvrdom PVC-u. Treba naglasiti da ovaj zaptivač nije izložen vremenskom uticaju te njegova otpornost na ultravioletno zračenje nema značajnu vrednost. Profili ROLOPLAST na svojim ramovima imaju tri zaptivača, veoma je interesantan srednji zaptivač kojim je praktično onemogućen prodor vode usled eventualnih vremenskih nepogoda.

Kod zaptivača koji se koriste kod PVC prozora osim otpornosti na vremenske uticaje, dimenzija, posebnu pažnju treba obratiti na tzv. "lepljenje" – prijanjanje zaptivača na prozorski profil kako bi se popunile eventualne "mikroskopske" pukotine. Treba naglasiti da je neodgovarajuće zaptivanje glavni uzrok prekomernih toplotnih gubitaka i dobitaka, kao i značajno smanjenje zvučne izolacione moći.

Zaptivačima na krilu, ramu, staklu kao i vezom ram-krilo treba obezbediti odgovarajući broj izmena vazduha kroz zatvoren prozor.

Potrebno je osigurati odgovarajuću količinu vazduha kroz zatvoren prozor. Broj zaptivača je u funkciji namene prostora. Kod stambenih zgrada on treba da bude manji dok je kod školskih objekata veći. Na manjem prostoru boravi veći broj ljudi te je potreban i veći broj izmena vazduha n [i/h].

Broj izmena vazduha se definiše na sledeći način:

$$n = \frac{V'}{V} \text{ [i/h]} \quad V' - \text{protok vazduha kroz prostor [m}^3\text{/h], } V - \text{zapremina prostora.}$$

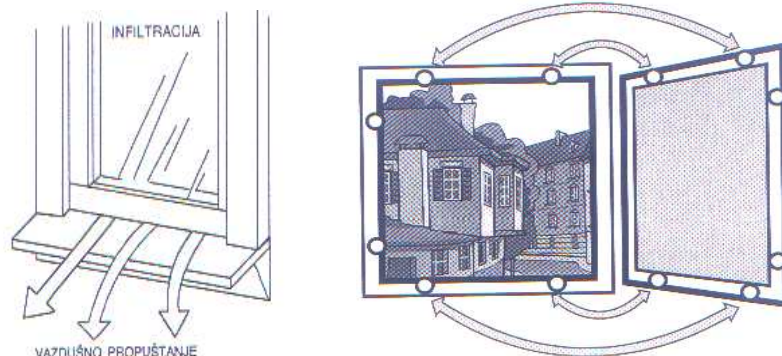
Po DIN 4107 dozvoljeni broj izmena vazduha je od 0,5 – 1 [i/h] dok naš standard JUS U. J5 100 zahteva broj izmena manji od dve $n < 2$ i/h.

Glavni uzrok smanjenja zvučne izolacione moći kao i povećanih toplotnih gubitaka u našoj zemlji je neodgovarajuća zaptivenost prozora.

Po definiciji postoje dve vrste buke: strukturna i vazдушna. Strukturna buka se rešava odgovarajućim materijalima (teškim materijalima). Ono što zadovoljava toplotnu izolovanost (lagani materijali sa vazдушnim porama) ne zadovoljava zvučnu izolovanost.

Najveći je problem ako se ne ostvari odgovarajuće zaptivanje, povećava se prolaz vazduha i smanjuje zvučna izolaciona moć.

Prozor je utoliko bolji, ukoliko je veća zvučna izolaciona moć prozora.



ZAPTIVAČ STAKLA

P.052

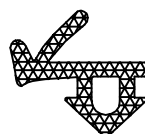
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ZAPTIVAČ RAM-KRILO

P.051

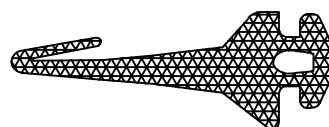
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ZAPTIVAČ RAMA

P.050

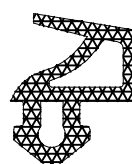
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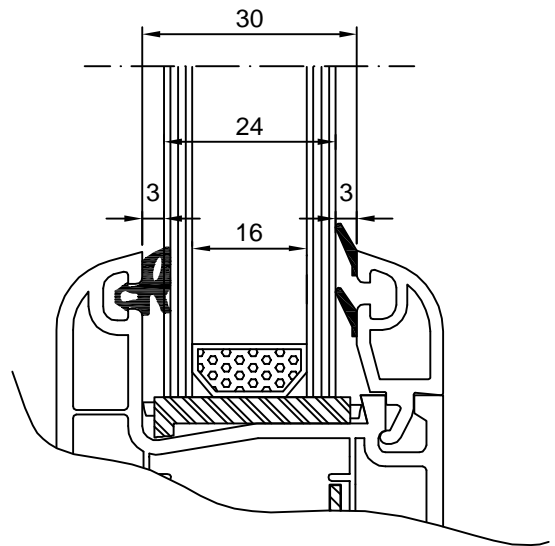
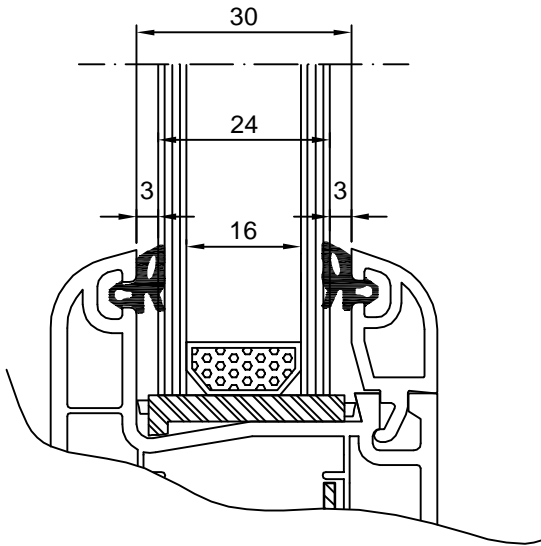
ZAPTIVAČ RAM-KRILO-STAKLO

P.060

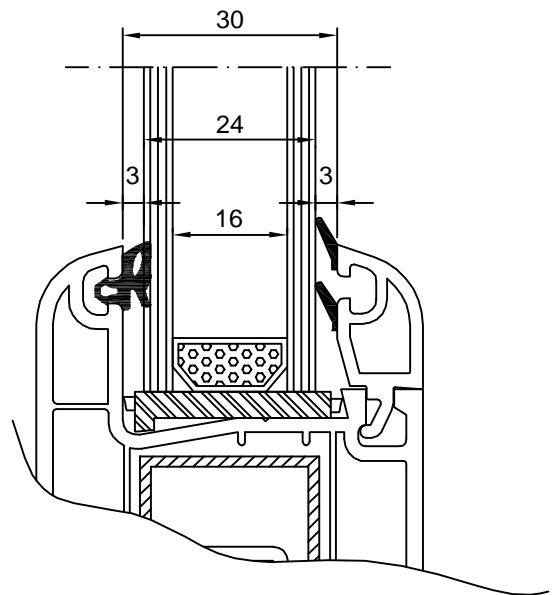
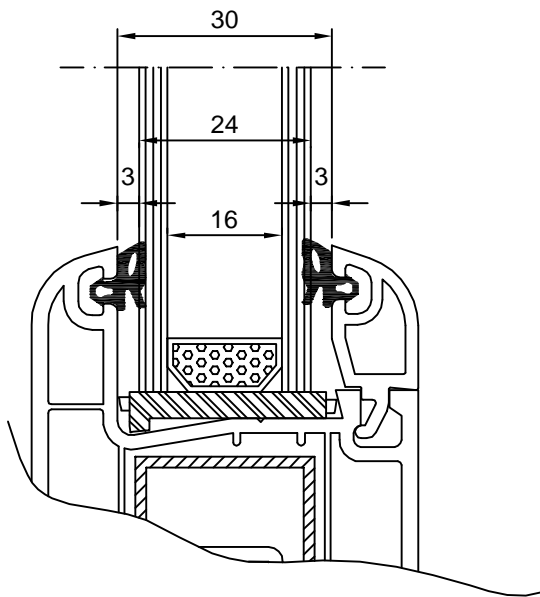
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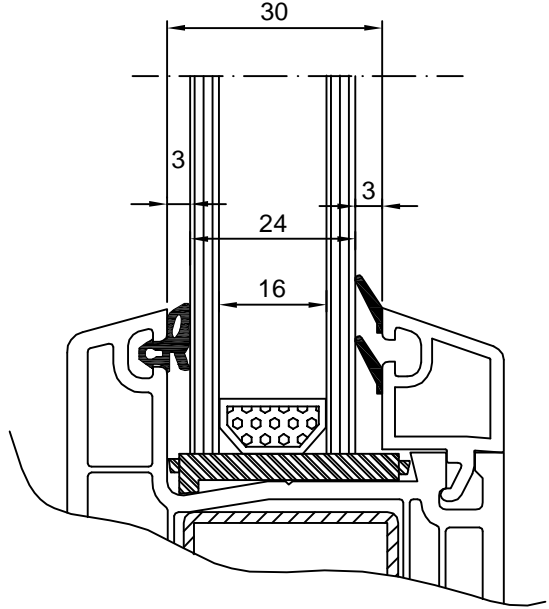
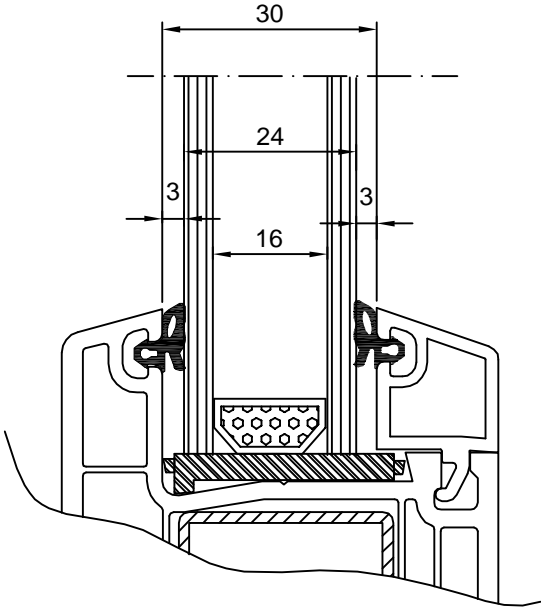
STAKLO SISTEM 300



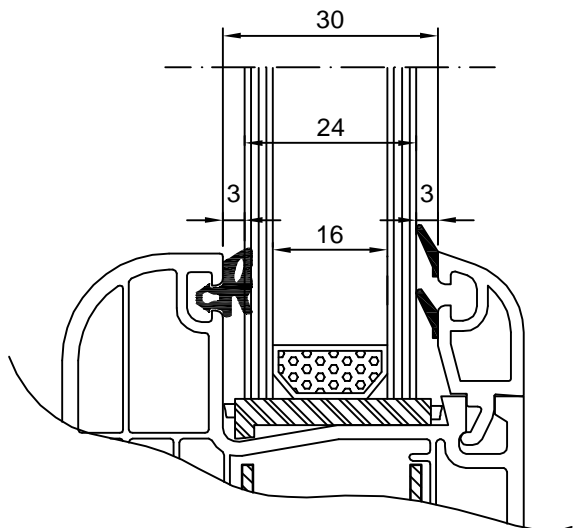
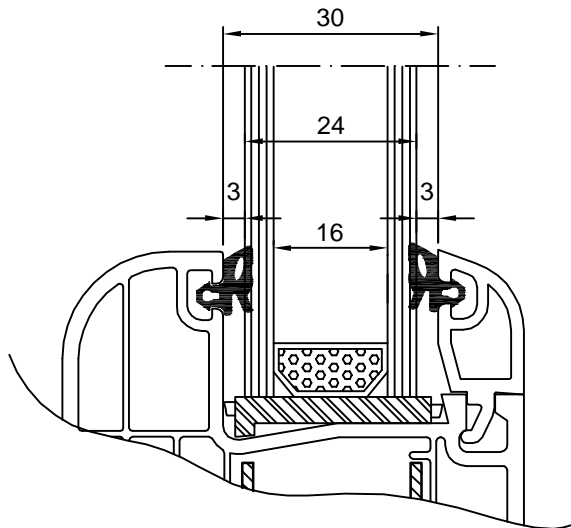
STAKLO SISTEM 800 - ŠIBER



STAKLO
SISTEM 400

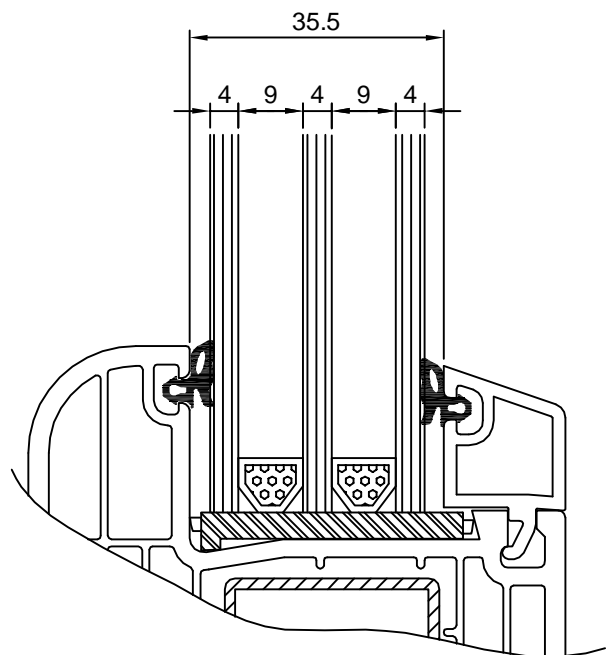
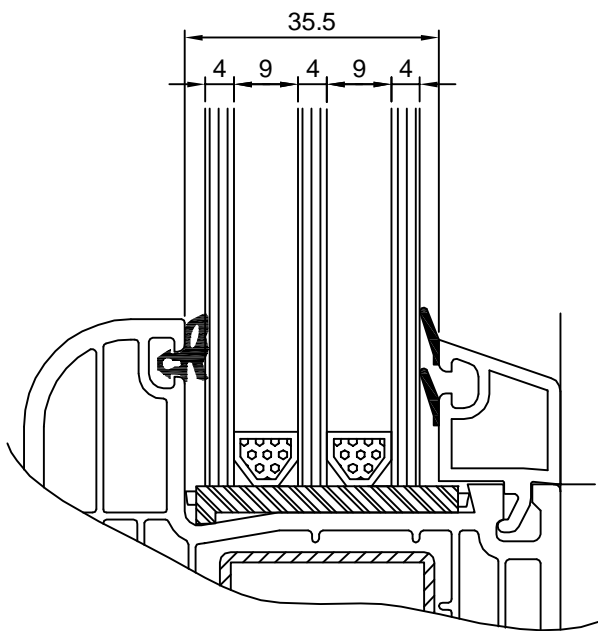
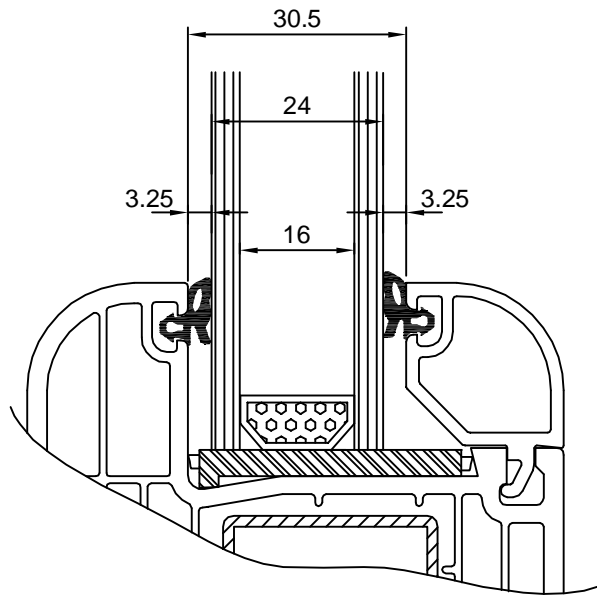


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SISTEM 500

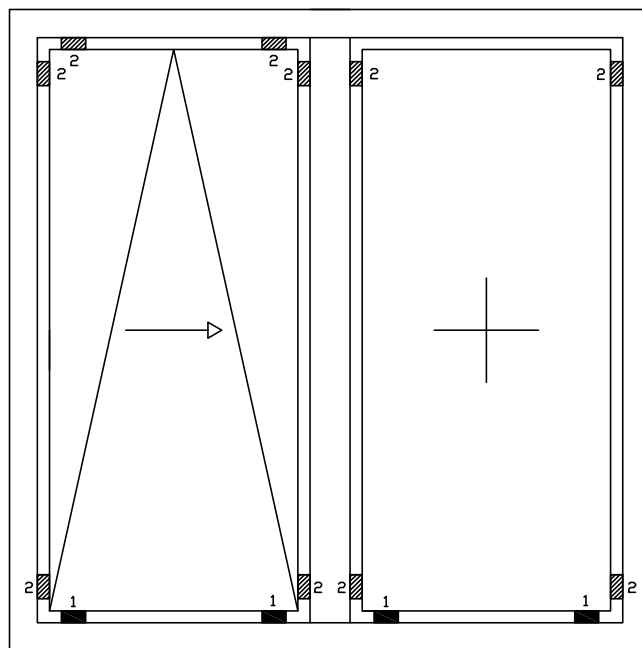
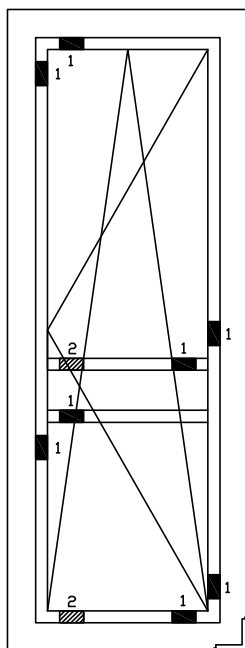
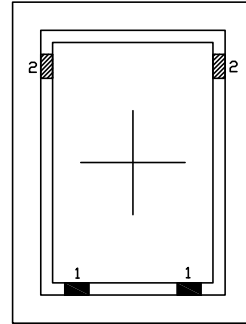
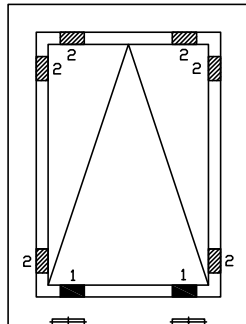
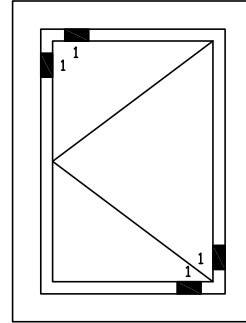
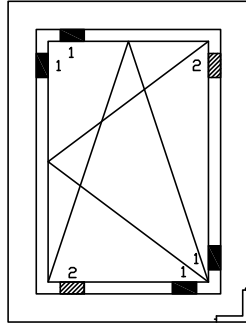


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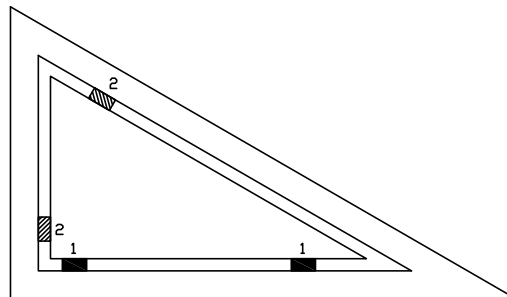
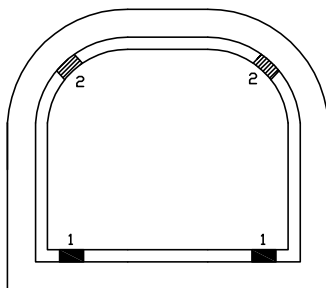
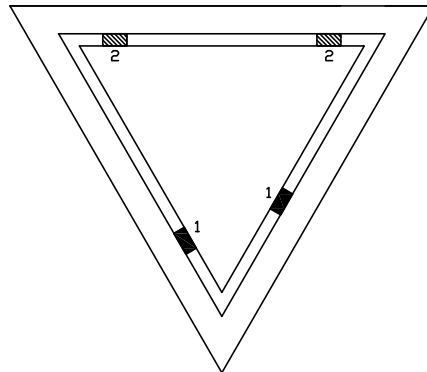
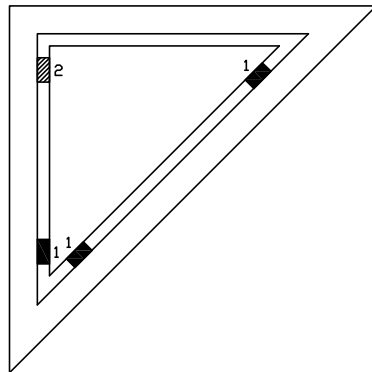
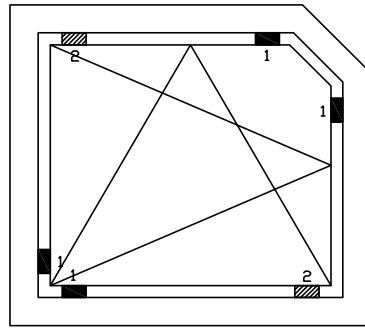
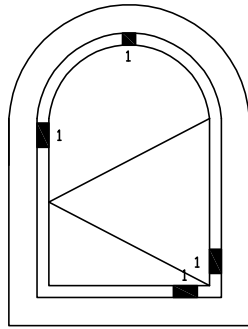
SISTEM 600 I SISTEM 800



8. NAČINI KAJLOVANJA KOD ZASTAKLJIVANJA STOLARIJE



NAČINI KAJLOVANJA KOD ZASTAKLJIVANJA STOLARIJE



9. NAČIN I POSTUPCI UGRADNJE PROZORA I VRATA

Prema načinu izvođenja ugradnje fasadnih prozora i vrata razlikujemo dva postupka:

- mokri postupak ugradnje
- suvi postupak ugradnje

Mokri postupak ugradnje

Učvršćivanje prozora se obavlja čeličnim ankerima ili vijcima. Ivice zida za koje se učvršćuju prozori i vrata nisu obrađene. Pravilno pripremljen otvor podrazumeva otvor veći od proizvodne mere za 2 cm po širini i visini.

Ram se učvršćuje klinovima (kajlovima) sa svih strana da bi se dobila horizontalnost i vertikalnost prozora.

Nakon spajanja rama i zida čeličnim ankerima ili vijcima, prostor između zida i rama popunjava se poliuretanskom penom. Posle očvršćivanja poliuretanske pene višak se odseče. Posle toga se prostor između rama i zida sa vanjske strane popunjava silikonom radi kvalitetnijeg zaptivanja. Pre malterisanja postaviti pokrivne šarke i zaštititi fasadne elemente najlonom ili kartonom. Nakon toga se vrši malterisanje tako da malter pokrije bar 1 cm rama.

Treba naglasiti da malter ne sme doći u kontakt sa šarkama.

Nakon malterisanja skinuti zaštitnu foliju sa profila.

Suvi postupak ugradnje

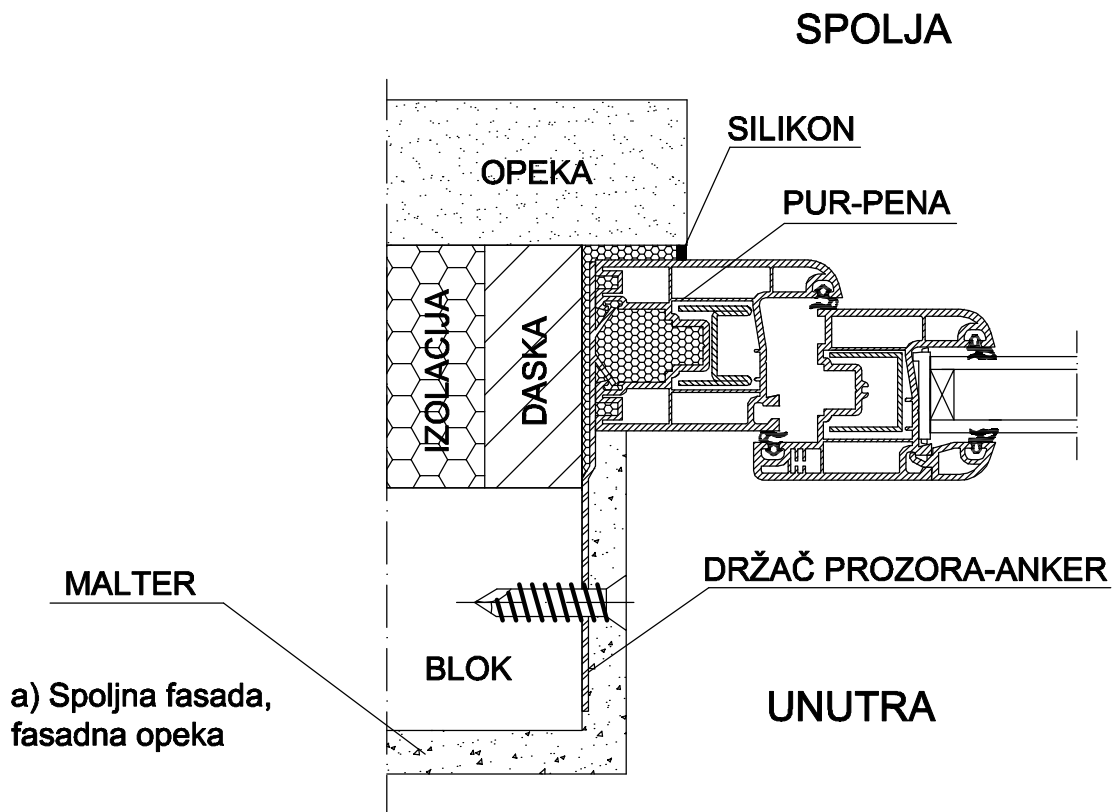
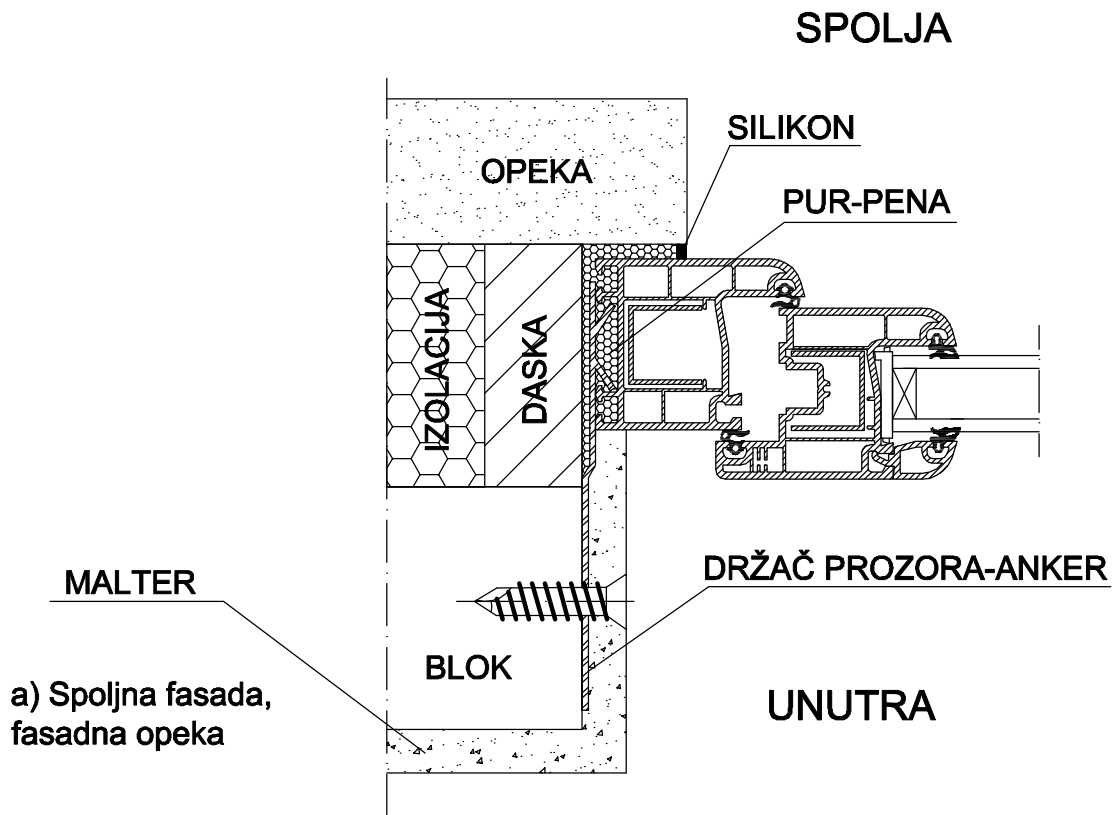
Ovaj postupak ugradnje se primenjuje kada je objekat omalterisan i kada je urađena spoljna fasada.

Otvor u koji se ugrađuje prozor treba biti veći od prozora za 1 cm po visini i širini. Prostor između zida i rama popunjava se poliuretanskom penom. Kada se odseče višak pene, prostor između zida i okvira se dodatno sa spoljne i unutrašnje strane popunjava silikonom. Nakon tog postupka obavezno je postaviti pokrivne lajsne.

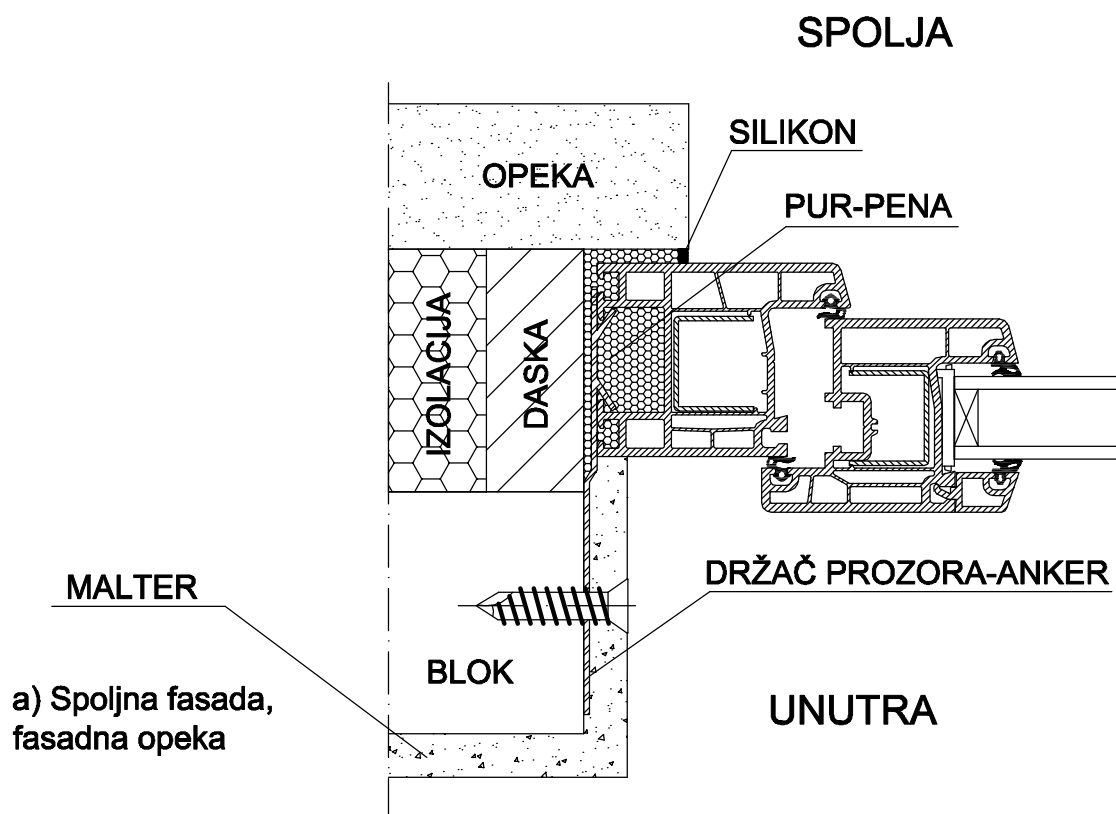
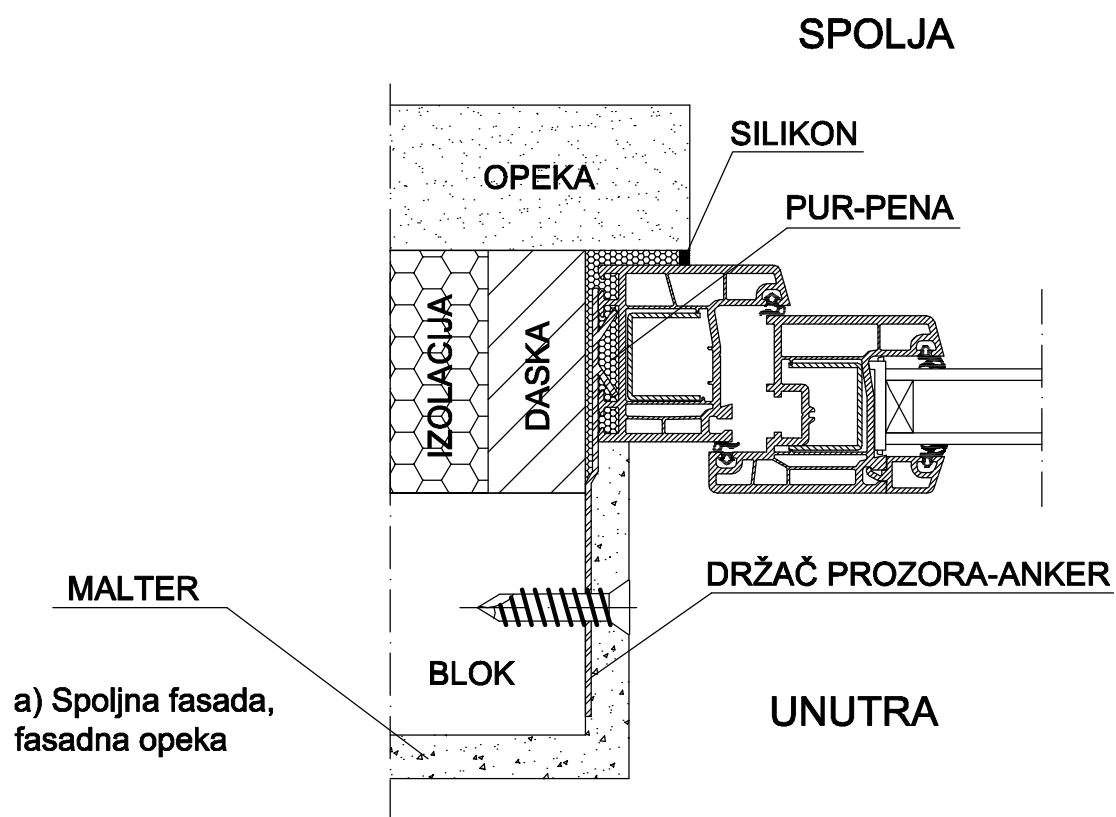
Ugradnja prozora u nekoliko koraka:

- Demontaža počinje odvajanjem okapnice pomoću čekića i dleta
- Spojevi sa zidom se olabave čekićem i posle toga se odstrane vijci. Ukoliko se radi o zarđalim vijcima moguće je samo izbijanje spojeva. Posle toga se ram jednostavno vadi.
- Prozor se pomoću klinova horizontalno i vertikalno poravna (pomoću libele)
- Rupe za pričvršćivanje se buše pomoću šablona
- Čelični vijci se postavljaju u izbušene rupe
- "Fuga" (prostor između otvora i rama) se nakon pričvršćivanja popuni poliuretanskom penom. Nanošenje pene mora biti bez naknadnog ekspaniranja jer bi usled razlike pritiska moglo doći do deformacije rama
- Oštrim nazubljenim nožem se nakon što je pena očvrsla odseče.

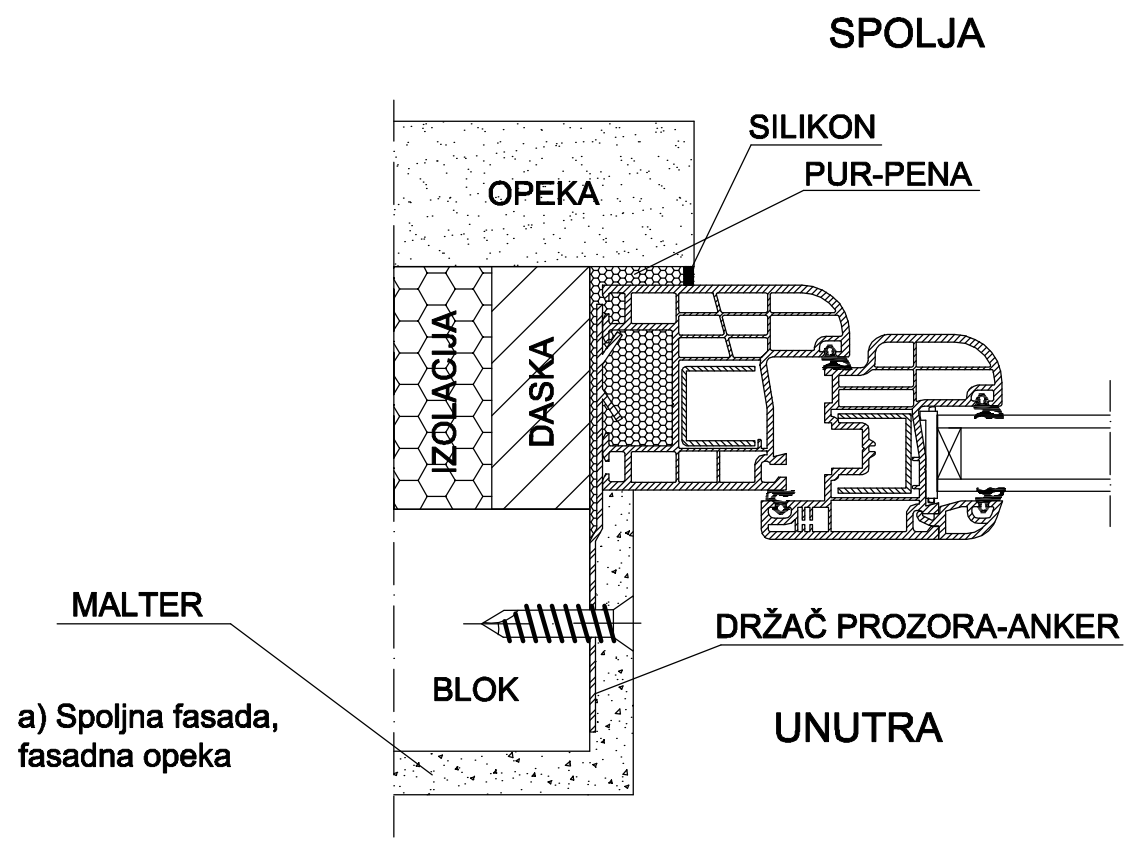
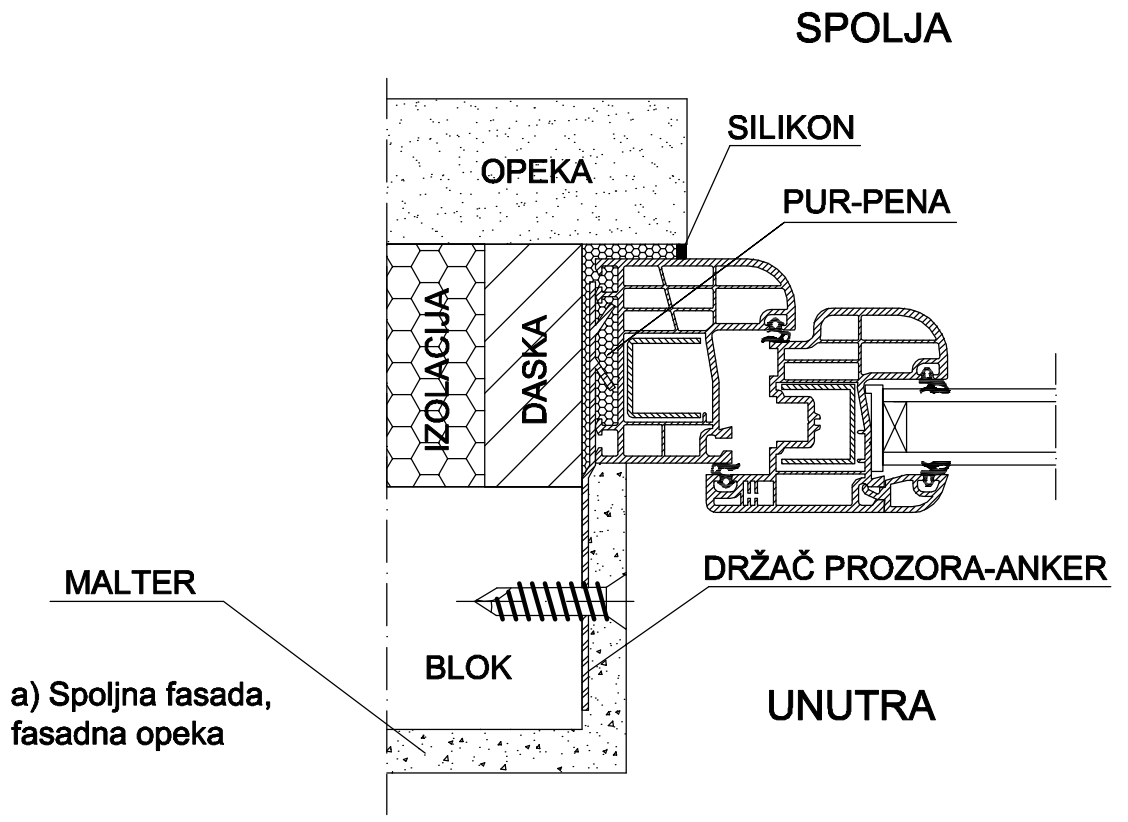
MOKRI POSTUPAK MONTAŽE



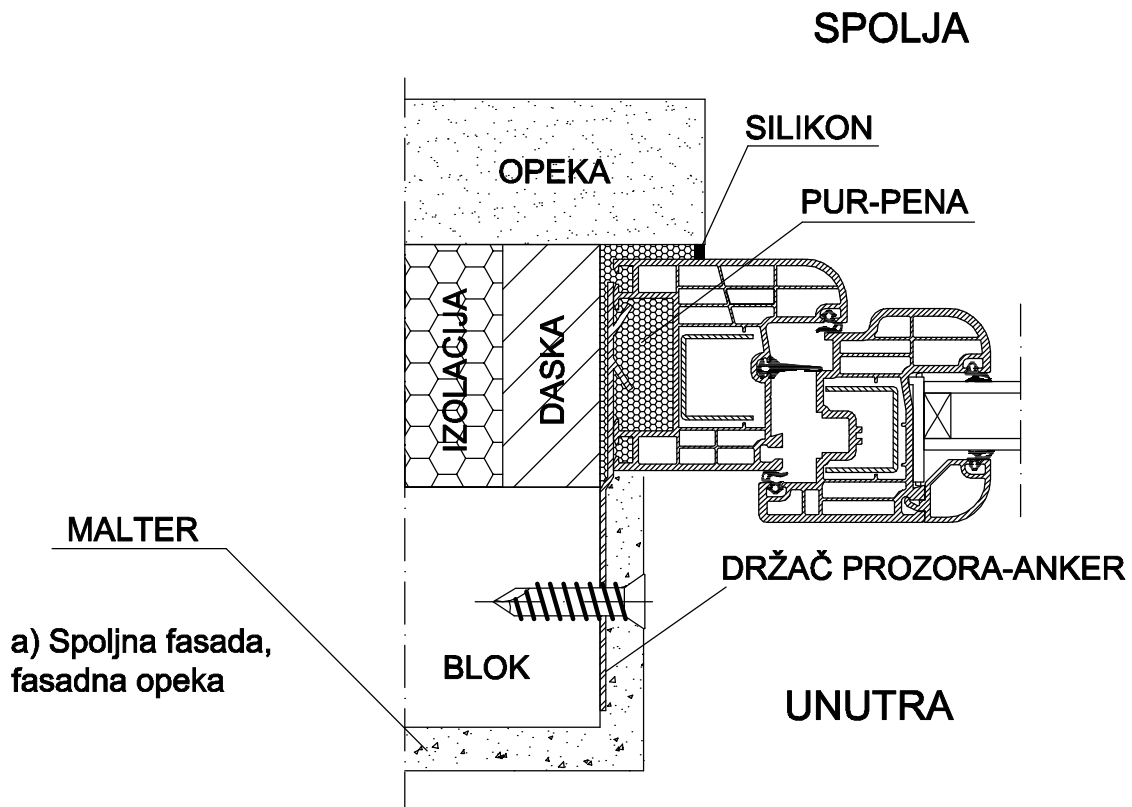
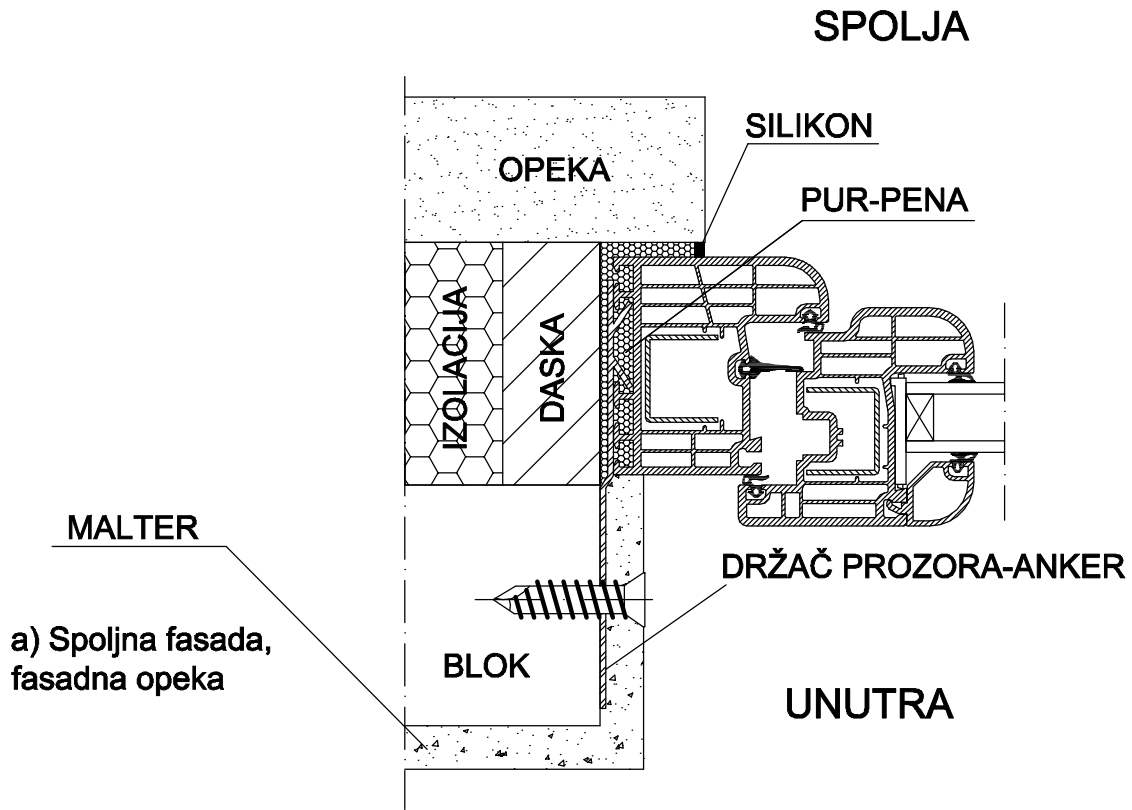
MOKRI POSTUPAK MONTAŽE



MOKRI POSTUPAK MONTAŽE

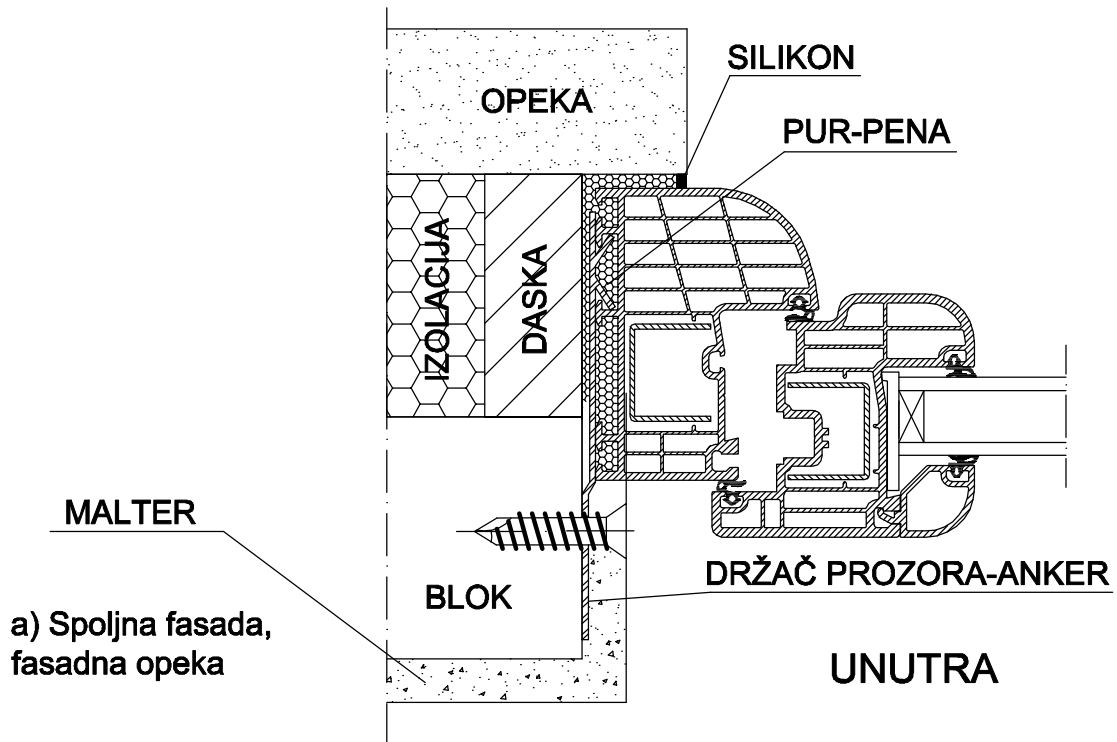


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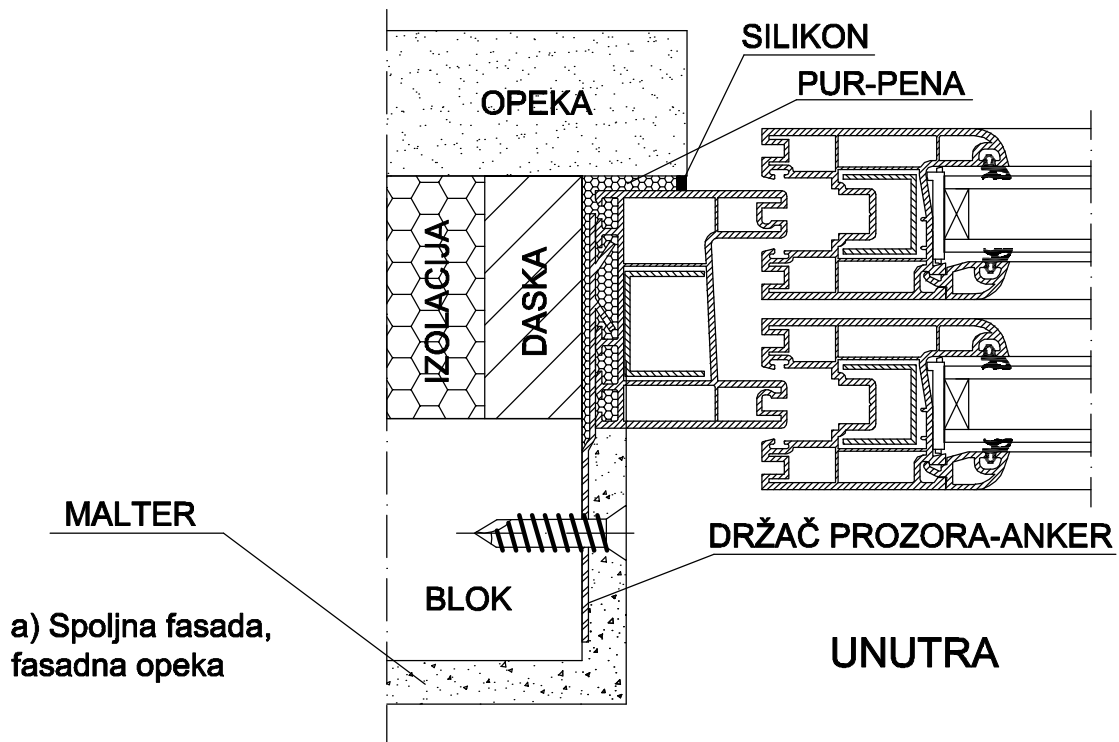


