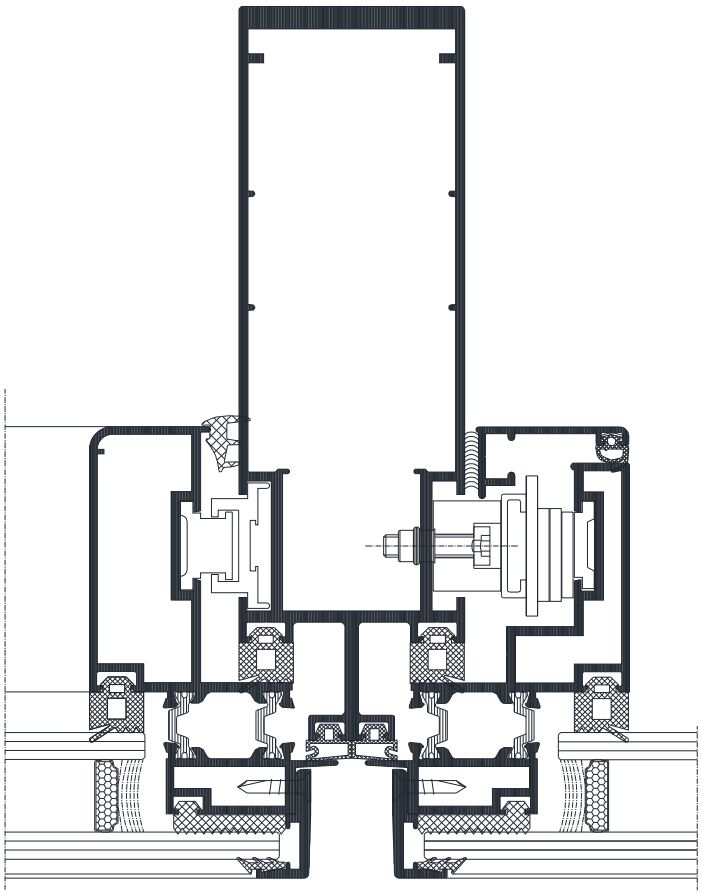
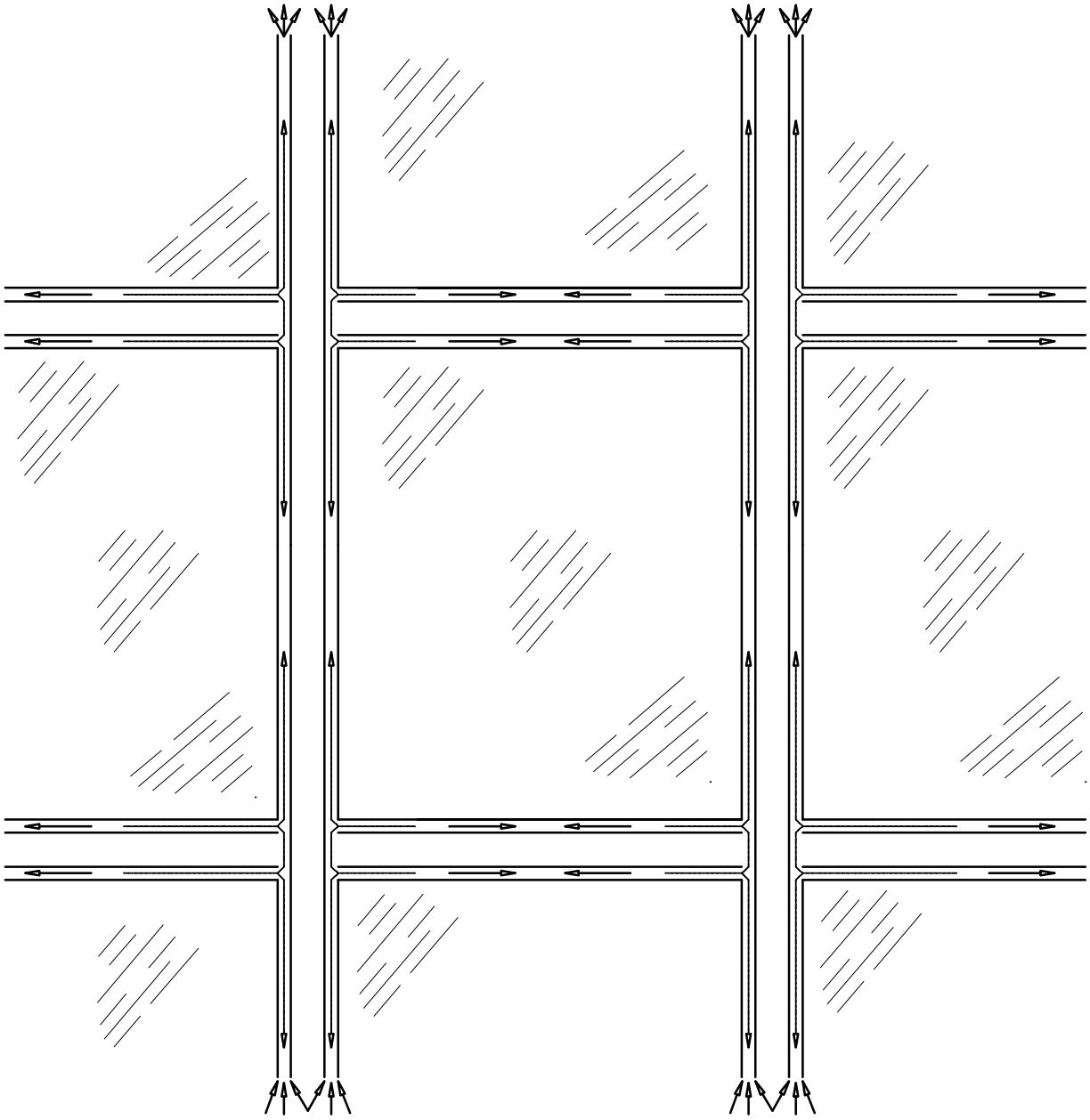
FEAL