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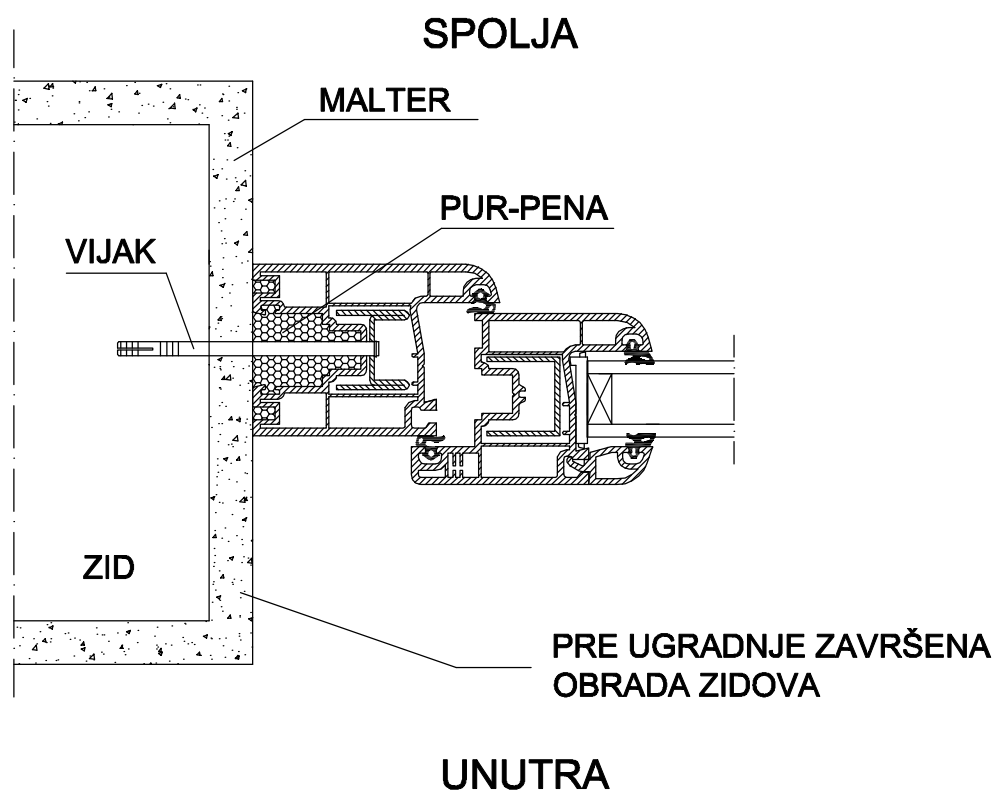
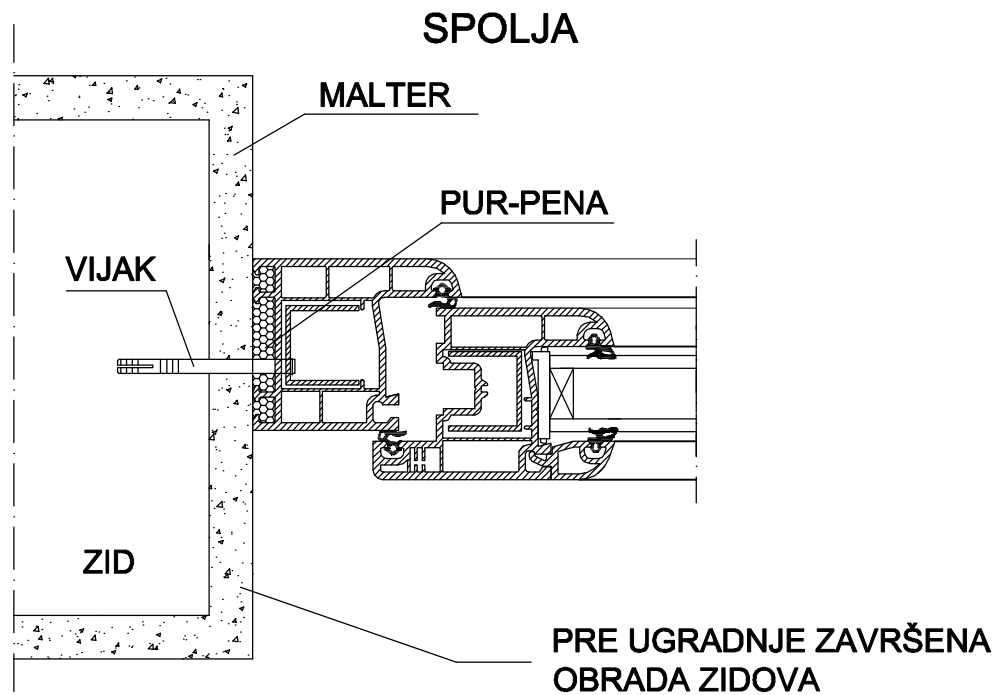
SPOLJA



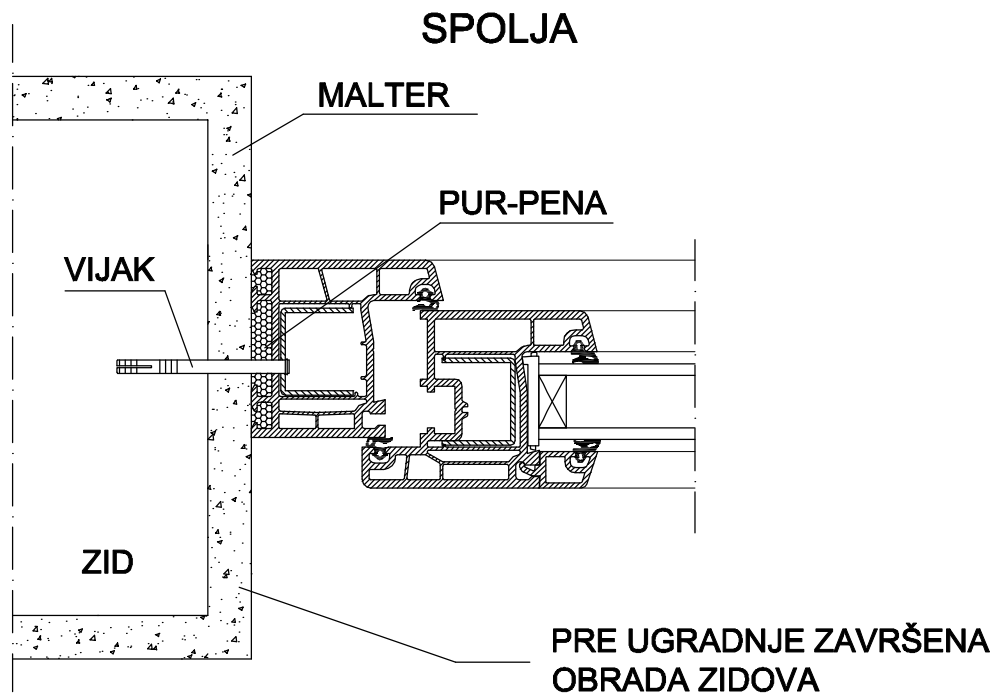
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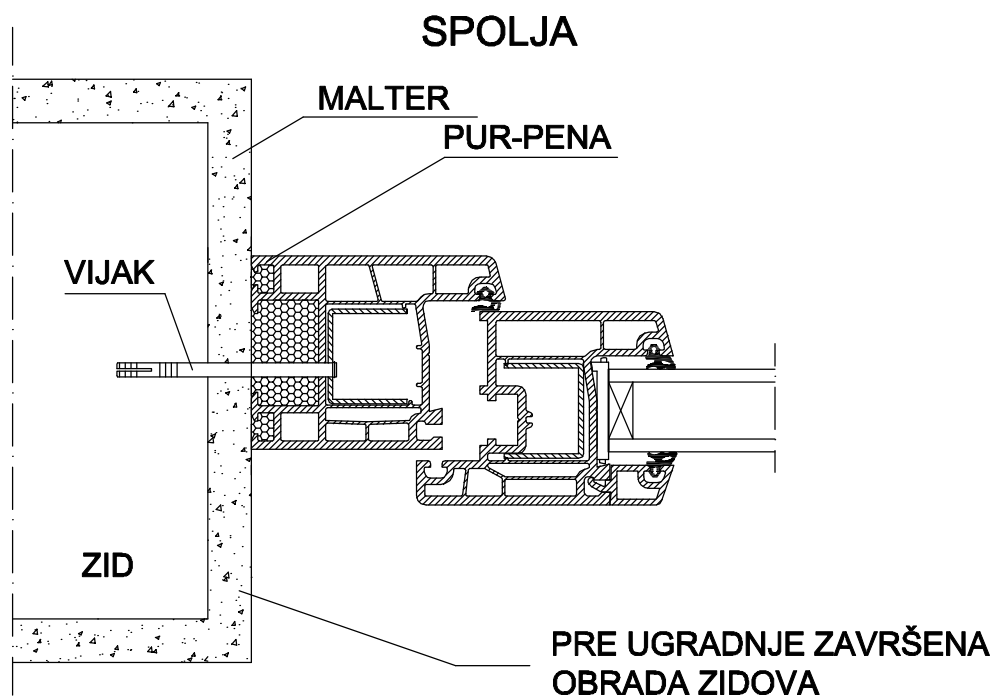
SUVI POSTUPAK MONTAŽE



SUVI POSTUPAK MONTAŽE

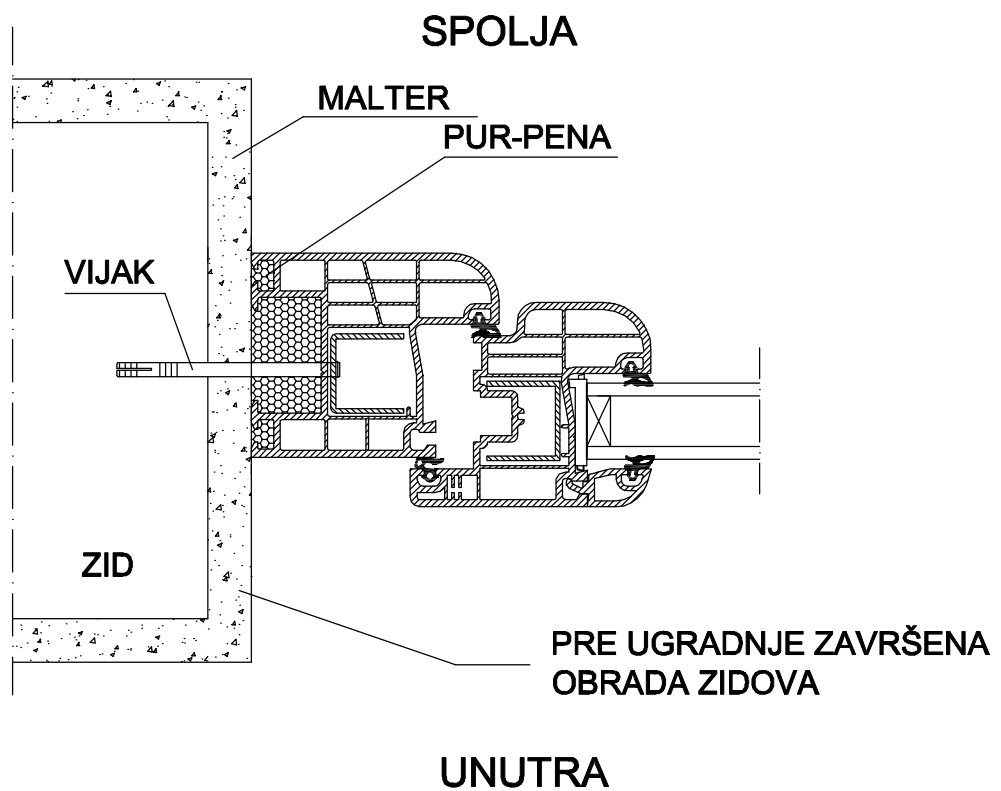
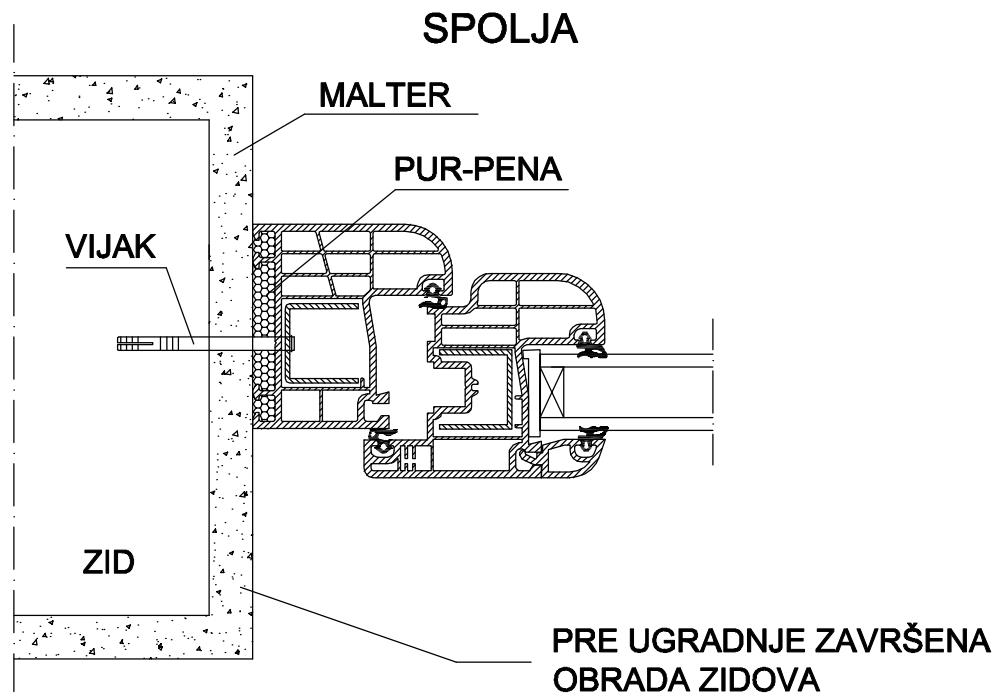


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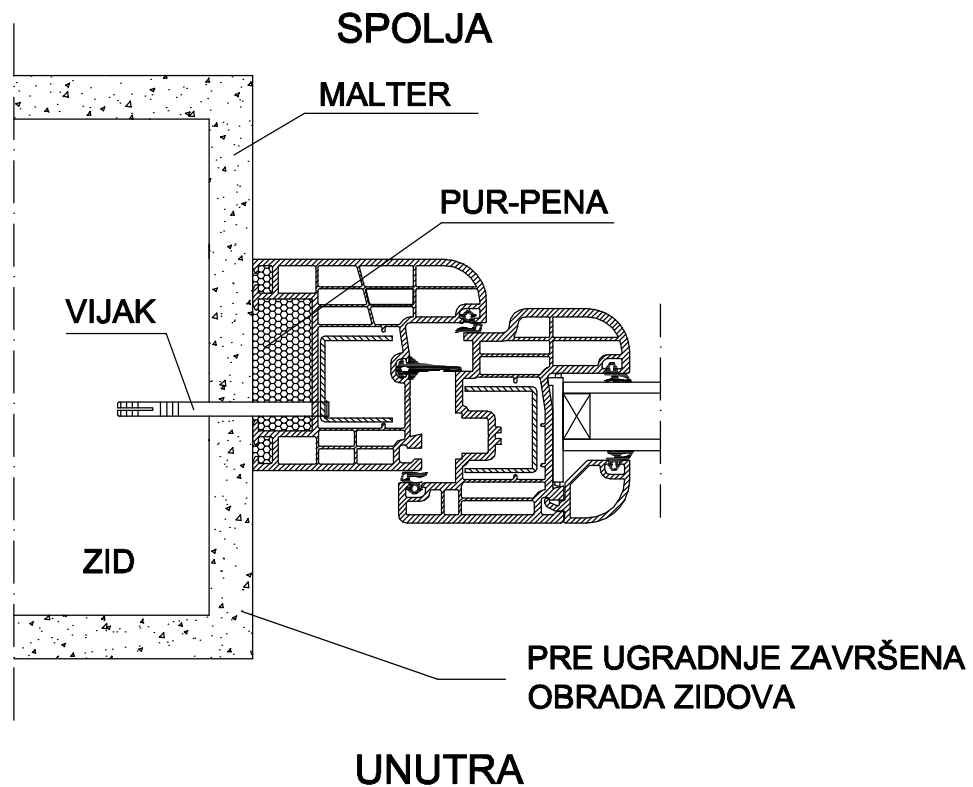
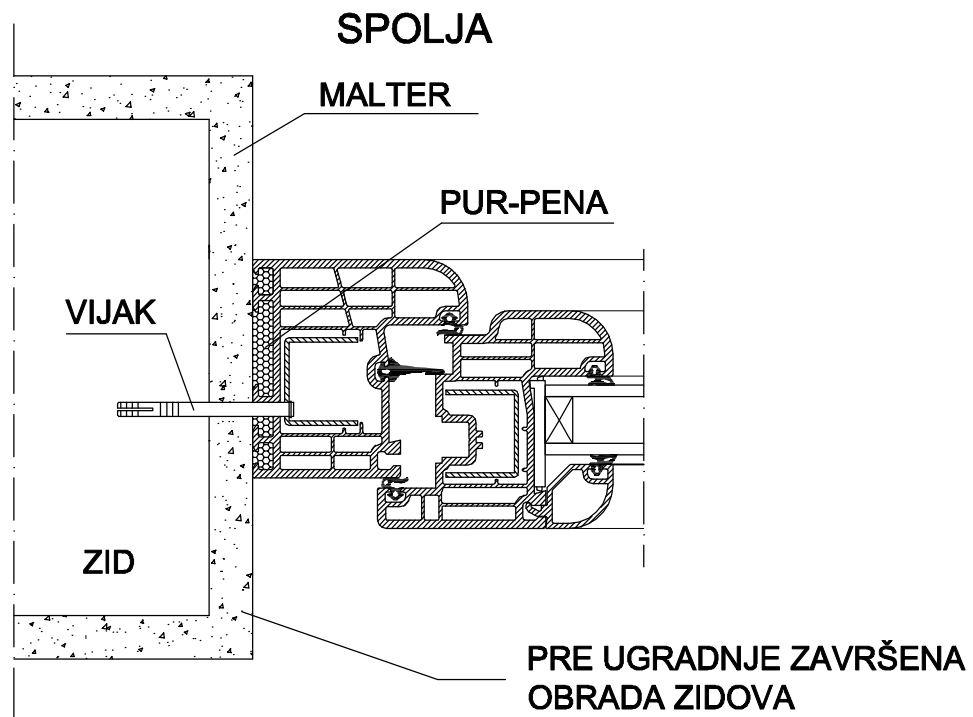


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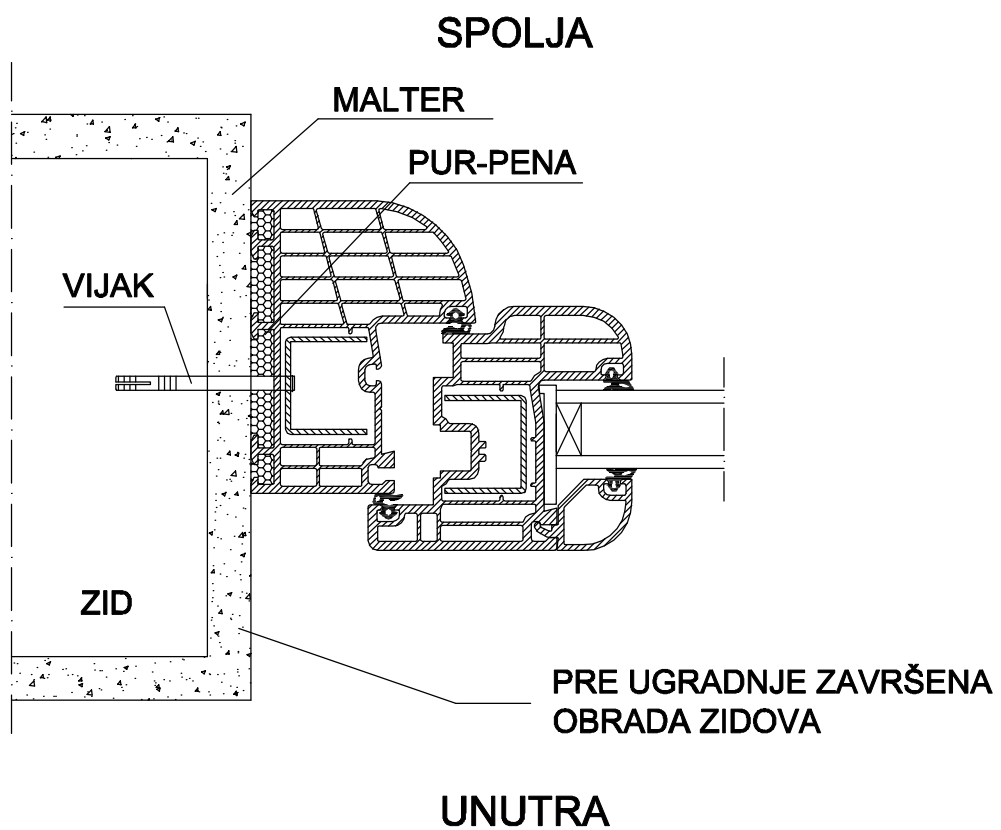
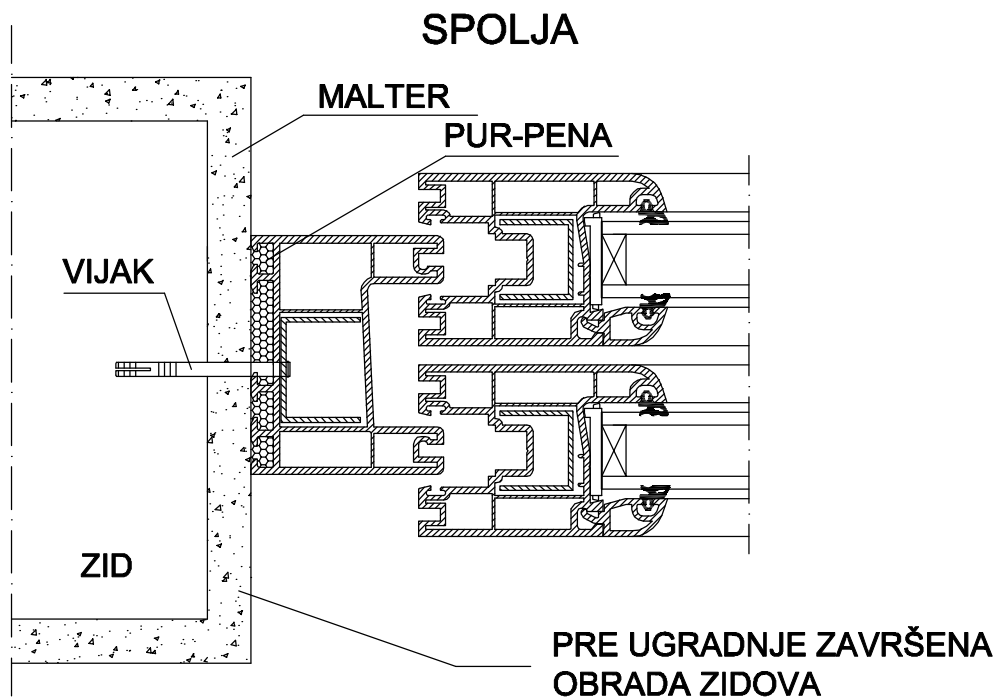
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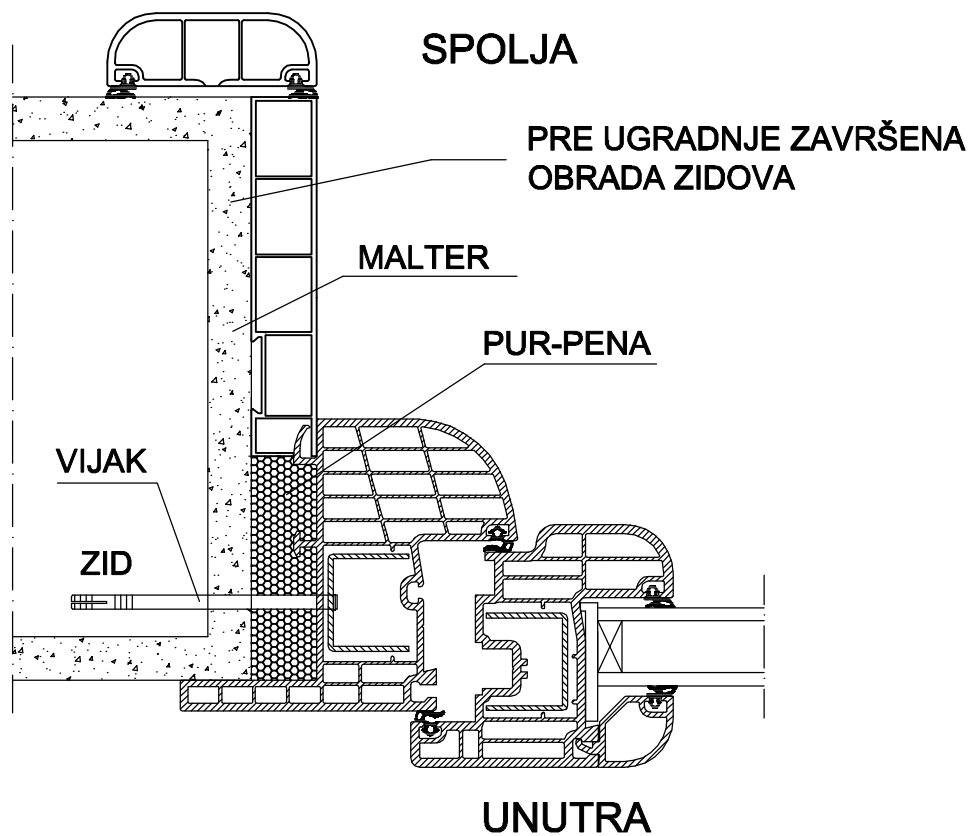
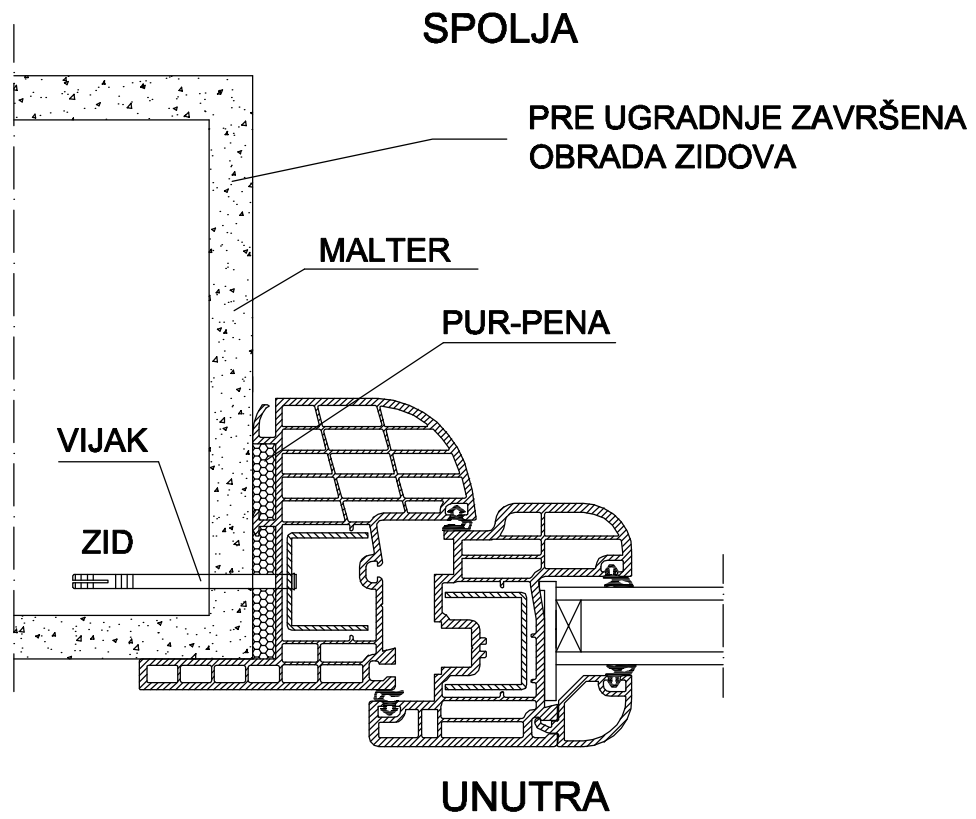
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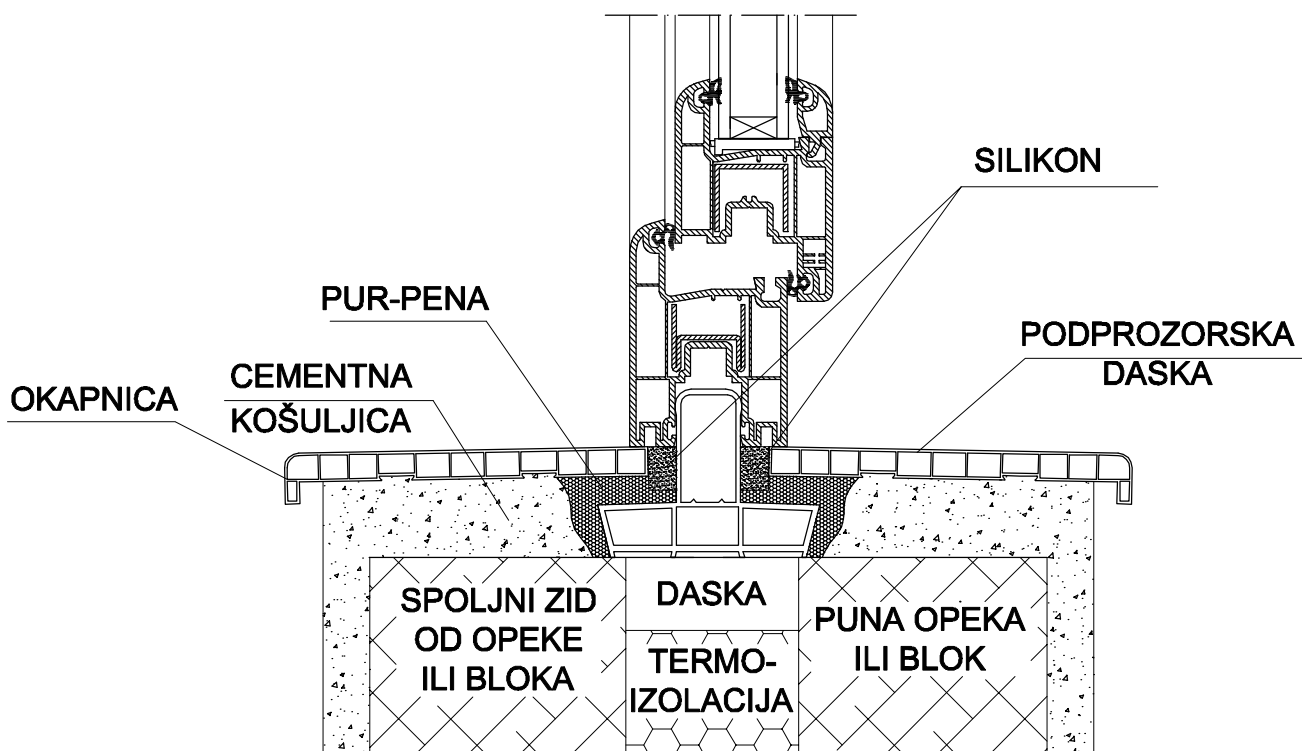
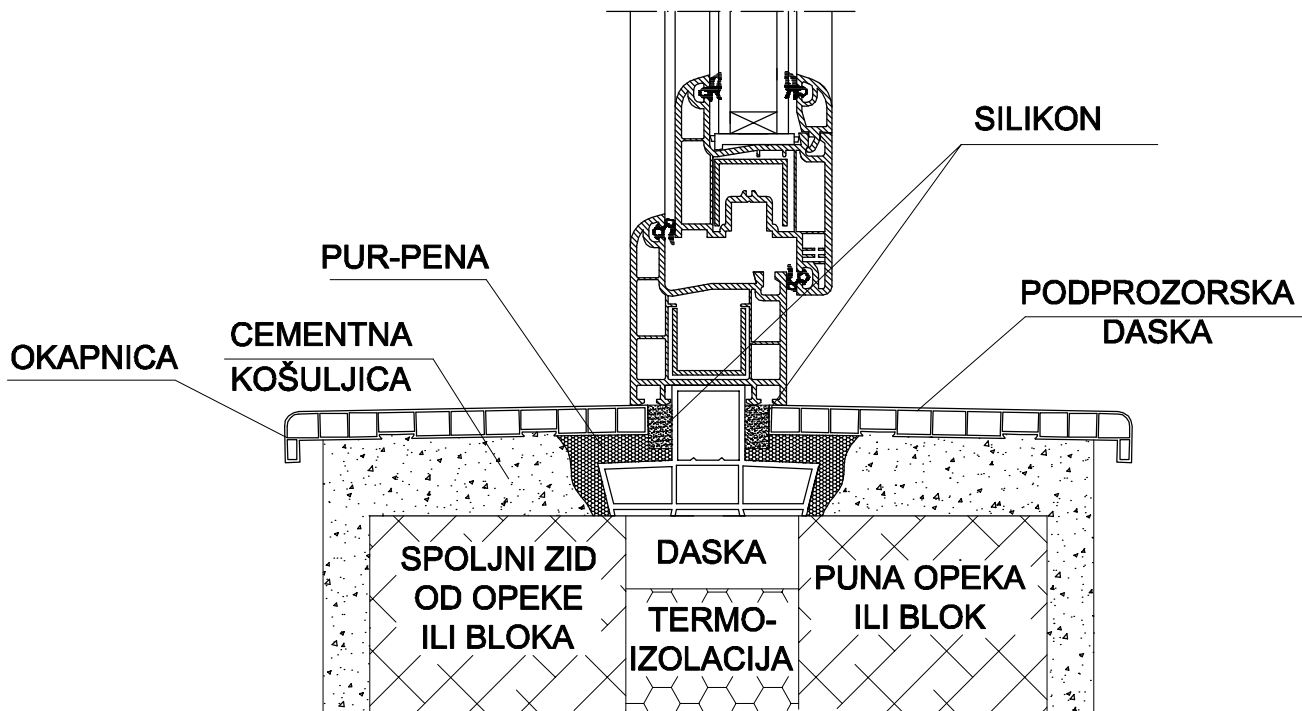
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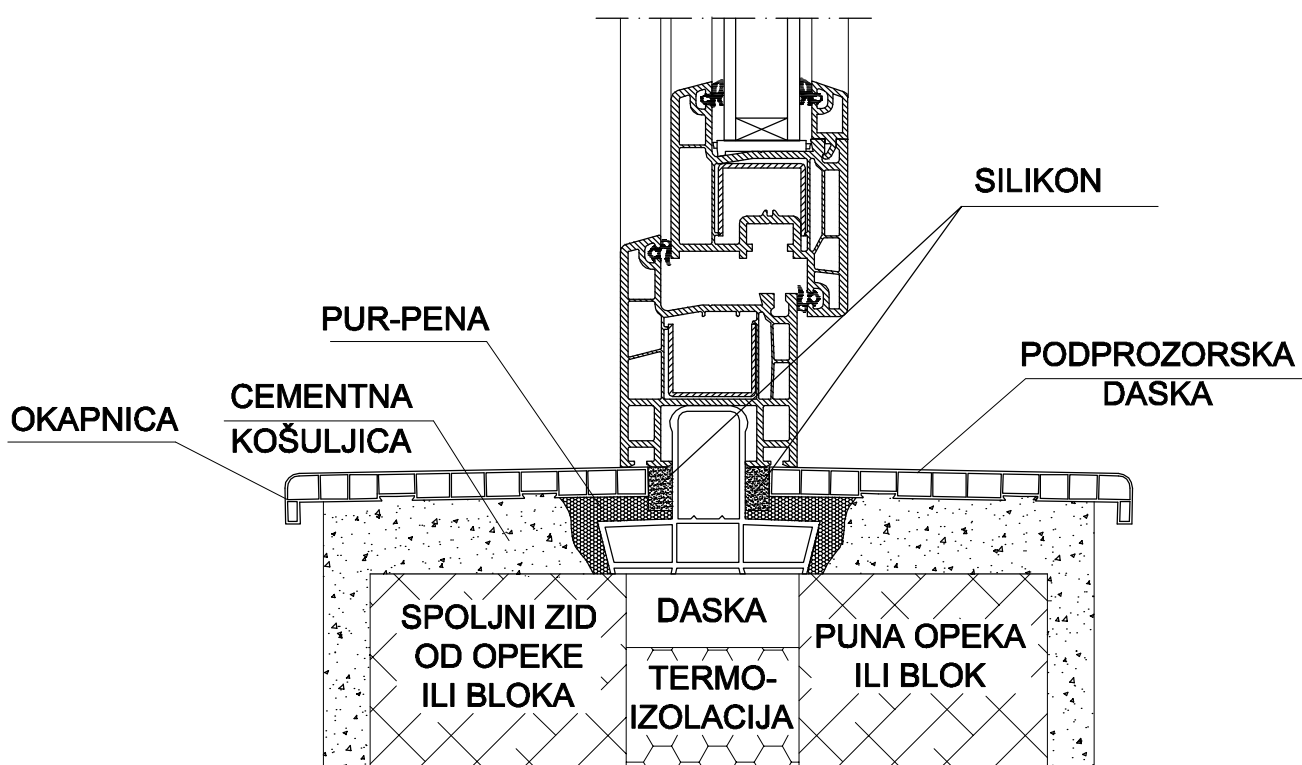
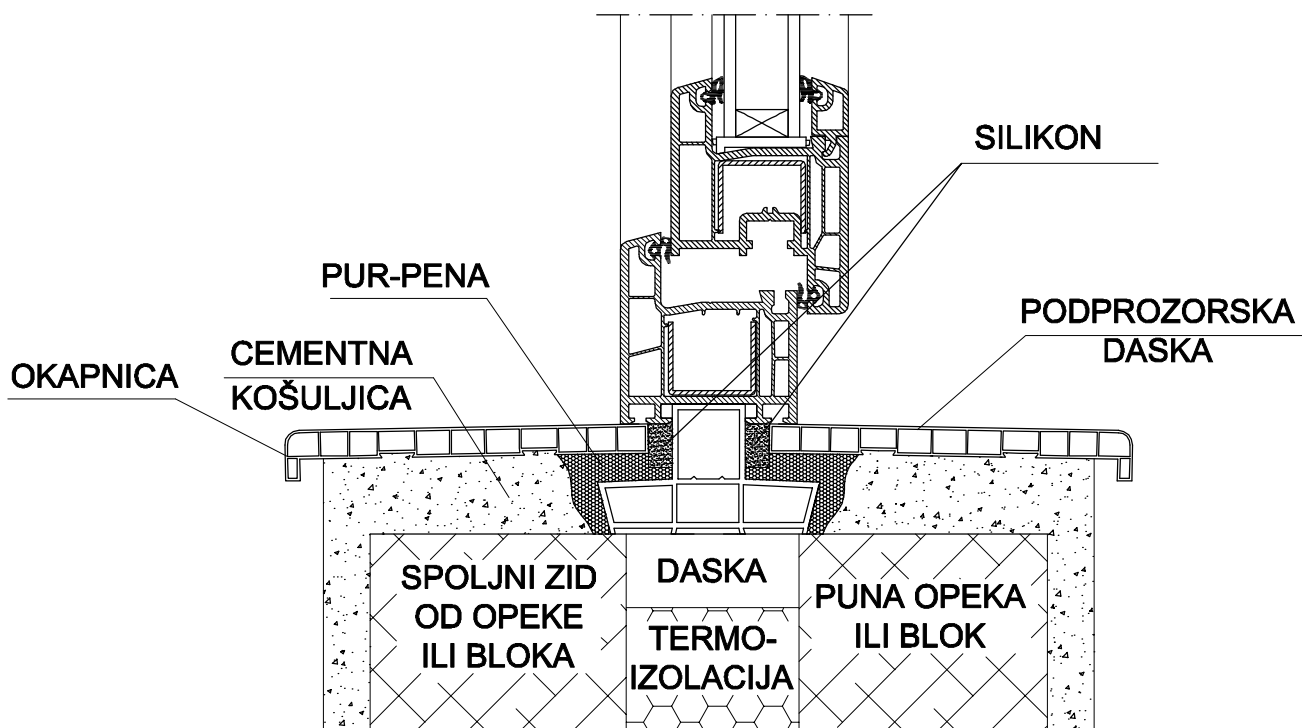
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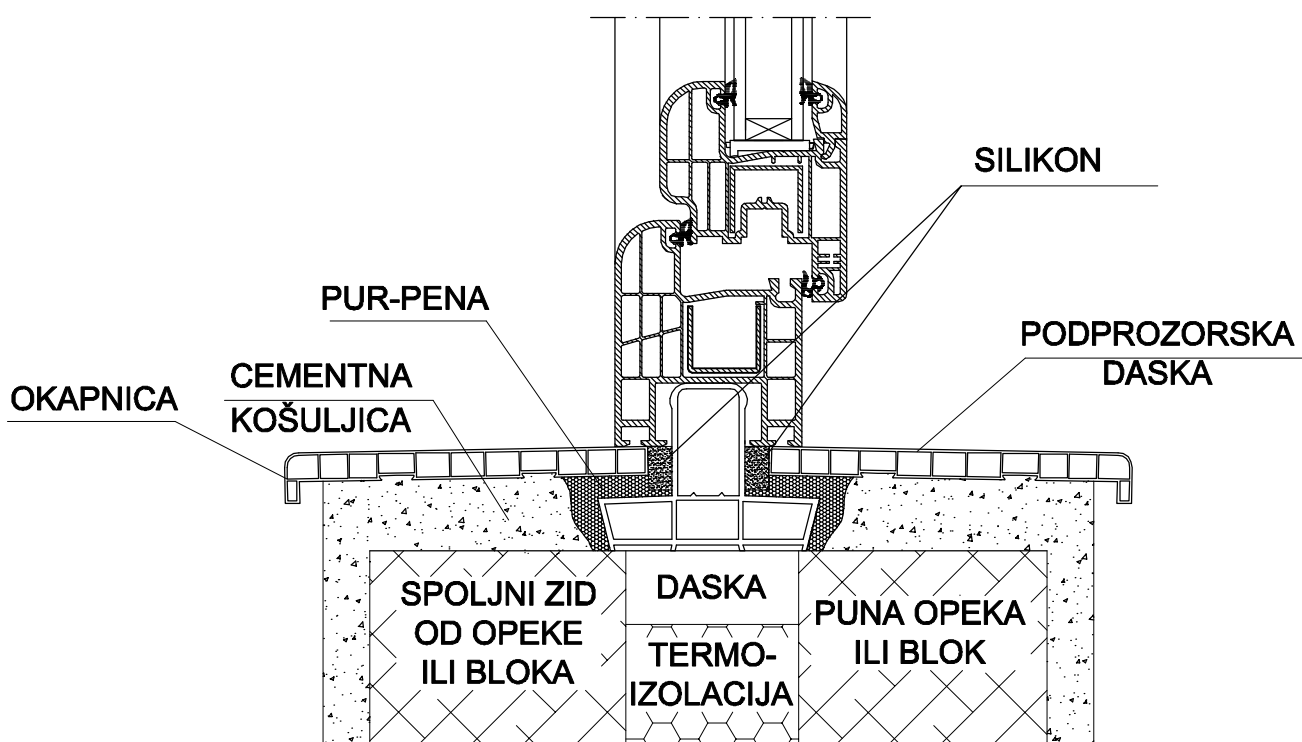
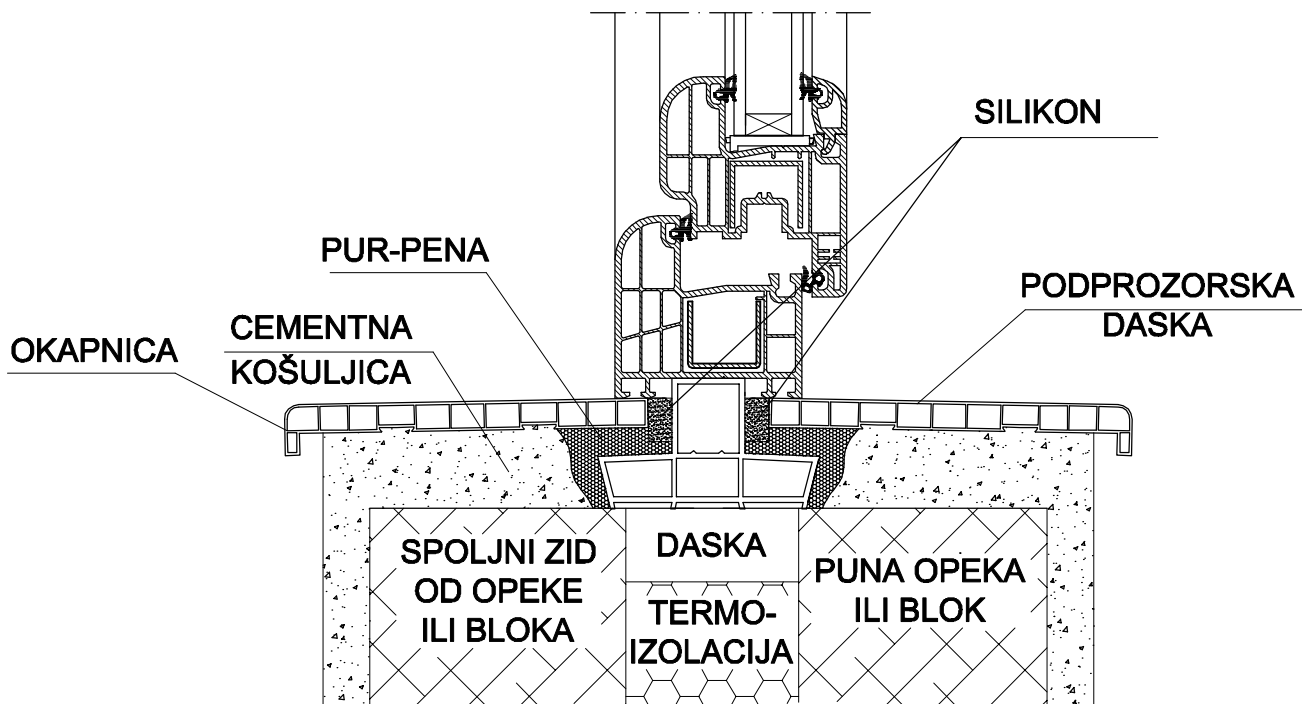
UGRADNJA OKAPNICE I POTPROZORSKE DASKE SISTEM 300



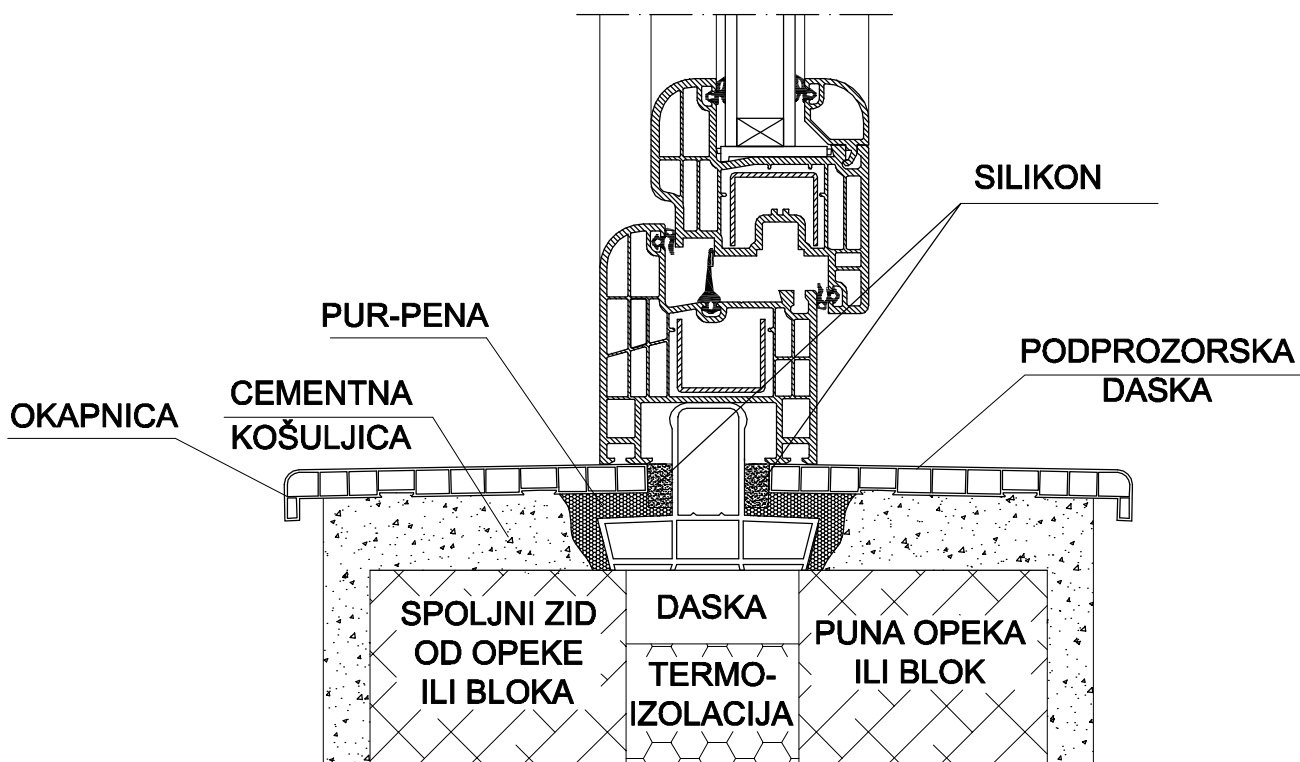
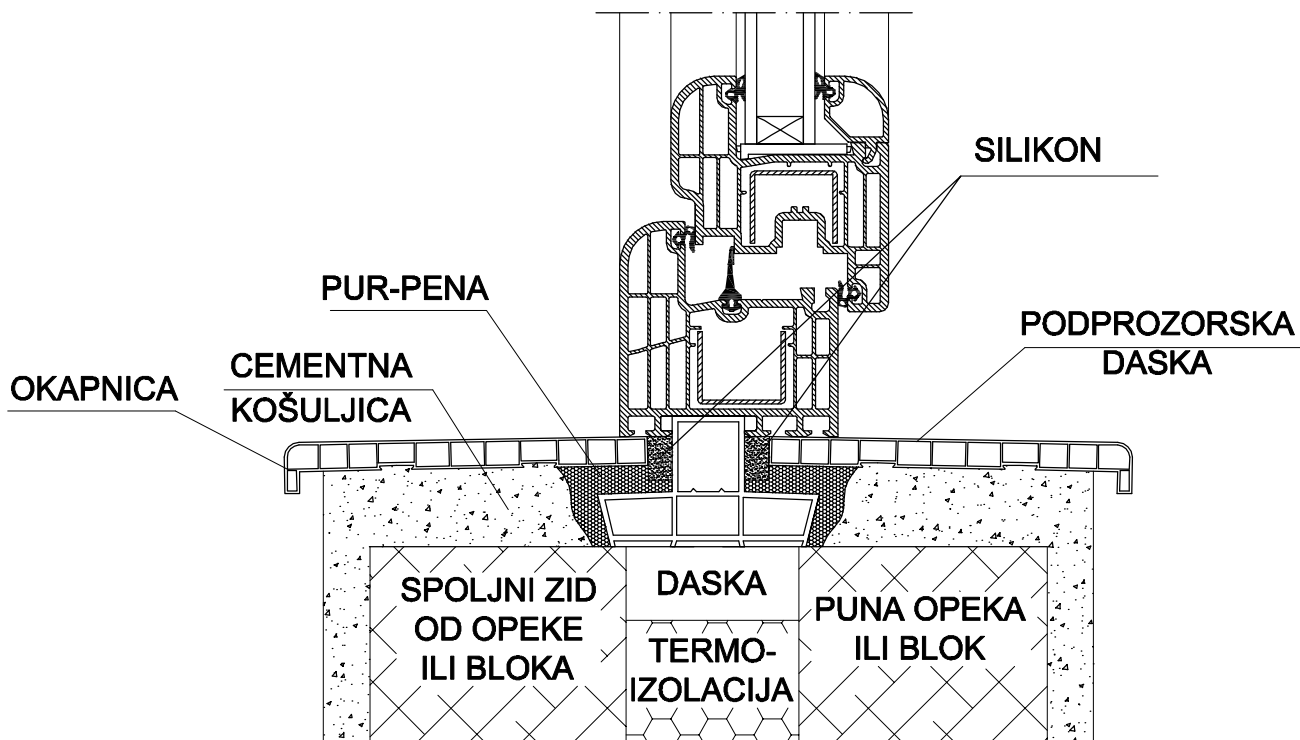
UGRADNJA OKAPNICE I POTPROZORSKE DASKE SISTEM 400



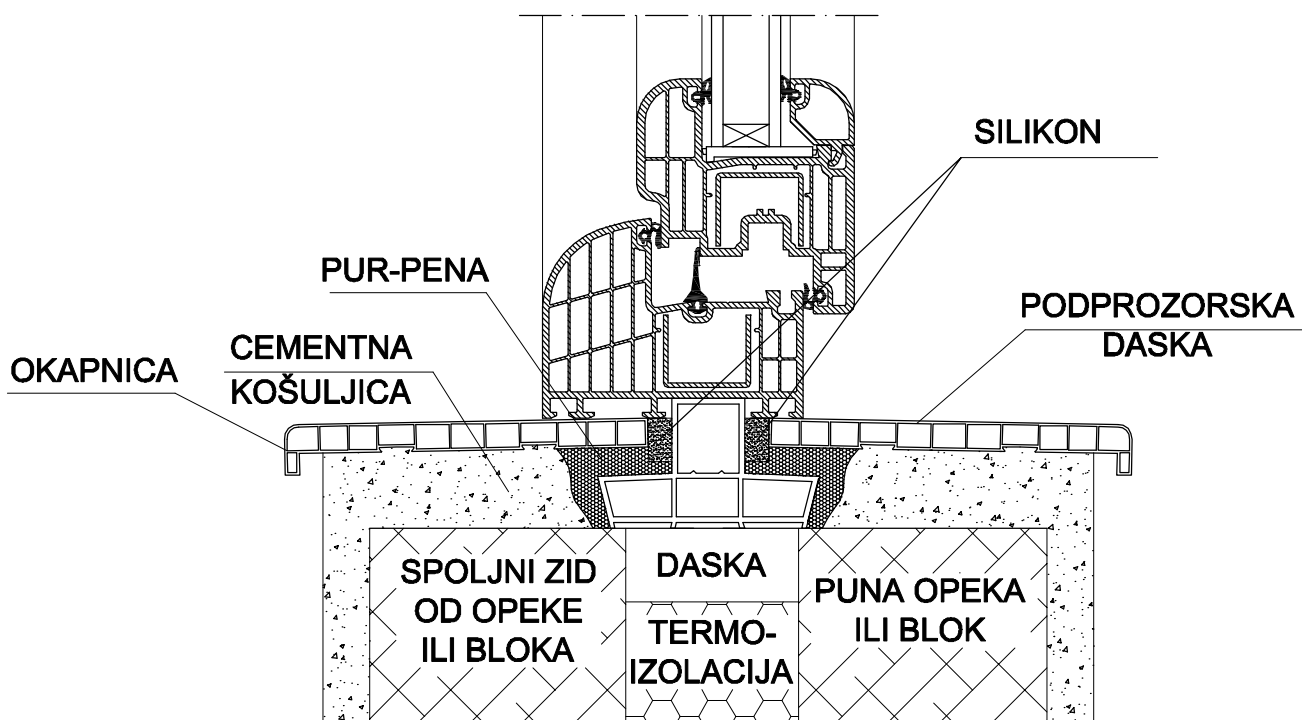
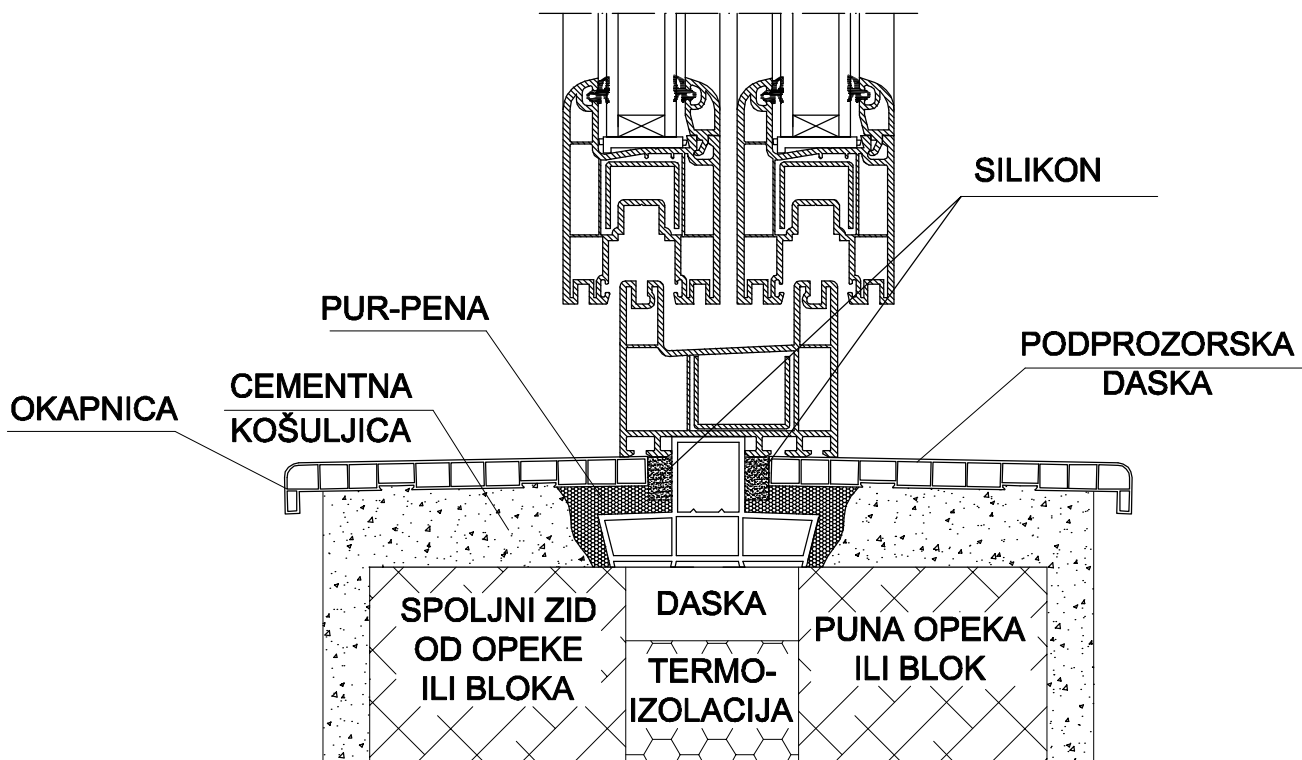
UGRADNJA OKAPNICE I POTPROZORSKE DASKE SISTEM 500



UGRADNJA OKAPNICE I POTPROZORSKE DASKE SISTEM 600



UGRADNJA OKAPNICE I POTPROZORSKE DASKE SISTEM 800

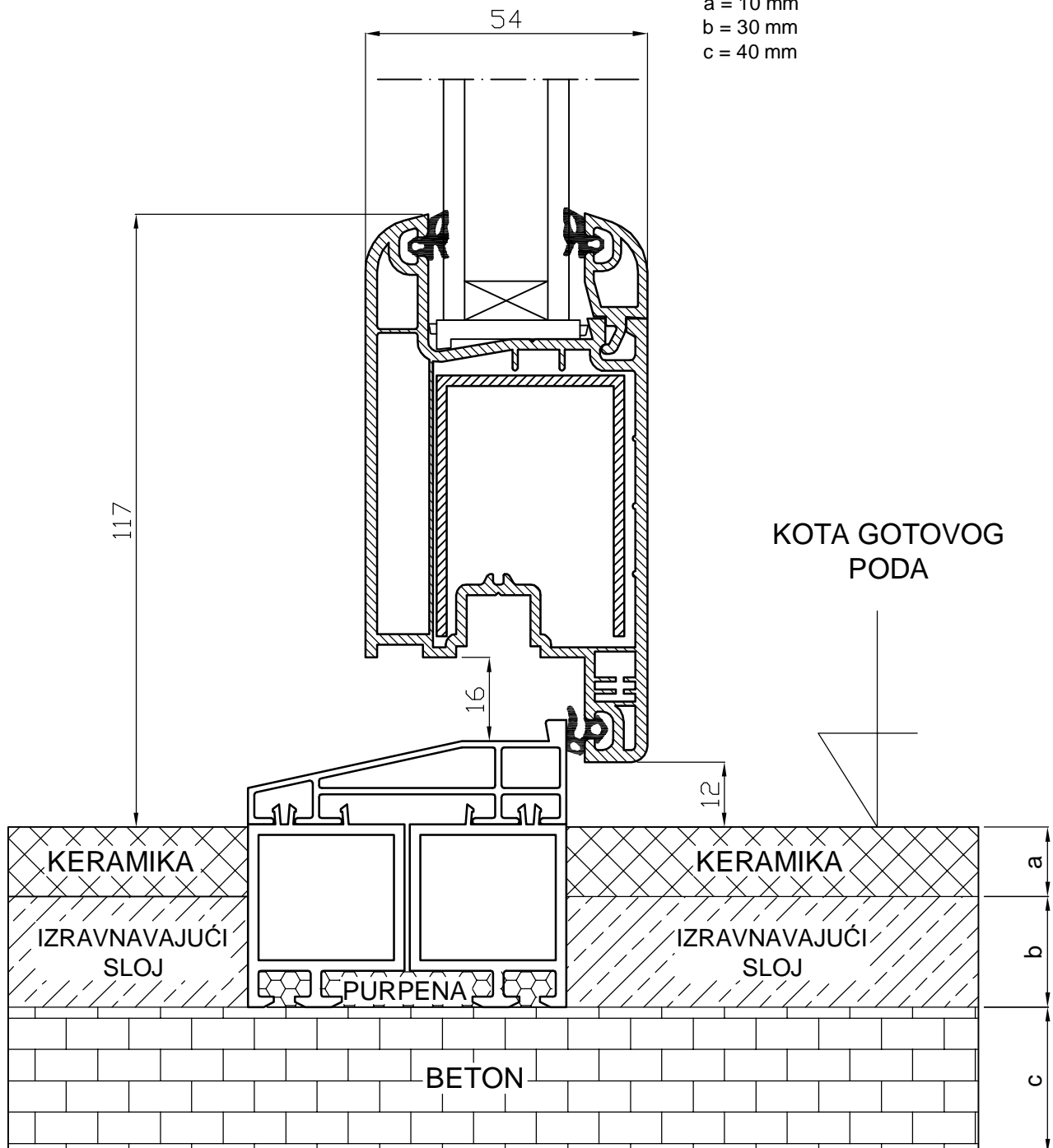


DETALJ UGRADNJE ULAZNIH VRATA SISTEM 300

- a - debljina pločica
- b - debljina izravnavajućeg sloja
- c - debljina betona

Preporučuju se sledeće vrednosti za a,b, i c:

- a = 10 mm
- b = 30 mm
- c = 40 mm

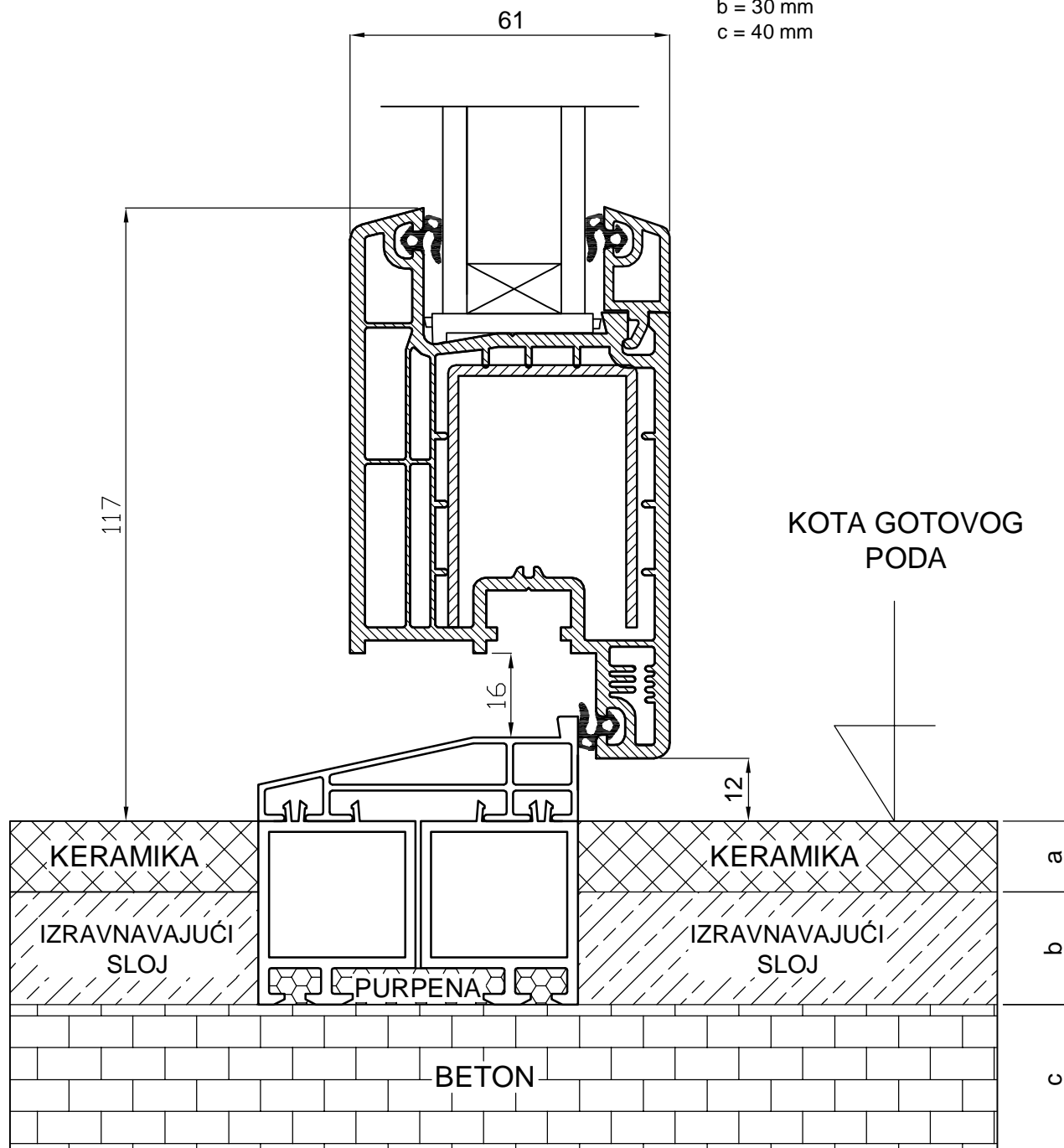


DETALJ UGRADNJE ULAZNIH VRATA SISTEM 400

- a - debljina pločica
- b - debljina izravnavajućeg sloja
- c - debljina betona

Preporučuju se sledeće vrednosti za a, b, i c:

- a = 10 mm
- b = 30 mm
- c = 40 mm



DETALJ UGRADNJE ULAZNIH VRATA SISTEM 500

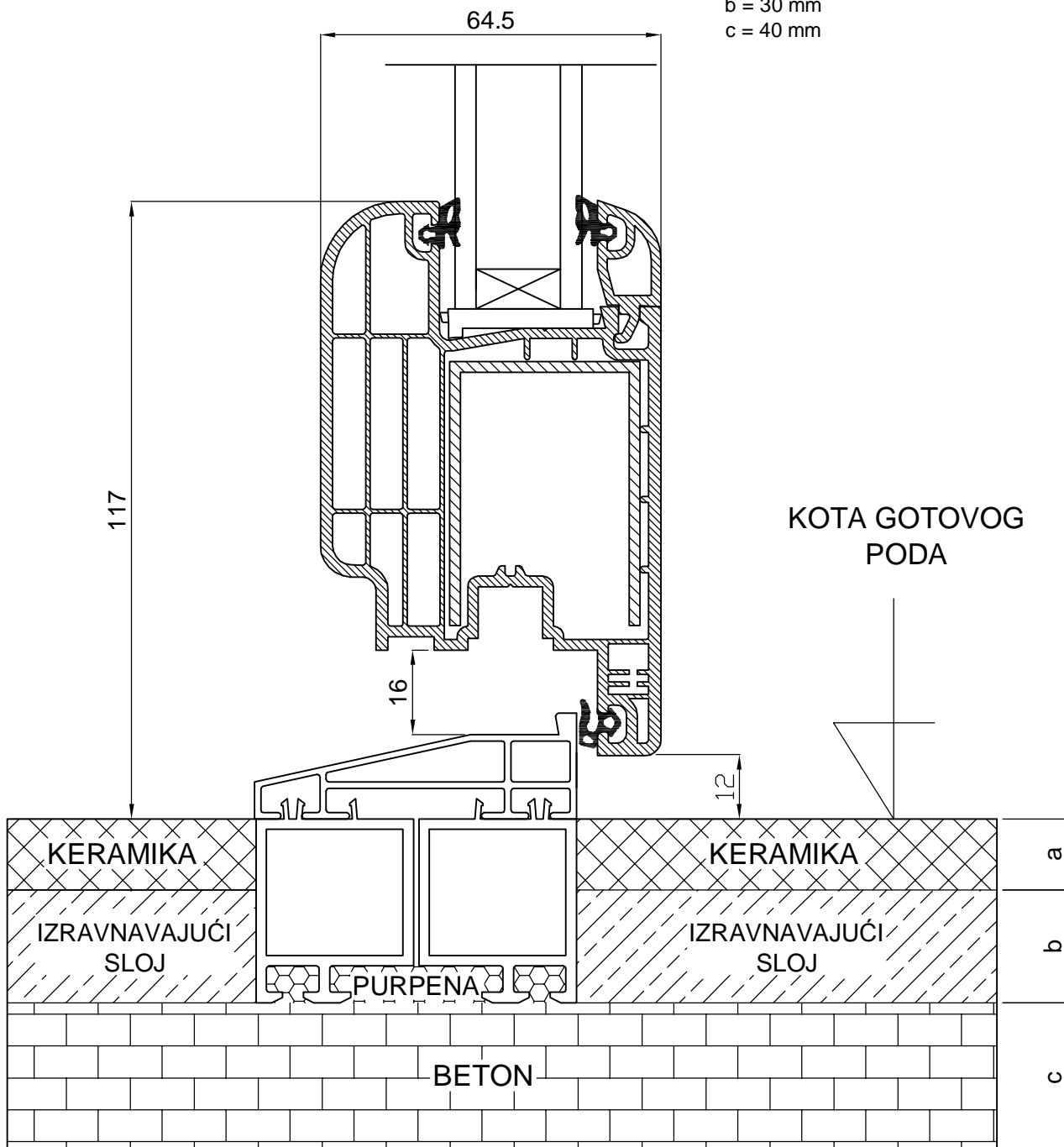
a - debljina pločica
b - debljina izravnavajućeg sloja
c - debljina betona

Preporučuju se sledeće vrednosti za a, b, i c:

a = 10 mm

b = 30 mm

c = 40 mm



DETALJ UGRADNJE ULAZNIH VRATA SISTEM 600

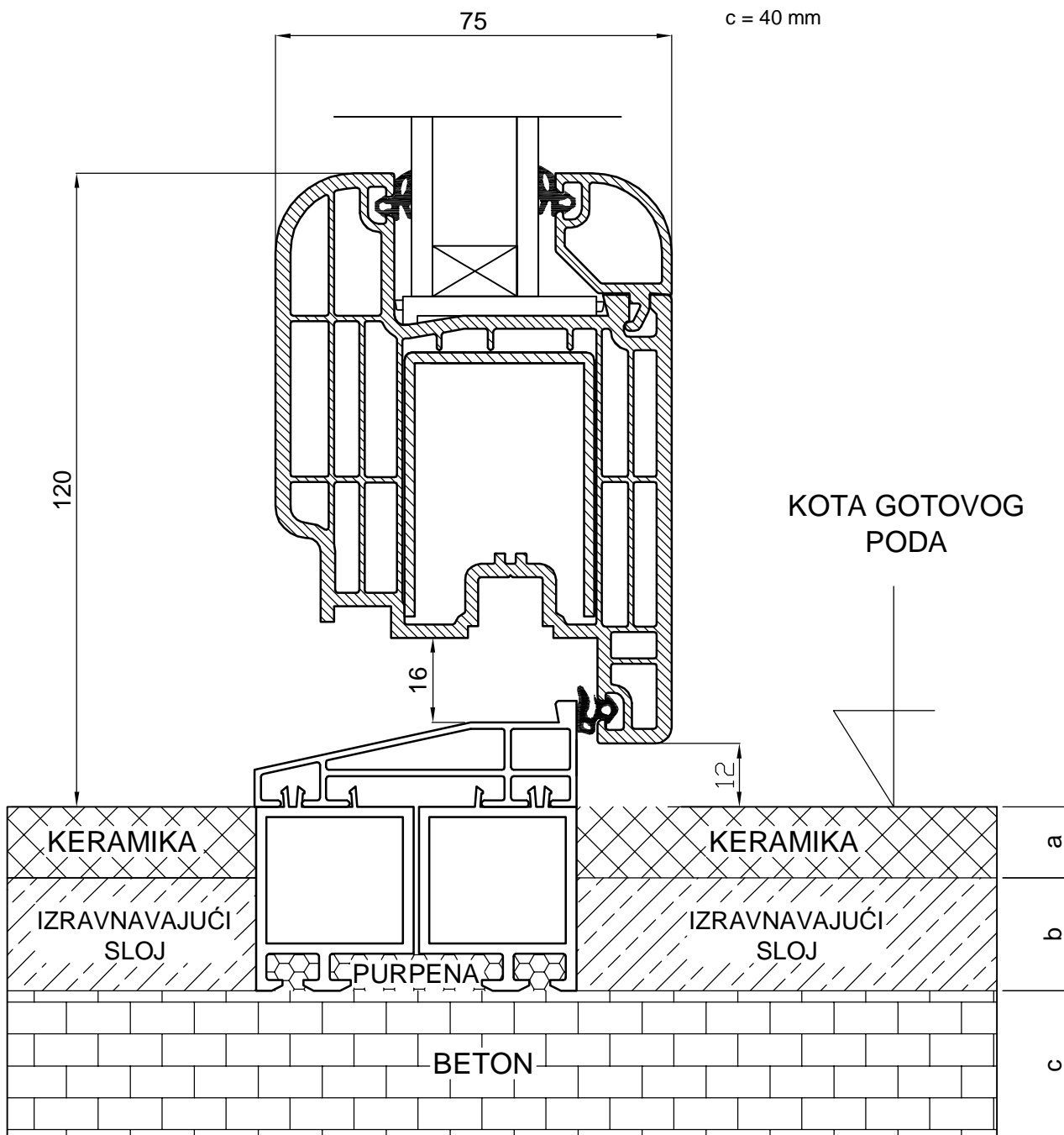
a - debljina pločica
b - debljina izravnavajućeg sloja
c - debljina betona

Preporučuju se sledeće vrednosti za a,b, i c:

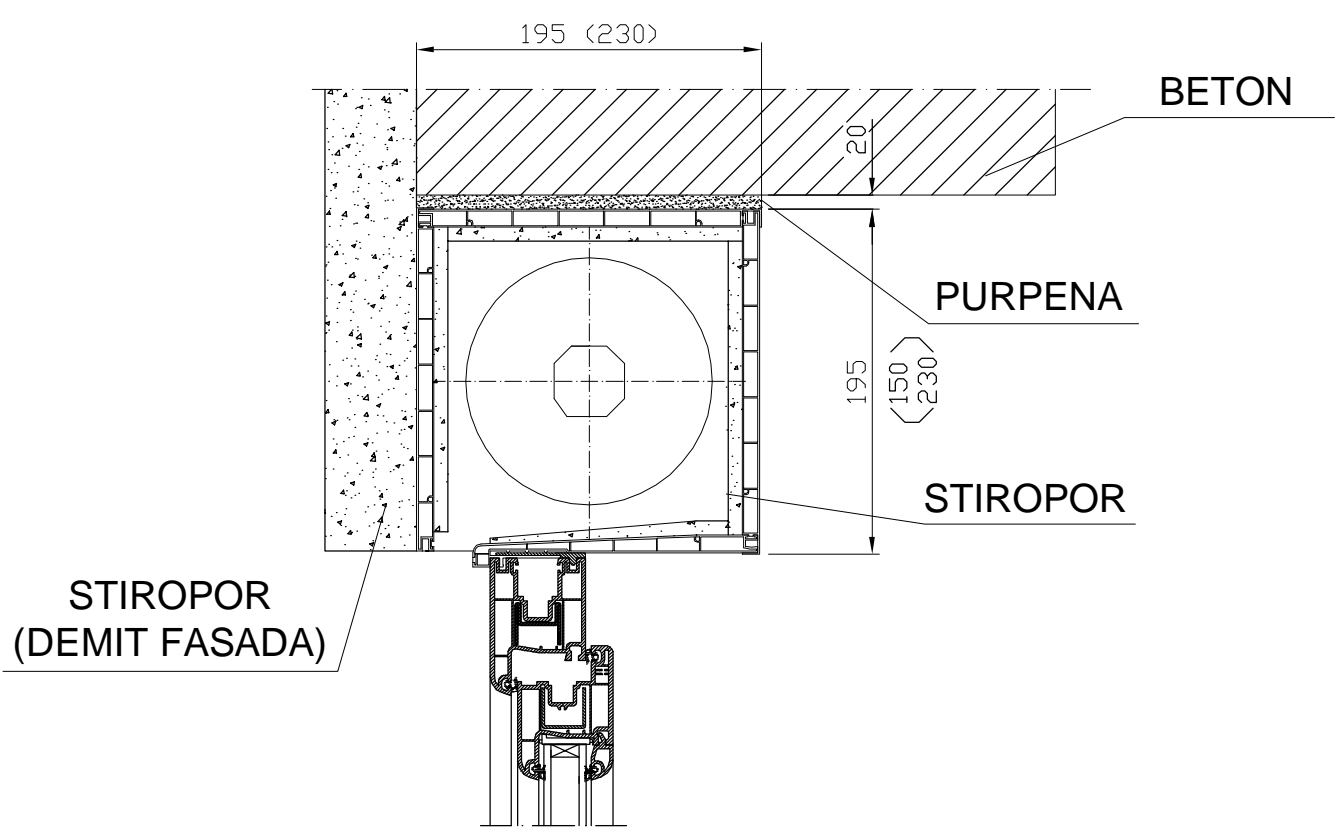
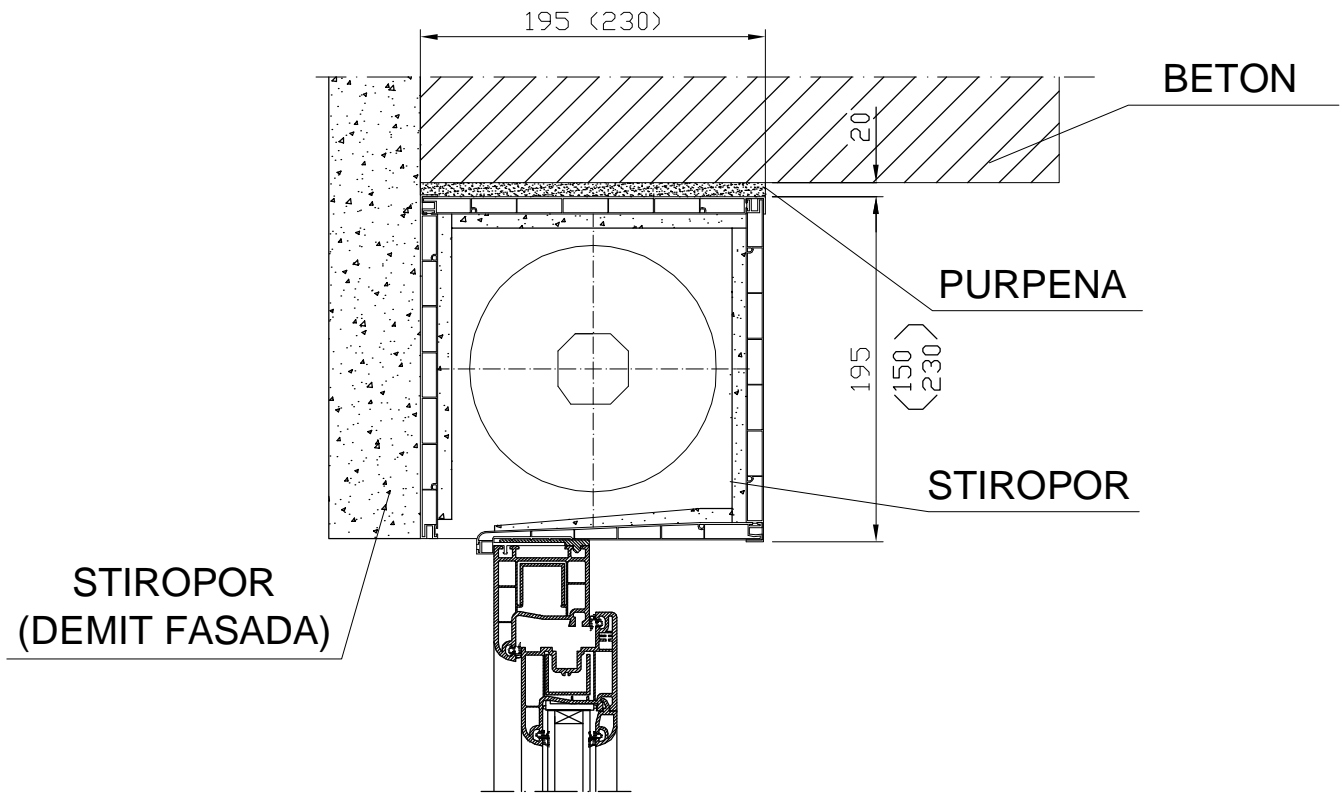
a = 10 mm

b = 30 mm

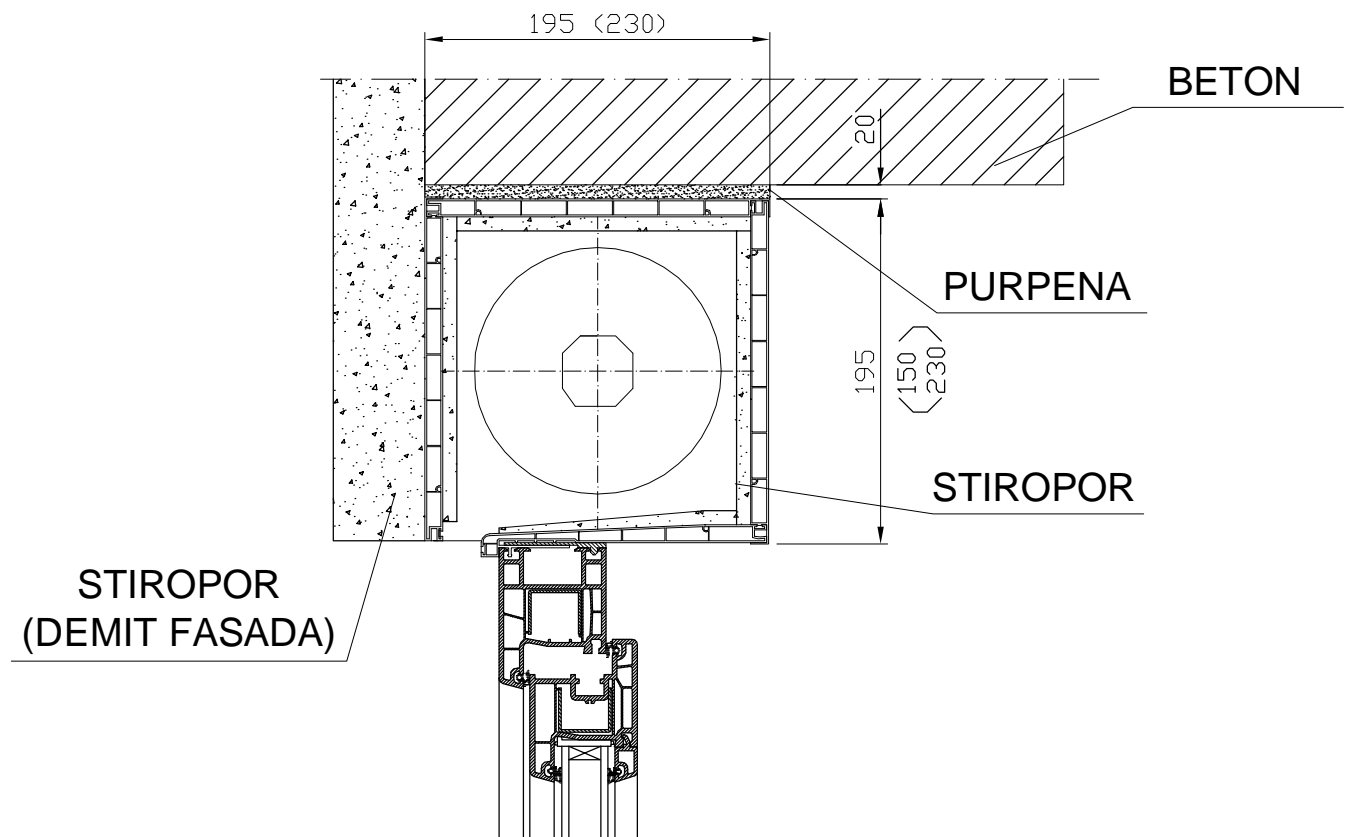
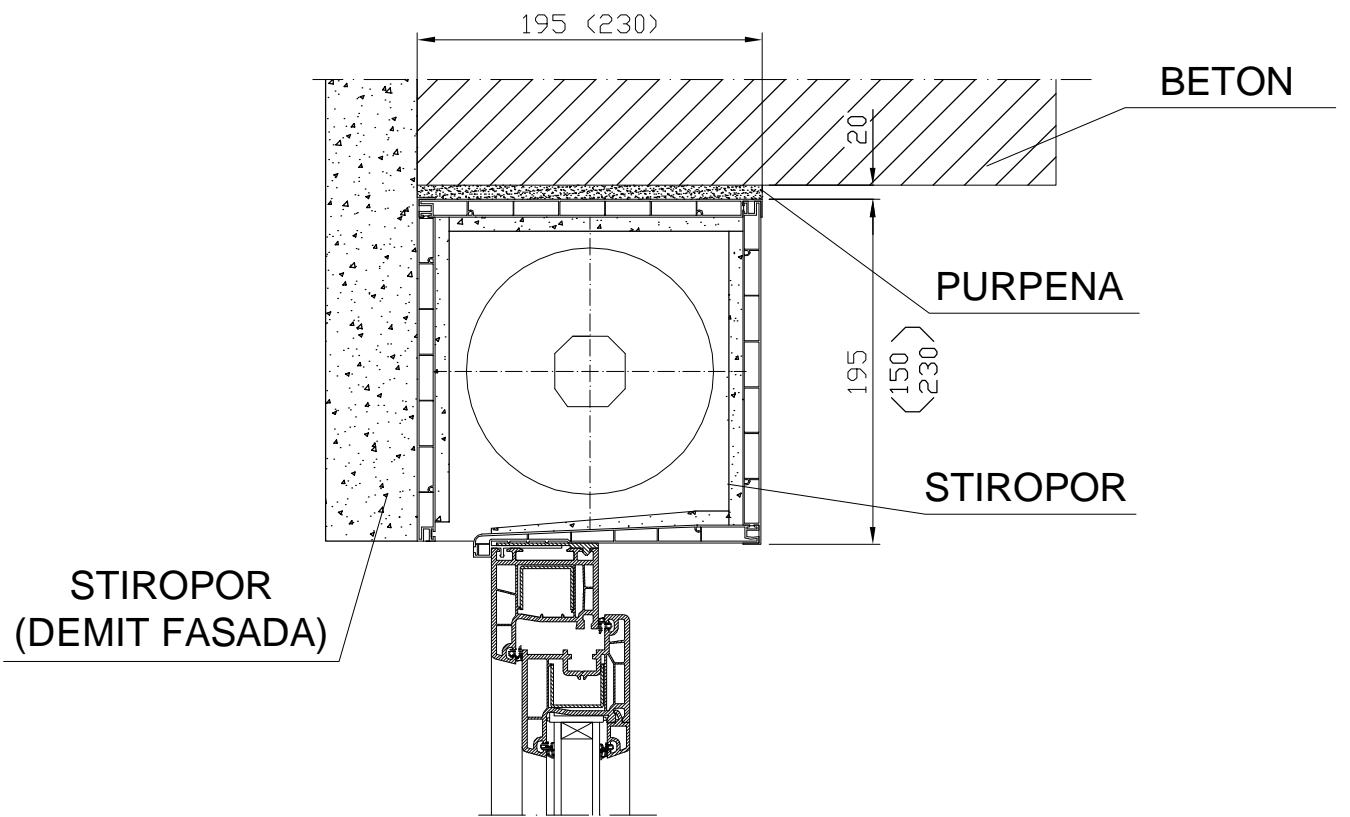
c = 40 mm



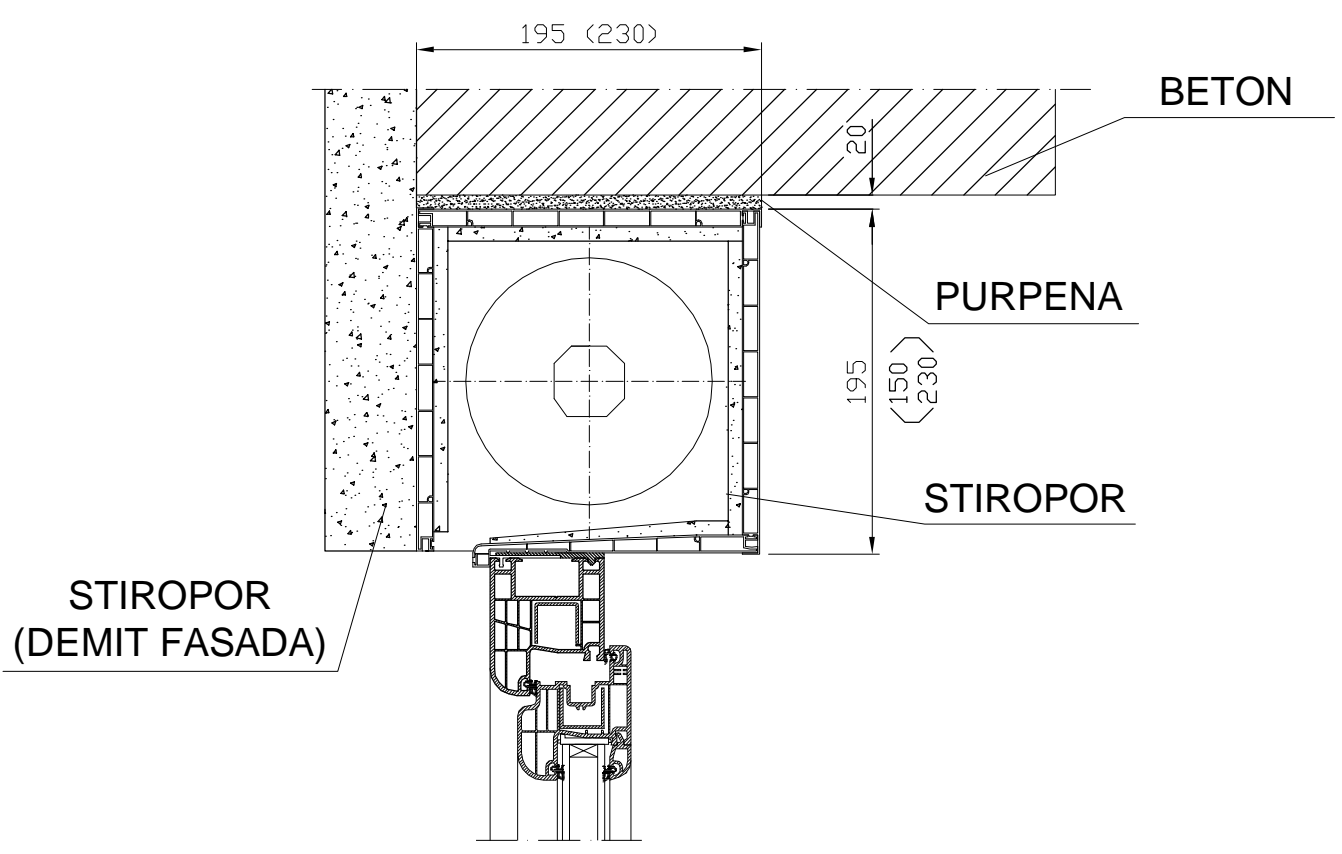
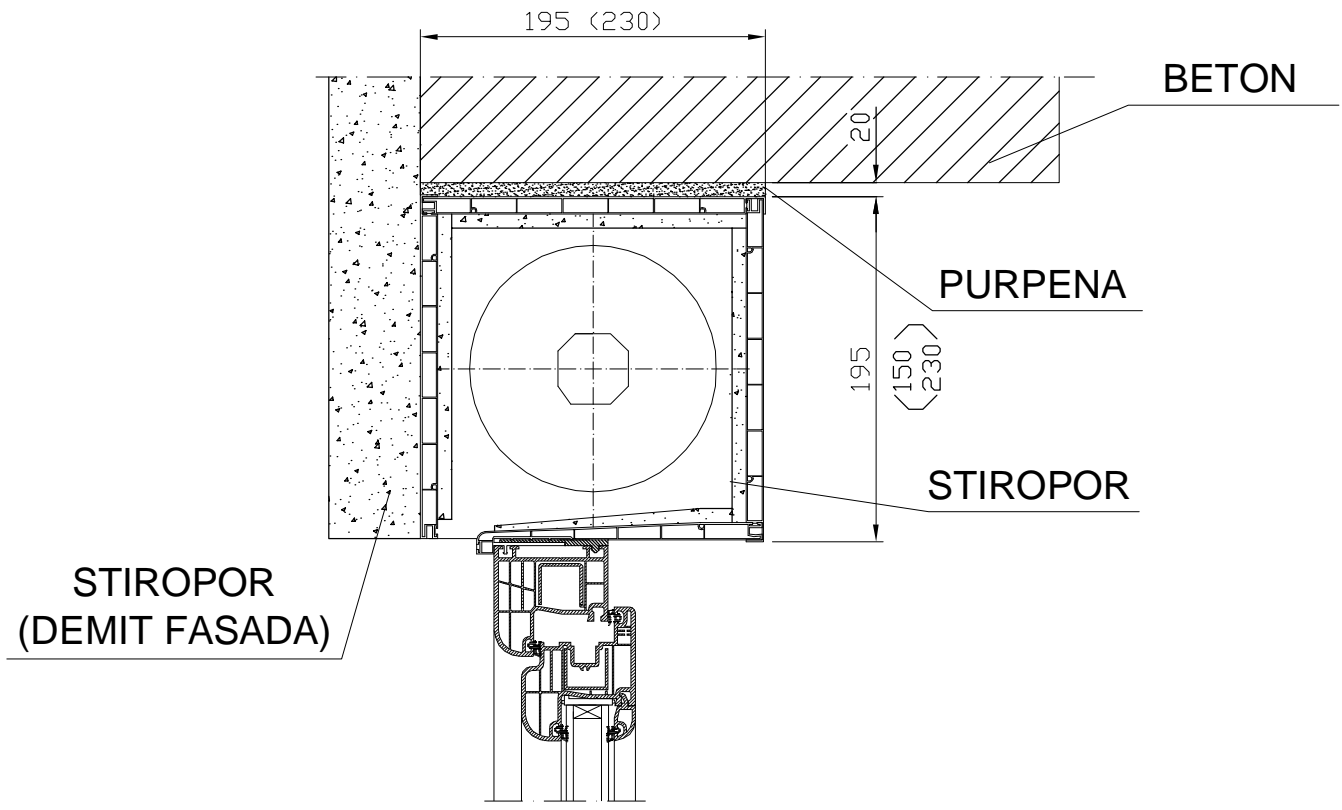
UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU BEZ SPOLJAŠNJEG ZUBA SISTEM 300



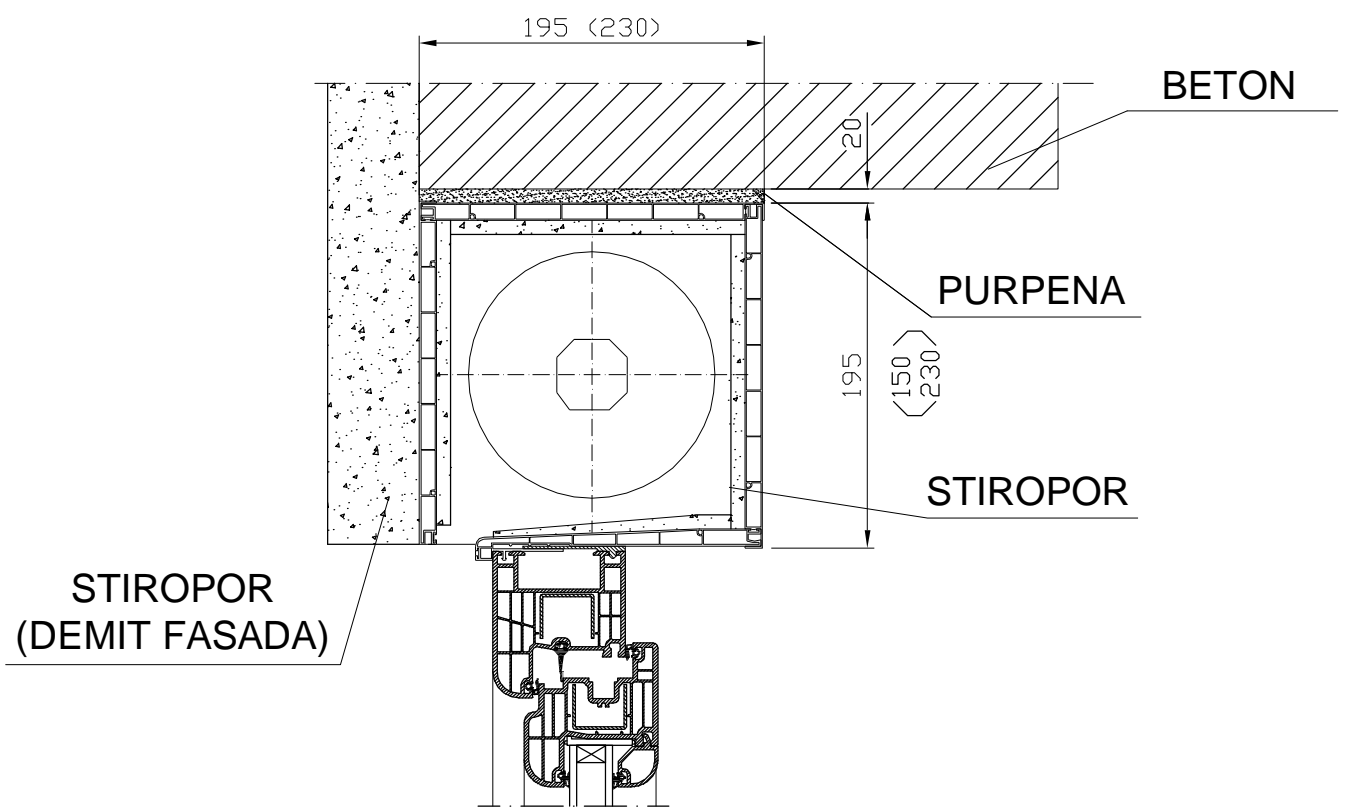
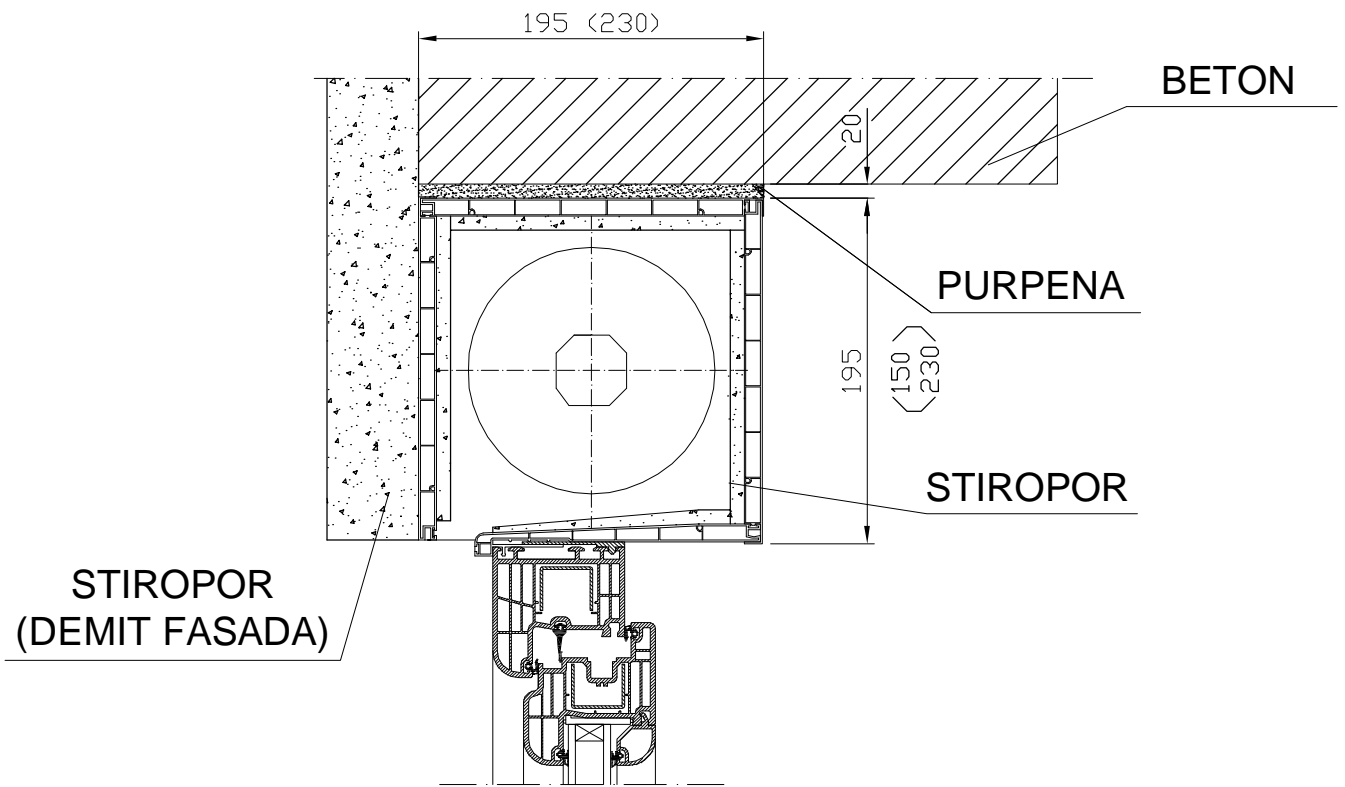
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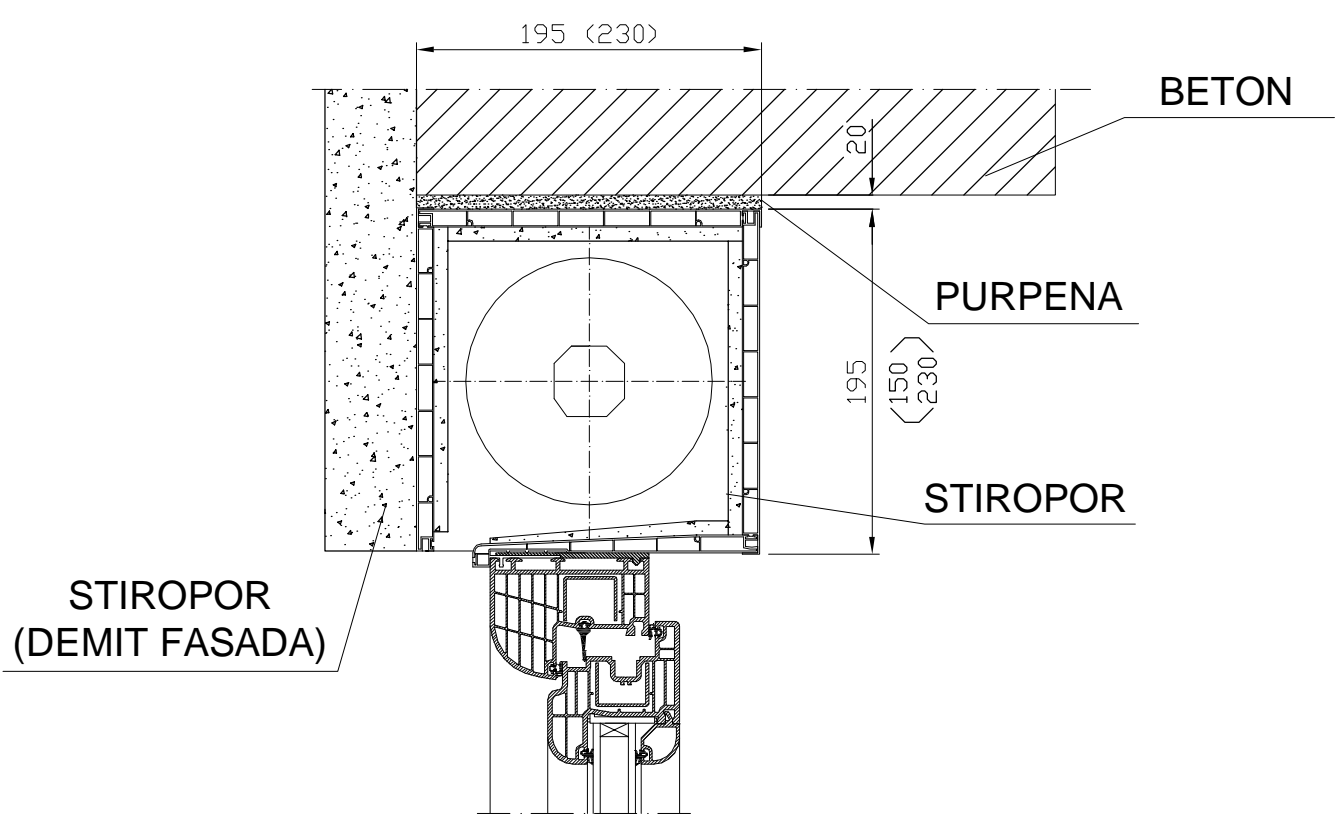
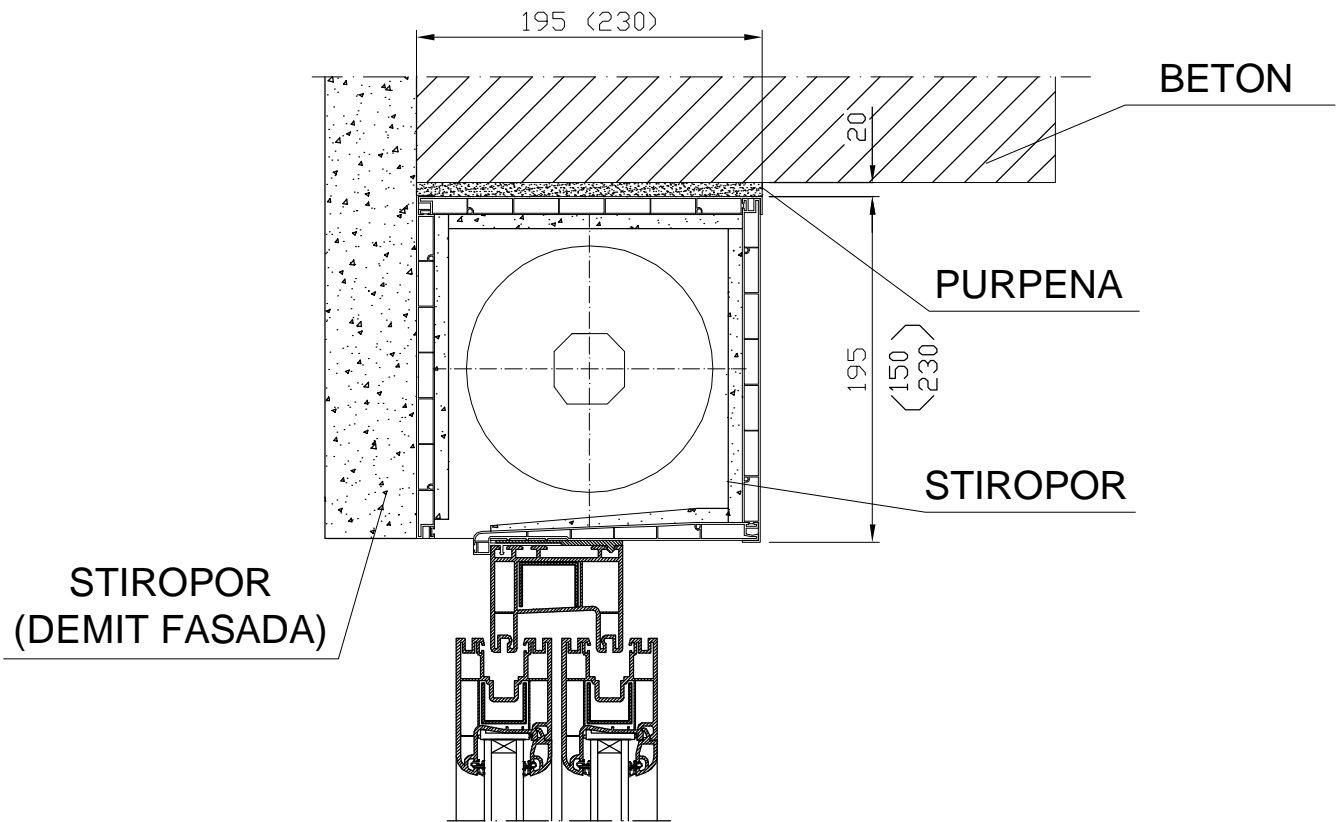
UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU BEZ SPOLJAŠNJEG ZUBA SISTEM 500