FEAL d.o.o za preradu aluminija-Široki Brijeg,Trnska cesta 146



al. fasada 50 PS



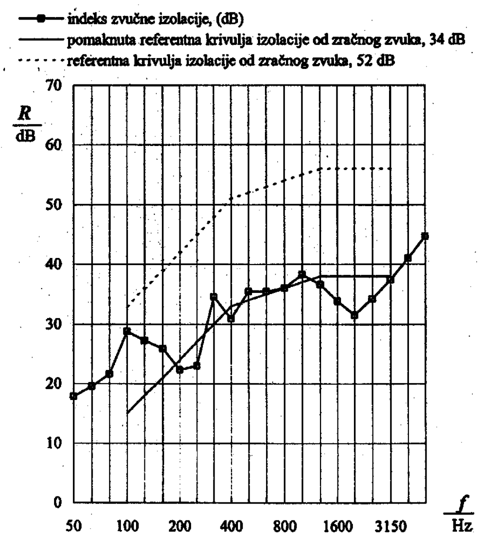
Sistem FEAL F-50-PS KONSTRUIRAN JE TAKO DA SU ZLIJEBOVI U OKOMICI I VODORAVNICI U RAZLICITIM RAVNIMA.
MOGUCI KONDEZAT TIM JE NACINOM VODJEN SA ZLIJEBA VODORAVNICE U ZLIJEB OKOMICE,TE KONTROLIRANO DOLJE PREMA VANI(drenazni zlijeb).
ISTOVREMENO ZRAK STRUJI KROZ OKOMICE I VODORAVNICE OD PARAPETA PREMA ATICI PRI CEMU OSTVARUJE POTREBNO VENTILIRANJE FASADE I SUSI MOGUCE KAPLJEVINE NASTALE KONDEZIRANJEM.