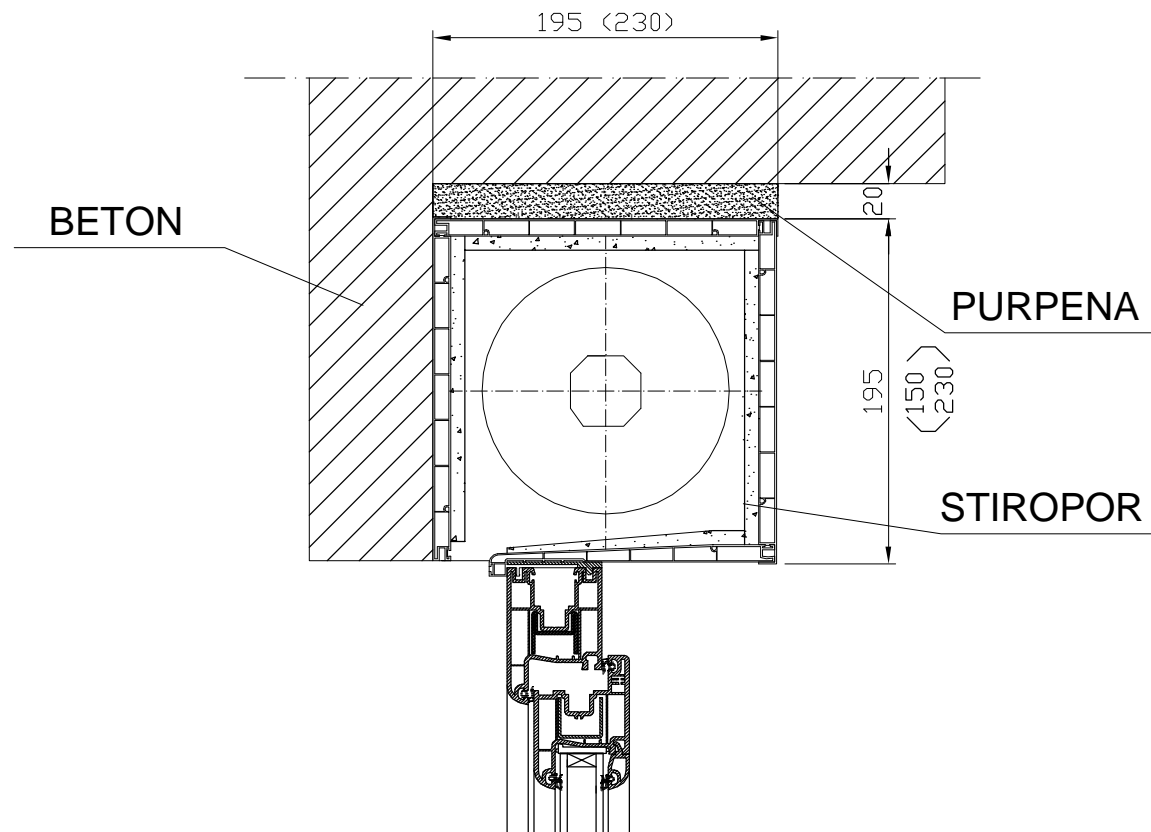
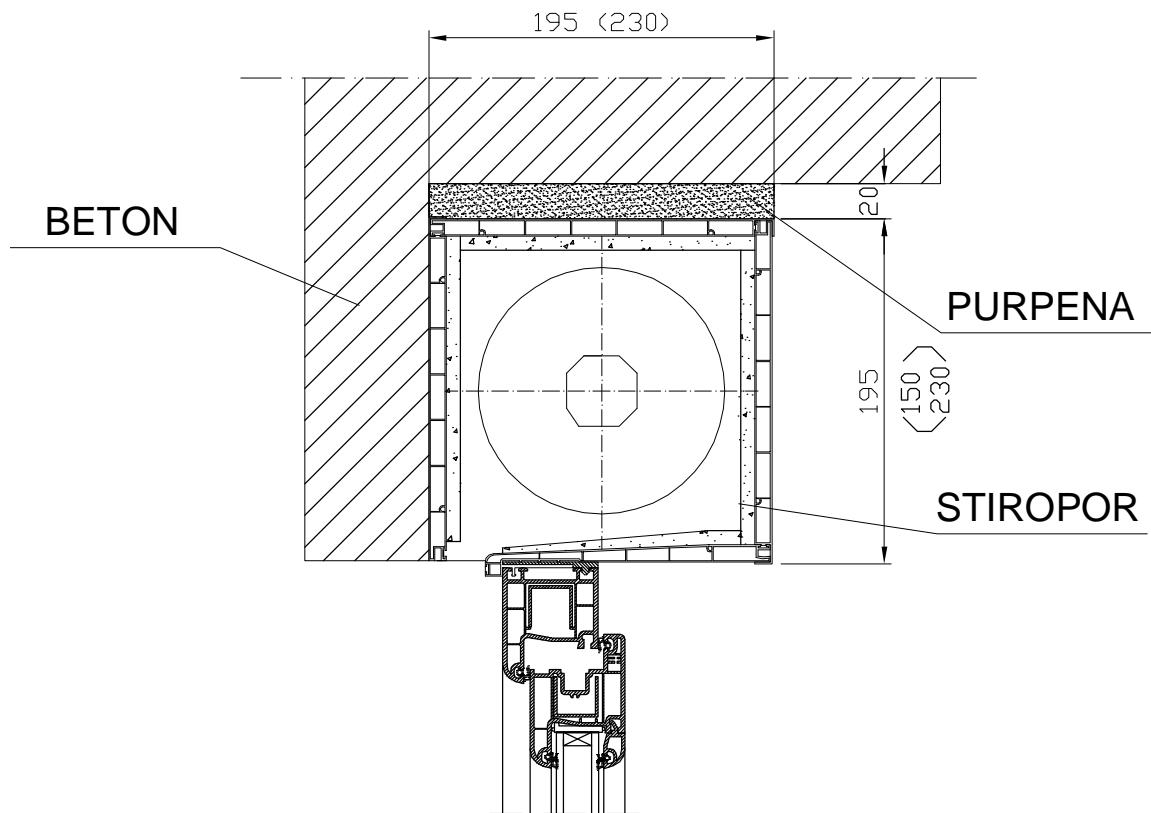
UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU BEZ SPOLJAŠNJEG ZUBA SISTEM 600



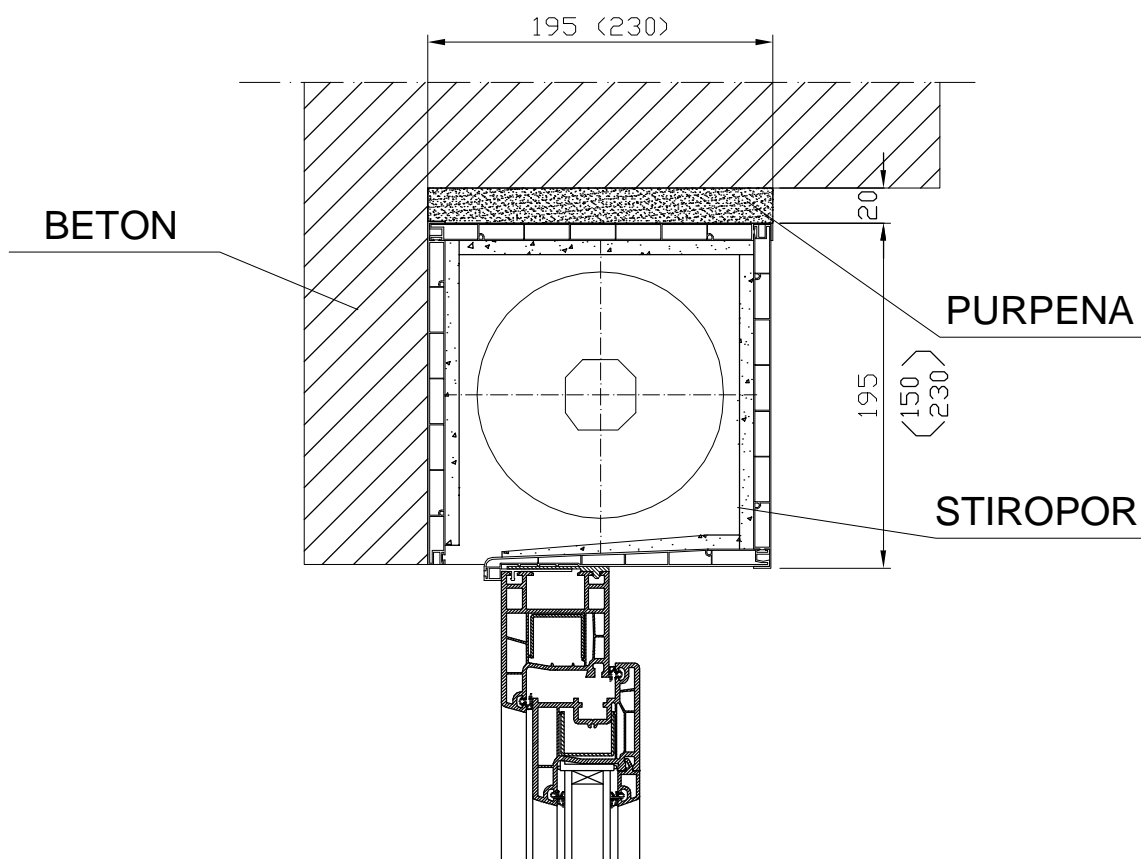
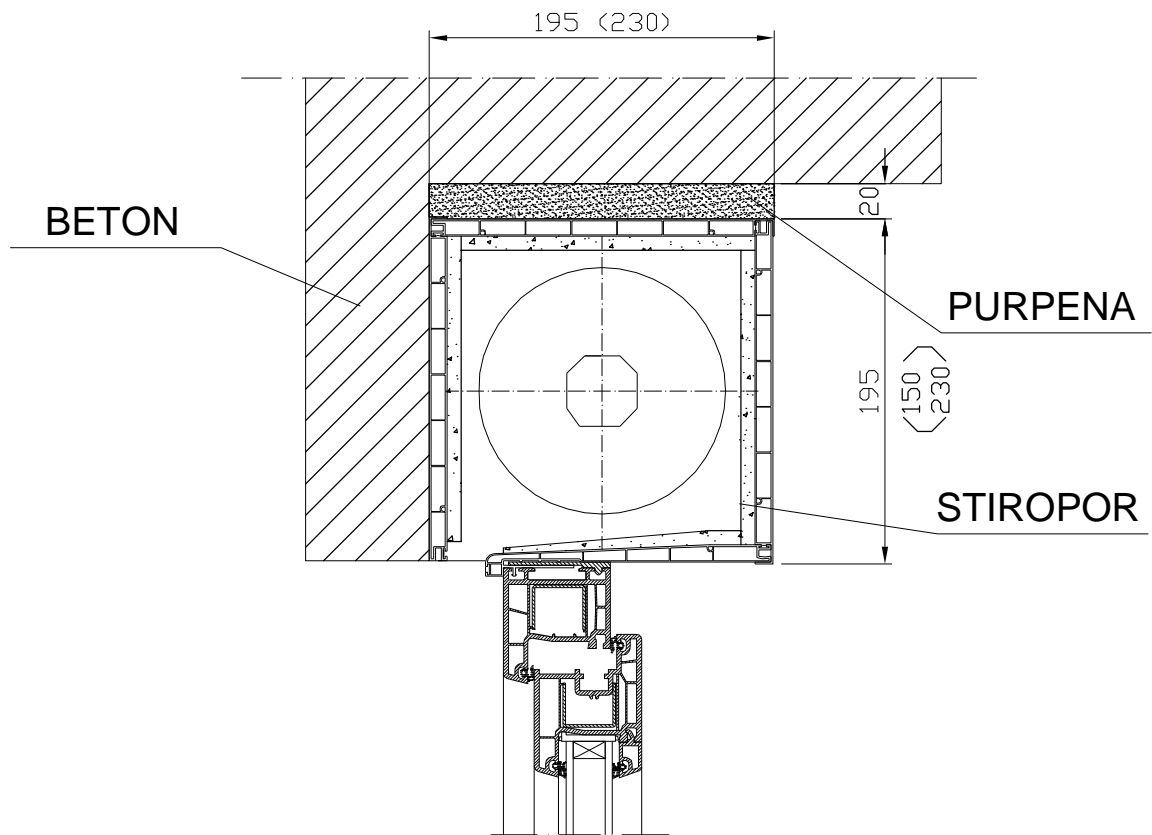
UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU BEZ SPOLJAŠNJEG ZUBA SISTEM 800



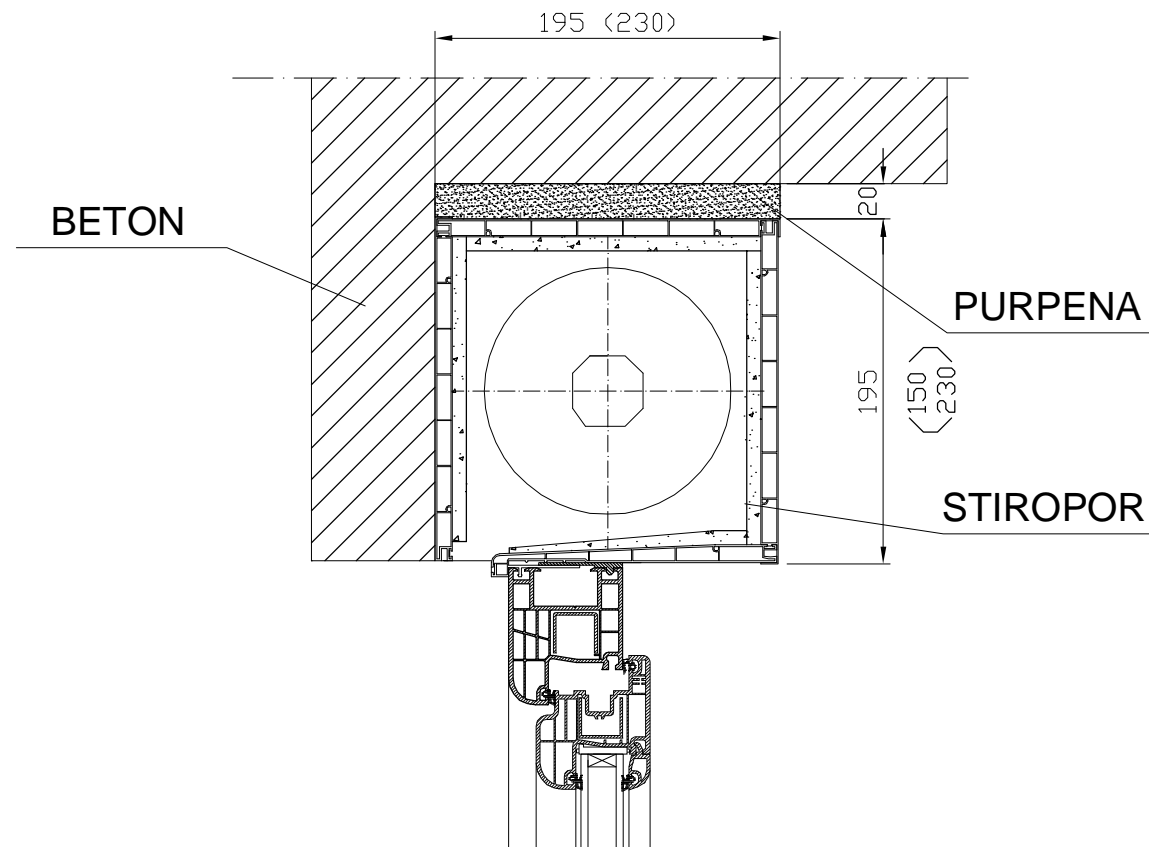
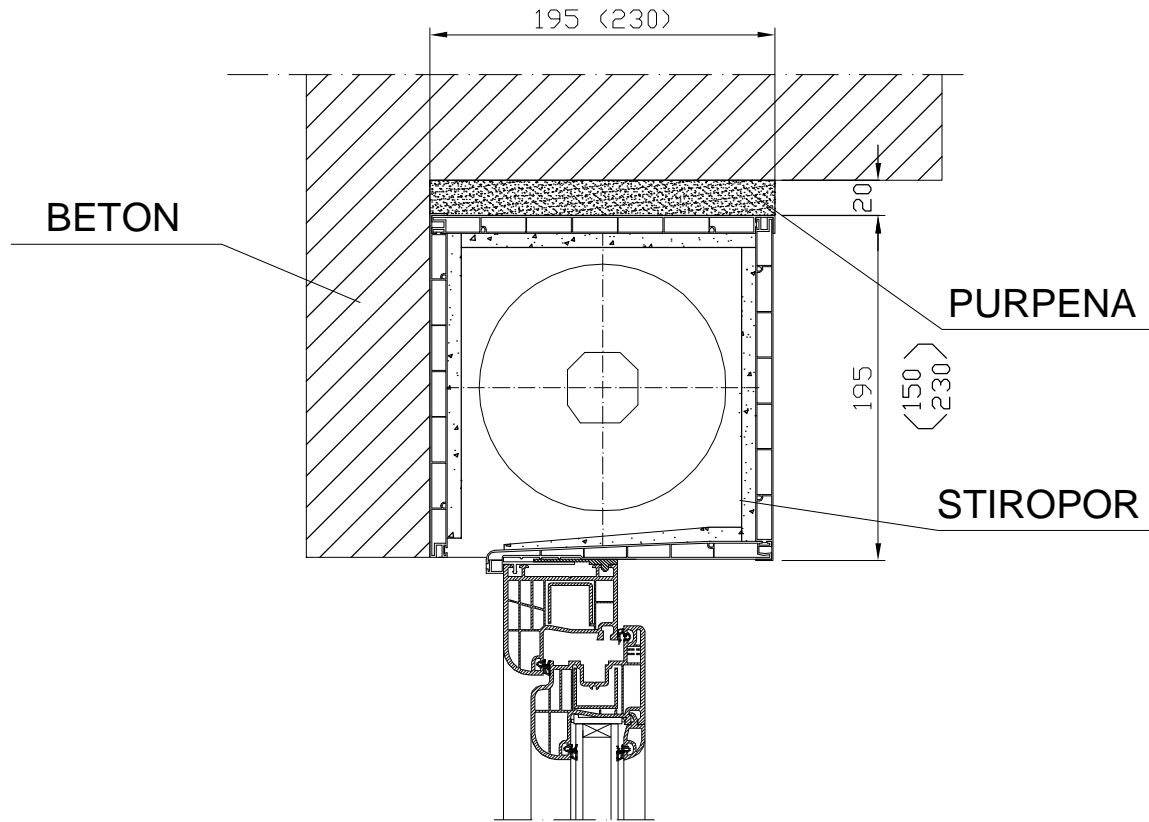
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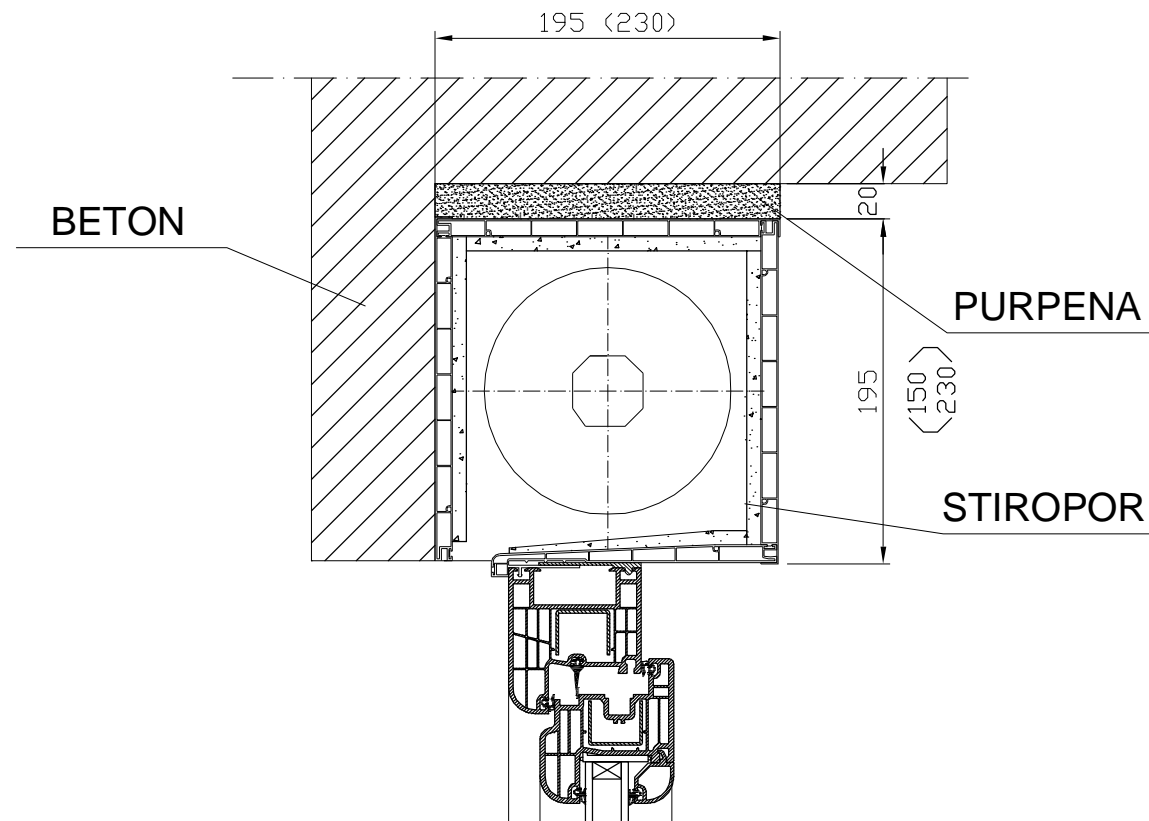
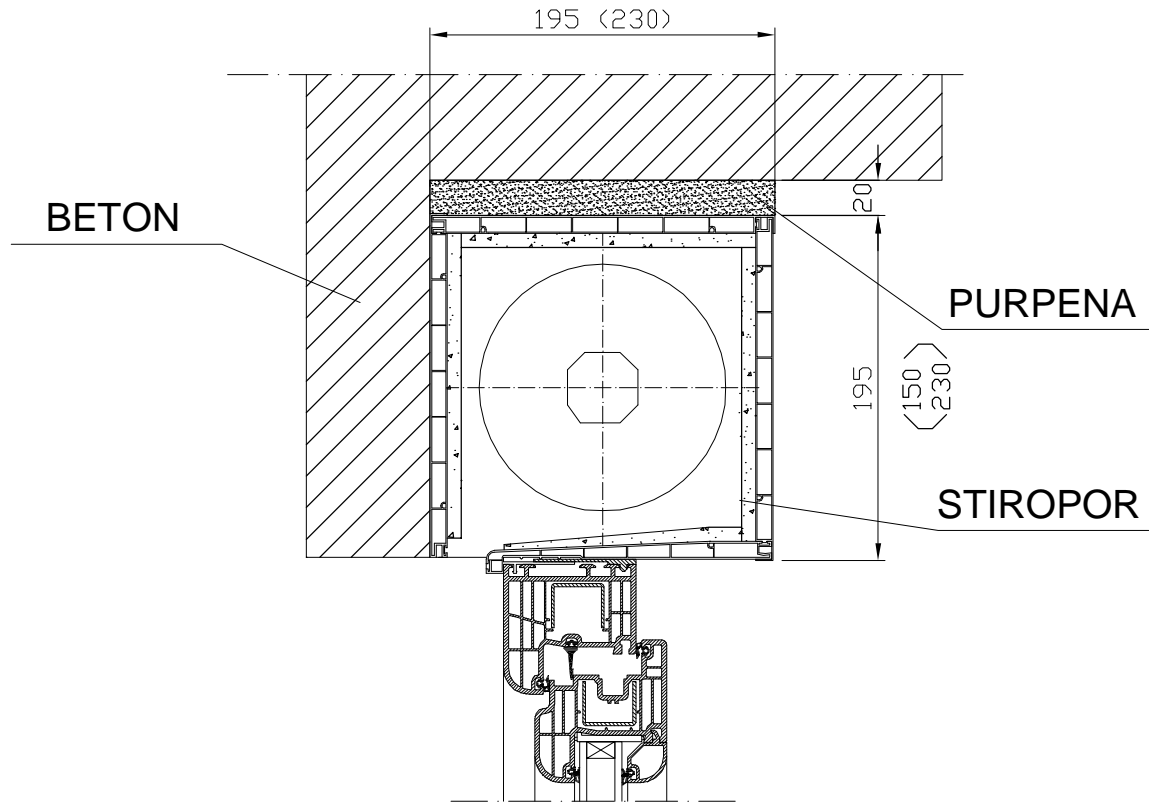
UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU SA SPOLJAŠNIM ZUBOM SISTEM 400



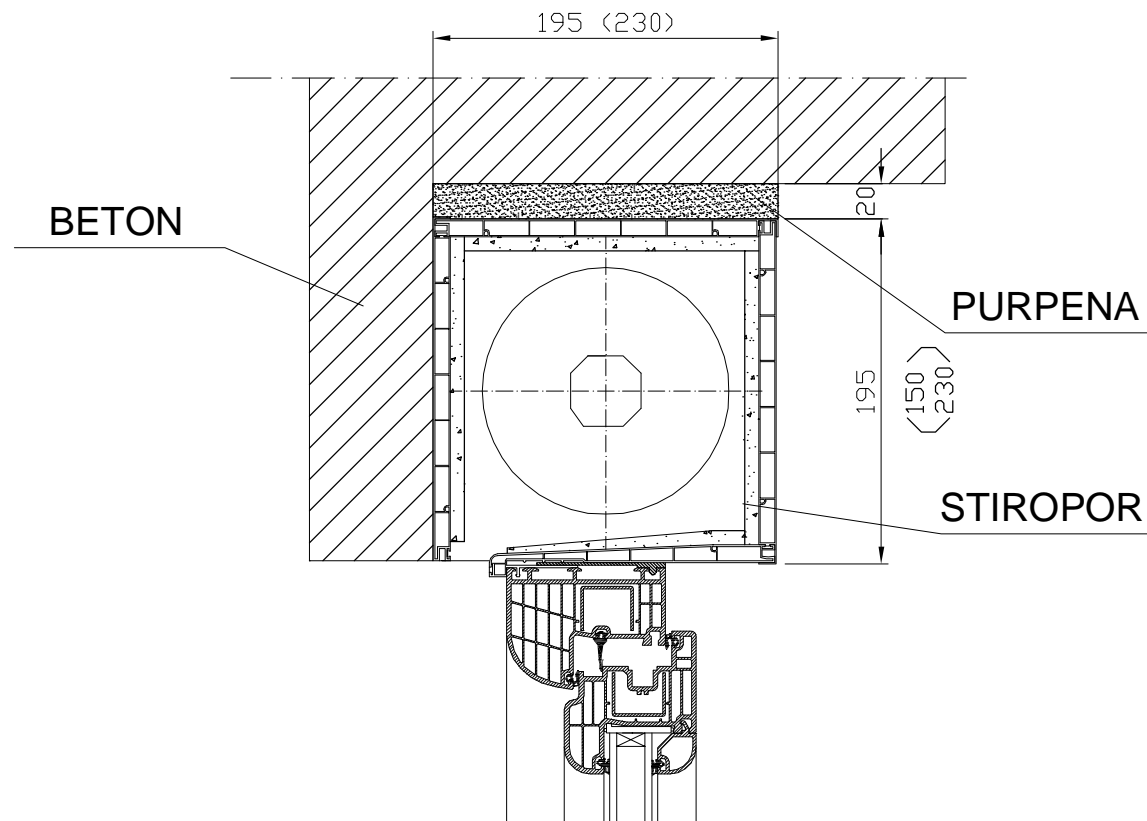
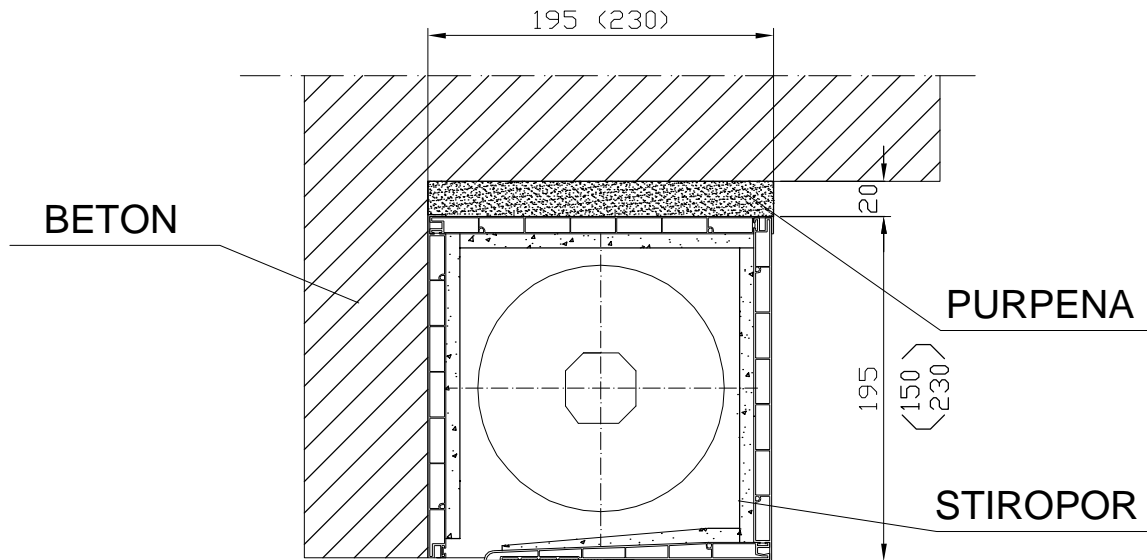
UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU SA SPOLJAŠNIM ZUBOM SISTEM 500



UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU SA SPOLJAŠNIM ZUBOM SISTEM 600



UGRADNJA PROZORA SA PVC KUTIJOM ZA ROLETNU SA SPOLJAŠNJIM ZUBOM SISTEM 800



10. OKOVI

Okovi su elementi koji omogućavaju pravilno funkcionisanje prozora. Za smanjenje toplotnih gubitaka i dobitaka putem propuštanja kroz vezu krilo – krilo i krilo – ram, kada je prozor zatvoren okovi trebaju osigurati njihovo dobro naleganje i čvrsti spoj.

Prozor kao gotov proizvod sastoji se od niza elemenata koji međusobno moraju biti usklađeni. Gubitak toplote se ostvaruje na vezi ram–zid, krilo–krilo i ram–krilo. Greške su uzrok čovečijeg delovanja, loše proizvedenog i loše ugrađenog prozora.

Okov čine mehanički elementi koji upravljaju otvaranjem i zatvaranjem. Okov na prozorima spaja krilo i okvir. Jednostavni su za upotrebu. Elementi koji čine okov su skriveni, polu–skriveni i vidljivi, i razlikuju se po bojama i sigurnosnim karakteristikama. Treba se zaštititi od provale, zaštititi decu kao i obezbediti da pri zatvaranju okov izvrši pritisak na zaptivač, te štiti od vetra i kiše.

Jednostavno i lako rukovanje, kao i različite mogućnosti otvaranja važni su aspekti, i po pravilu svi proizvođači okova razmatraju sve pojedinosti vezane za sigurnost, funkcionalnost i udobnost življenja. Za odgovarajuće vrste otvaranja i zatvaranja ugrađuju se različiti okovi. Oni zavise od veličine i težine krila i sigurnosti koju će prozor i okovi dati.

Prema veličini prozora važan je broj tačaka zatvaranja, a naročito kod vrata. Najveći efekat zatvaranja (zaključavanja) postiže se velikim brojem prihvatnika. Oni obezbeđuju i odgovarajuće zaptivanje "prostora" između rama i krila prozora za vreme nepogoda. U razvijenim zemljama stručnjaci se posebno bave izradom sigurnosnih vrata i vrata u slučaju požara, kako bi sistem funkcionisao ispravno.

Elementi okova:

- Pogonski mehanizam okova je deo koji se pokreće okretanjem ručice. Pokretanjem klizača prozor se otvara/zatvara.
- Ugaonik je deo na kojem se nalazi tačka zaokreta i na tom mestu se istovremeno koncentriše težina krila. Osnovni mu je zadatak prenos kretanja.
- Makaze su element koji spaja ram i krilo u slučaju delimičnog nagnjanja prozora (kipovanje). Pričvršćeni su na gornjem delu krila. Zajedno sa ugaonikom obezbeđuje okretanje oko vertikalne ose kao i delimično nagnjanje oko horizontalne ose tzv. kipovanje.
- Prihvatnik je deo koji se ugrađuje u ram i u njega naležu klizači. Što ih je više, osiguravaju bolje zatvaranje tj. zaključavanje (izuzetno je važno kod ulaznih vrata).

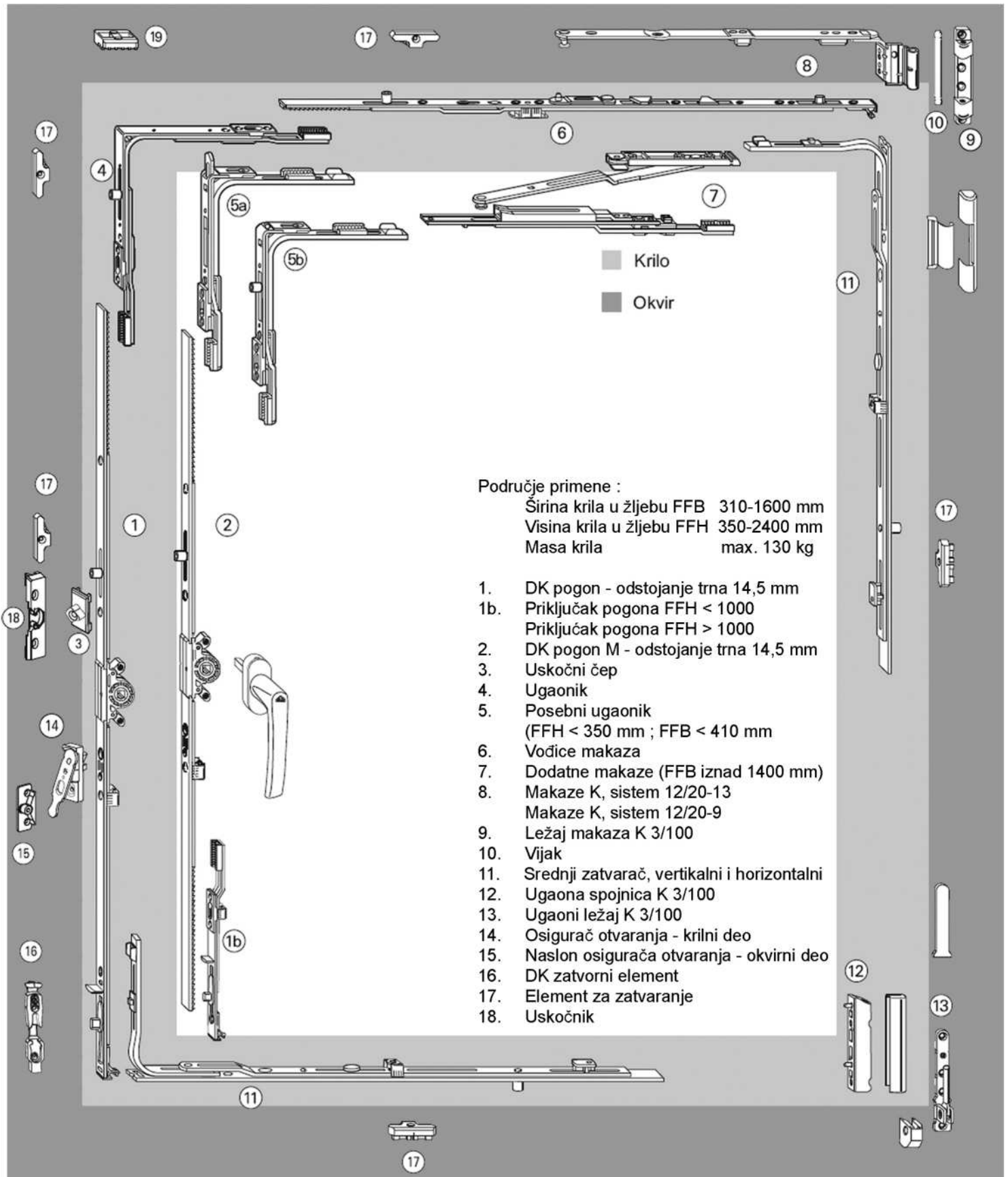
Metalni okovi su izrađeni po visokim evropskim standardima i imaju mogućnost da sa jednim okretom ručice fiksiraju krilo u više tačaka. Delovi okova izrađeni su od visoko kvalitetnog čelika, legure aluminjuma i legure cinka. Zavisno od korištenog materijala okovi su pocinčani i žuto hromirani odnosno eloksirani.

Otklopno–zaokretni, zaokretni i otklopni okov (kipovanje) primenjiv je na različite sisteme PVC profila upotrebom posebnih otklopnih pločica i podloga.

Područja primene okova su:

- jednokrillni prozori i vrata
- jednokrillna vrata sa zaključavanjem
- dvokrillna vrata sa zaključavanjem
- polukružni prozori
- kosi prozori i vrata
- klizna vrata

OKRETNO NAGIBNI OKOV

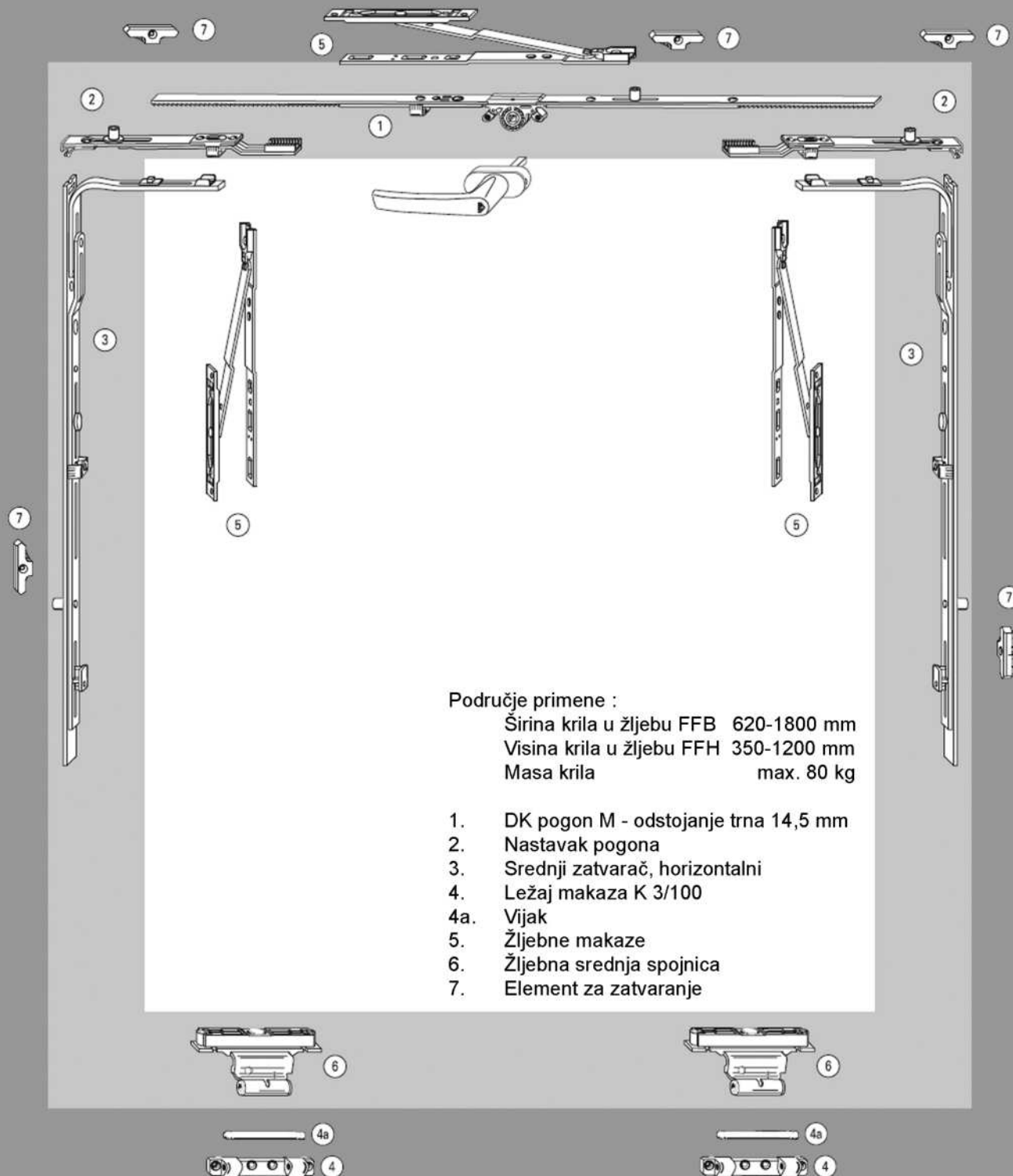


Područje primene :

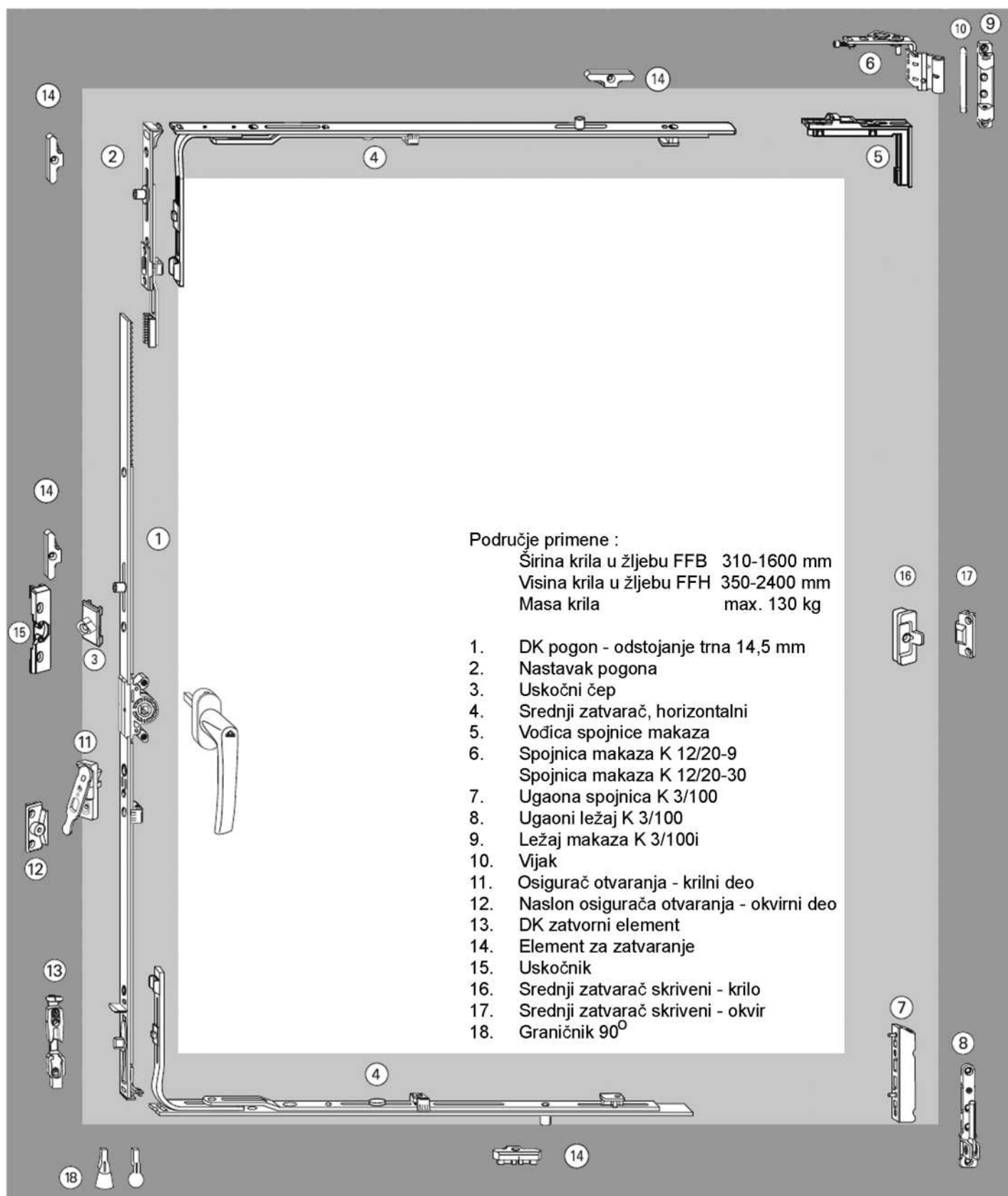
Širina krila u žljebu FFH 310-1600 mm
 Visina krila u žljebu FFH 350-2400 mm
 Masa krila max. 130 kg

1. DK pogon - odstojanje trna 14,5 mm
- 1b. Priključak pogona FFH < 1000
 Priključak pogona FFH > 1000
2. DK pogon M - odstojanje trna 14,5 mm
3. Uskočni čep
4. Ugaonik
5. Posebni ugaonik
 (FFH < 350 mm ; FFH < 410 mm)
6. Vođice makaza
7. Dodatne makaze (FFH iznad 1400 mm)
8. Makaze K, sistem 12/20-13
 Makaze K, sistem 12/20-9
9. Ležaj makaza K 3/100
10. Vijak
11. Srednji zatvarač, vertikalni i horizontalni
12. Ugaona spojnica K 3/100
13. Ugaoni ležaj K 3/100
14. Osigurač otvaranja - krilni deo
15. Naslon osigurača otvaranja - okvirni deo
16. DK zatvorni element
17. Element za zatvaranje
18. Uskočnik

NAGIBNI OKOV



OKRETNI OKOV

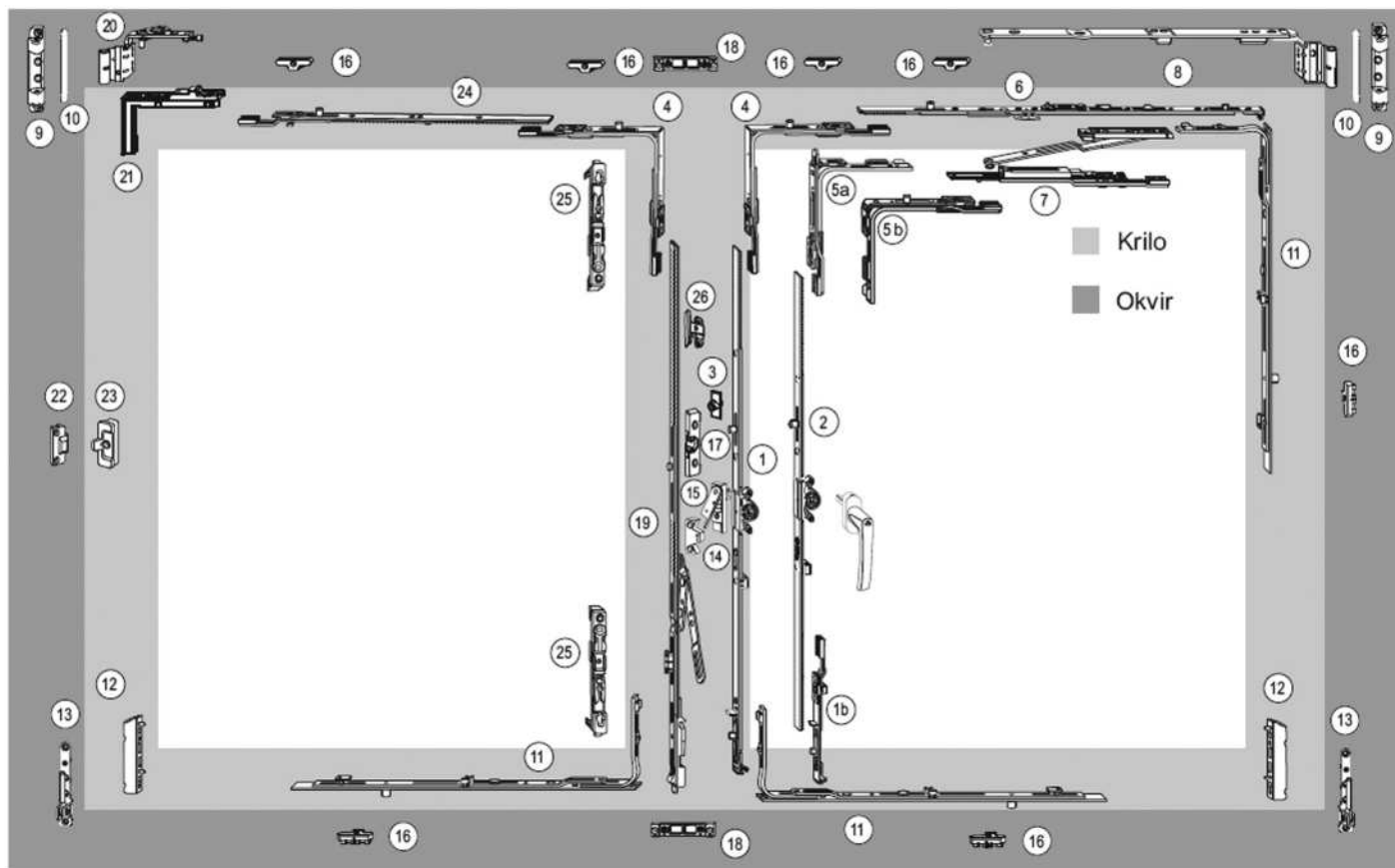


Područje primene :

Širina krila u žljebu FFH 310-1600 mm
 Visina krila u žljebu FFH 350-2400 mm
 Masa krila max. 130 kg

1. DK pogon - odstojanje trna 14,5 mm
2. Nastavak pogona
3. Uskočni čep
4. Srednji zatvarač, horizontalni
5. Vođica spojnice makaza
6. Spojnica makaza K 12/20-9
Spojnica makaza K 12/20-30
7. Ugaona spojnica K 3/100
8. Ugaoni ležaj K 3/100
9. Ležaj makaza K 3/100i
10. Vijak
11. Osigurač otvaranja - krilni deo
12. Naslon osigurača otvaranja - okvirni deo
13. DK zatvorni element
14. Element za zatvaranje
15. Uskočnik
16. Srednji zatvarač skriveni - krilo
17. Srednji zatvarač skriveni - okvir
18. Graničnik 90°

DVOKRILNI PROZOR PREGLED OKOVA

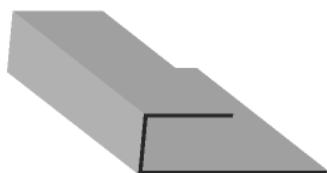


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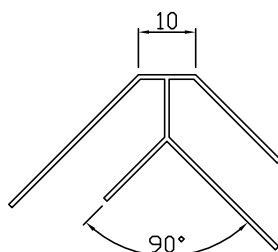
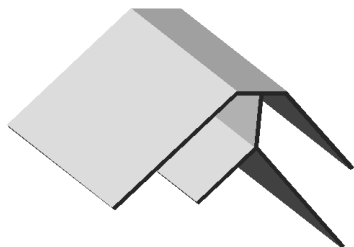
Širina krila u žljebu FFH 310-1600 mm
 Visina krila u žljebu FFH 350-2400 mm
 Masa krila max. 130 kg

- | | | | |
|-----|--------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------|
| 1. | DK pogon - spojni, odstojanje trna 14,5 mm | 16. | Element za zatvaranje |
| 1b. | Priključak pogona FFH < 1000
Priključak pogona FFH > 1000 | 17. | Uskočnik |
| 2. | DK pogon M - odstojanje trna 14,5 mm | 18. | Upadnica za dvokrilni prozor |
| 3. | Uskočni čep | 19. | Čeoni pogon, konstantna visina ručke |
| 4. | Ugaonik | 20. | Spojnicica makaza K 12/29-9 L
Spojnicica makaza K 12/29-9 R
Spojnicica makaza K 12/29-13 L
Spojnicica makaza K 12/29-13 R |
| 5. | Posebni ugaonik
(FFH < 350 mm ; FFB < 410 mm) | 21. | Vodica spojnicice makaza |
| 6. | Vođice makaza | 22. | Srednji zatvarač skriveni - okvirni deo |
| 7. | Dodatne makaze (FFB iznad 1400 mm) | 23. | Srednji zatvarač skriveni - krilni deo |
| 8. | Makaze K, sistem 12/20-13
Makaze K, sistem 12/20-9 | 24. | Produžetak pogona |
| 9. | Ležaj makaza K 3/100 | 25. | Rubni zasun |
| 10. | Vijak | 26. | Element za zatvaranje za čeoni pogon |
| 11. | Srednji zatvarač, vertikalni i horizontalni | | |
| 12. | Ugaona spojnicica K 3/100 | | |
| 13. | Ugaoni ležaj K 3/100 | | |
| 14. | Osigurač otvaranja - krilni deo | | |
| 15. | Naslon osigurača otvaranja - okvirni deo | | |

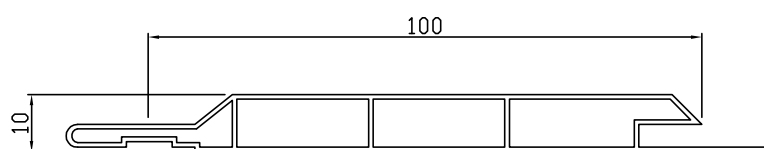
11. Pomoćni profili, lamperija, garniše



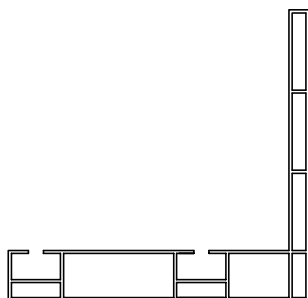
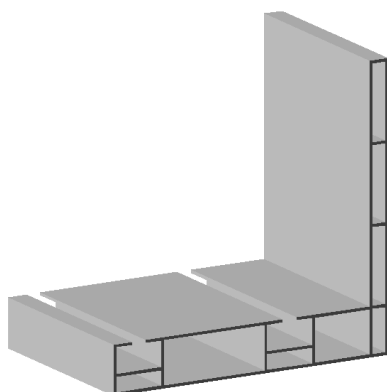
PVC završna lajsna za lamperiju.



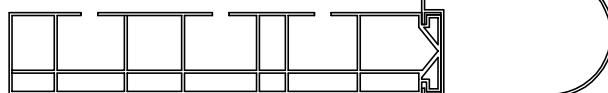
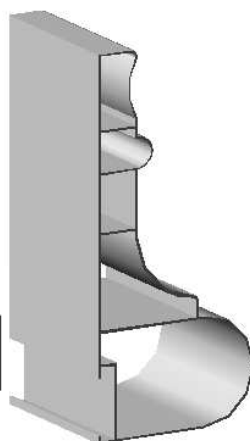
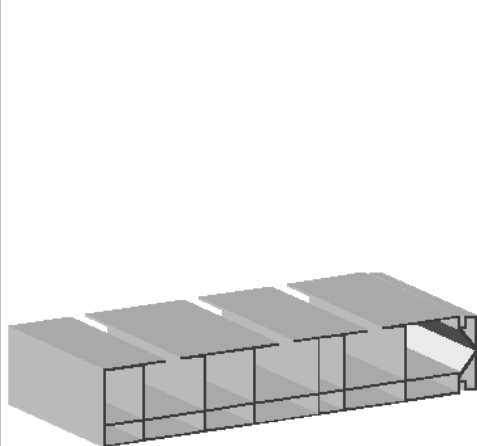
PVC ugaona lajsna za lamperiju.



PVC lajsna za lamperiju.



PVC dvokanalna "L" garnišla za zavese.



PVC trokanalna ukrasna garnišla za zavese.

12. ROLETNE

Roletne za prozore, vrata i terase napravljene su od aluminijumskih i PVC vođica sa četkicom i vođica od dekapiranih limova.

Metalni delovi su plastificirani u raznim bojama po Ral karti.

Zastori za roletne napravljeni su od aluminijumskih limova punjenih poliuretanskom penom i od tvrdog PVC-a.

Kutije za smeštaj zastora izrađuju se od tvrdog PVC-a, aluminijumskih i pocinkovanih limova sa i bez termoizolacije. Mogu se plastificirati u više boja po Ral karti.

Rolo vrata za garaže, hale, radionice, lokale, poslovne prostorije većih širina i visina. Napravljena su od aluminijumskih delova, zastor se puni poliuretanskom penom.

Kutija za smeštaj zastora se pravi od aluminijumskog i pocinkovanog lima, plastificiranog po Ral karti.

Rukovanje rolo vratima može biti pomoću oprugu, reduktor ili automatski pomoću elektromotora sa daljinskim upravljačem.

D I M E N Z I J E K U T I J A

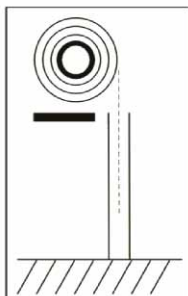
	120	137	140	150	160	165	170	180	200	205	220	250	300	350	400
AL 39	1300	1500	1650	1850	2200	2200	2450	2900	3550	3700	4600	6600			
AL 43	1100	1100	1125	1500	1800	1800	2150	2400	2900	2900	3600	5000			
AL 55								1200	1600	1600	2000	2700	4050		
AL 77								900	1200	1200	1600	2050	3100	4100	5700
PVC 34	1000	1200	1250	1350	1800	1850	2100	2350	2850	2900	3350	4100	5800		
PVC 37	1300	1550	1700	2100	2300	2300	2600	2900	3650	3950	3950	4500			
PVC 40	1300	1500	1650	1850	2200	2200	2450	2900	3550	3700	4600	6600			
PVC 50	1000	1200	1250	1350	1800	1850	2100	2350	2850	2900	3350	4100	5800		
PVC 55								1200	1600	1600	2000	2700	4050		

VISINA ZASTORA

Na veličinu stranice treba obratiti pažnju kod roletni kada je komarnik u istoj kutiji i kod rolo vrata kada idu blokatori ili adapteri za povećanje prečnika fi osovine.

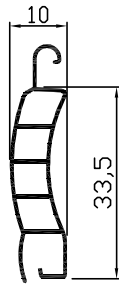
Kod PVC i termo kutije merodavna je unutrašnja dimenzija.

U svim ovim uslovima treba stranicu povećati za određeni broj.

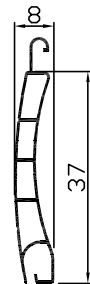


Vratilo D (mm)	Lamela Al (mm)	Lamela PVC (mm)
40	37,39,43	34,37,40,50
60	55,77	50,55
70	77	

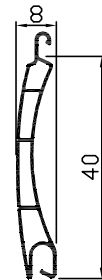
Delovi za roletne



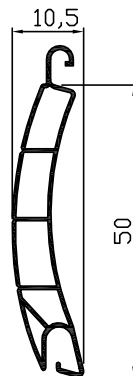
PVC letvica za roletne.
 Dimenzije: 33,5 x 10 mm
 Visina od 1m = 30 letvica



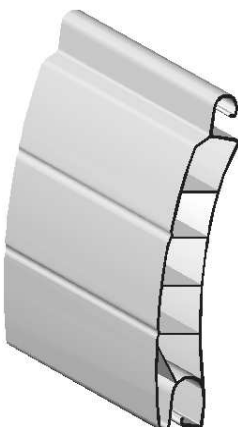
PVC letvica za roletne.
 Dimenzije: 37 x 8 mm
 Visina od 1m = 27 letvica



PVC letvica za roletne.
 Dimenzije: 40 x 8 mm
 Visina od 1m = 25,6 letvica

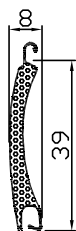


PVC letvica za roletne.
 Dimenzije: 50 x 10,5 mm
 Visina od 1m = 20 letvica



PVC letvica za roletne.
 Dimenzije: 55 x 14 mm
 Visina od 1m = 18,2 letvica

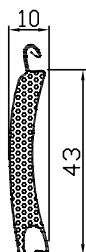
Delovi za roletne



Aluminijumska letvica za roletne. Punjena poliuretanskom penom.

Dimenzije: 39 x 8 mm

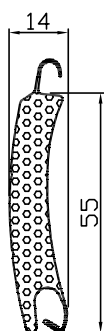
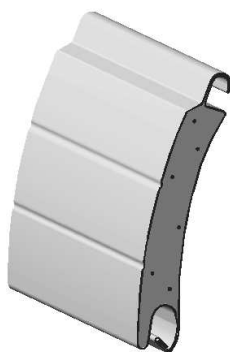
Visina od 1m = 25,6 letvice



Aluminijumska letvica za roletne. Punjena poliuretanskom penom.

Dimenzije: 43 x 10 mm

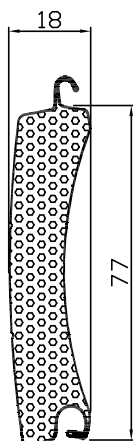
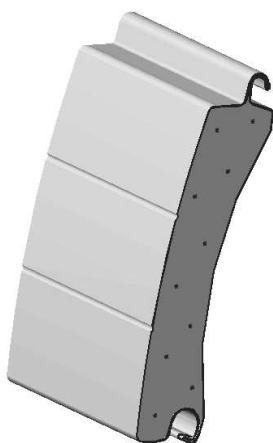
Visina od 1m = 23 letvice



Aluminijumska letvica za roletne. Punjena poliuretanskom penom.

Dimenzije: 55 x 14 mm

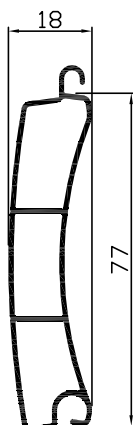
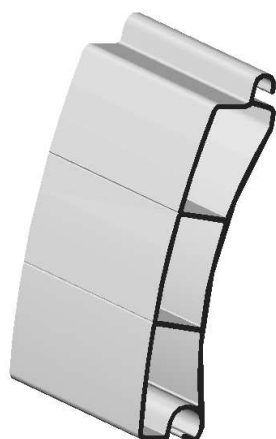
Visina od 1m = 18 letvice



Aluminijumska letvica za garažna vrata. Punjena poliuretanskom penom.

Dimenzije: 77 x 18 mm

Visina od 1m = 13 letvice

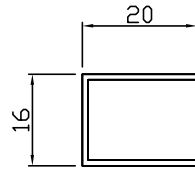
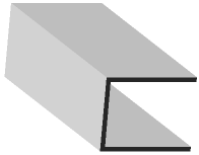


Aluminijumska letvica za garažna vrata, ekstrudirana.

Dimenzije: 77 x 18 mm

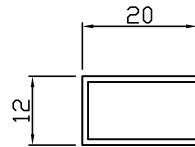
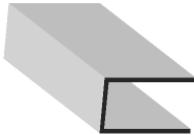
Visina od 1m = 13 letvice

Delovi za roletne



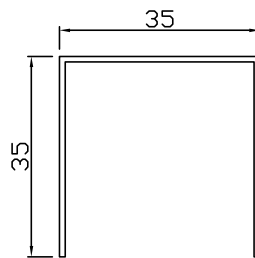
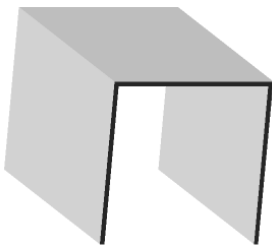
Maxi vođica za roletne od dekapiranog lima.

Dimenzije: 16 x 20 mm



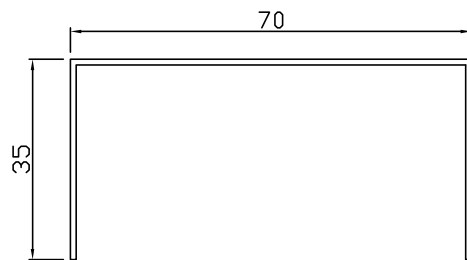
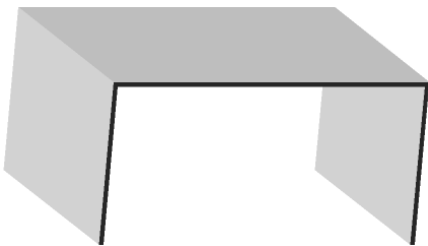
Mini vođica za roletne od dekapiranog lima.

Dimenzije: 12 x 20 mm



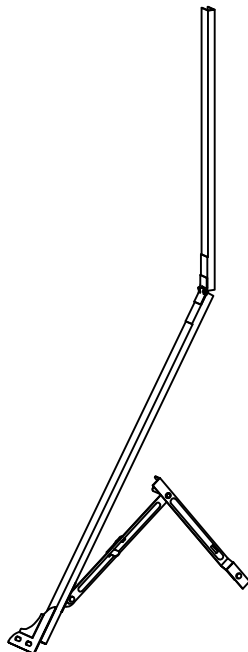
Stub za roletne od dekapiranog lima.

Dimenzije: 35 x 35 mm

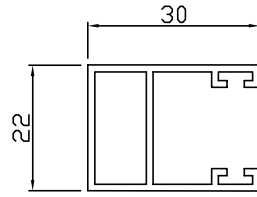
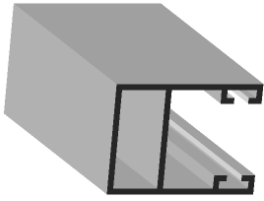


Stub za roletne od dekapiranog lima.

Dimenzije: 35 x 70 mm

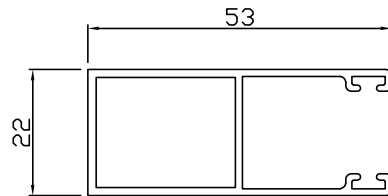
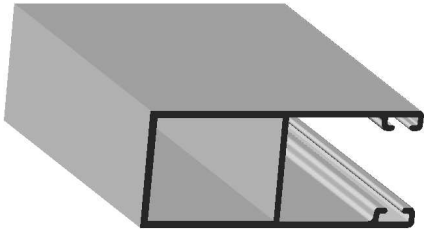


Makaze za roletne od dekapiranog lima.



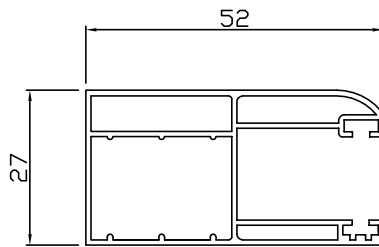
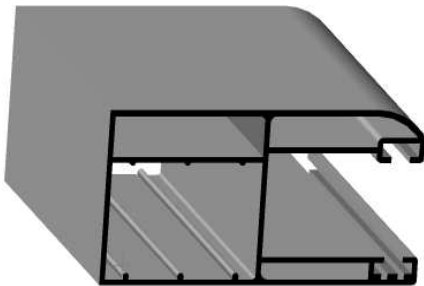
PVC vođica za roletne bez stuba.

Dimenzije: 22 x 30 mm



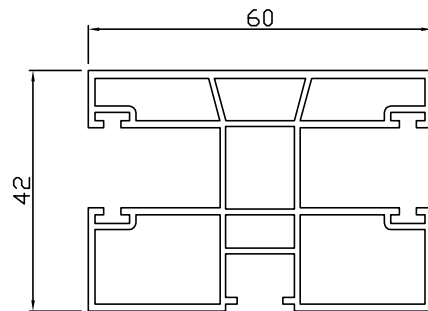
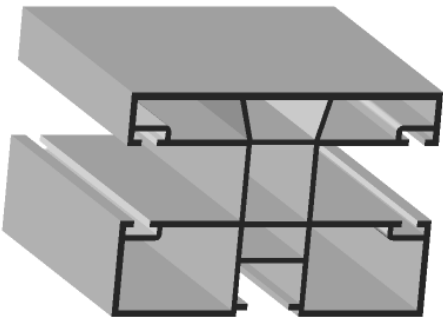
PVC vođica za roletne sa stubom.

Dimenzije: 22 x 53 mm



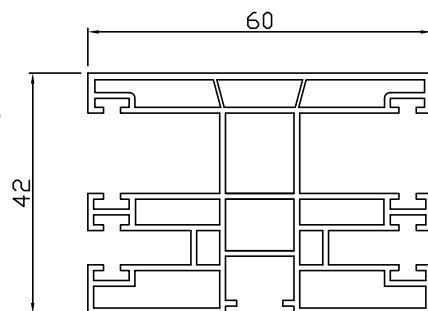
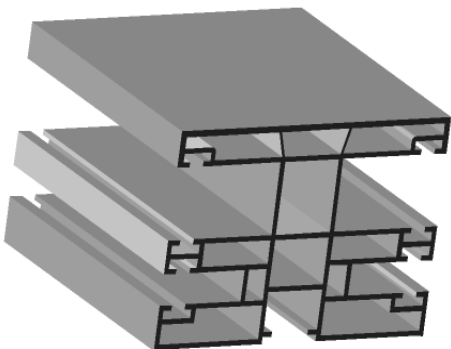
PVC vođica za roletne sa stubom zaobljena.

Dimenzije: 27 x 52 mm



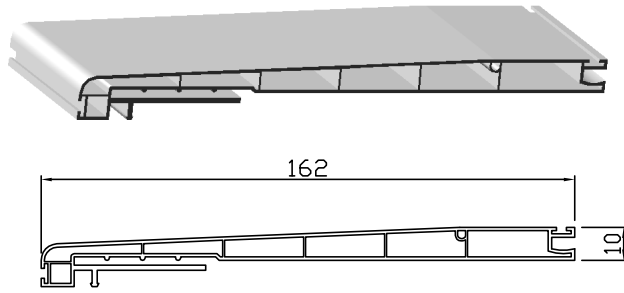
PVC vođica za roletne dupla.

Dimenzije: 42 x 60 mm



PVC vođica za roletne i komarnik dupla.

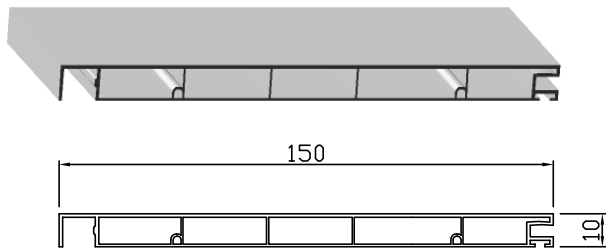
Dimenzije: 42 x 60 mm



Donji element za PVC kutije

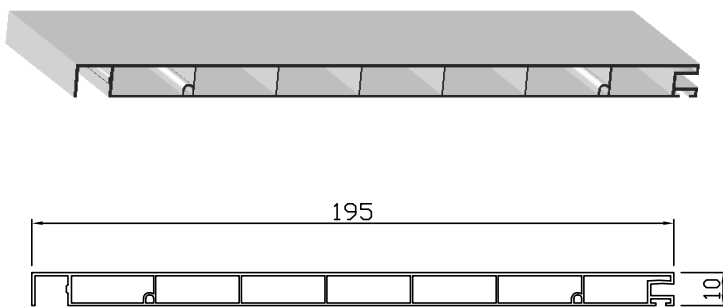
Dimenzija: 195 x 195 mm

dimenzija: 230 x 230 mm



Bočni element za PVC kutiju

Dimenzija: 195 x 150 mm

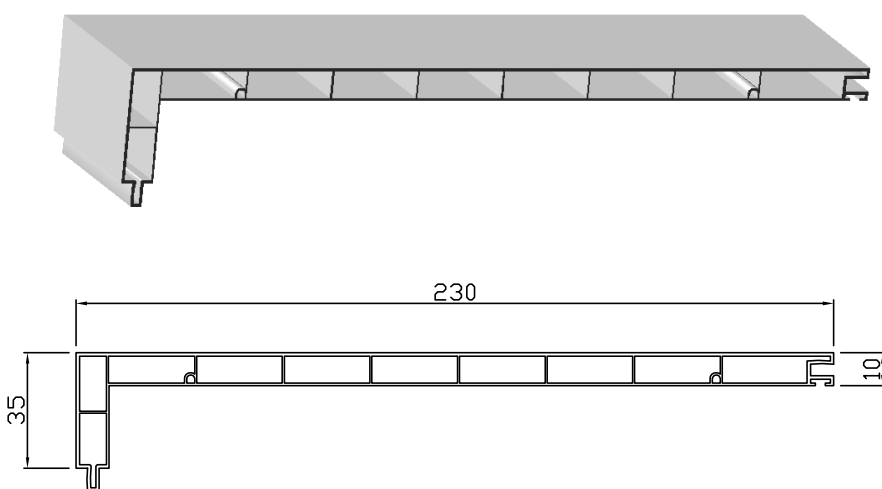


Bočni i gornji element za PVC kutiju

Dimenzija: 195 x 195 mm

Gonji element za PVC kutiju

Dimenzija: 230 x 230 mm

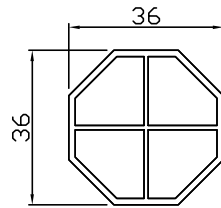
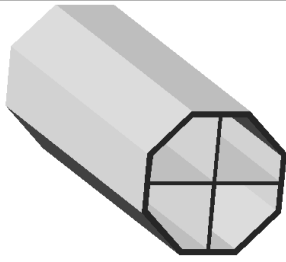


Bočni element za PVC kutiju

Dimenzija: 230 x 230 mm

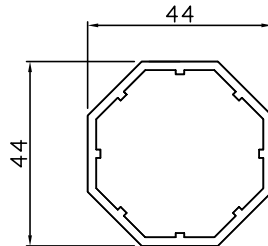
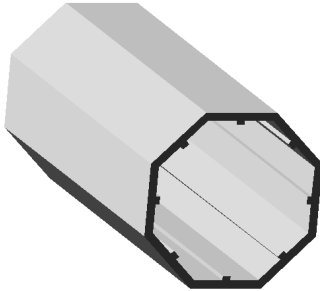


Dodatak za spajanje PVC kutije i
PVC prozora i vrata.



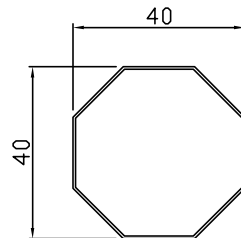
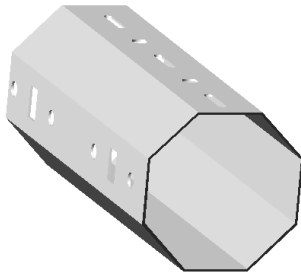
PVC osovina za roletne.

Dimenzije: \checkmark 36 mm



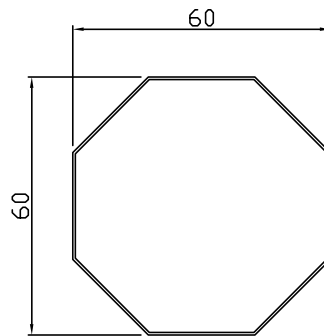
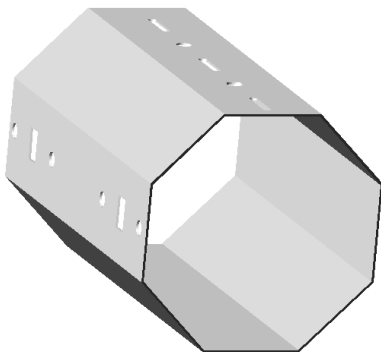
PVC osovina za roletne.

Dimenzije: \checkmark 44 mm



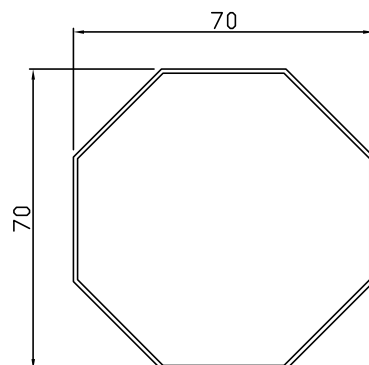
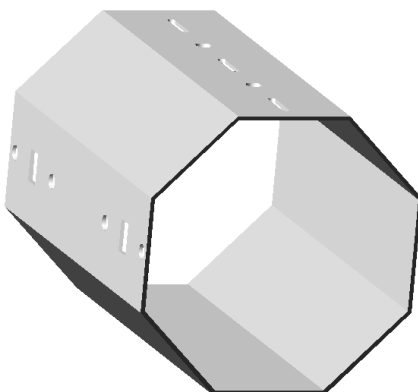
Metalna pocinkovana osovina za roletne.

Dimenzije: \checkmark 40 mm



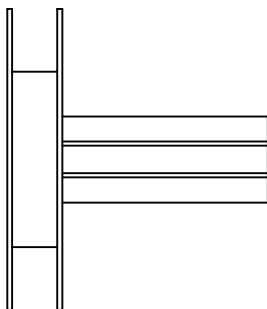
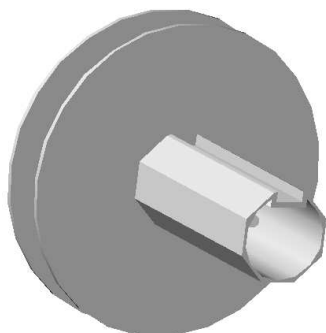
Metalna pocinkovana osovina za roletne i rolo garažna vrata.

Dimenzije: \checkmark 60 mm



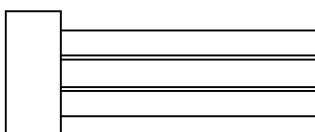
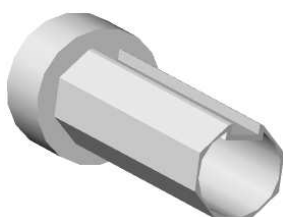
Metalna pocinkovana osovina za roletne i rolo garažna vrata

Dimenzije: \checkmark 70 mm



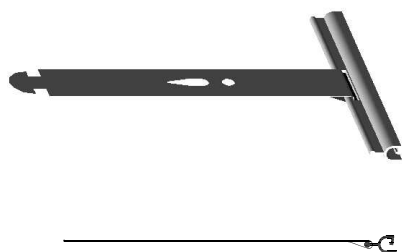
PVC točak, doboš za namotavanje rolo trake sa kućištem za kuglični ležaj Ø 28 mm.

Dimenzije: Ø 40 mm i Ø 60 mm



PVC završetak na osovina $\text{Ø} 40$, $\text{Ø} 60$, $\text{Ø} 70$ mm, sa kućištem za kuglični ležaj $\text{R} 28$ mm.

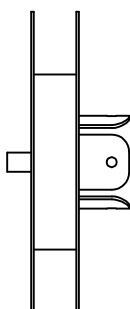
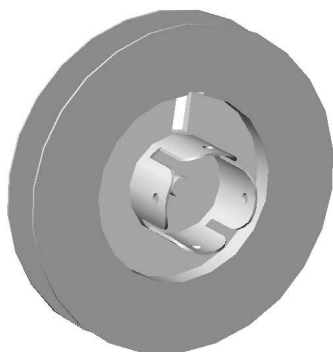
Dimenzije: Ø 40 mm i Ø 60 mm



Zakačka letvica za osovinu.

Za PVC i Al letvice:

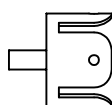
33,5	39
37	43
39	55
50	77
51	



Točak od dekapiranog lima, doboš za namotavanje rolo trake.

Dimenzije:

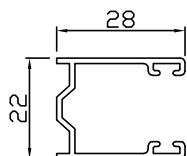
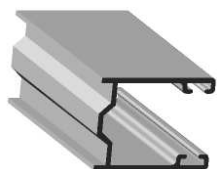
- Ø 36 mm mini
- Ø 36 mm (bočno vođenje) mini
- Ø 40 mm mini
- Ø 45 mm maxi
- Ø 45 mm (bočno vođenje) maxi
- Ø 60 mm maxi



Završetak od dekapiranog lima za PVC i metalne osovine.

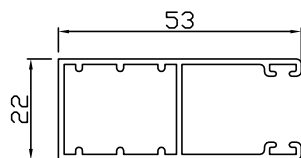
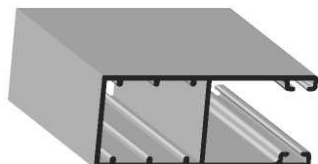
Dimenzije:

- Ø 36 mm mini
- Ø 36 mm (bočno vođenje) mini
- Ø 40 mm mini
- Ø 45 mm maxi
- Ø 45 mm (bočno vođenje) maxi
- Ø 60 mm maxi



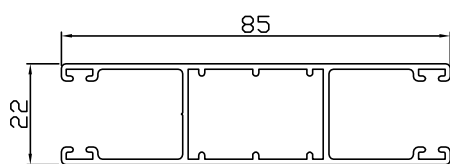
Aluminijumska mini vodica za roletne bez stuba.

Dimenzije: 22 x 28 mm



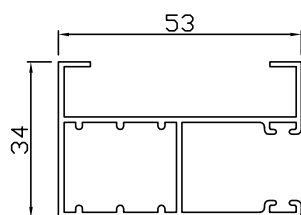
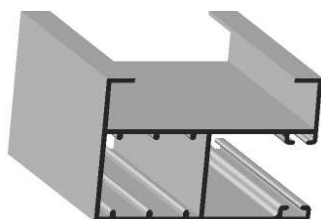
Aluminijumska mini vodica za roletne sa stubom.

Dimenzije: 22 x 53 mm



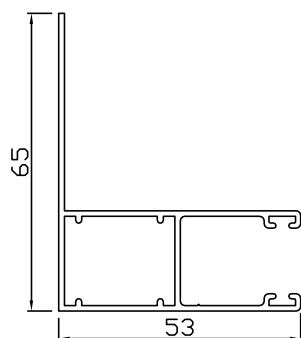
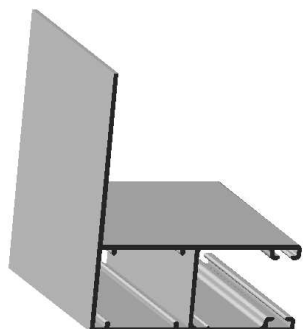
Aluminijumska srednja dvokanalna mini vodica za roletne sa stubom.

Dimenzije: 22 x 85 mm



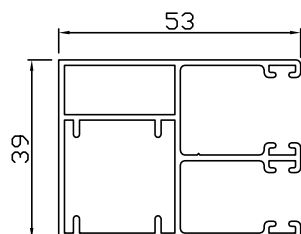
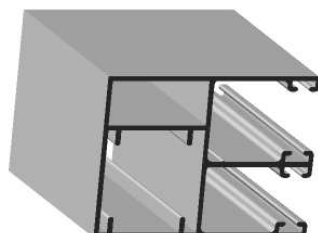
Aluminijumska mini vodica za roletne sa stubom i odstojsnikom za okapnicu.

Dimenzije: 34 x 53 mm



Aluminijumska mini vodica za roletne sa stubom i perom za komarnik.

Dimenzije: 22(65) x 53 mm


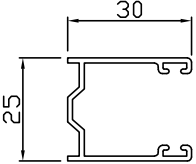
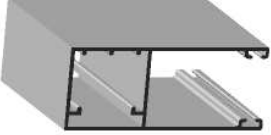
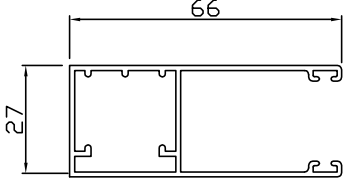

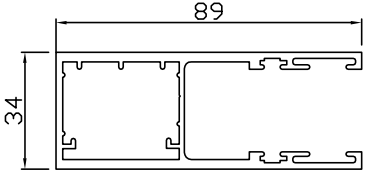

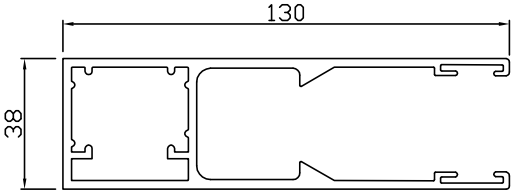

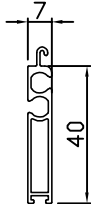

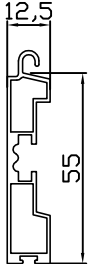




Aluminijumska dupla mini vodica za roletne i komarnik sa stubom.

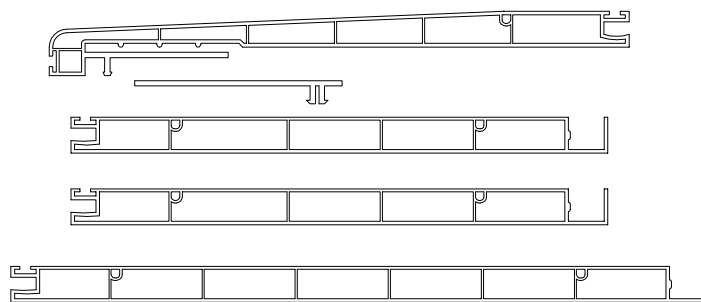
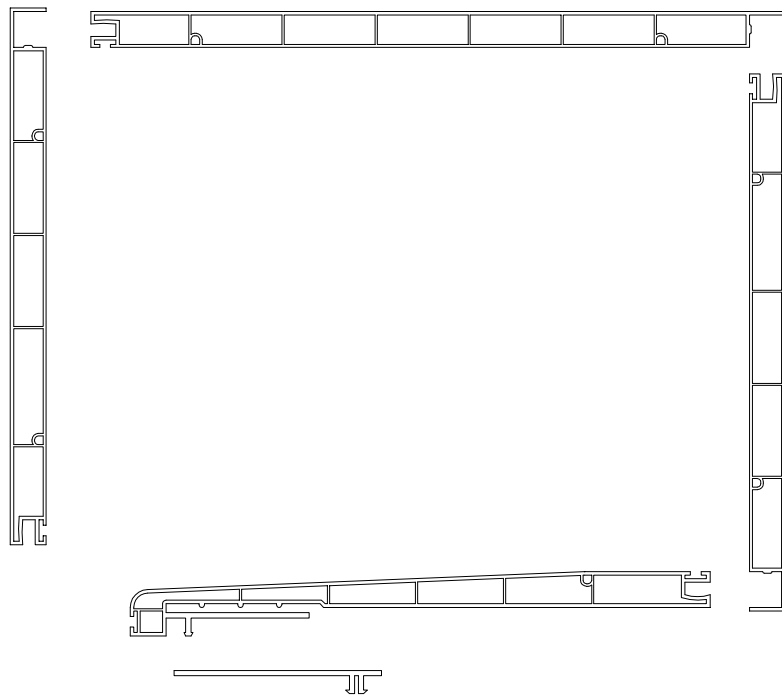
Dimenzije: 39 x 53 mm

Delovi za roletne

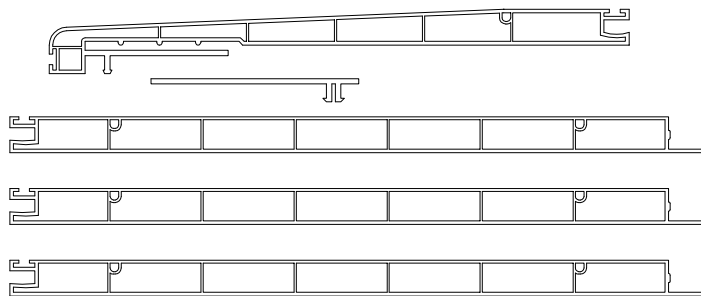
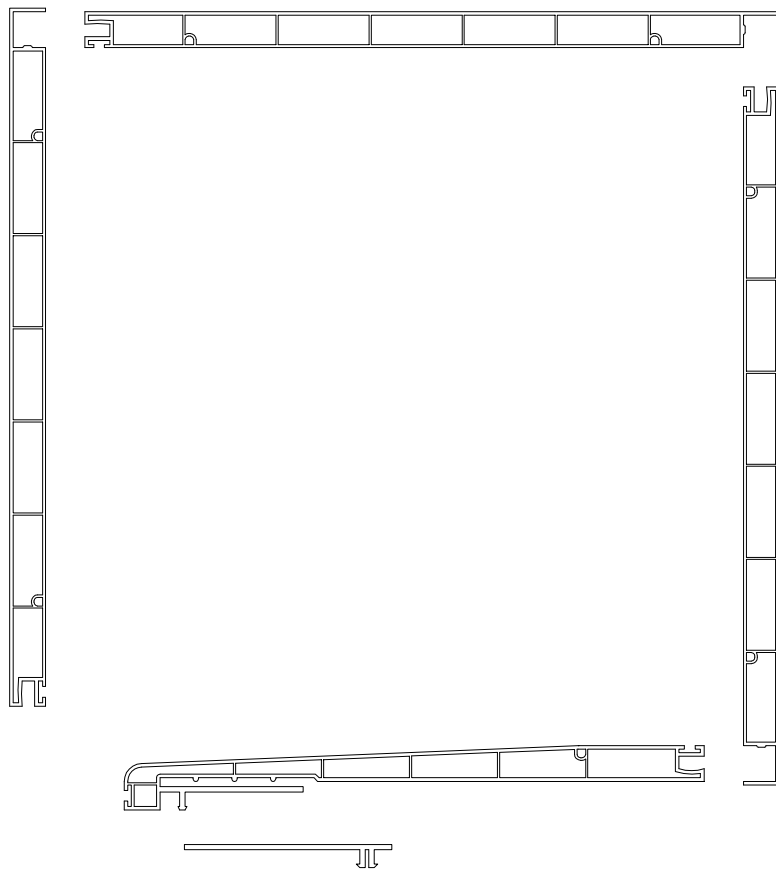


 	<p>Aluminijumska maxi vođica za roletne bez stuba.</p> <p>Dimenzije: 25 x 30 mm</p>
 	<p>Aluminijumska maxi vođica za roletne sa stubom.</p> <p>Dimenzije: 27 x 66 mm</p>
 	<p>Aluminijumska vođica za rolo garažna vrata sa stubom.</p> <p>Dimenzije: 34 x 89 mm</p>
 	<p>Aluminijumska vođica za rolo garažna vrata sa stubom.</p> <p>Dimenzije: 38 x 130 mm</p>
 	<p>Aluminijumska lajsna za zaključavanje roletni za spoljašnju i unutrašnju kutiju.</p> <p>Dimenzije: 40 x 7 mm</p>
 	<p>Aluminijumska lajsna za zaključavanje roletni za spoljašnju i unutrašnju kutiju.</p> <p>Dimenzije: 55 x 12,5 mm</p>
 	<p>Aluminijumska lajsna za zaključavanje garažnih vrata.</p> <p>Dimenzije: 77 x 18 mm</p>

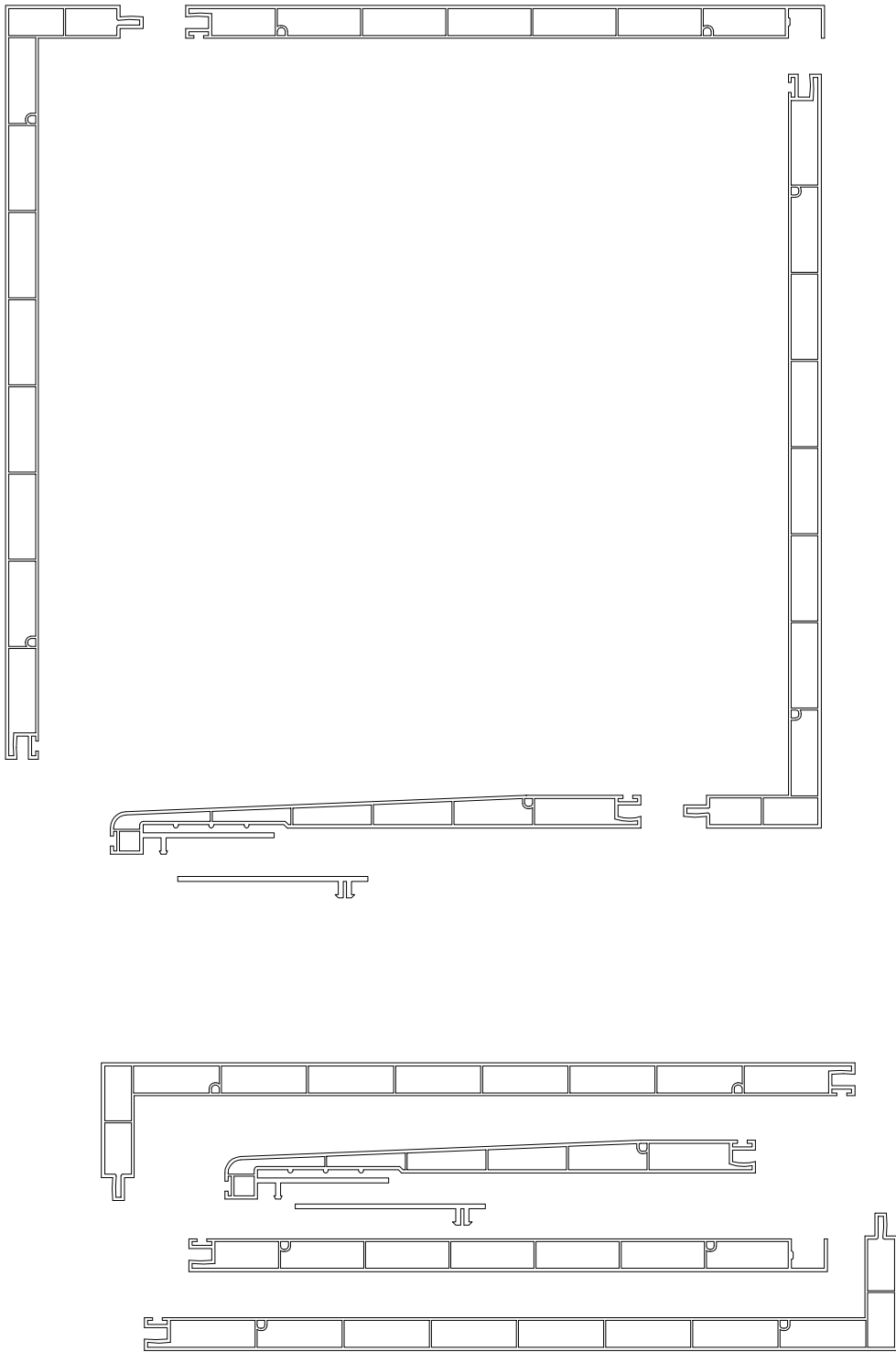
Elementi PVC kutije 195 x 150 sa
prikazom načina pakovanja


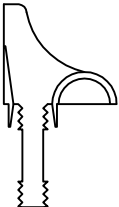

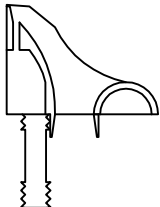

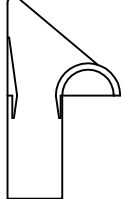

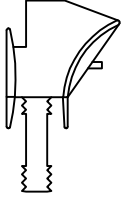

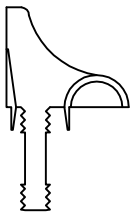
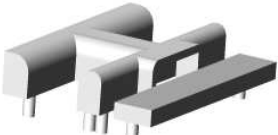
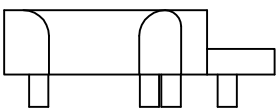
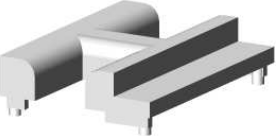
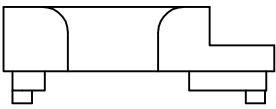
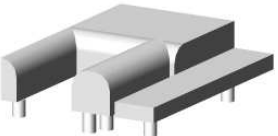
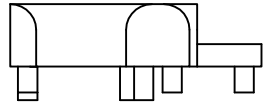
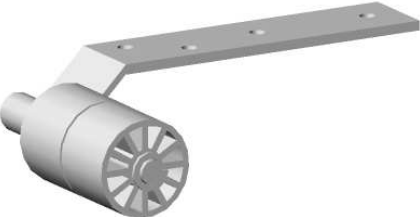
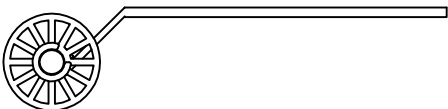


Elementi PVC kutije 195 x 195 sa
prikazom načina pakovanja



Elementi PVC kutije 230 x 230 sa
prikazom načina pakovanja

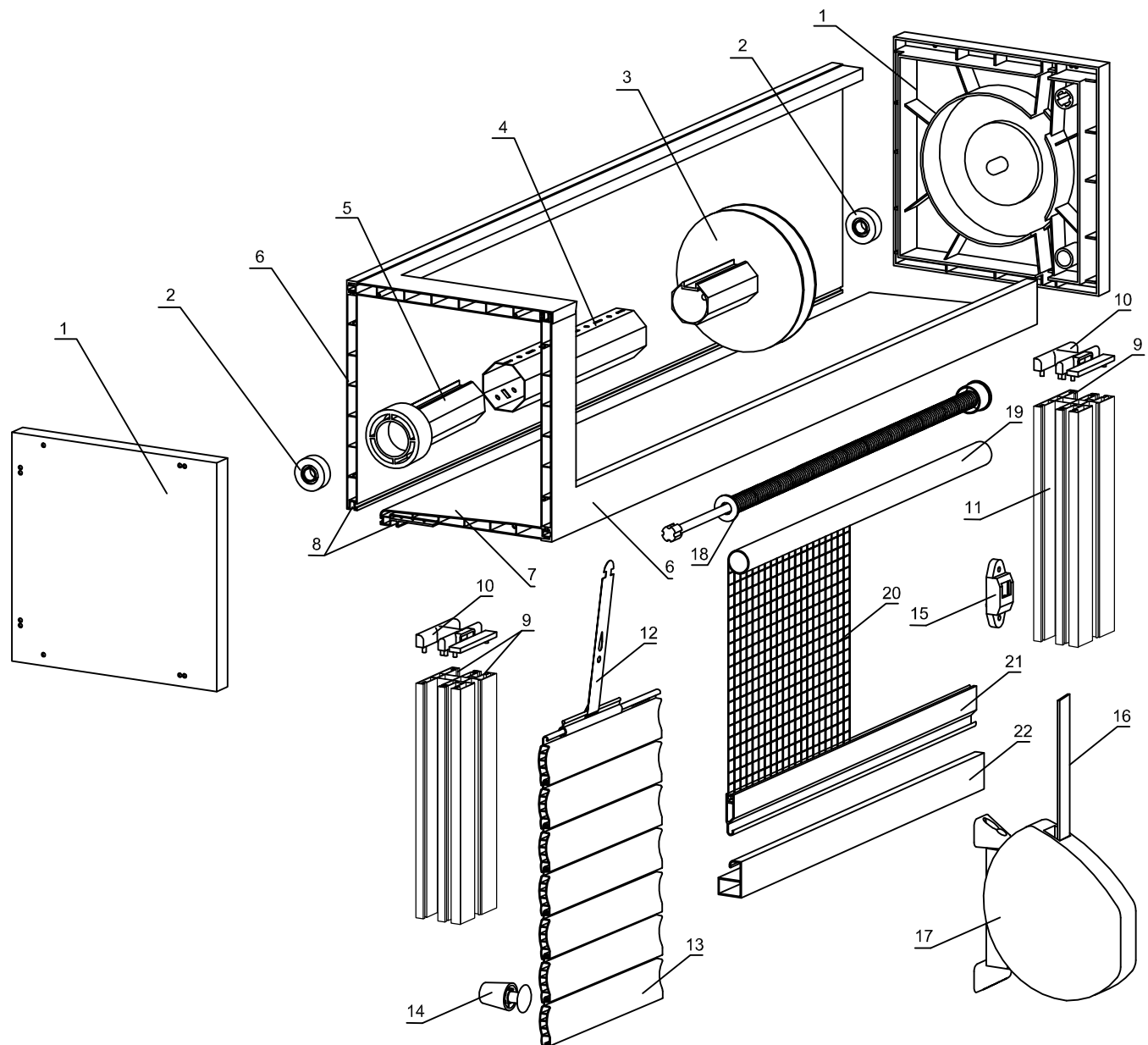


		<p>PVC uvodnik za roletne 39 i 43</p>
		<p>PVC uvodnik za roletne sa komarnikom</p>
		<p>PVC uvodnik za roletne 39 i 43 bez stranice</p>
		<p>PVC uvodnik za roletnu 55</p>
		<p>PVC uvodnik za roletne srednji stub</p>
		<p>PVC uvodnik za roletnu i komarnik za PVC vođicu 42 x 60</p>
		<p>PVC uvodnik za roletnu za PVC vođicu 42 x 60</p>
		<p>PVC uvodnik za roletnu za Al vođicu 39 x 53</p>
		<p>Uvodnik, točkić za rolo garažna vrata</p>

Delovi za roletne

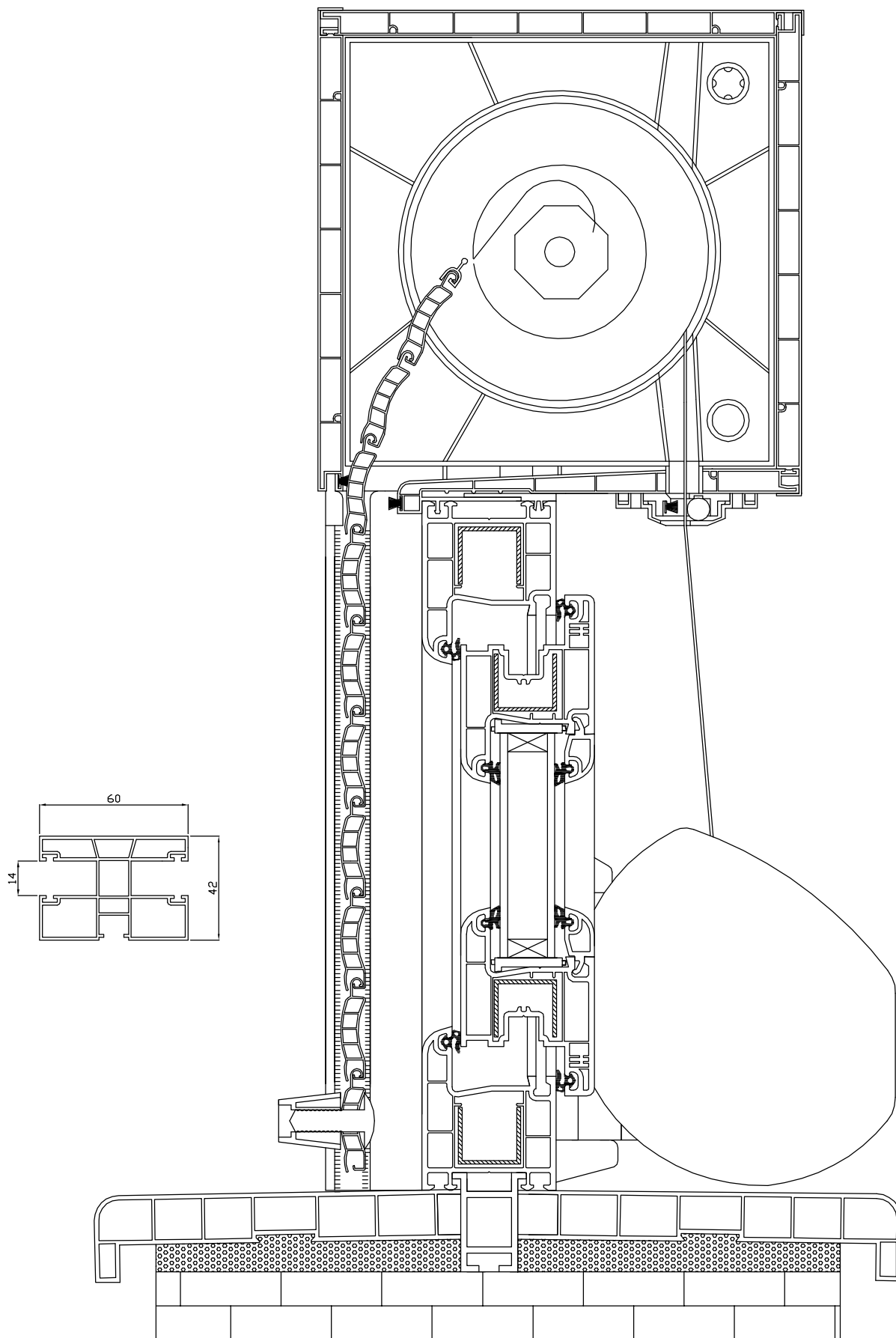


SASTAVNI DELOVI SKLOPA PVC KUTIJE ZA ROLETNE SA KOMARNIKOM U KUTIJI

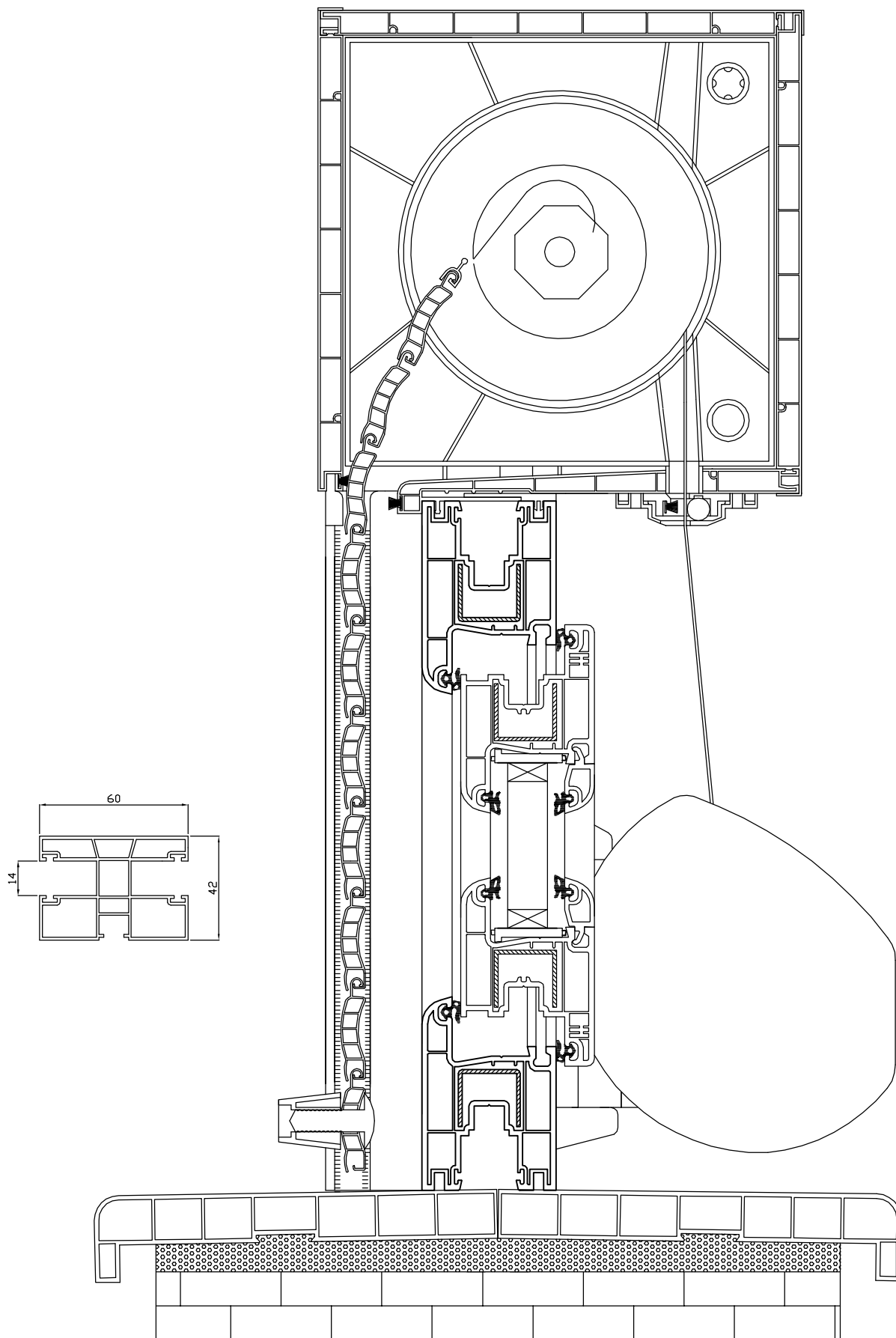


- 1 - PVC stranica, bočni poklopac PVC kutije za smeštaj roletni
- 2 - Kuglični ležaj
- 3 - PVC točak doboš za namotavanje rolo trake, gurtne, sa kućištem za kuglični ležaj za osovinu
- 4 - PVC osovina za roletne
- 5 - PVC završetak na osovini, sa kućištem za kuglični ležaj
- 6 - PVC stranica (prednja, zadnja i gornja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 7 - PVC stranica (donja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 8 - Četkice za PVC kutiju za smeštaj roletni
- 9 - PVC vodiča za roletne i komarnik 42x60
- 10 - PVC uvodnik za roletne i komarnik
- 11 - Četkice za PVC vodiču za roletne
- 12 - Zakačka roletni za osovinu
- 13 - PVC lamelica
- 14 - PVC odbojnik, graničnik za roletnu
- 15 - PVC rolnica sa četkicom za mini rolo traku - gurtnu
- 16 - Rolo traka - gurtna
- 17 - PVC automat spoljašnji za mini rolo traku - gurtnu
- 18 - Osovina za oprugu
- 19 - Osovina za mrežu
- 20 - Mreža
- 21 - Zakačka gornja
- 22 - Zakačka donja