REZULTATI ISPITIVANJA izolacije od zračnog zvuka uzorka polustrukturalne al. fasade FEAL 50 PS

Tablica:

frekvencija *f* (Hz)	terca *R* (dB)
50	17.9
63	19.6
80	21.6
100	28.7
125	27.3
160	25.9
200	22.3
250	23.0
315	34.5
400	30.9
500	35.4
630	35.5
800	36.1
1000	38.3
1250	36.6
1600	33.8
2000	31.5
2500	34.3
3150	37.4
4000	41.0
5000	44.7

Dijagram:

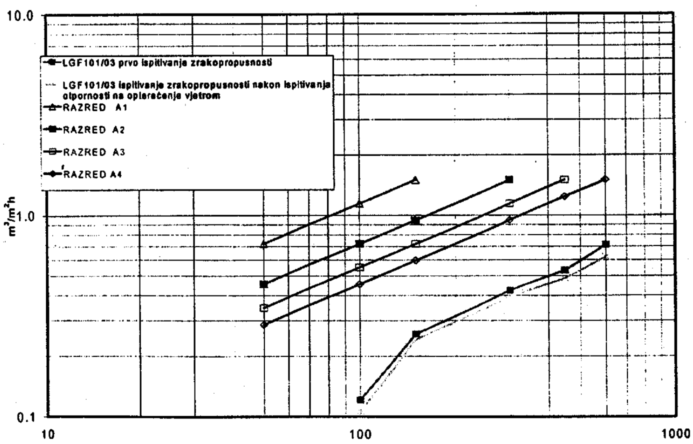


Voditelj laboratorija:
Mr. sc. Soda Šilbegi-Mihaljević, dipl. ing. kem. tehn.

U skladu s HRN EN ISO 717-1:1998. vrednovani indeks zvučne izolacije za ispitani uzorak polustrukturalne aluminijske fasade FEAL 50 PS ostakljen IZO staklom 24 mm iznosi
Rw (C; Ctr; C50-5000; Ctr,50-5000) = 34 (0; -2; 0; -3) dB.

REZULTATI ISPITIVANJA zrakopropusnosti uzorka polustrukturalne aluminijske fasade FEAL 50 PS.

3.3 Dijagram



3.2 Tablica mjernih rezultata

Δp (Pa)	*Q* (m³/hm²) LGF101/03	*Q* (m³/hm²) RAZRED (HR EN12152:2001) A1	A2	A3	A4
prvo ispitivanje zrakopropusnosti					
50	0.00	0.72	0.45	*0.35*	0.29
100	0.12	1.14	0.72	*0.55*	0.45
150	0.26	1.50	0.94	*0.72*	0.60
200	0.29		1.14	*0.87*	0.72
250	0.35		1.33	*1.01*	0.84
300	0.42		1.50	*1.14*	0.94
450	0.53			*1.50*	1.24
600	0.68				1.50

S obzirom na zrakopropusnost ispitani uzorak polustrukturalne al.fasade FEAL 50 PS ostakljen IZO staklom 24 mm može se svrstati u **razred A4**, u skladu s HRN EN 12152:2002.

Voditelj laboratorija:
Mr. sc. Soda Šilbegi-Mihaljević, dipl. ing. kem. tehn.

REZULTATI ISPITIVANJA vodonepropusnosti uzorka polustrukturalne al. fasade FEAL 50 PS.

4.2 Tablica:

TLAK Δp (Pa)	VRIJEME τ (min)	LGF 101/03	RAZRED (HRN EN 12154:2001)
0	15	+	
50	5	+	
100	5	+	
150	5	+/	R 4
200	5	+	
250	5	+	
300	5	+	R 5
450	5	+	R 6
600	5	+	R 7

+ ..... Znači da nije došlo do propuštanja vode.
∇ ..... Znači da je došlo do propuštanja vode.

Voditelj laboratorija:
Mr. sc. Sonja Šilhard Mihalević, dipl. ing. kem. tehn.