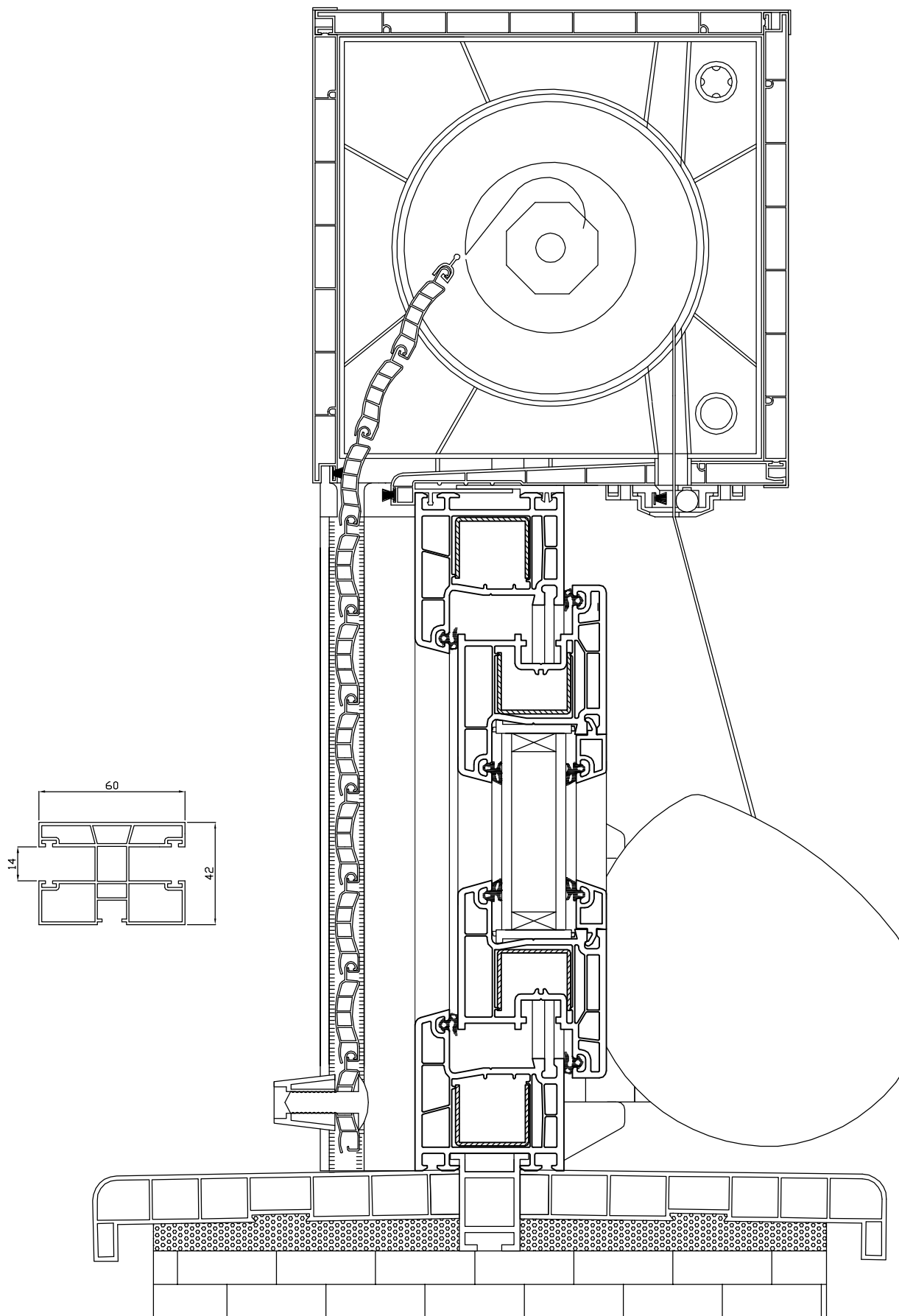
SKLOP 3 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195



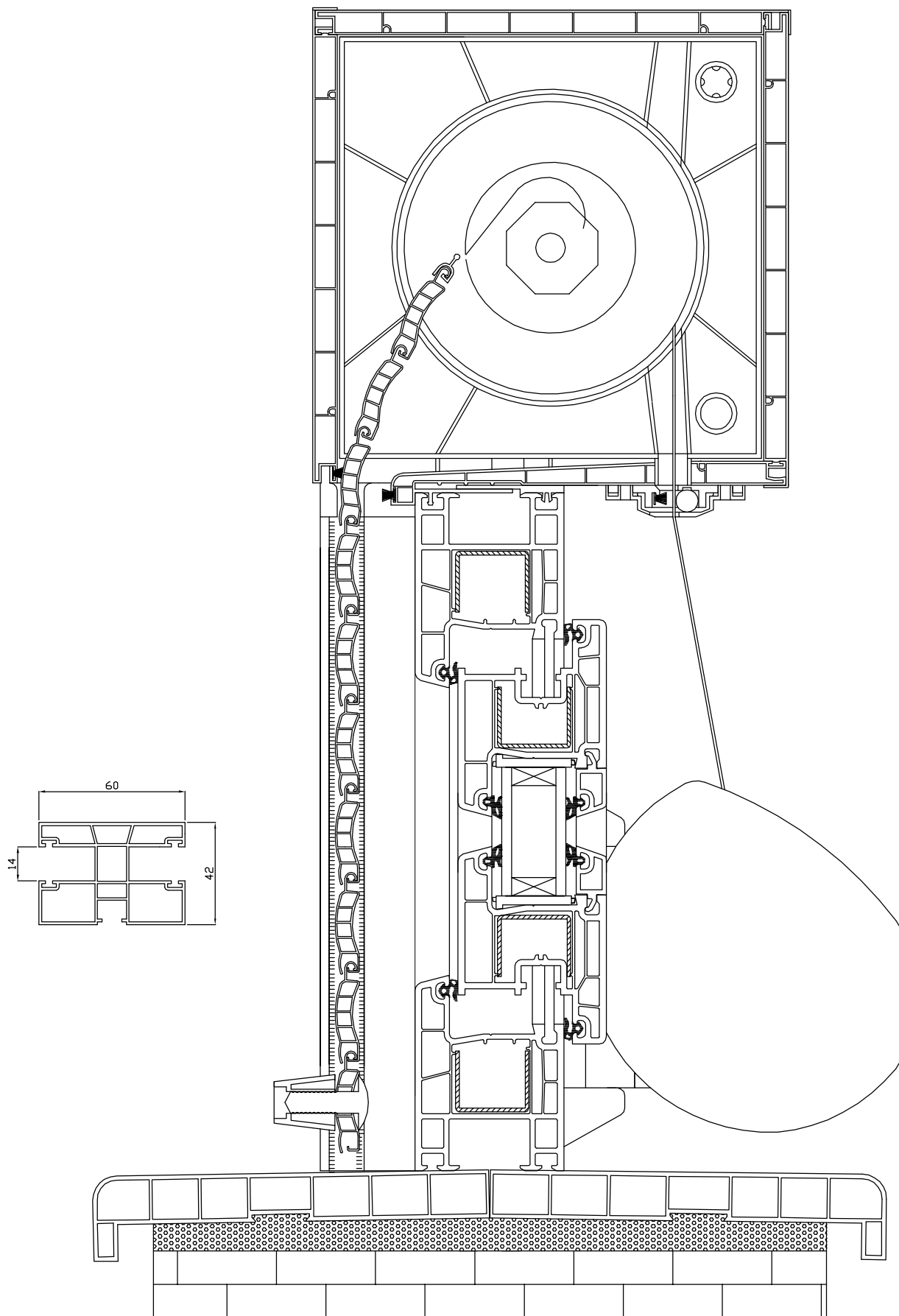
SKLOP 3 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195



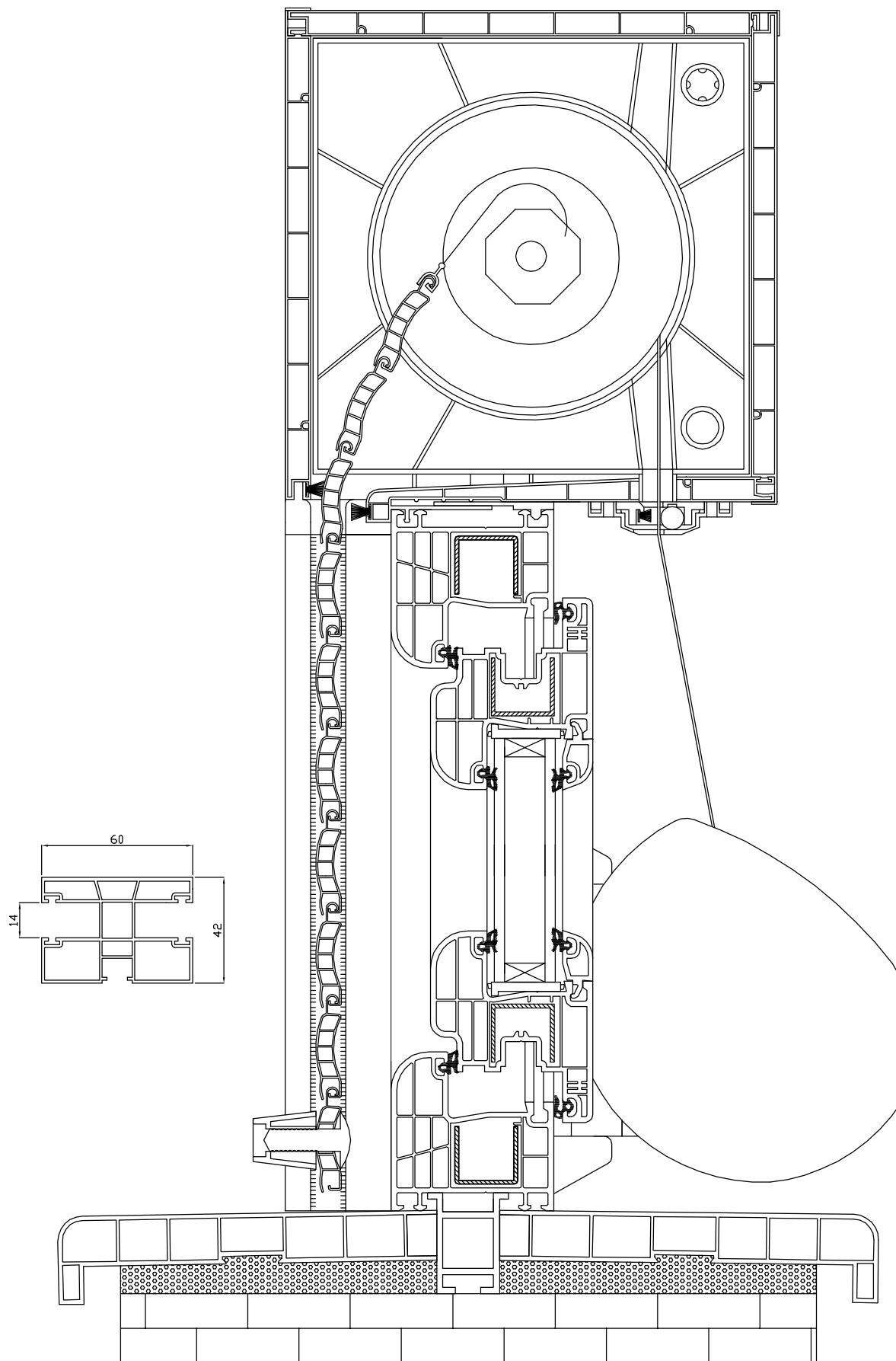
SKLOP 4 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195



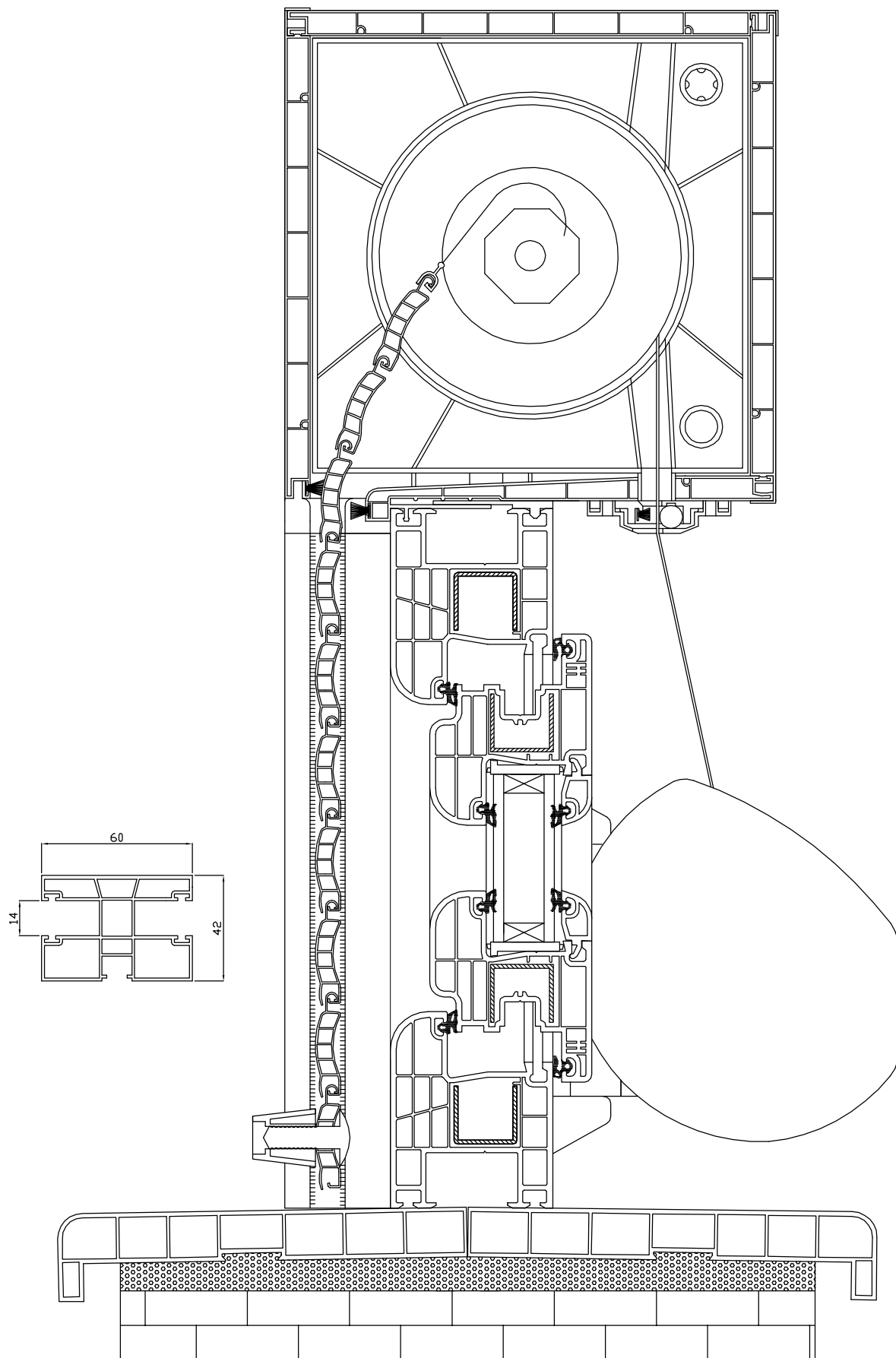
SKLOP 4 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195



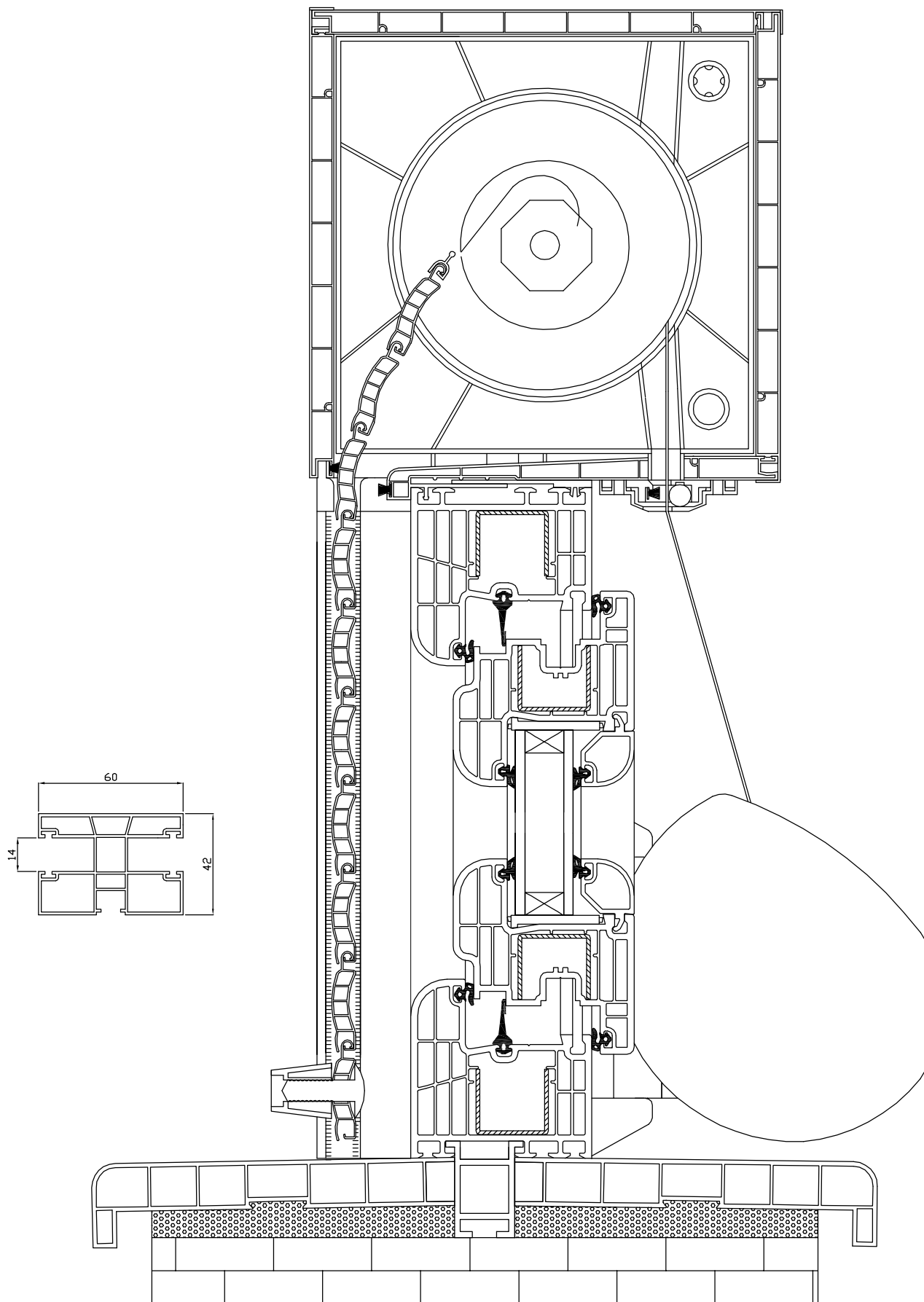
SKLOP 5 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195X195



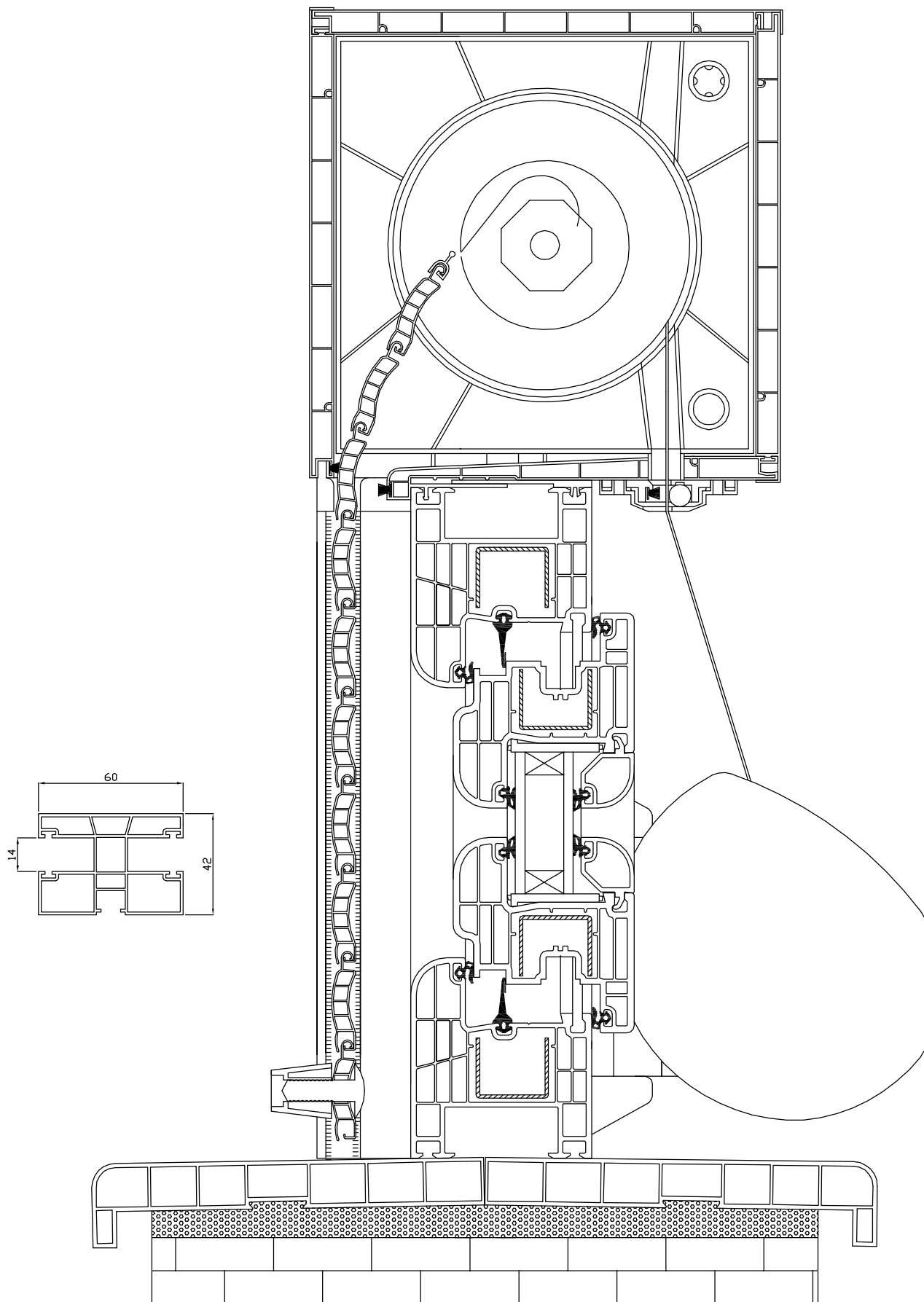
SKLOP 5 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195X195



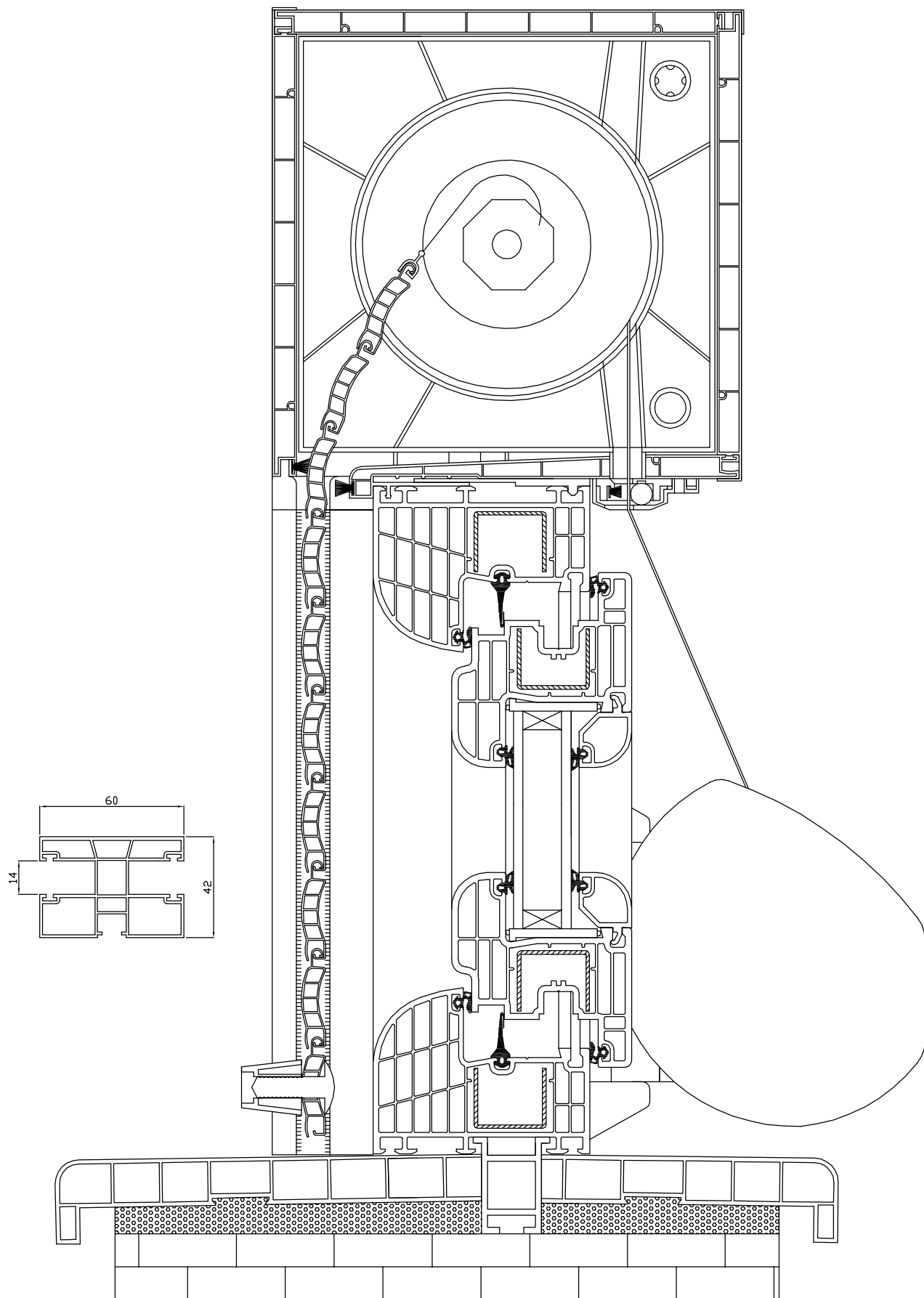
SKLOP 6 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195



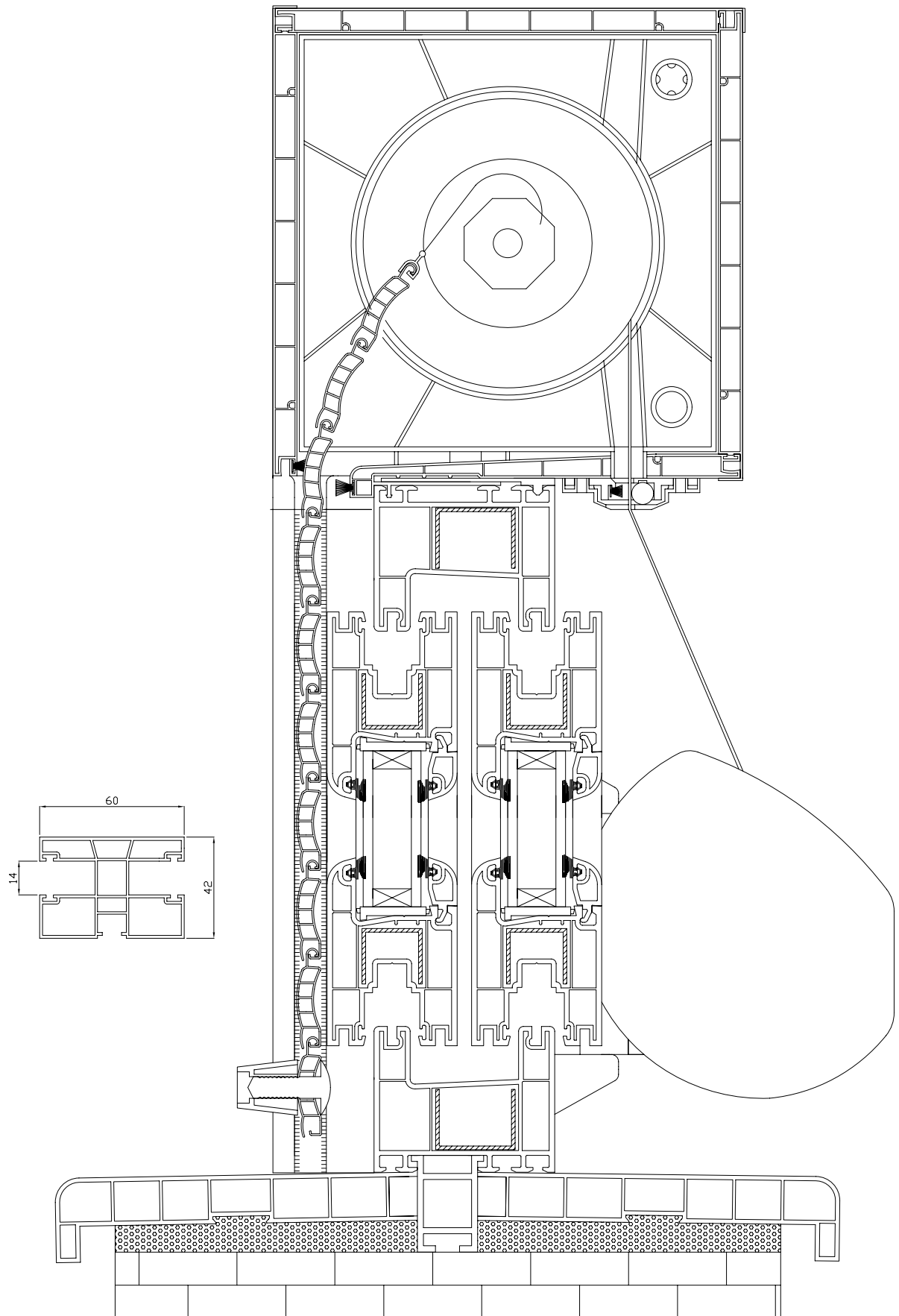
SKLOP 6 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195



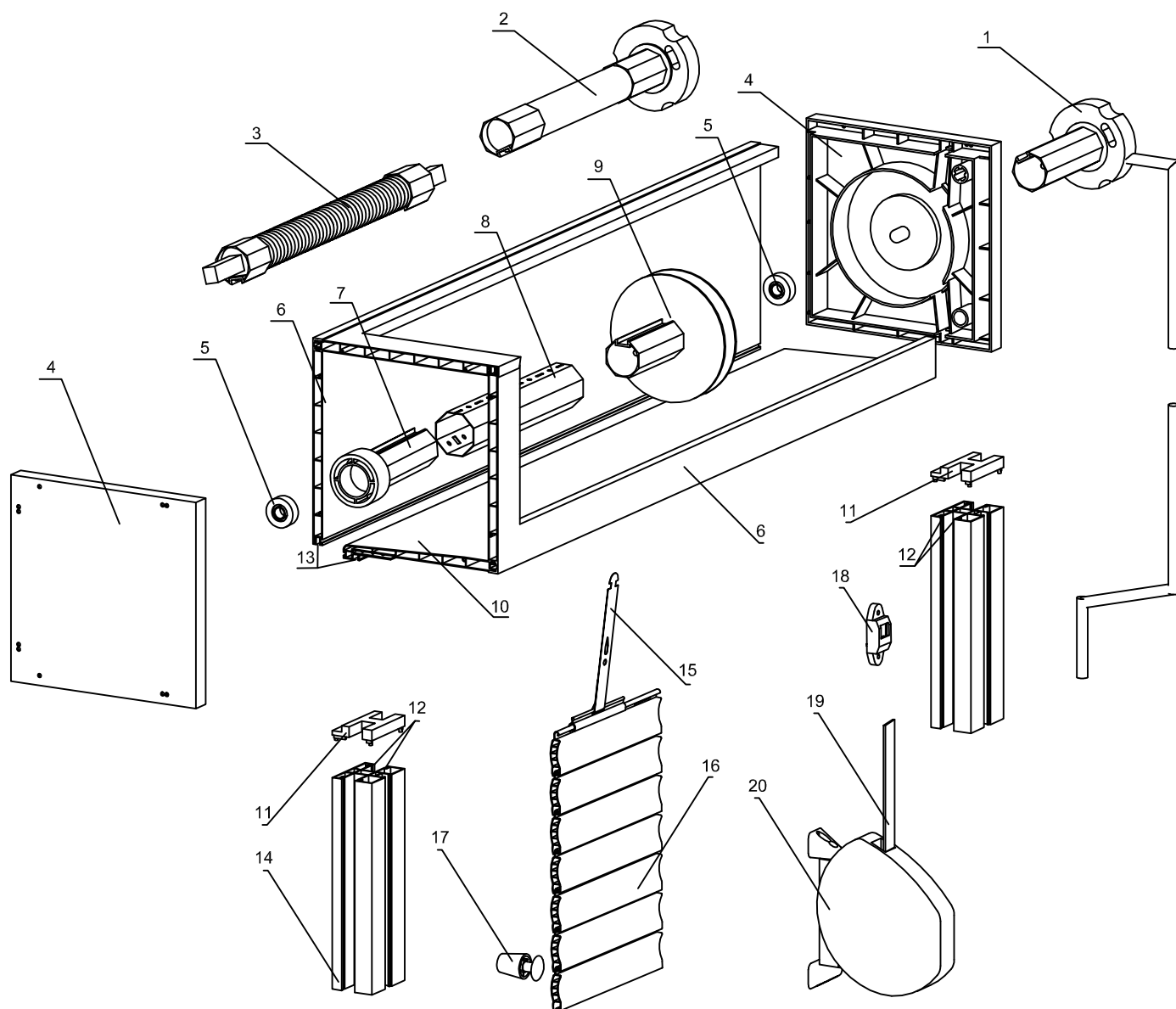
SKLOP 8 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195X195



SKLOP 3 KOMORNOG KLIZNOG PVC PROZORA SA PVC KUTIJOM 195X195

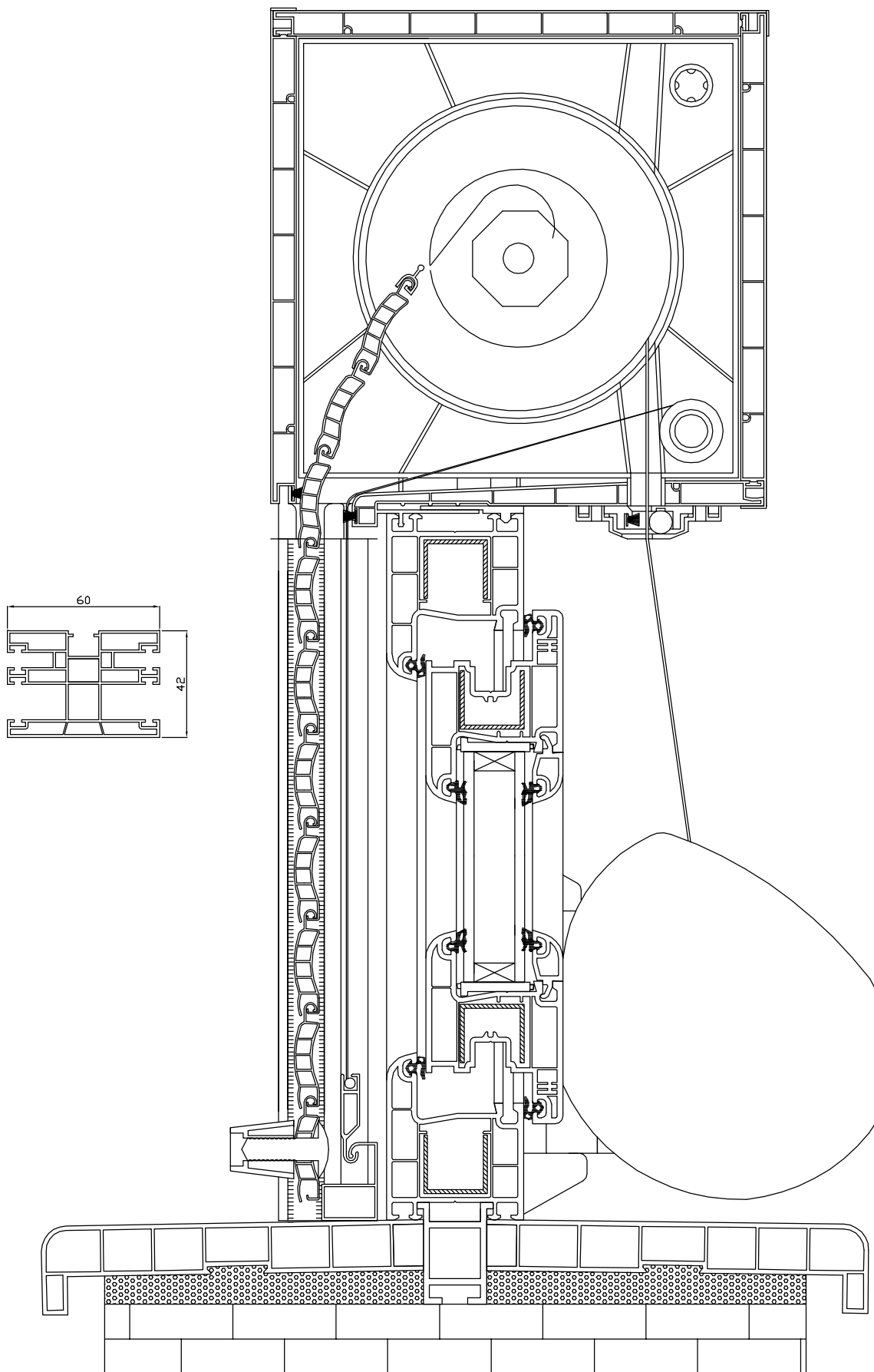


DELOVI SKLOPA PVC KUTIJE ZA ROLETNE SA RAZLIČITIM MOGUĆNOSTIMA RUKOVANJA SA ROLETNOM

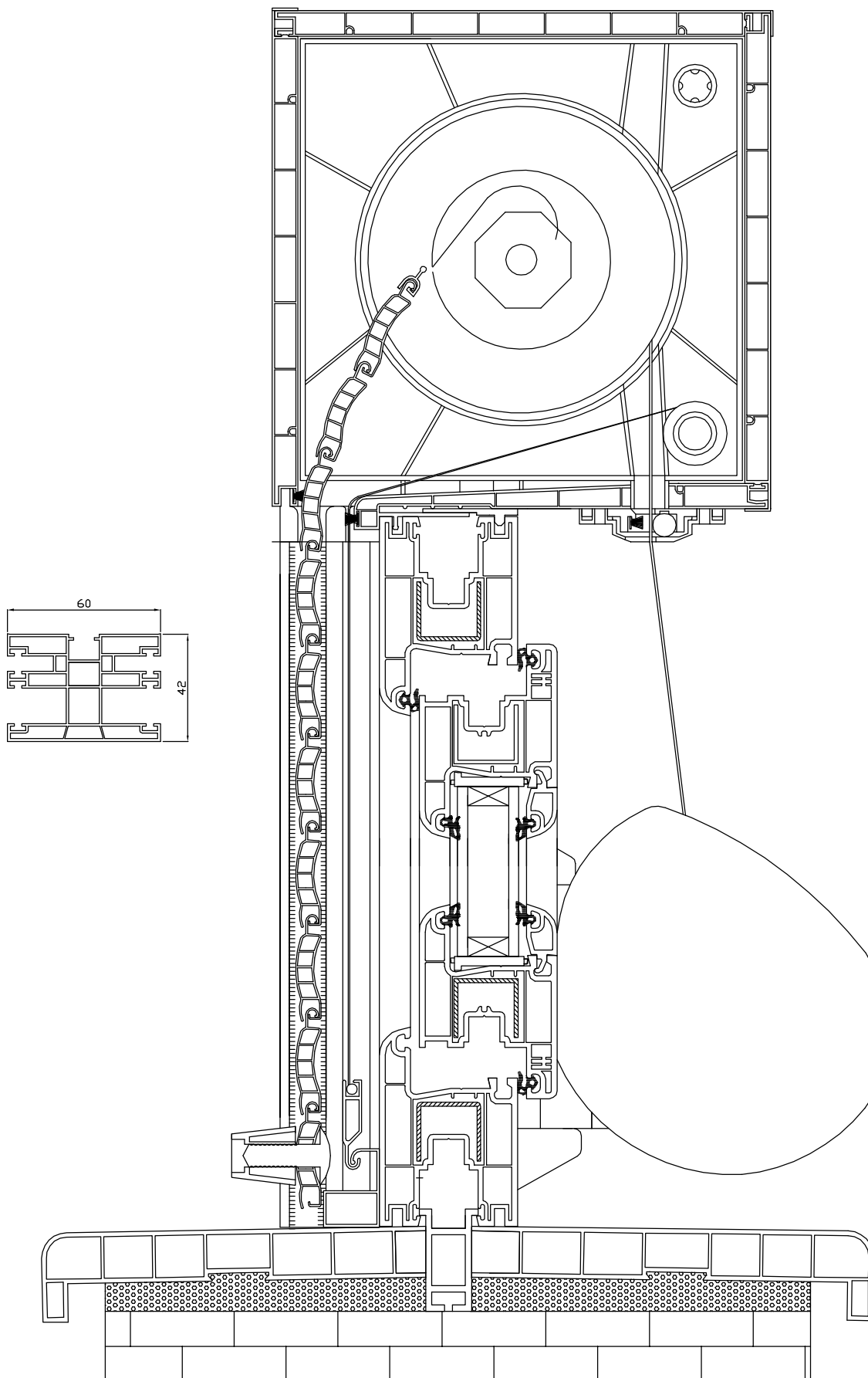


- 1 - Reduktor i kurbla za podizanje rolo vrata i roletni
- 2 - Elektromotor za podizanje rolo vrata i roletni
- 3 - Opruga za ručno podizanje rolo vrata i roletni
- 4 - PVC stranica, bočni poklopac PVC kutije za smeštaj roletni
- 5 - Kuglični ležaj
- 6 - PVC stranica (prednja, zadnja i gornja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 7 - PVC završetak na osovini, sa kućištem za kuglični ležaj
- 8 - PVC osovina za roletne
- 9 - PVC točak doboš za namotavanje rolo trake, gurtne, sa kućištem za kuglični ležaj za osovinu
- 10 - PVC stranica (donja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 11 - PVC uvodnik za roletne
- 12 - Četkice za PVC vođicu za roletne
- 13 - Četkice za PVC kutiju za smeštaj roletni
- 14 - PVC vođica za roletne 42x60
- 15 - Zakačka roletni za osovinu
- 16 - PVC lamelica
- 17 - PVC odbojnik, graničnik za roletnu
- 18 - PVC rollica sa četkicom za mini rolo traku - gurtnu
- 19 - Rolo traka - gurtna
- 20 - PVC automat spoljašnji za mini rolo traku - gurtnu

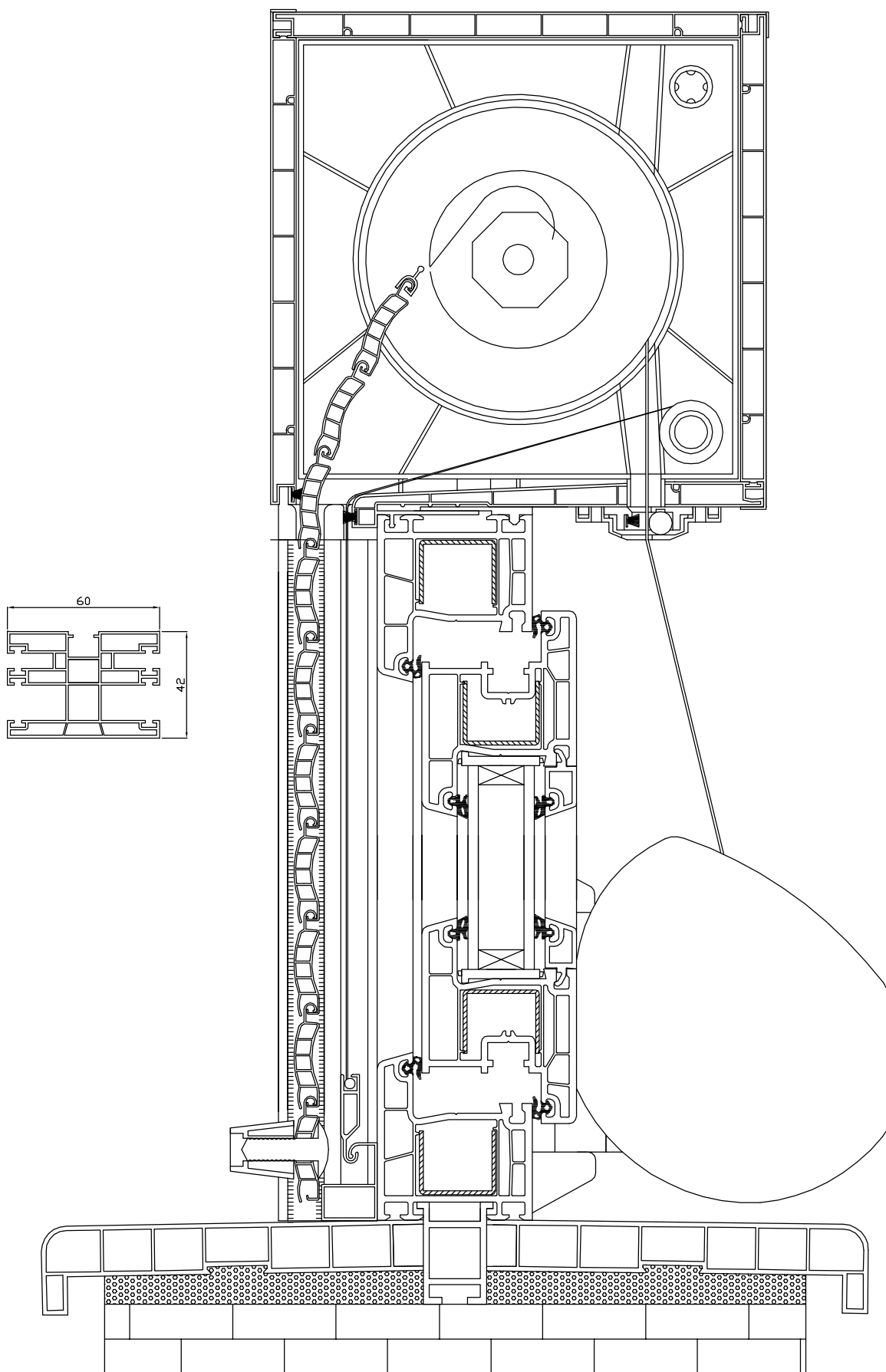
SKLOP 3 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



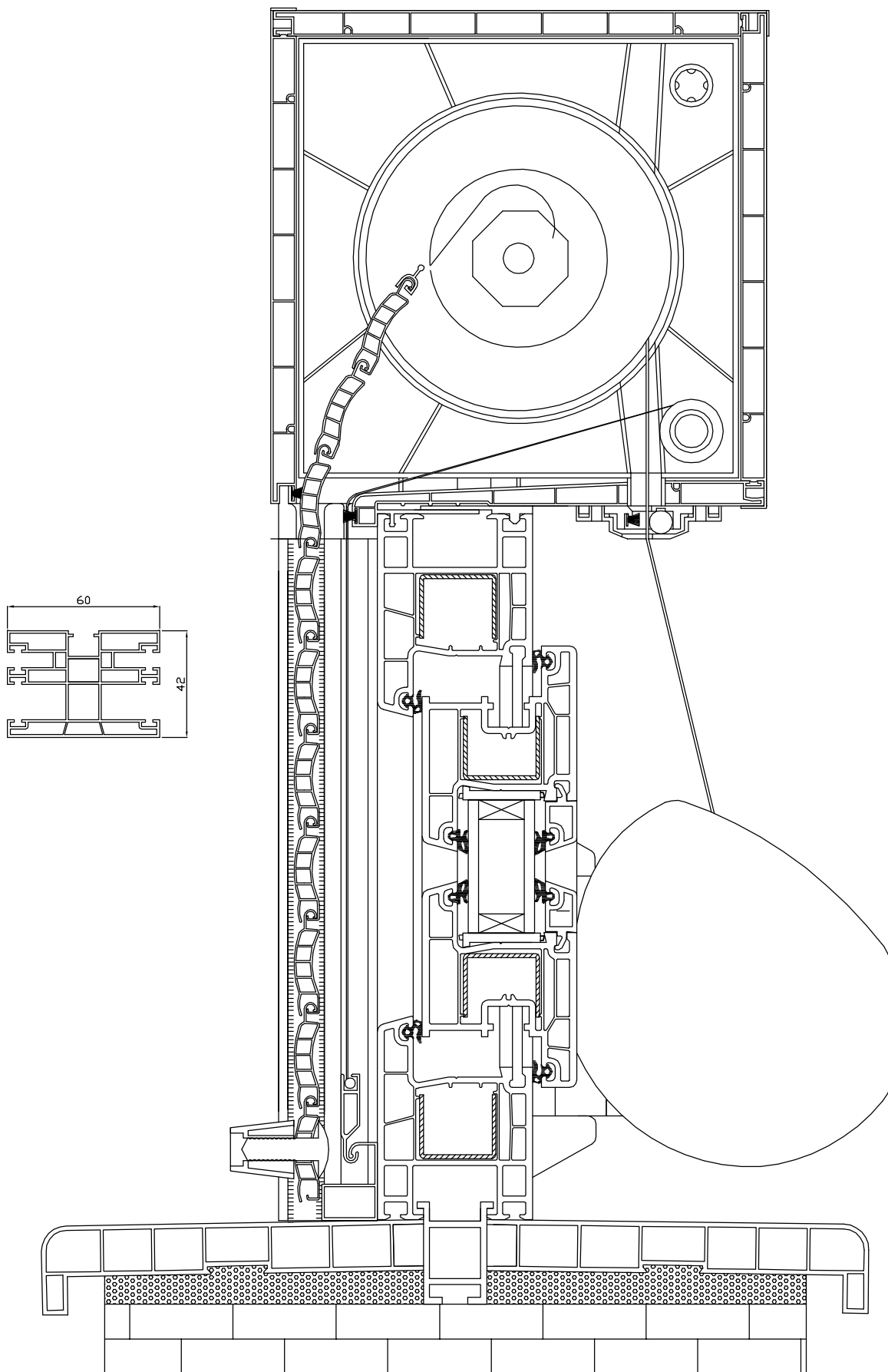
SKLOP 3 KOMORNOG PVC PROZORA SA PROSIRENIM RAMOM I PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



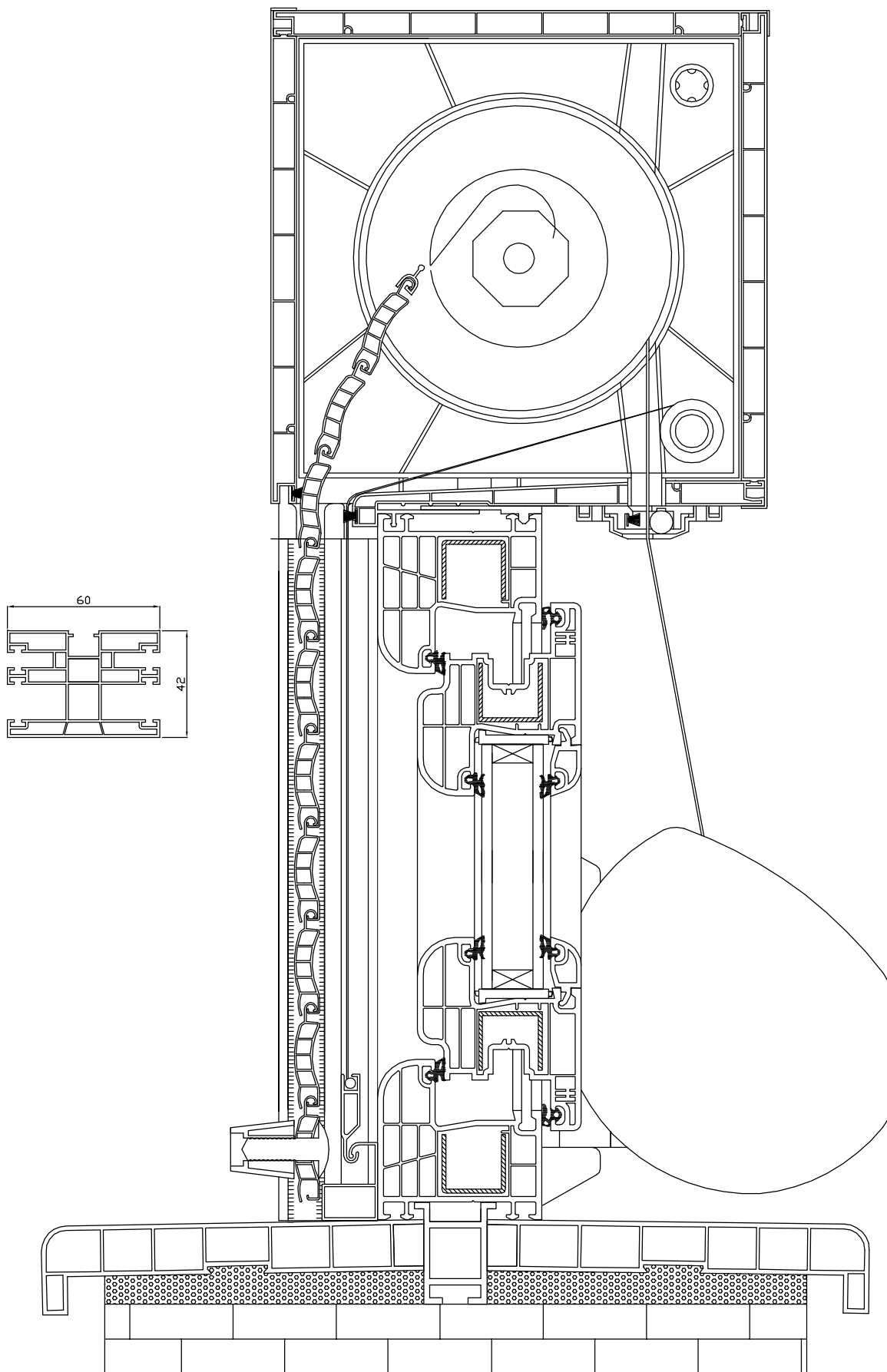
SKLOP 4 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



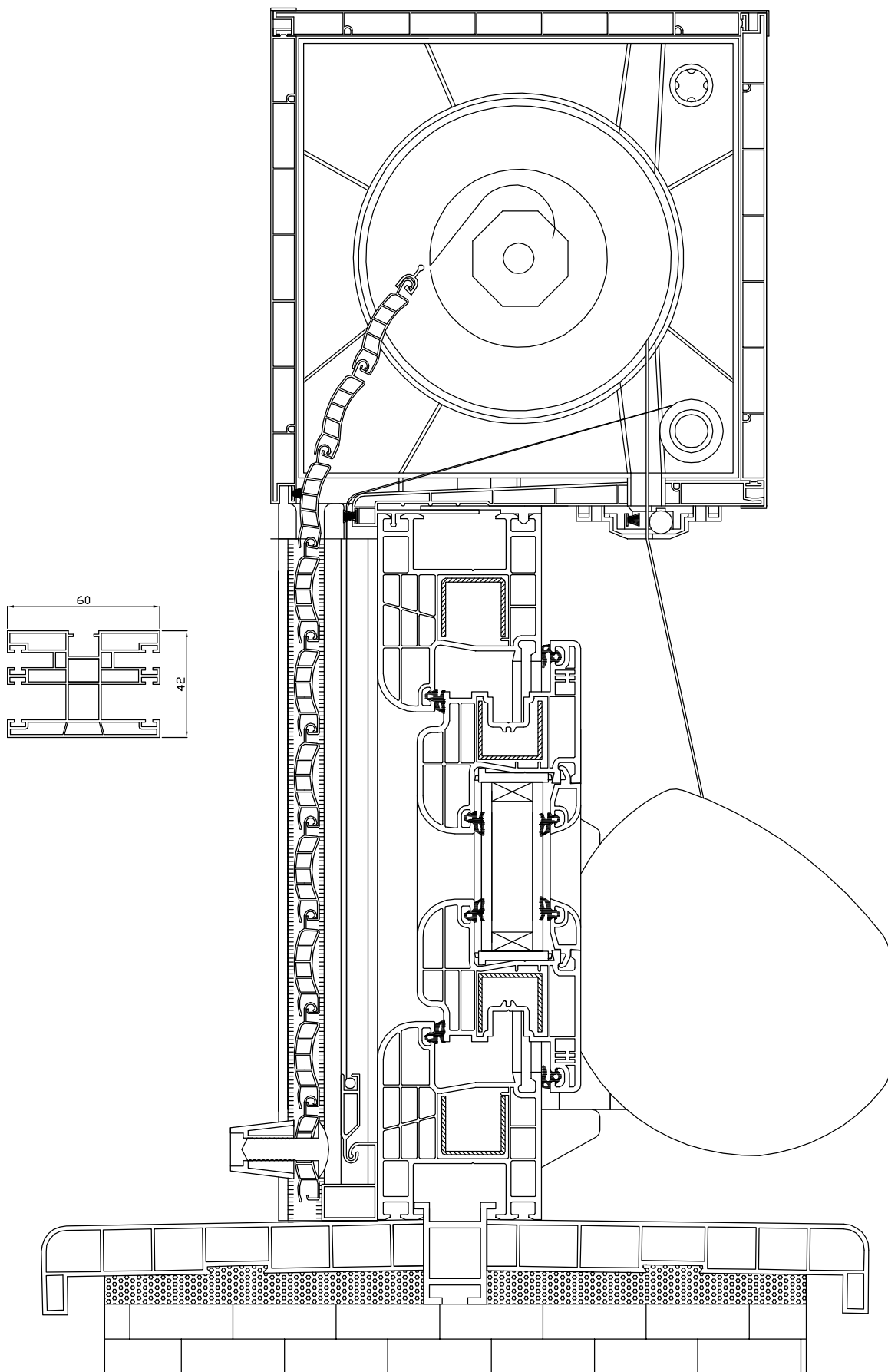
SKLOP 4 KOMORNOG PVC PROZORA SA PROSIRENIM RAMOM I PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



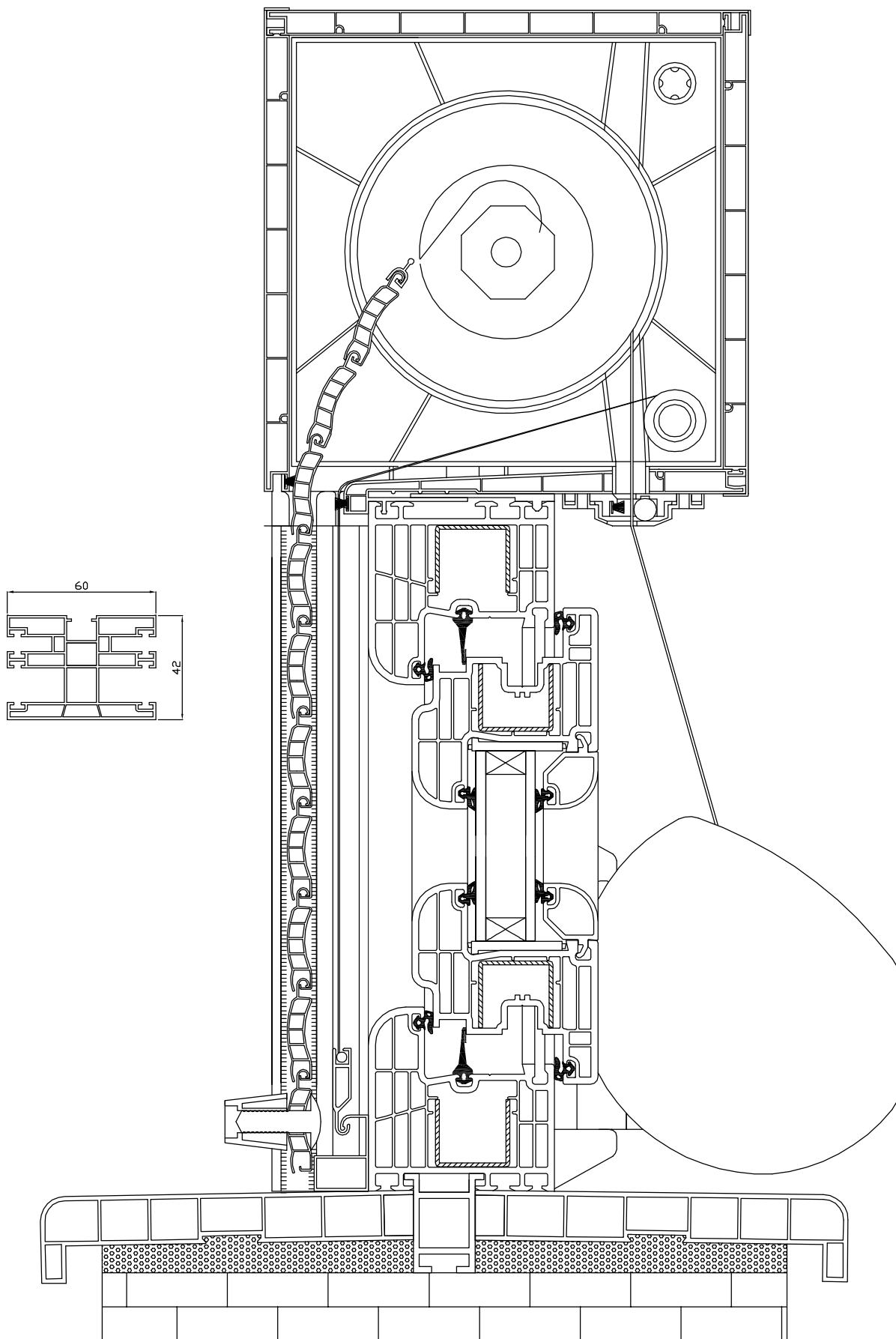
SKLOP 5 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



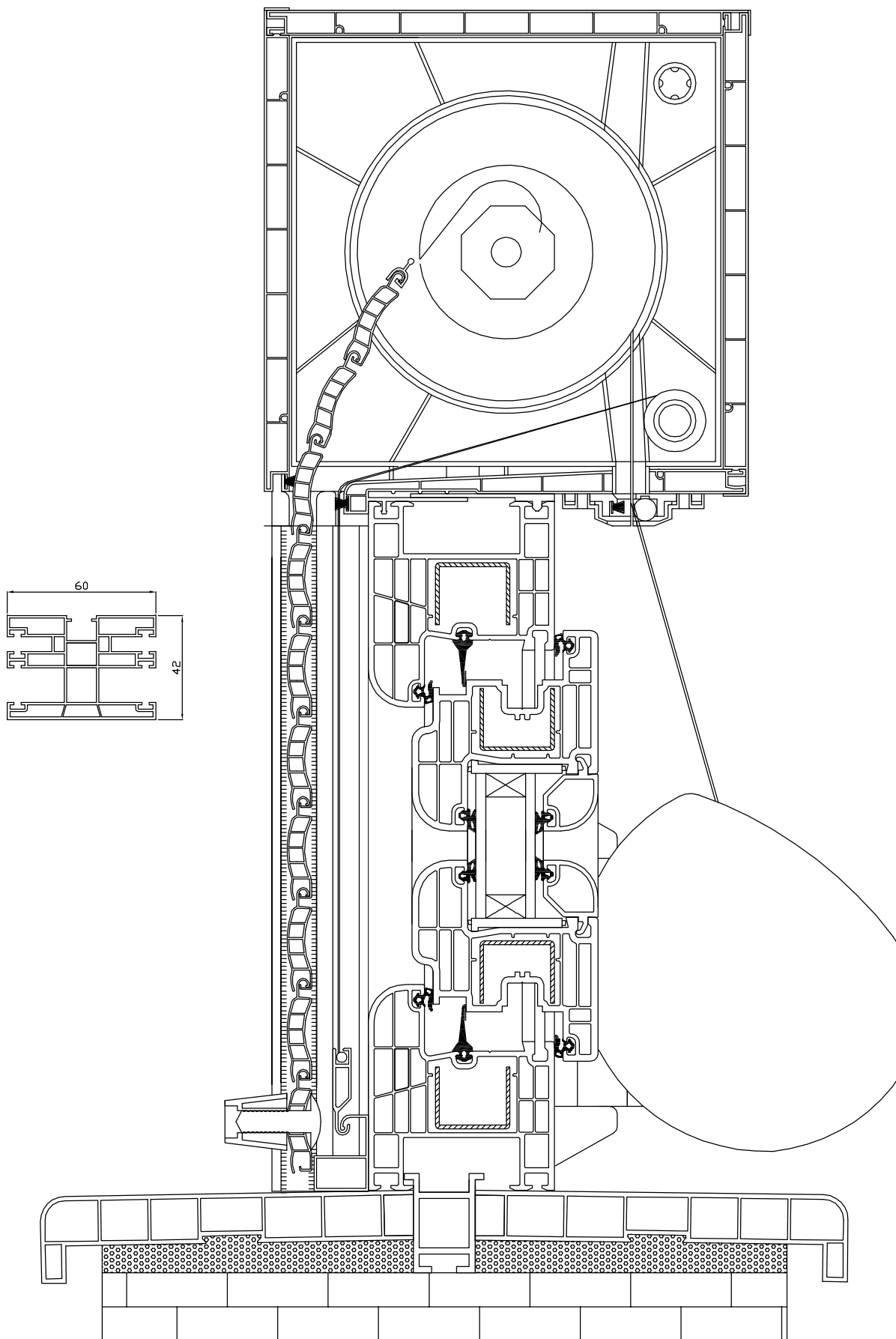
SKLOP 5 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



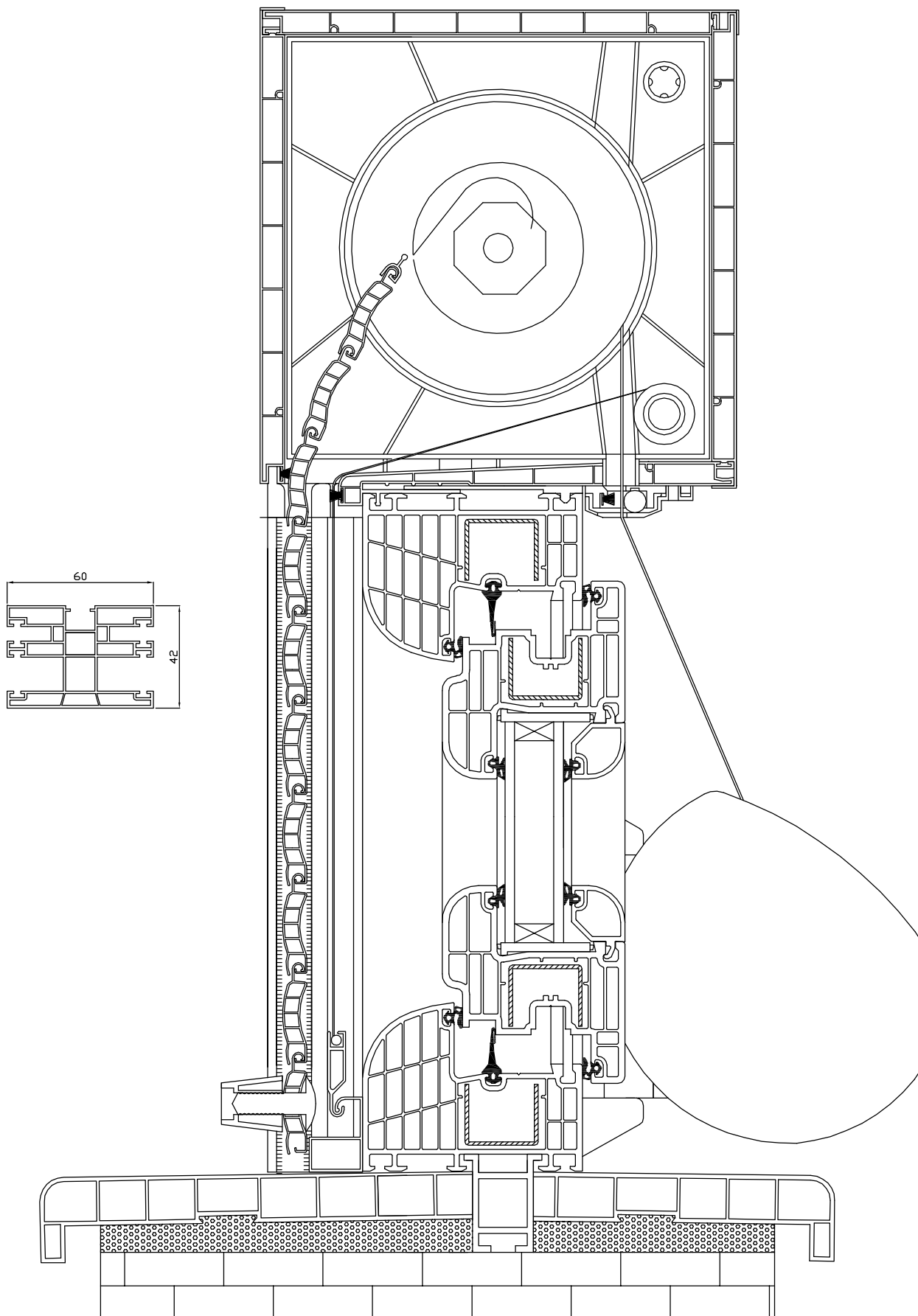
SKLOP 6 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



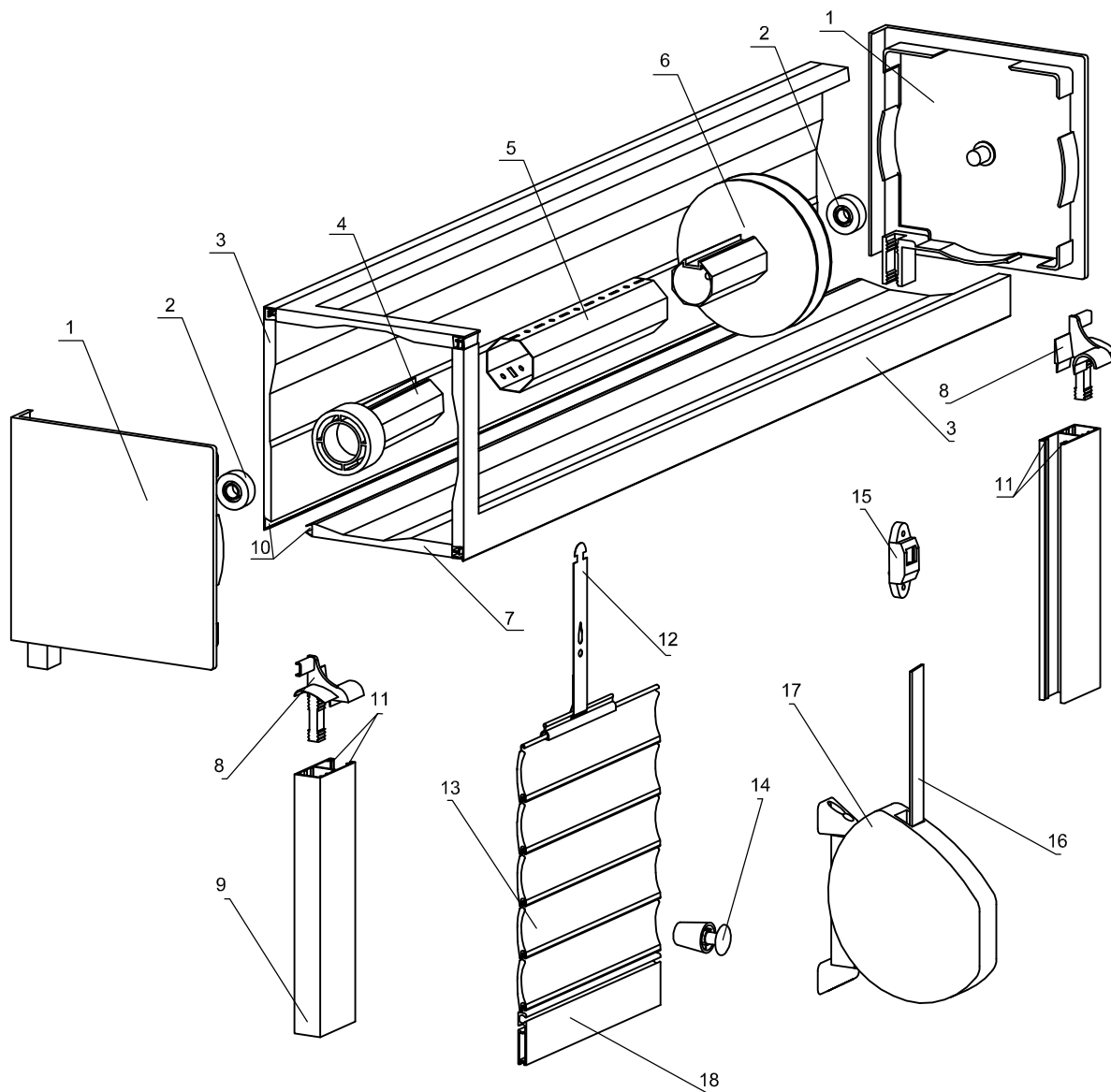
SKLOP 6 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI



SKLOP 8 KOMORNOG PVC PROZORA SA PVC
KUTIJOM 195x195 I KOMARNIKOM U KUTIJI

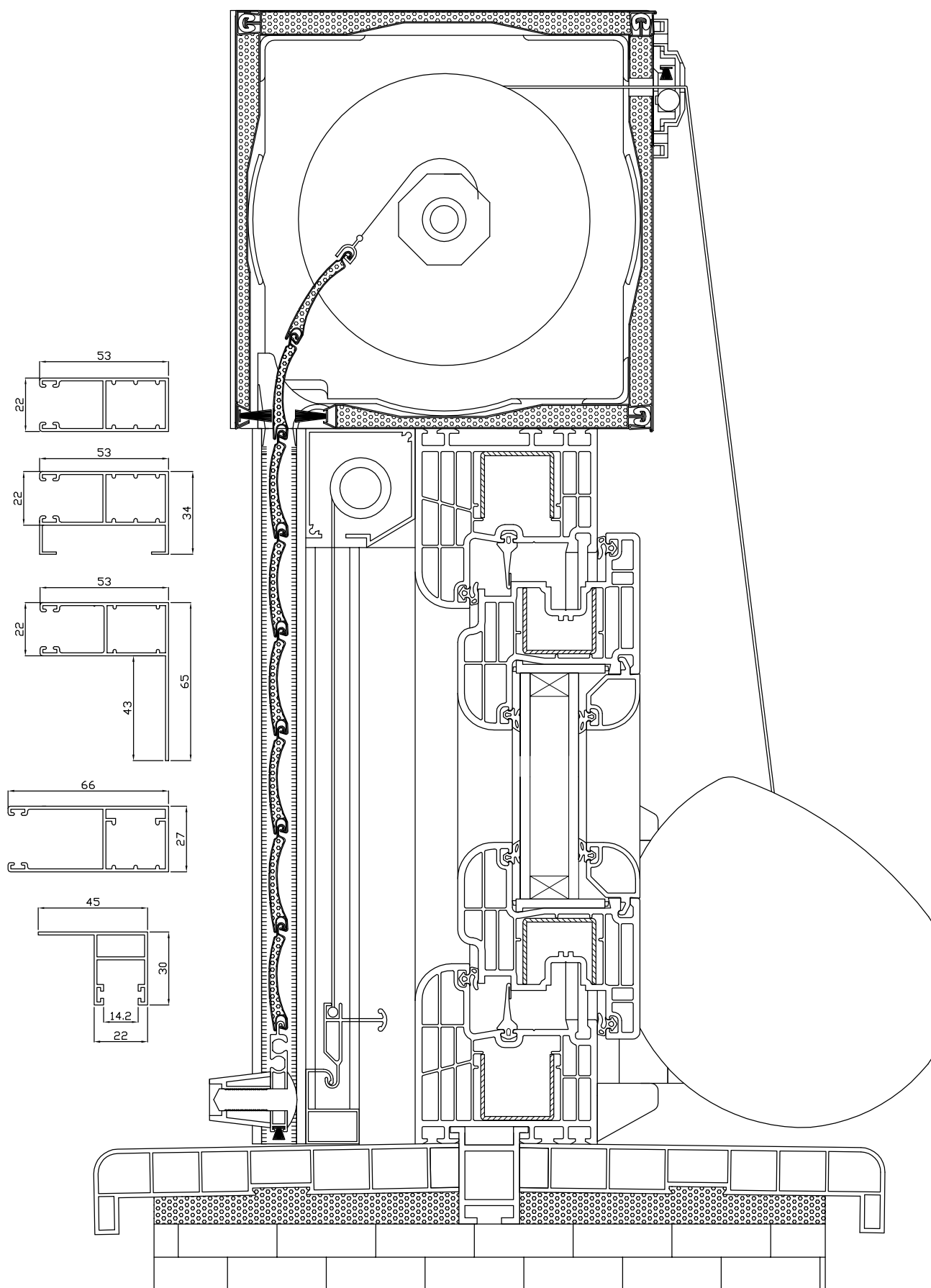


DELOVI SKLOPA ALUMINIJUMSKE TERMO KUTIJE ZA ROLETNE

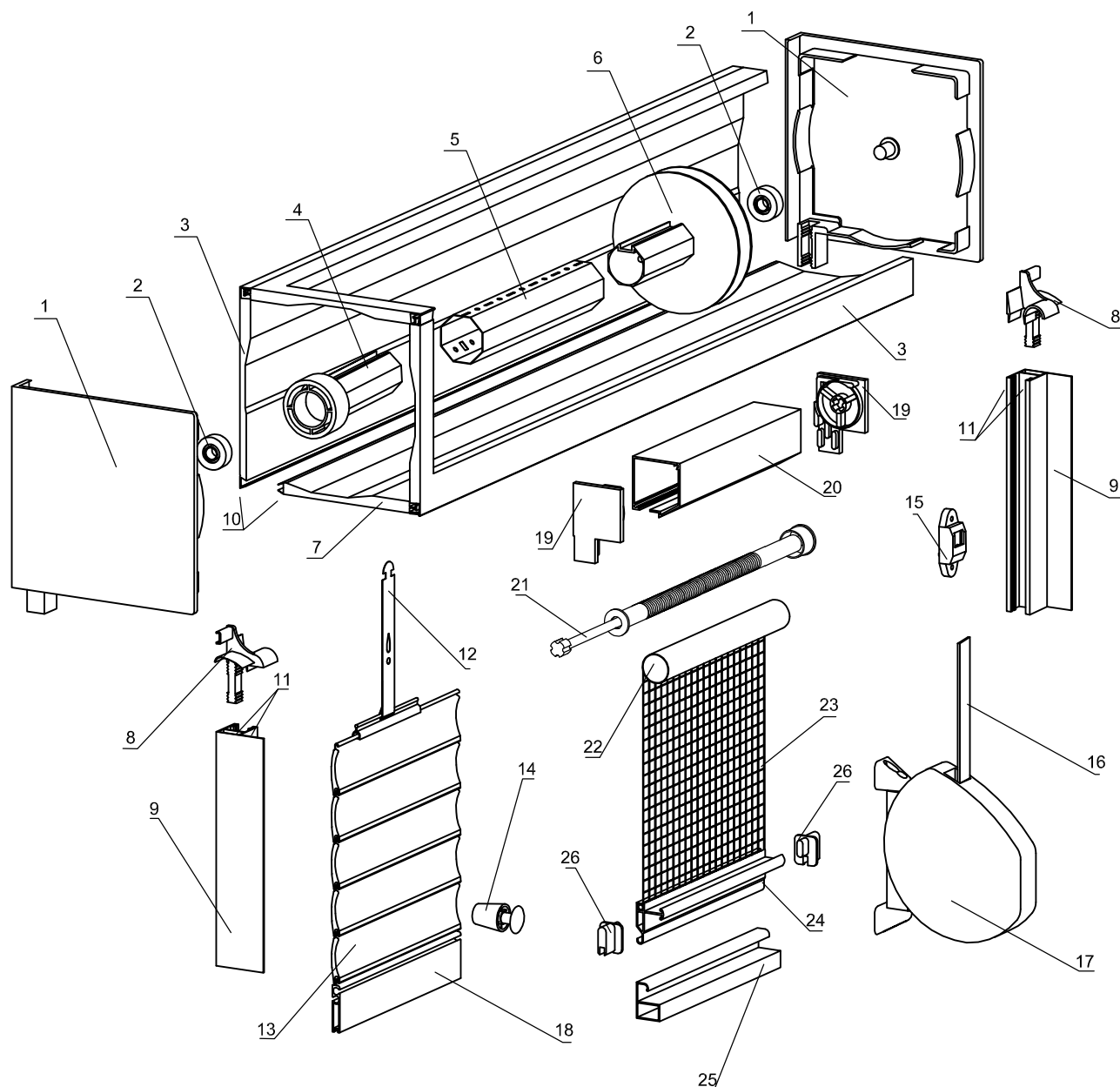


- 1 - PVC stranica, bočni poklopac PVC kutije za smeštaj roletni
- 2 - Kuglični ležaj
- 3 - PVC stranica (prednja, zadnja i gornja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 4 - PVC završetak na osovini, sa kućištem za kuglični ležaj
- 5 - PVC osovina za roletne
- 6 - PVC točak doboš za namotavanje rolo trake, gurtne, sa kućištem za kuglični ležaj za osovinu
- 7 - PVC stranica (donja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 8 - PVC uvodnik za roletne
- 9 - Al vodica za roletne 22x53
- 10 - Četkice za PVC kutiju za smeštaj roletni
- 11 - Četkice za PVC vodiču za roletne
- 12 - Zakačka roletni za osovinu
- 13 - PVC lamelica
- 14 - PVC odbojnik, graničnik za roletnu
- 15 - PVC rolnica sa četkičom za mini rolo traku - gurtnu
- 16 - Rolo traka - gurtna
- 17 - PVC automat spoljašnji za mini rolo traku - gurtnu
- 18 - Aluminijska lajsna za zaključavanje roletni

SKLOP 6 KOMORNOG PVC PROZORA SA TERMO KUTIJOM I KOMARNIKOM U KUTIJI

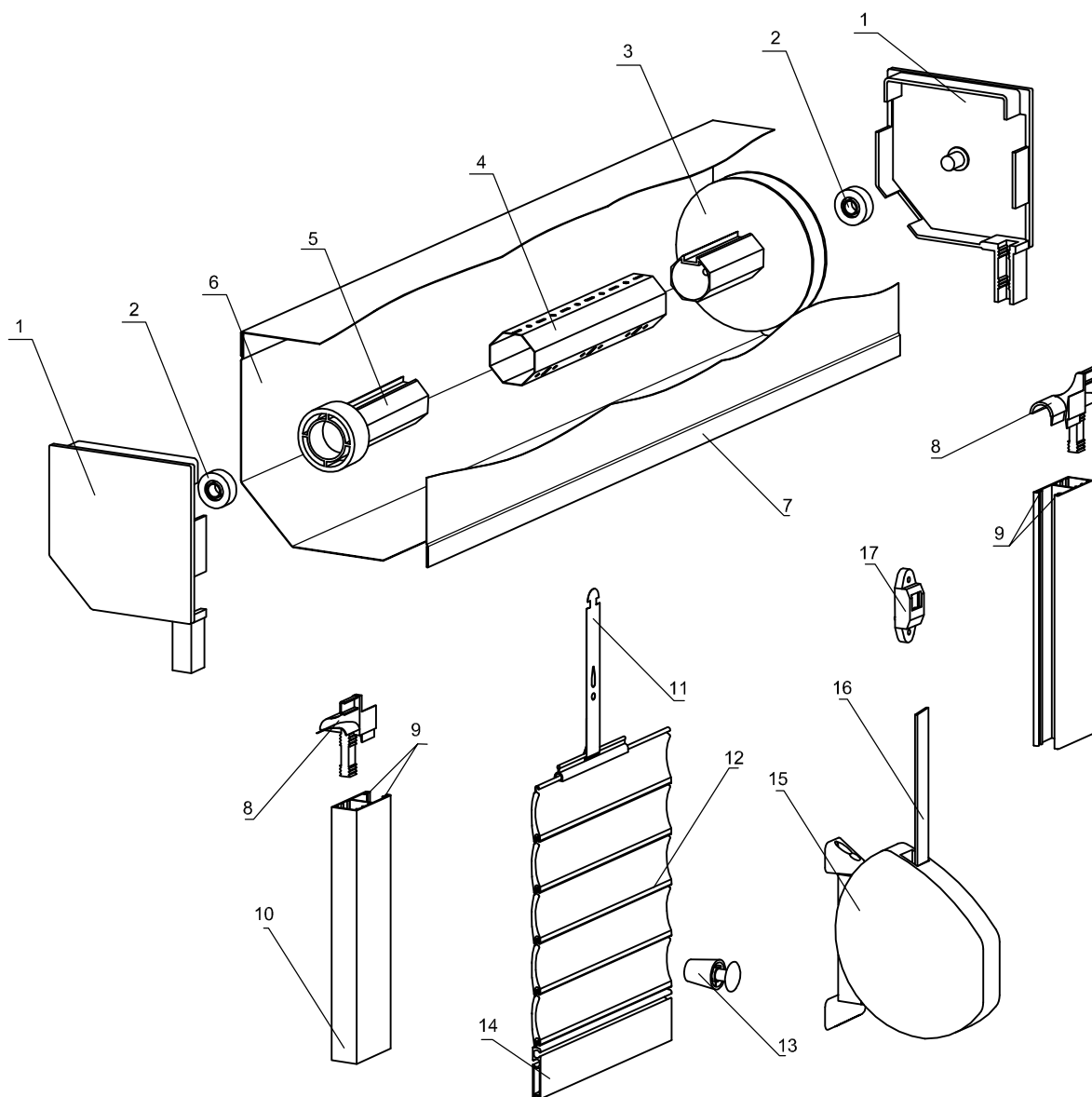


DELOVI SKLOPA ALUMINIJUMSKE TERMO KUTIJE ZA ROLETNE SA SPOLJASNJIM ROLOKOMARNIKOM



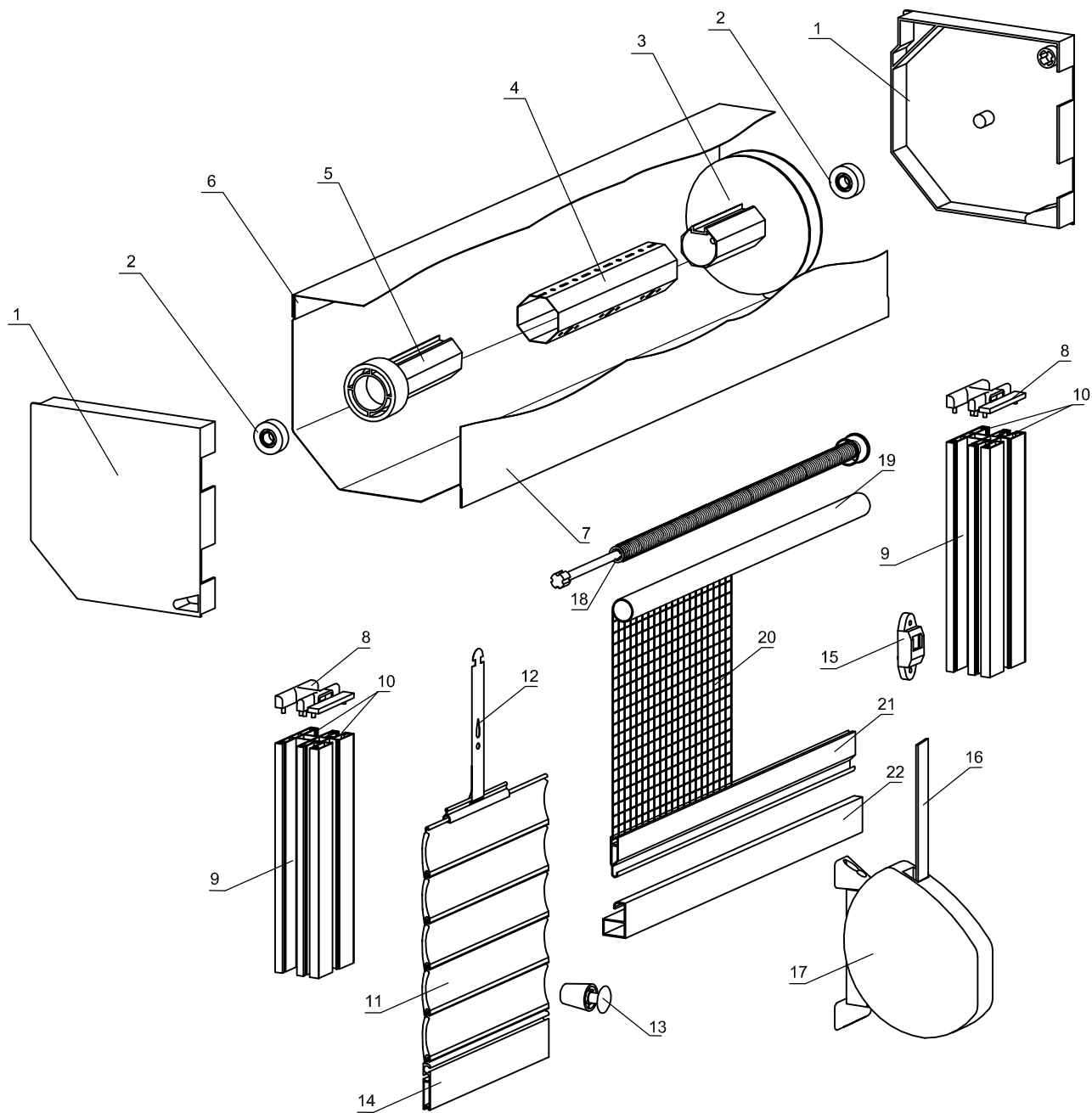
- 1 - PVC stranica, bočni poklopac PVC kutije za smeštaj roletni
- 2 - Kuglični ležaj
- 3 - PVC stranica (prednja, zadnja i gornja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 4 - PVC završetak na osovini, sa kućištem za kuglični ležaj
- 5 - PVC osovina za roletne
- 6 - PVC točak doboš za namotavanje rolo trake, gurtne, sa kućištem za kuglični ležaj za osovinu
- 7 - PVC stranica (donja) kutije za smeštaj roletne, unutrašnja nadogradnja na prozore
- 8 - PVC uvodnik za roletne
- 9 - Al vođica sa perom za roletne 65x53
- 10 - Četkice za PVC kutiju za smeštaj roletni
- 11 - Četkice za PVC vođicu za roletne
- 12 - Zakačka roletni za osovinu
- 13 - Al lamelica
- 14 - PVC odbojnik, graničnik za roletnu
- 15 - PVC rolница sa četkicom za mini rolo traku - gurtnu
- 16 - Rolo traka - gurtna
- 17 - PVC automat spoljašnji za mini rolo traku - gurtnu
- 18 - Aluminijska lajsna za zaključavanje roletni
- 19 - PVC bočni poklopac za rolo komarnik
- 20 - Al kutija za mrežu za rolo komarnik
- 21 - Osovina za oprugu za rolo komarnik
- 22 - Osovina za mrežu za rolo komarnik
- 23 - Mreža za rolo komarnik
- 24 - Zakačka gornja za rolo komarnik
- 25 - Zakačka donja za rolo komarnik
- 26 - PVC čep za gornju zakačku za rolo komarnik

DELOVI SKLOPA SPOLJAŠNJE KUTIJE OD ALUMINIJUMSKOG LIMA ZA ROLETNE

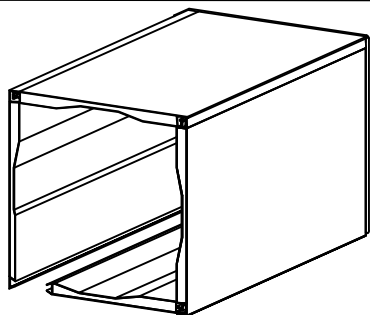


- 1 - Aluminijumska stranica, bočni poklopac za dvodelnu aluminijumsku kutiju
- 2 - Kuglični ležaj
- 3 - PVC točak doboš za namotavanje rolo trake, gurtne, sa kućištem za kuglični ležaj za osovinu
- 4 - Metalna osovina za roletne
- 5 - PVC završetak na osovini, sa kućištem za kuglični ležaj
- 6 - Prednji deo dvodelne maske od aluminijumskog lima, spoljasnja nadogradnja na prozore
- 7 - Zadnji deo dvodelne maske od aluminijumskog lima, spoljasnja nadogradnja na prozore
- 8 - PVC uvodnik za roletne
- 9 - Četkice za Aluminijumsku vodiču za roletne
- 10 - Aluminijumska vodiča za roletne 22x53
- 11 - Zakačka roletni za osovinu
- 12 - Aluminijumska lamelica
- 13 - PVC odbojnik, graničnik za roletnu
- 14 - Aluminijumska lajsna za zaključavanje roletni
- 15 - PVC automat spoljašnji za mini rolo traku - gurtnu
- 16 - Rolo traka - gurtna
- 17 - PVC rolnica sa četkicom za mini rolo traku - gurtnu

DELOVI SKLOPA SPOLJAŠNJE KUTIJE OD ALUMINIJUMSKOG LIMA ZA ROLETNU I KOMARNIK

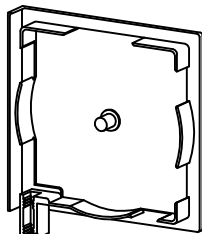


- 1 - PVC stranica, bočni poklopac limene dvodelne kutije za smeštaj roletni
- 2 - Kuglični ležaj
- 3 - PVC točak doboš za namotavanje rolo trake, gurtne, sa kućištem za kuglični ležaj za osovinu
- 4 - PVC osovina za roletne
- 5 - PVC završetak na osovini, sa kućištem za kuglični ležaj
- 6 - Prednji deo dvodelne maske od aluminijumskog lima, spoljasnja nadogradnja na prozore
- 7 - Zadnji deo dvodelne maske od aluminijumskog lima, spoljasnja nadogradnja na prozore
- 8 - Četkice za PVC kutiju za smeštaj roletni
- 9 - PVC vođica za roletne i komarnik 42x60
- 10 - Četkice za PVC vođicu za roletne
- 11 - PVC lamelica
- 12 - Zakačka roletni za osovinu
- 13 - PVC odbojnik, graničnik za roletnu
- 14 - Aluminijumska lajsna za zaključavanje roletni
- 15 - PVC rolnica sa četkicom za mini rolo traku - gurtnu
- 16 - Rolo traka - gurtna
- 17 - PVC automat spoljašnji za mini rolo traku - gurtnu
- 18 - Osovina za oprugu
- 19 - Osovina za mrežu
- 20 - Mreža
- 21 - Zakačka gornja
- 22 - Zakačka donja PVC uvodnik za roletne i komarnik



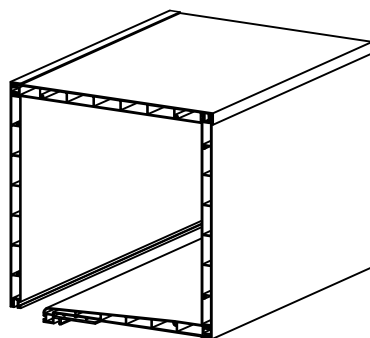
Termoizolovane aluminijumske kutije

147x147
172x172
195x195
260x260



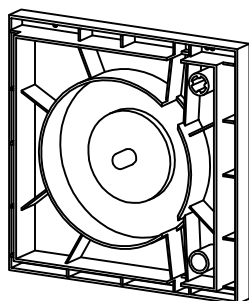
Aluminijumski bočni poklopci

147
172
195
260



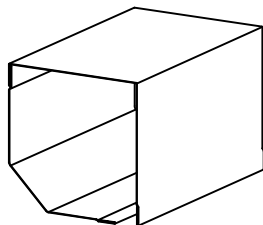
PVC kutije:

150x195
195x195
230x230



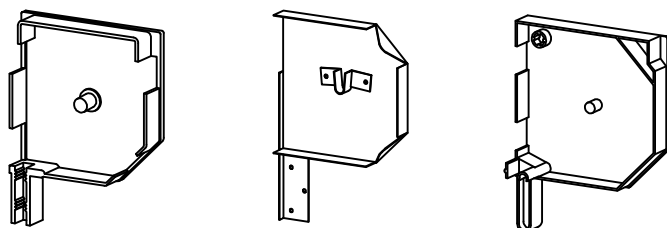
PVC bočni poklopci :

150x195
195x195
230x230



Kutije od pocinkovanog ili aluminijumskog lima

125x125	205x205
137x137	250x250
150x150	300x300
165x165	350x350
180x180	400x400



Bočni poklopci

Aluminijumski		Dekapirani lim		PVC
125	250	120	200	137
137	300	140	220	165
150		150	350	
165		160	400	
180		170		
205		180		

13. KOMARNICI

Komarnik protiv komaraca i raznih insekata, napravljena je od aluminijumskih i plastičnih delova koji su plastificirani po Rall karti.

Izrađuju se u sledećim bojama:

- bela,
- siva,
- čokolada,
- SMB.

Mreža je izrađena od "fiberglassa".

Rolo komarnik se izrađuje u sledećim varijantama:

- rolo komarnik za prozore,
- rolo komarnik za vrata ,
- fiksni komarnik za prozore.
-

Rolo komarnik se karakteriše jednostavnim namotavanjem mreže na osovinu, nije potrebno skidanje istog prilikom pranja prozora i u zimskom periodu. Jednostavnim pomeranjem prema gore, mreža se namotava u kutiju koja štiti mrežicu od mraza i mehaničkih oštećenja.

Rolo komarnik za prozore pravi se od aluminijumskih plastificiranih elemenata.

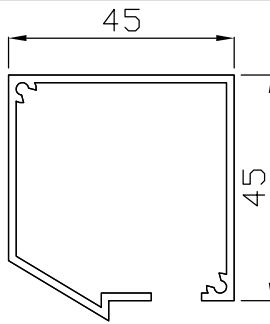
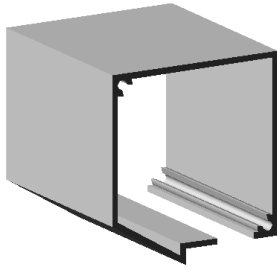
Može se montirati na već postojeće prozore kao nadogradnja ili zajedno sa roletnom u istu kutiju.

Rolo komarnik sa bočnim namotavanjem koristi se za vrata kao:

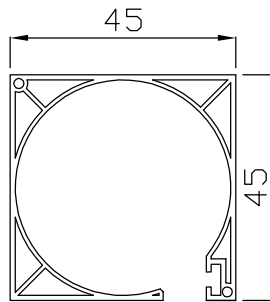
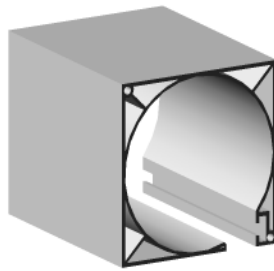
- jednodelni rolo komarnik i
- dvodelni rolo komarnik.

Rolo komarnik za vrata, montira se samo kao nadogradnja na postojeće prozore sa ili bez PVC, aluminijumskih roletni.

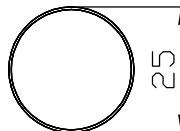
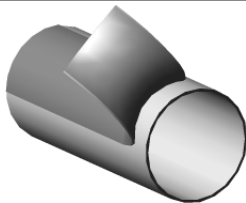
Rolo komarnik kod kliznih vrata zahteva malu nadogradnju rama.



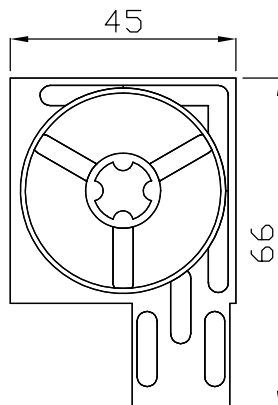
Aluminijumska kutija za mrežu za rolo komarnik.



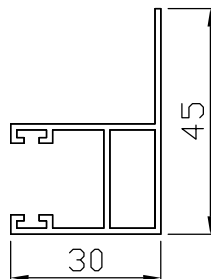
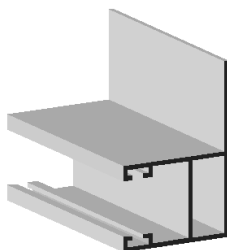
PVC kutija za mrežu za rolo komarnik.



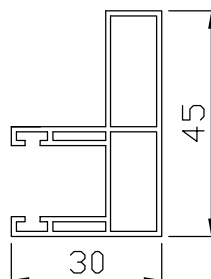
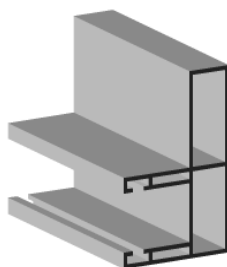
Aluminijumska osovina za mrežu za rolo komarnik.



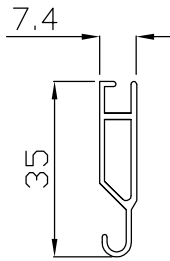
PVC bočni poklopac za rolo komarnik.



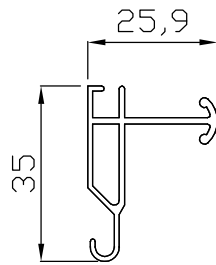
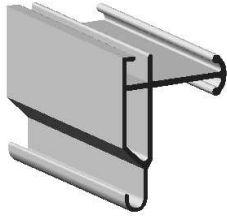
Aluminijumska vodica za mrežu za rolo komarnik.



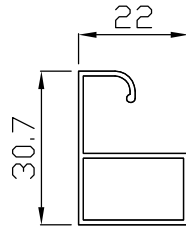
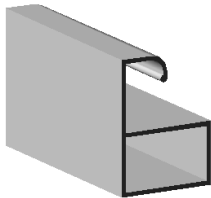
PVC vodica za mrežu za rolo komarnik.



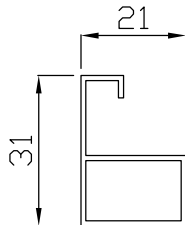
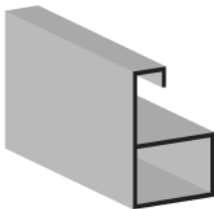
Aluminijumska gornja zakačka bez pera za rolo komarnik.



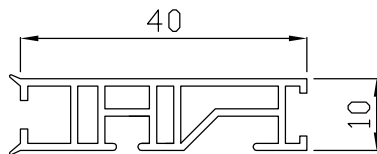
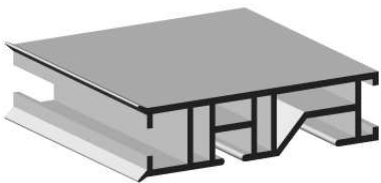
Aluminijumska gornja zakačka sa perom za rolo komarnik.



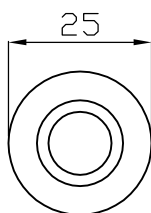
Aluminijumska donja zakačka za rolo komarnik.



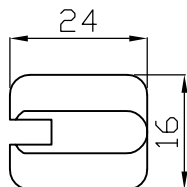
PVC donja zakačka za rolo komarnik.



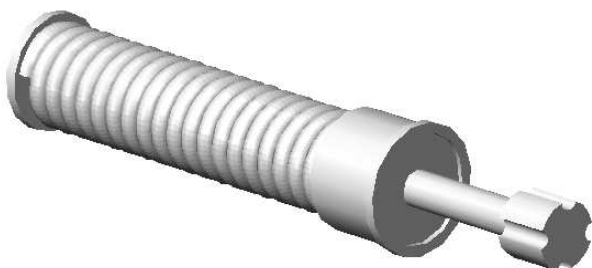
PVC zakacka za rolo komarnik



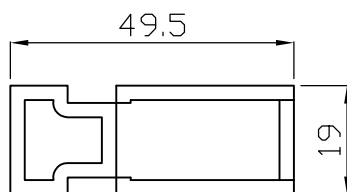
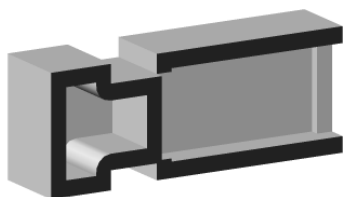
PVC završetak osovine
za rolo komarnik.



PVC čep za gornju zakačku
za rolo komarnik.



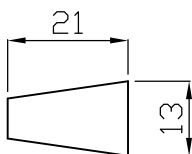
Opruga sa osovinom
za rolo komarnik.



PVC spojka zakačke i vođice
za rolo komarnik.