S obzirom na vodonepropusnost ispitani uzorak polustrukturalne al.fasade ostakljen IZO staklom 24 mm može se svrstati u **razred R7**,u skladu s HRN EN 12154:2001.

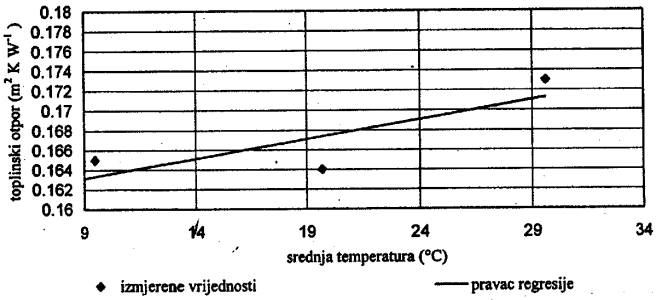
REZULTATI ISPITIVANJA otpornosti na vjetar uzorka polustrukturalne aluminijske fasade FEAL 50 PS ostakljene IZO staklom 24 mm u skladu s HRN EN 13116:2001

- maksimalno relativno čeono savijanje je 1/2282 (max. doz. 1/200),
- nakon opterećenja prednja strana uzorka uzorka vratila se na 100% početne vrijednosti (min.doz. 95%)
- ispitivanje zrakopropusnosti nakon otpornosti na vjetar kazuje da nije došlo do prekoračenja vrijednosti u odnosu na prvo ispitivanje.

Pri opterećenju uzorka na 900 Pa (150% maksimalnog ispitnog tlaka) u trajanju od 15 s nije došlo do vidljivih promjena na uzorku.

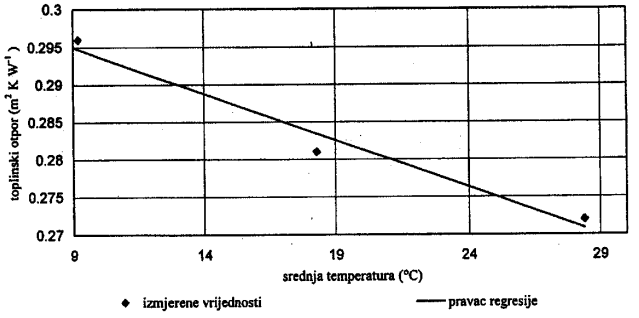
Voditelj laboratorija:
Mr. sc. Sonja Šilhard Mihalević, dipl. ing. kem. tehn.

REZULTATI ISPITIVANJA toplinske prohodnosti (*koeficijent prolaza topline k*) uzoraka polustrukturalne al.fasade 50 PS izrađenog od profila okomice i vodoravnice, ostakljenog IZO staklom 24 mm.



Za ispitni uzorak1 sa al.profilom vodoravnice SB-11/50

U skladu s HRN U.J5.510:1987, koeficijent prolaza topline ispitnog uzorka1 iznosi
k=3 WK^{-1}m^{-2}



Za ispitni uzorak2 sa al.profilom okomice SB-003/50

U skladu s HRN U.J5.510:1987, koeficijent prolaza topline ispitnog uzorka2 iznosi
k=2.2 WK^{-1}m^{-2}

Voditelj laboratorija:
Mr. sc. Sonja Šilhard Mihalević, dipl. ing. kem. tehn.

Napomena: Ispitivanje je provedeno na Institutu Građevinarstva Hrvatske u Zagrebu

TEHNICKE PREDPOSTAVKE ANALIZE

Uovoj analizi su uzete u obzir sljedece tehnicke pretpostavke mjerodavne za proracun:

- -Staticki model nosaca:Nosac oslonjen u 2i3 krajnje tocke sidrenja
- -Uvjeti eksploatacije obzirom na vjetar:.....V=50-180km/h
- -Maximalni vodoravni raster fasade:.....L=60-210cm
- -Dozvoljeni progib nosaca:.....fpr<=H/300(cm)
- -Specificno opterecenje fasade vjetrom:.....q(kg/cm2)
- -Jedinicno opterecenje nosaca:.....Q=qxL(kg/cm)

Temeljna analiza je obuhvatila staticku analizu fasadnih profila u uvjetima vjetrovnih udara za I,II,III VJETROVNU ZONU PODRUCJA ZEMALJA BOSNE I HERCEGOVINE,HRVATSKE,SLOVENIJE SRBIJE,CRNE GORE i MAKEDONIJE prema Tehnickim normativima metalnih konstrukcija41/64.

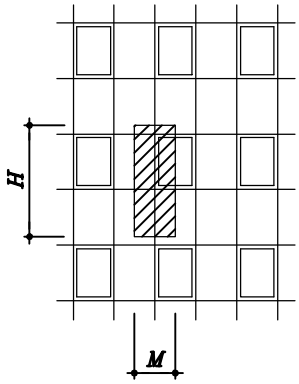
Visina površine nad terenom koja je izložena dejstvu vjetra	Stupanj zaštite fasadnog objekta	DJELOVANJE VJETRA ZA ZEMLJOPISNE ZONE					
		I	I	II	II	III	III
		Kg/m2	Km/h	Kg/m2	Km/h	Kg/m2	Km/h
Do 10 m	Zaštićen	30	79	40	91	55	107
	Poluzaštićen	40	91	55	107	60	112
	Izložen	45	97	70	120	110	151
Od 10 m do 30 m	Poluzaštićen	50	102	75	125	110	151
	Izložen	60	112	90	137	130	164
Od 30 m do 60 m	Izložen	70	120	105	148	150	176
Od 60 m do 100 m	Izložen	80	129	120	158	170	188

REZULTATI ANALIZE

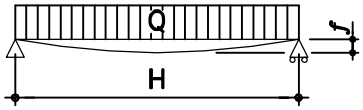
Rezultati staticke analize dobiveni su uporabom racunalnih programa za analizu:

- -CADS Analyse 3D , UK
- -Excel , Microsoft , USA

U samoj analizi varirani su kao ulazni parametri opterecenja usljed dejstva vjetra u rasponu V=50-180 km/h i vodoravni raster fasade u rasponu L=60-160cm,a kao odziv - rezultat analize je dobiven maximalni medukatni raster ili raster sidrenja longitudalnih okomitih nosaca.
Sami rezultati analize za sve moguce varijante dati su tabelarno i u formi grafickih 2D dijagrama te se isti mogu koristiti u preliminarnom odredivanju rastera sidrenja i odabiru nosaca.
Split, ozujak, 2002.



$f_{adm} = H/300$



$$Jx = \frac{5}{384} * \frac{Q * H^3}{E * f}$$

$Jx =$ [cm⁴]

$Q =$ [Kg]

$q =$ vjetar [Kg/m²]

$Q = q\ M\ H = [Kg]$

$E =$ MODUL ELASTICNOSTI [Kg/cm²]