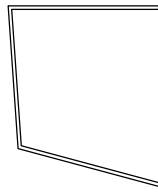
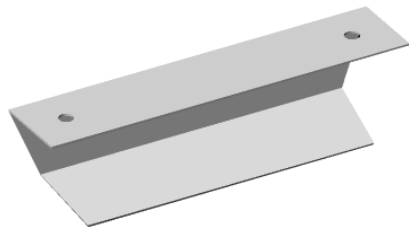
PVC čep za rupu $\varnothing 8$ za
rolo komarnik.



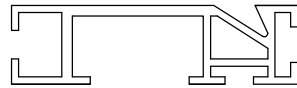
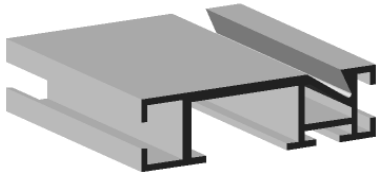
PVC visak za rolo komarnik.



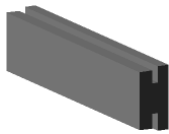
PVC bužir za mrežu
za rolo komarnik.



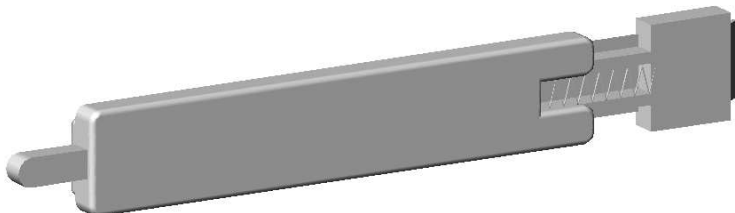
Ručica za dvodelni rolo komarnik.
Napravljena od aluminijumskog lima,
plastificirana.



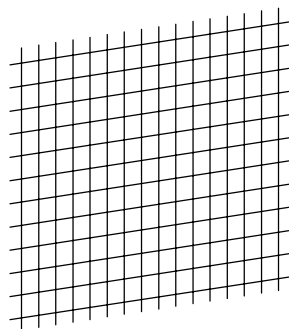
Aluminijumska bočna lajsna za
dvodelni komarnik



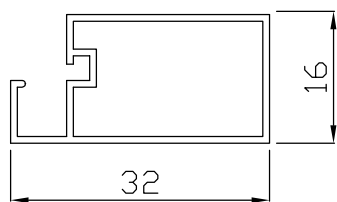
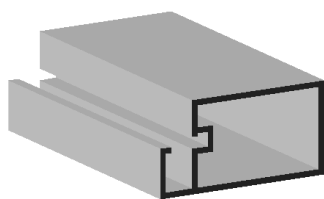
Zaptivač sa magnetom za
dvodelni komarnik



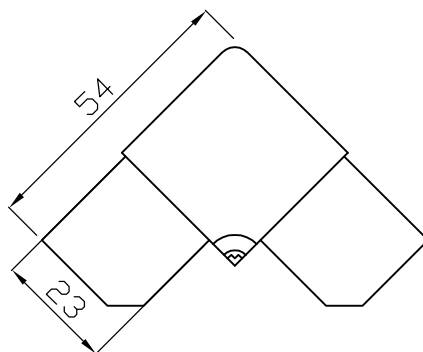
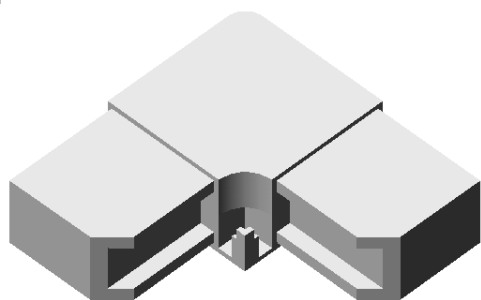
Zasun za dvodelni komarnik



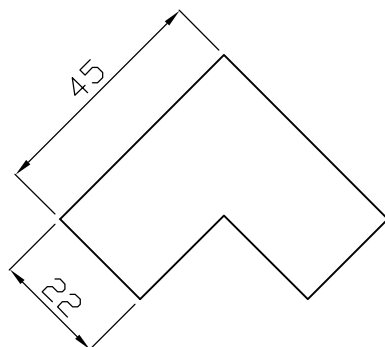
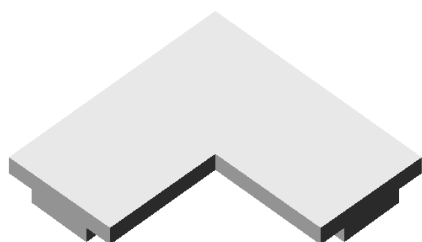
Mreža za komarnik.



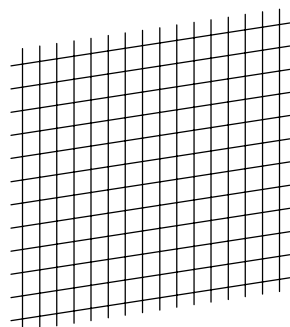
PVC lajsna za PVC fiksni komarnik.



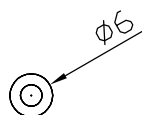
PVC ugao spoljašnji za PVC fiksni komarnik.



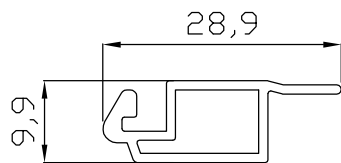
PVC ugao unutrašnji za PVC fiksni komarnik.



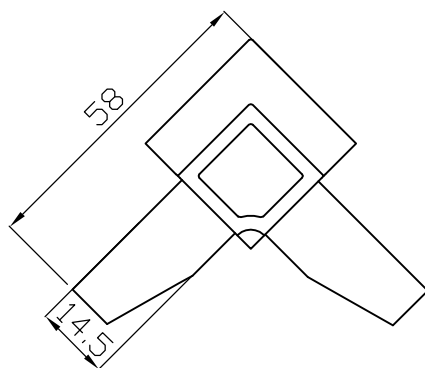
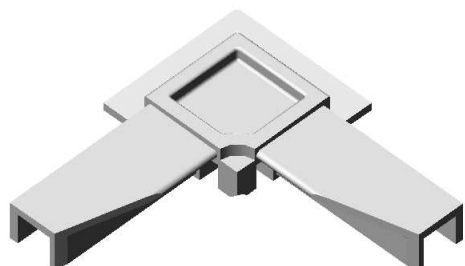
Mreža za komarnik.



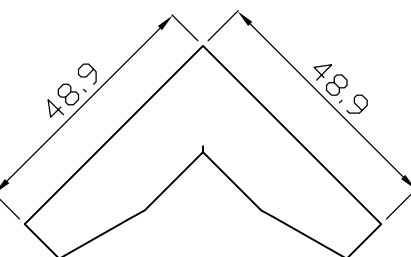
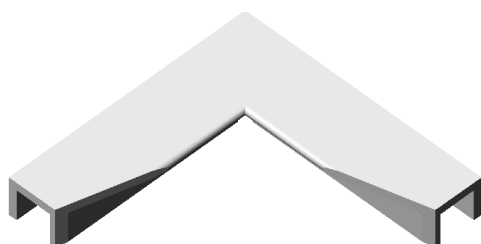
PVC bužir za PVC fiksni komarnik.



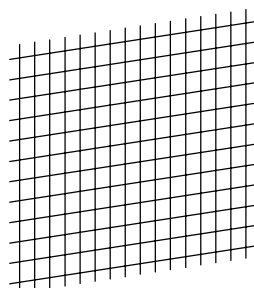
Aluminijumska lajsna za aluminijumski fiksni komarnik.



PVC ugao spoljašnji za aluminijumski fiksni komarnik.



PVC ugao unutrašnji za aluminijumski fiksni komarnik.



Mreža za komarnik.



PVC bužir za aluminijumski fiksni komarnik.

14. HARMONIKA VRATA I TUŠ KABINE

PVC harmonika vrata se prave od tvrdog PVC-a kao jednodelna i dvodelna. Služe kao pregradni zidovi, a njihova funkcija je zimi radi bržeg zagrevanja stanova, lokala, hotela kao i leti radi smanjenja promaja.

Kod manjih prostorija harmonika vrata imaju značajnu funkciju jer zauzimaju mali prostor kod otvaranja ostava, plakara, WC-a, podruma i drugih mesta.

Izrađuju se kao:

- jednodelna,
- dvodelna,
- viseća sa donjim klizačima i
- viseća bez donjih klizača.

Isporučuju se u dimenzijama po želji kupaca, u sledećim bojama: bela, drvo, mahagoni i čokolada.

Tuš kabine se prave od tvrdog PVC-a i mogu biti:

- providne i
- neprovidne.

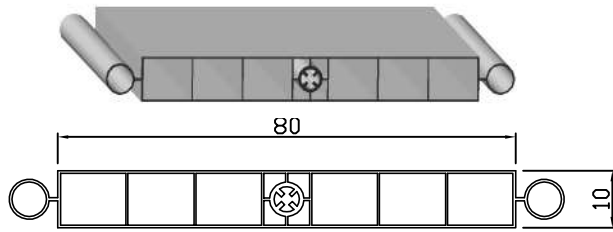
Montiraju se kao :

- jednodelna, prednji deo na tuš kadu
- dvodelna "L", na tuš kadu
- dvodelna "U", na tuš kadu
- trodelna "U", na tuš kadu
- jednodelna, prednji deo na kadu
- dvodelna, prednji deo na kadu
- dvodelna "L", na kadu
- trodelna "L", na kadu.

Prave se i u drugim kombinacijama po zahtevu kupaca.

Izrađuju se u sledećim bojama:

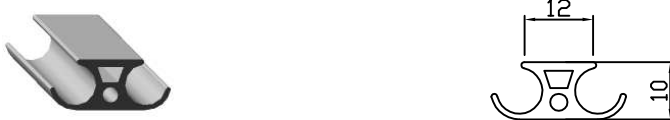
- bela neprovidna i
- bela providna.



PVC glavna lajsna za harmonika vrata.
Dužina ekstrudiranja: 4,5 mm



PVC polovina lajsna za harmonika vrata.
Dužina ekstrudiranja: 4,5 mm



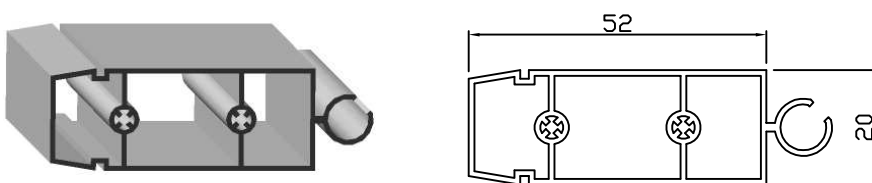
PVC spojka lajsna za spajanje glavne lajsne i polovine lajsne kod harmonika vrata i tuš kabina.
Dužina ekstrudiranja: 4,5 mm za H.V.
Dužina ekstrudiranja: 5,4 mm za T.K.



PVC fiksna lajsna za harmonika vrata i tuš kabine.
Dužina ekstrudiranja: 4,5 mm za H.V.
Dužina ekstrudiranja: 5,4 mm za T.K.



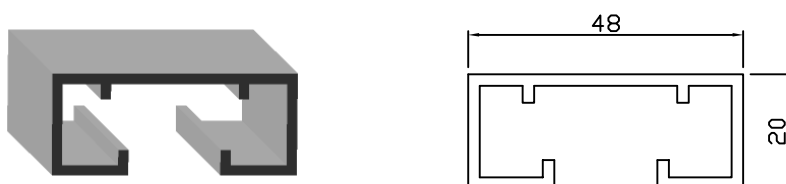
PVC početna lajsna za harmonika vrata i tuš kabine.
Dužina ekstrudiranja: 4,5 mm za H.V.
Dužina ekstrudiranja: 5,4 mm za T.K.



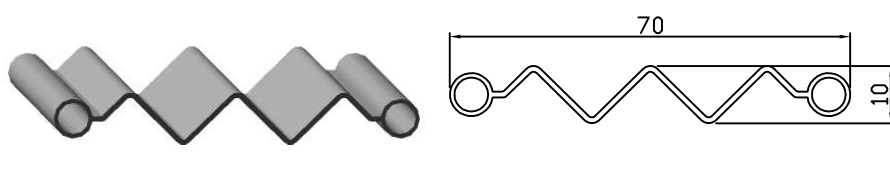
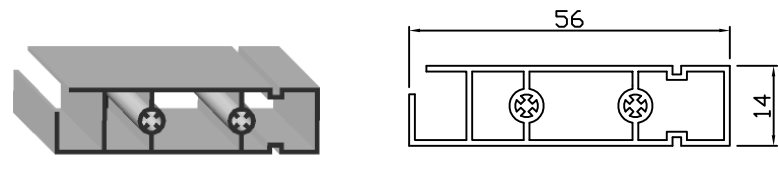

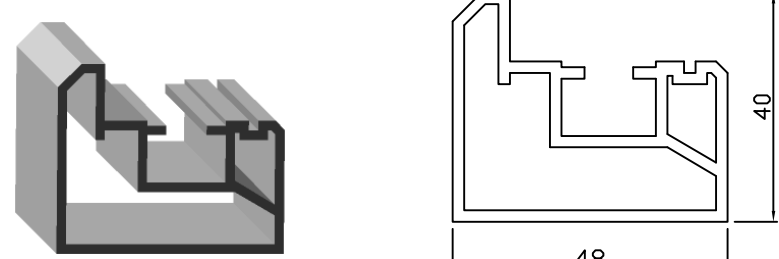

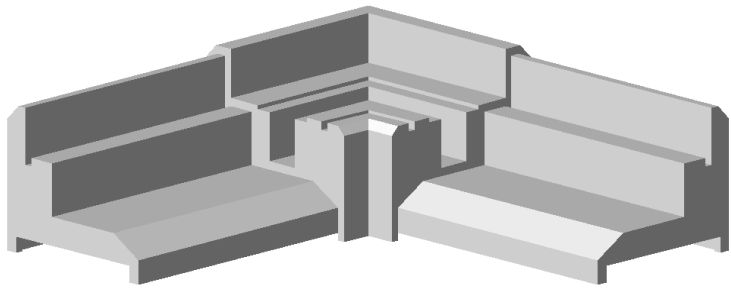
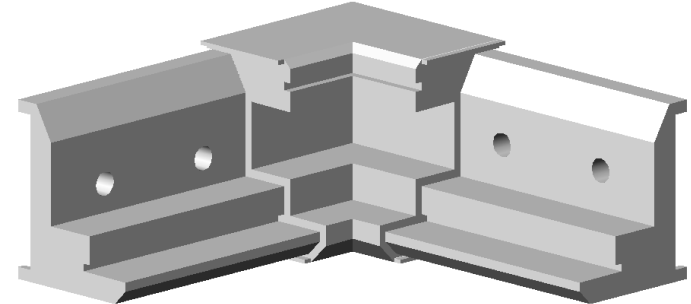
PVC završna lajsna za harmonika vrata.
Dužina ekstrudiranja: 4,5 mm



PVC završno-ukrasna lajsna za harmonika vrata.
Dužina ekstrudiranja: 4,5 mm



PVC vođica lajsna za harmonika vrata.
Dužina ekstrudiranja: 4,5 mm

	<p>PVC glavna lajsna za tuš kabine providna.</p> <p>Dužina ekstrudiranja: 5,4 mm</p>
	<p>PVC završna lajsna za tuš kabine.</p> <p>Dužina ekstrudiranja: 5,4 mm</p>
	<p>PVC završno-ukrasna lajsna za tuš kabine.</p> <p>Dužina ekstrudiranja: 5,4 mm</p>
	<p>PVC vođica lajsna za tuš kabine.</p> <p>Dužina ekstrudiranja: 5,4 mm</p>
	<p>PVC ugaona završno-ukrasna lajsna za tuš kabine.</p> <p>Dužina ekstrudiranja: 5,4 mm</p>
	<p>Ugao levo-desno za tuš kabine.</p> <p>Napravljen od polietilena.</p>
	<p>Ugao gore-dole za tuš kabine.</p> <p>Napravljen od polietilena.</p>



Čep za spojku lajsnu za harmonika vrata i tuš kabine.

Napravljen od polietilena.



Gornji klizač za harmonika vrata.

Napravljen od polietilena.



Donji klizač za harmonika vrata.

Napravljen od polietilena.



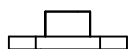
Gornji klizač za tuš kabine.

Napravljen od polietilena.



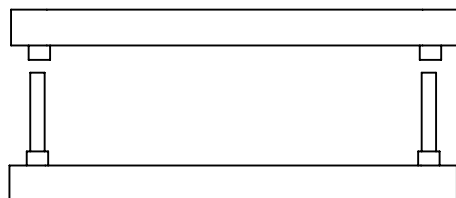
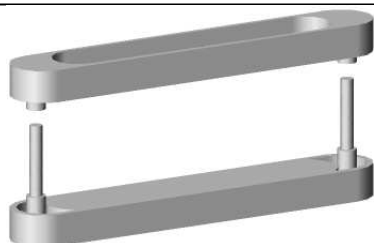
Donji klizač za tuš kabine.

Napravljen od polietilena.



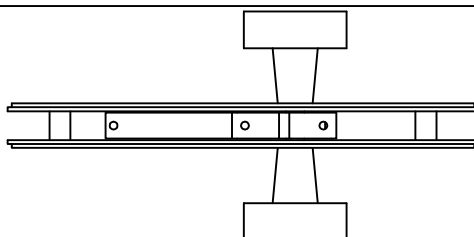
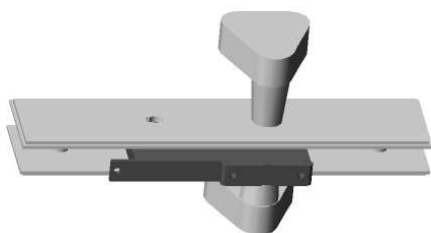
Gornji i donji klizač za završnu lajsnu na tuš kabini.

Napravljen od polietilena.



Ručica za tuš kabinu.

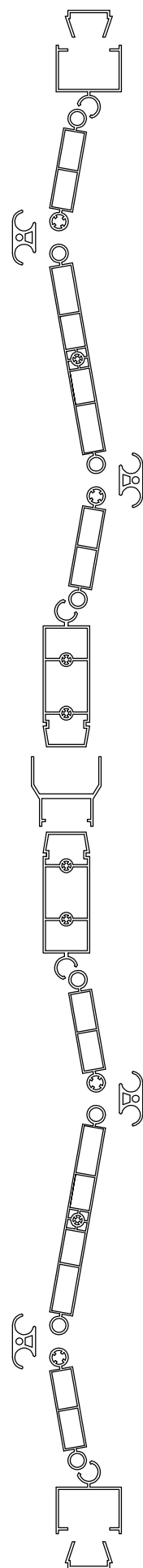
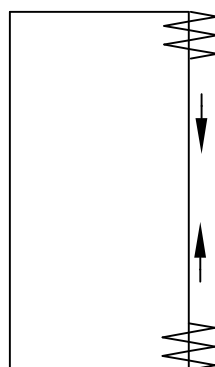
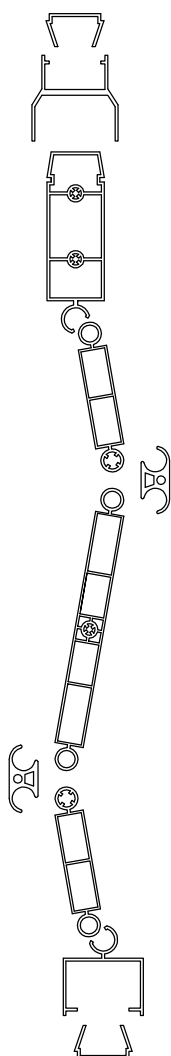
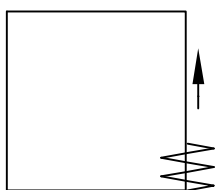
Napravljen od polietilena.



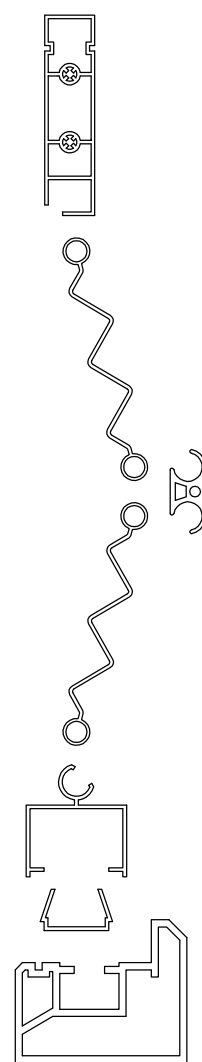
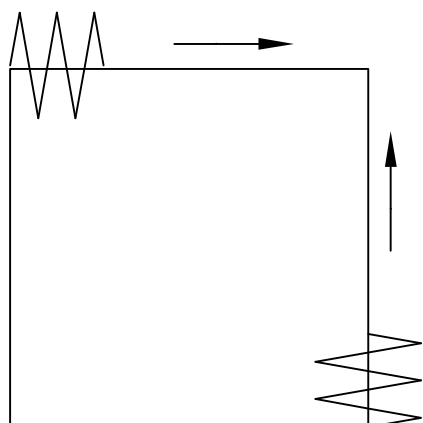
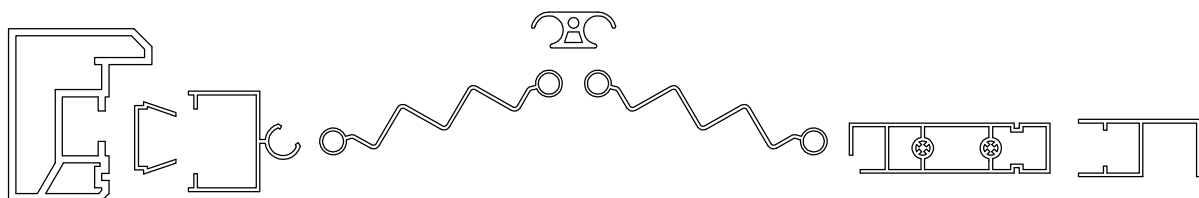
Brava sa ključem za harmonika vrata i tuš kabine.

Napravljen od polietilena.

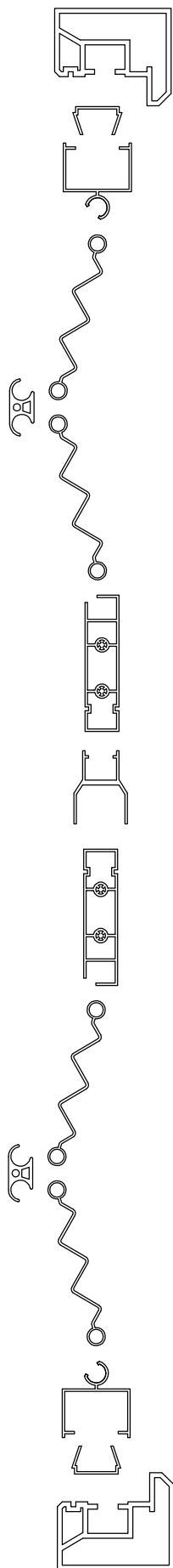
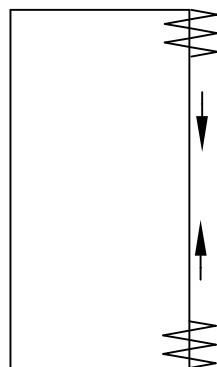
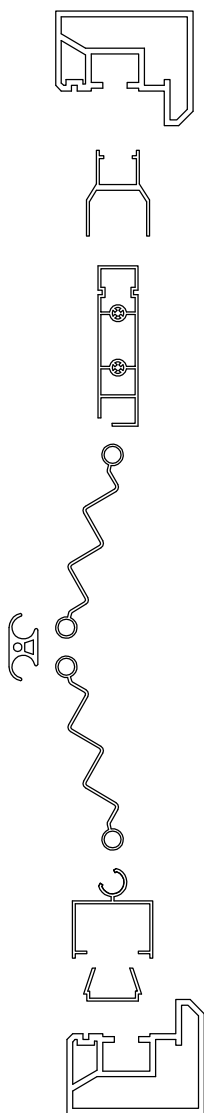
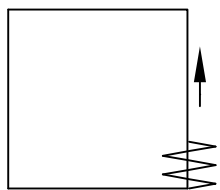
KOMBINACIJE POSTAVLJANJA HARMONIKA VRATA

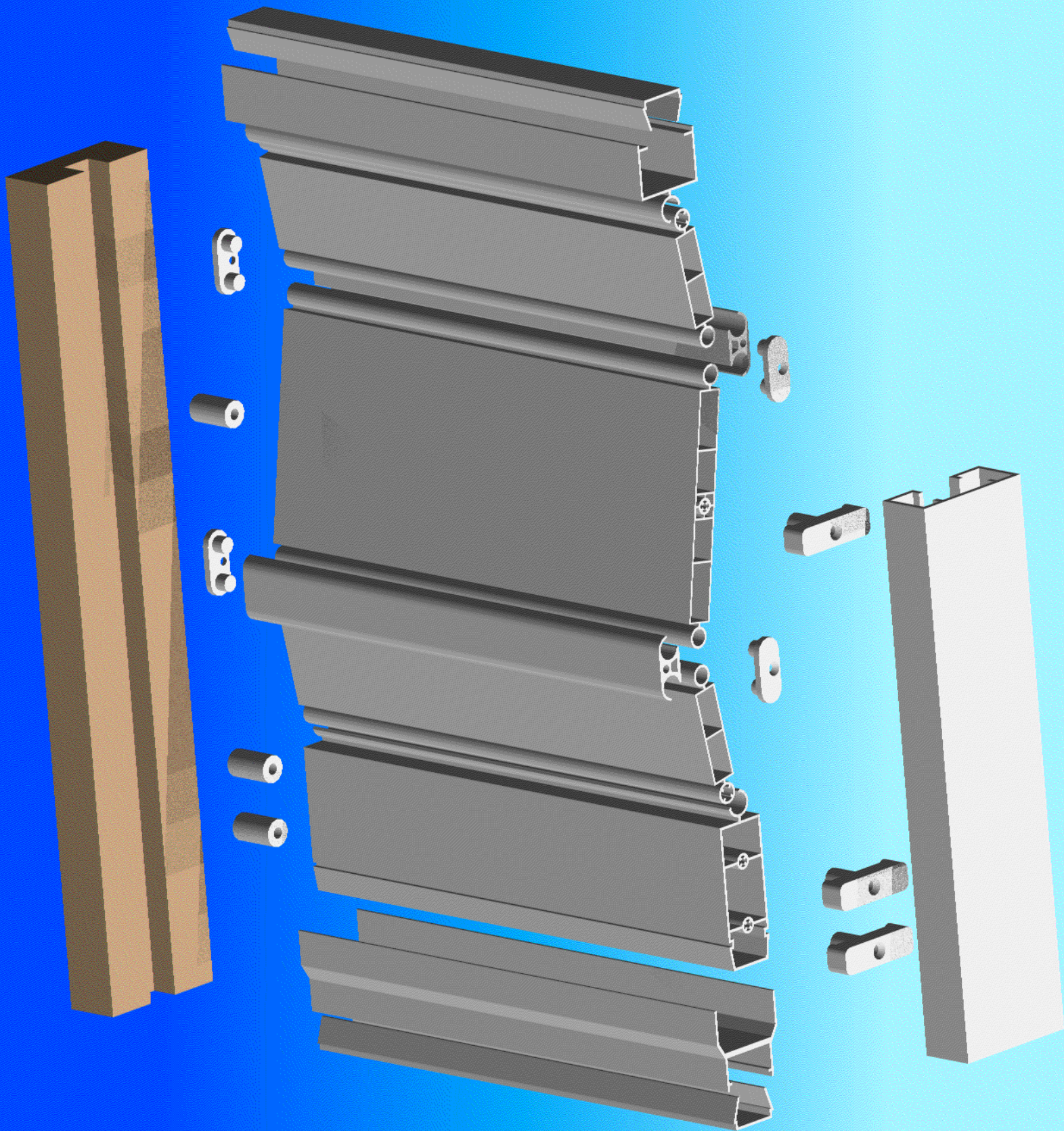


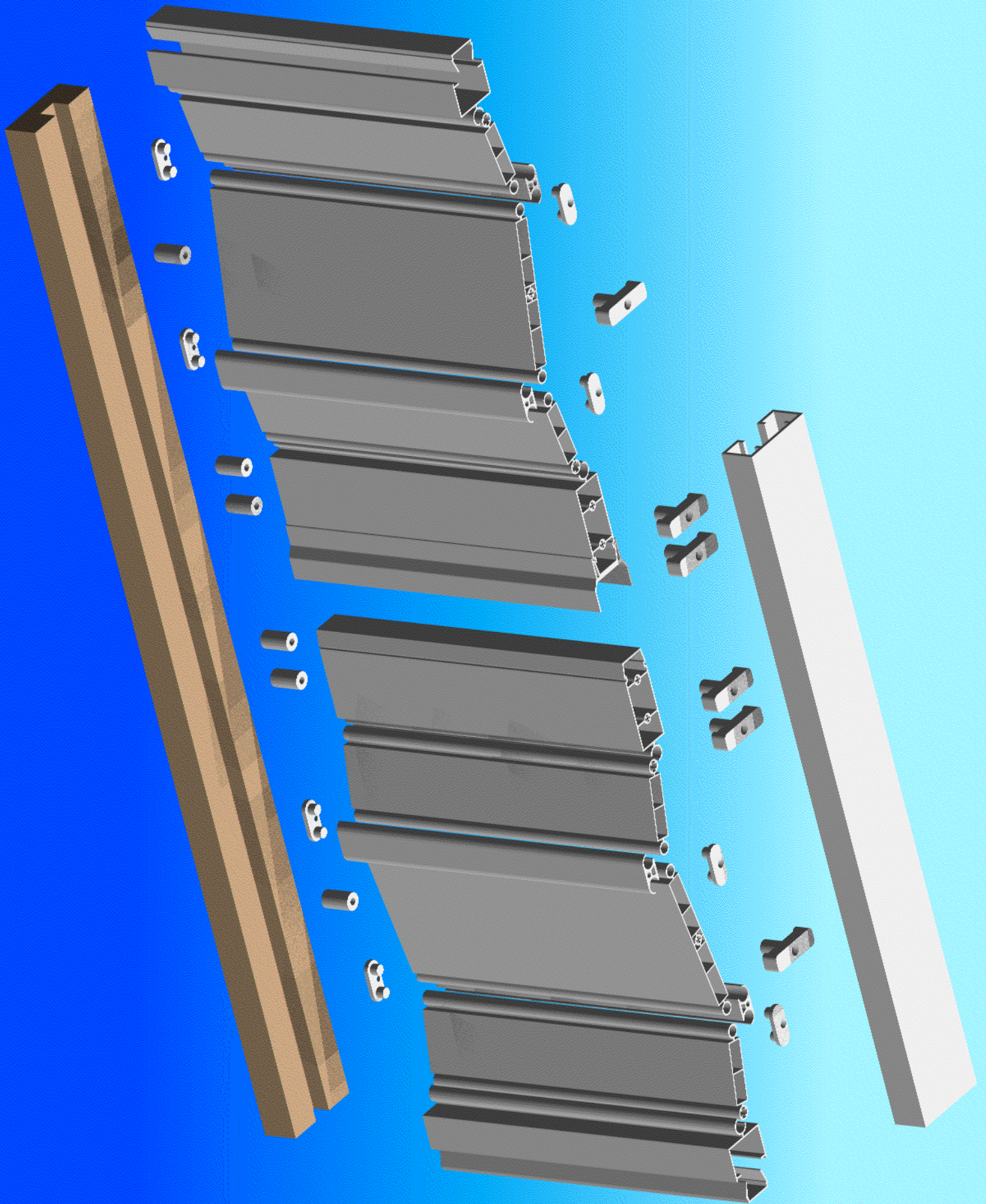
KOMBINACIJE POSTAVLJANJA TUŠ KABINA

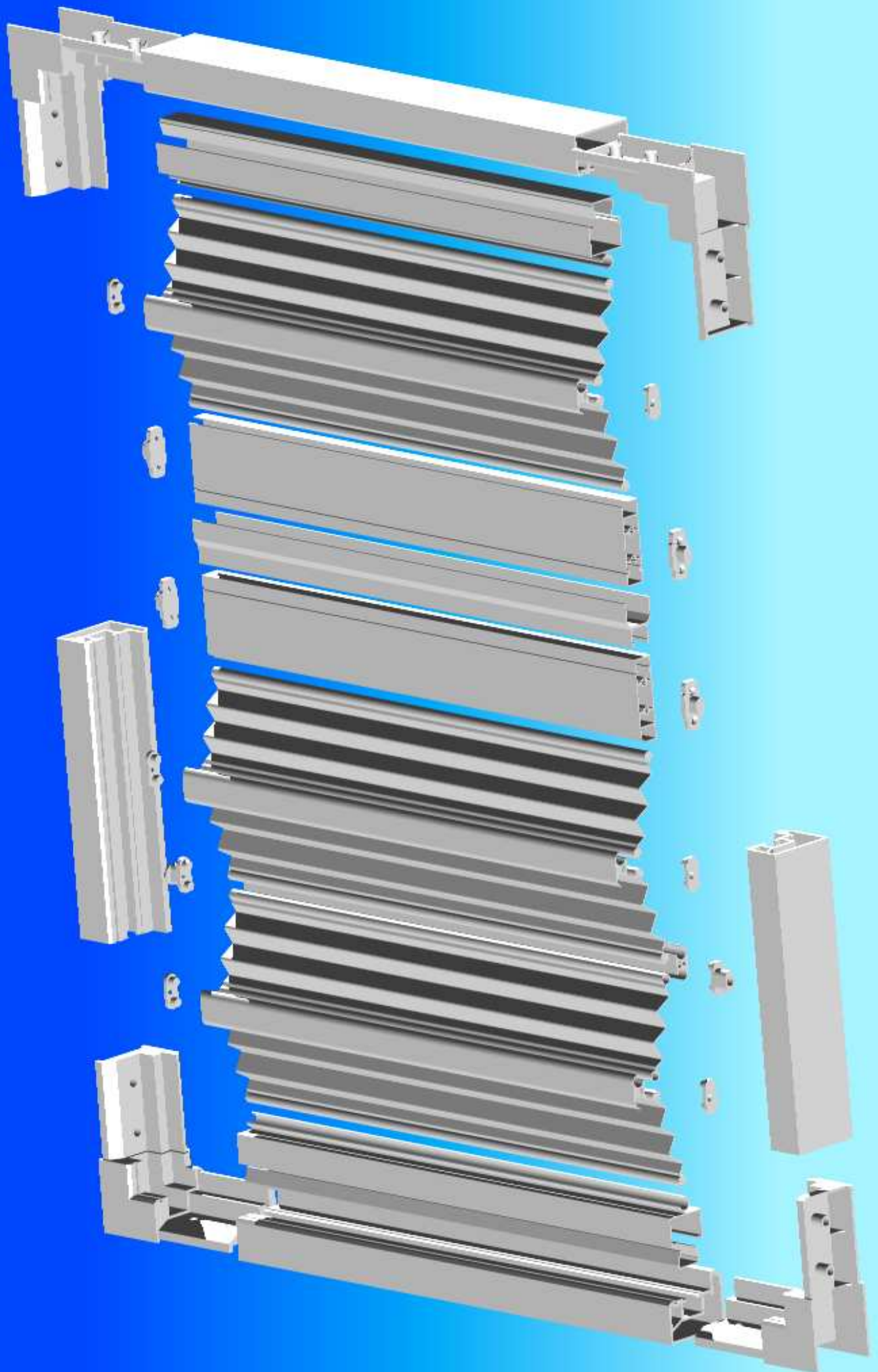


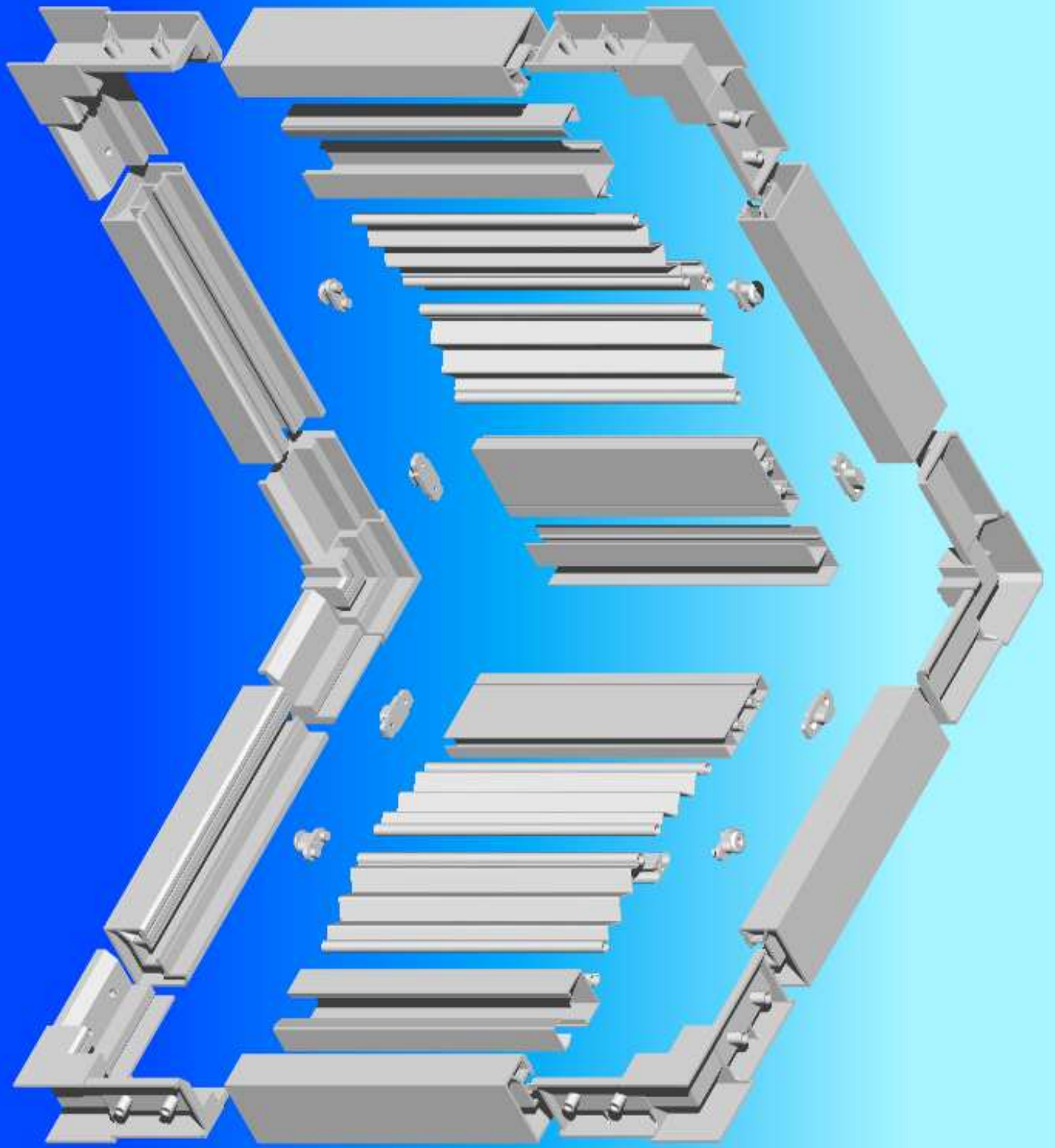
KOMBINACIJE POSTAVLJANJA TUŠ KABINA











15. VENECIJANERI

Venecijaneri sa širokim spektrom boja našli su primenu u kancelarijama, školama, kućama, stanovima, WC prozorima, zastaklenim površinama i izlozima.

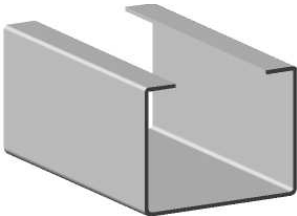
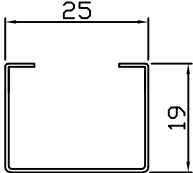
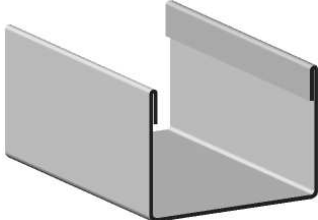
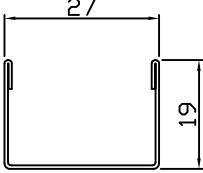

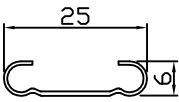


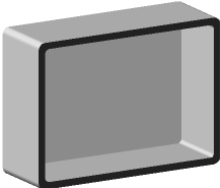
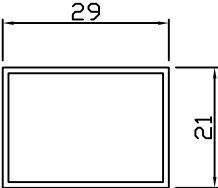
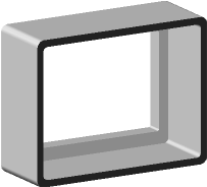
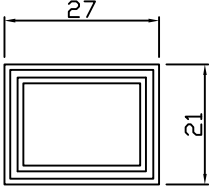

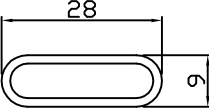

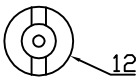

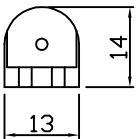
Svojim okretanjem preusmeravaju sunčeve zrake.

Prave se od aluminijumskih lamela, širine 25mm.

Lako se održavaju.

Venecijaneri se ugrađuju na prozore i vrata sa fleksibilnom palicom, vratilom i kanapom, providnom palicom sa reduktorom i kanapom ili samo sa kanapom.

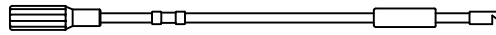
Delovi venecijanera

		<p>Aluminijumska gornja kutija za venecijanere.</p> <p>Dimenzija: 25 x 19 mm</p>
		<p>Aluminijumska gornja kutija za venecijanere.</p> <p>Dimenzija: 27 x 19 mm</p>
		<p>Aluminijumska donja kutija za venecijanere.</p> <p>Dimenzija: 6 x 25 mm</p>
		<p>Aluminijumska žica "D" za potisno dugme za venecijanere.</p>
		<p>Gornji čep za kutije venecijanera:</p> <p>dimenzije: 19 x 25 mm dimenzije: 19 x27 mm</p>
		<p>Gornji čep sa rupom za kanal i sajlu za kutije venecijanera:</p> <p>dimenzije: 19 x 25 mm dimenzije: 19 x27 mm</p>
		<p>Donji čep za kutiju venecijanera.</p>
		<p>Donje dugme za venecijanere.</p>
		<p>Držač palice za venecijanere.</p>

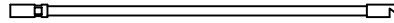
Delovi venecijanera



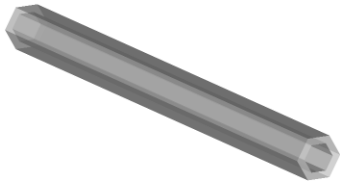
Delovi venecijanera



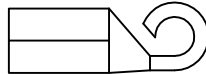
Fleksibilna palica za okretanje venecijanera.



Vratilo, sajla za palicu za okretanje venecijanera.



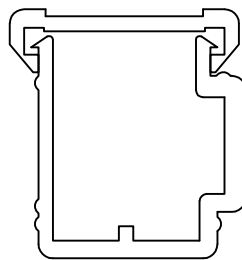
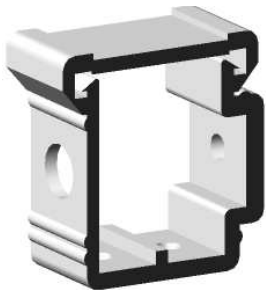
Providna palica za okretanje venecijanera.



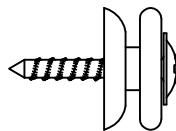
Providna zakačka za providnu palicu za okretanje venecijanera.



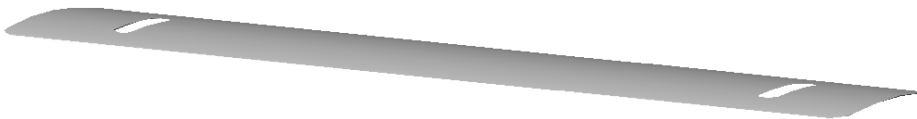
Providni završetak za providnu palicu za okretanje venecijanera.



Plastična objemica, nosač venecijanera.



Dugme za fiksiranje kanapa kod bočnog vođenja venecijanera.



Aluminijumska traka za venecijanere.

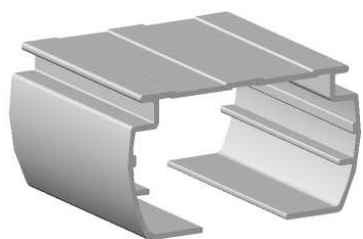
16. TRAKASTE ZAVESE

Trakasta zavesa sa širokim spektrom boja našla je primenu u kancelarijama, školama, stanovima, laboratorijama, poštama, lokalima, izlozima, svetlarnicima, i tako dalje.

Trakaste zaveses se lako pomeraju i zbog toga su našle široku primenu u kućnom enterijeru.

Trakaste zaveses mogu se pomerati:

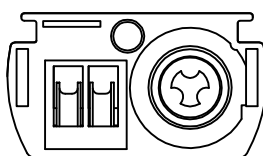
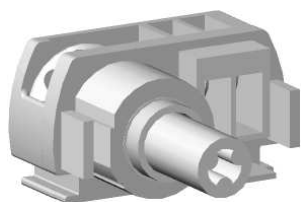
- na jednu stranu
- na obe strane
- pomeranje ka sredini
- jednodelna,
- dvodelna i
- jedna prema drugoj.



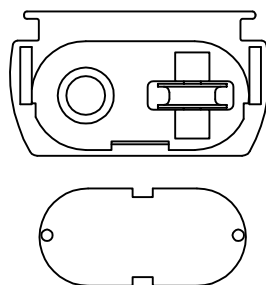
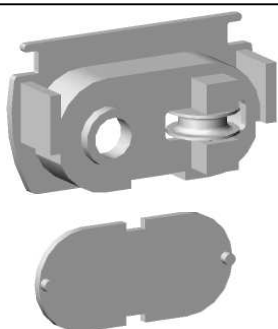
Aluminijumska kutija za trakaste zavesa



Aluminijumska žica za trakaste zavesa.



Prednja glava, glavni mehanizam na kutiji za trakaste zavesa.



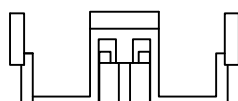
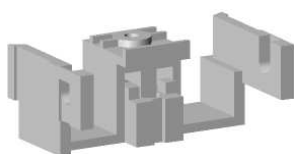
Zadnja glava, pomočni mehanizam na kutiji za trakaste zavesa.



Metalni zeger, osigurač na žici za trakaste zavesa.



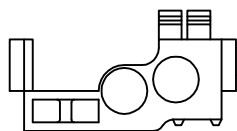
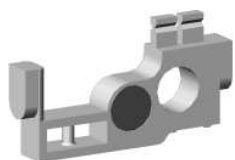
PVC prsten, osigurač na žici za trakaste zavesa.



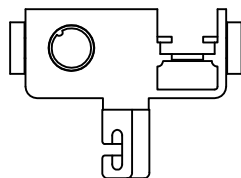
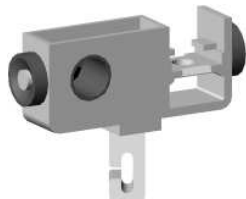
Vučna kolica za trakaste zavesa.



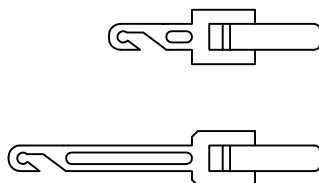
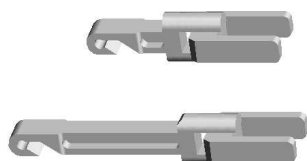
Metalni držač kanapa za vučna kolica.



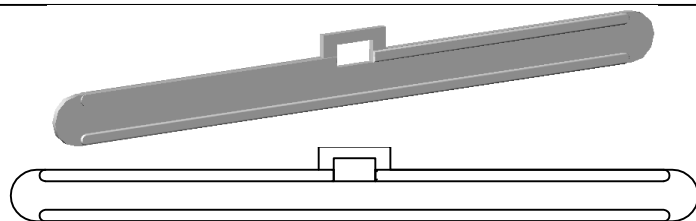
Kolica sa magnetom za trakaste zavesa.



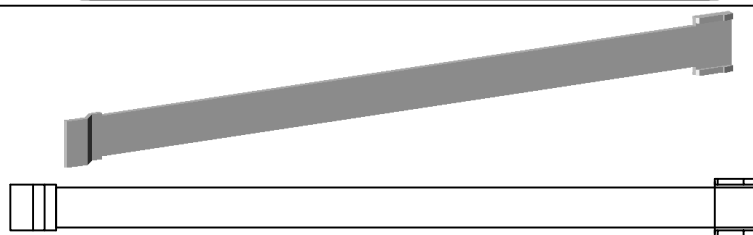
Vagončić za trakaste zavesa.



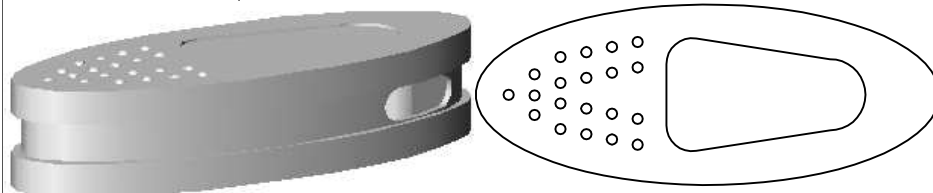
Nastavak vagončića za trakaste zavesa pod kosinom.



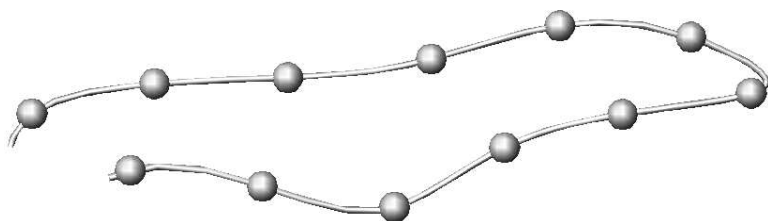
Ofinger za traku na trakastim zavesama.



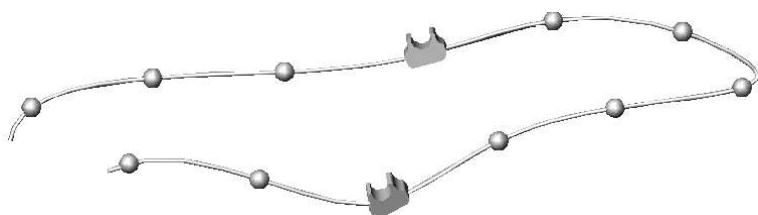
PVC ili metalni odstojnik vagončića za trakaste zavesa.



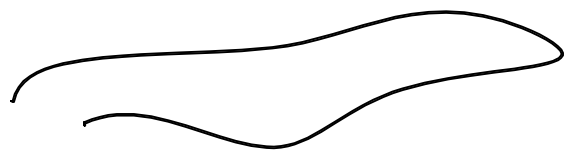
Teg za kanap na trakastim zavesama.



Lanac za okretanje glavnog mehanizma na trakastim zavesama.



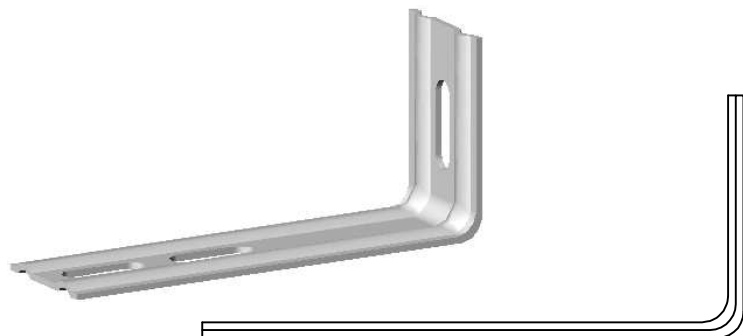
Lanac sa kukicama na tegu za traku na trakastim zavesama.



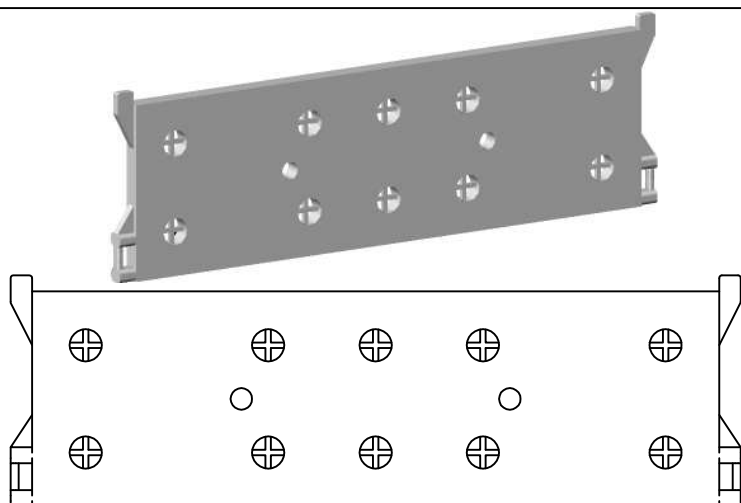
Kanap za pomeranje vagončiča u kutiji na trakastim zavesama.



Žabica, nosač kutije za trakaste zavesse.



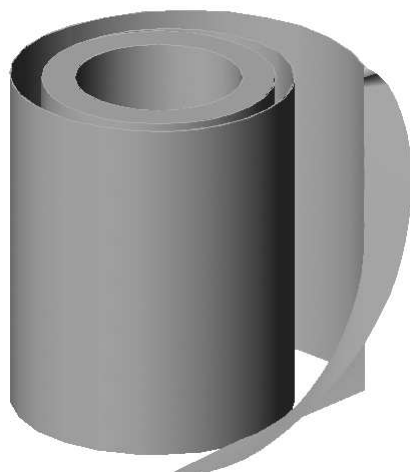
"L" nosač kutije za trakaste zavesse.



Teg za traku na trakastoj zavesi.



Spojka za lanac za okretanje i lanac sa kukicama za teg.



Kotur traka za trakaste zavesse.