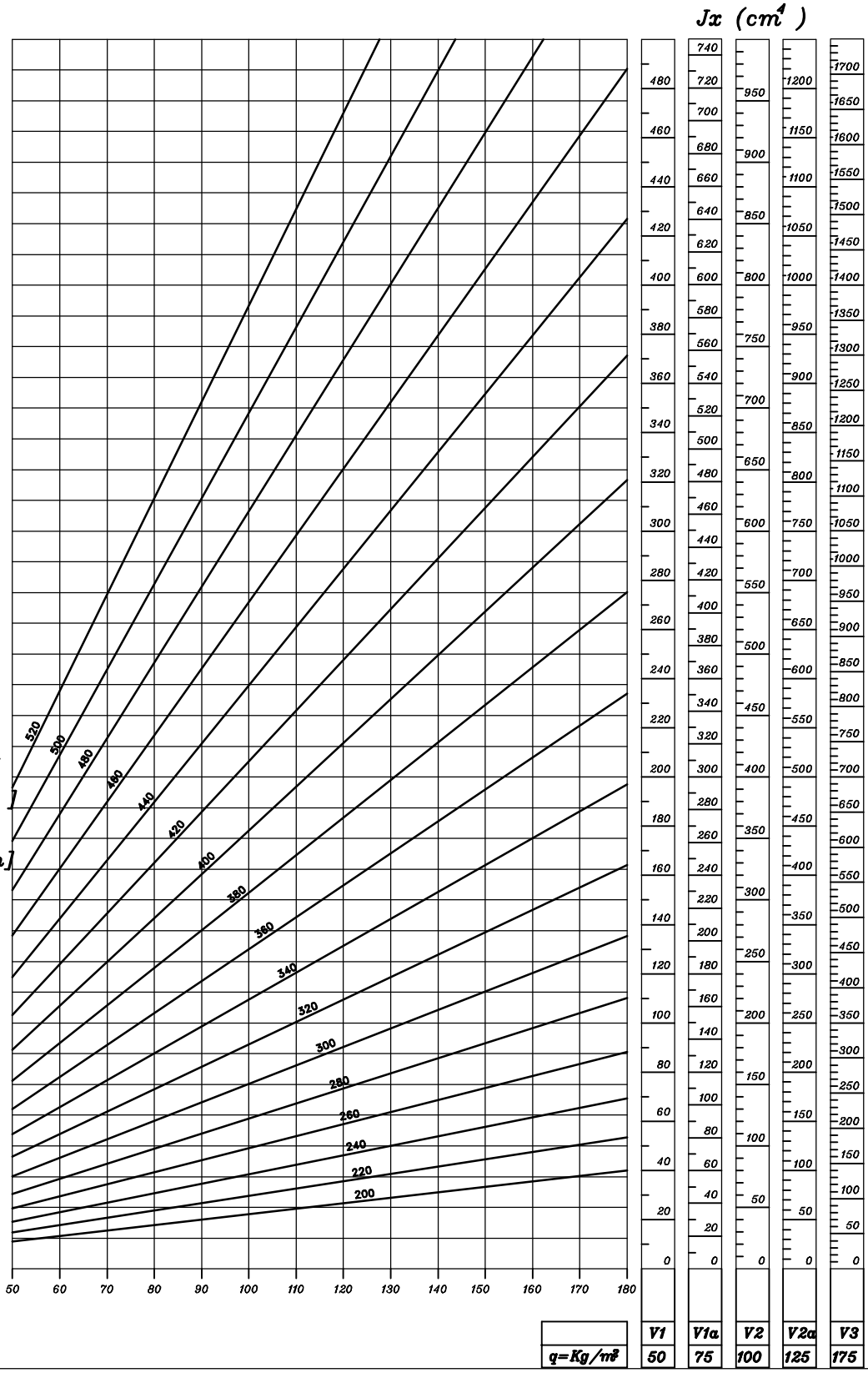
$f =$ PROGIB [cm]

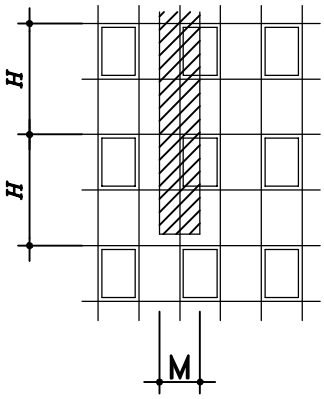
$M = 115$ cm

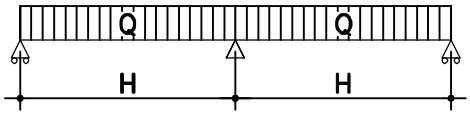
$H = 320$ cm

$q = 100$ Kg/m²

$Jx = 210$ cm⁴







fadm= H/300

$$Jx = 0{,}00542 * \frac{Q * H^3}{E * f}$$

$Jx =$ [cm⁴]

$Q =$ [Kg]

$q =$ [Kg/m²]

$Q = q\ M\ H =$ [Kg]

$E =$ [Kg/cm²]

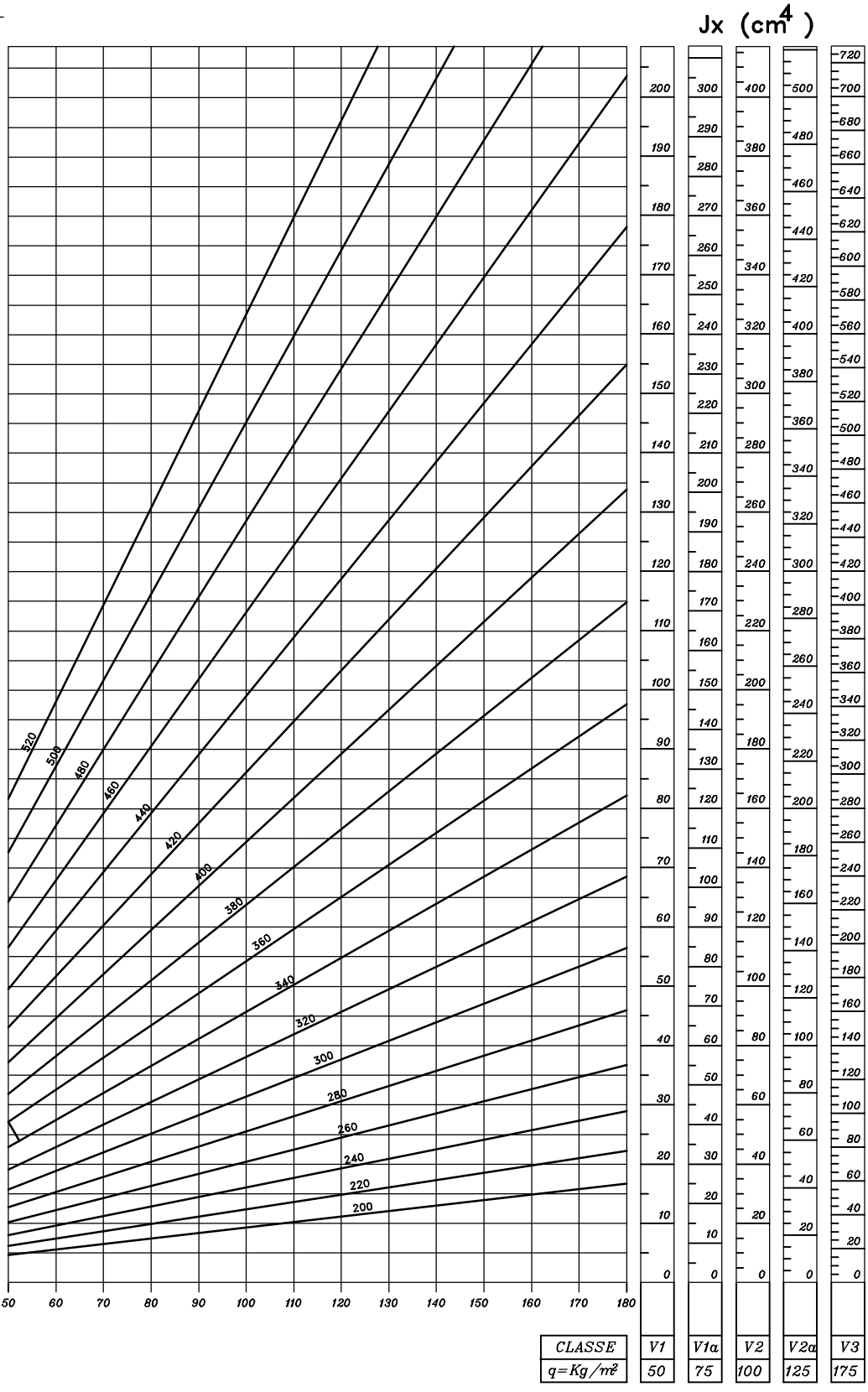
$f =$ [cm]

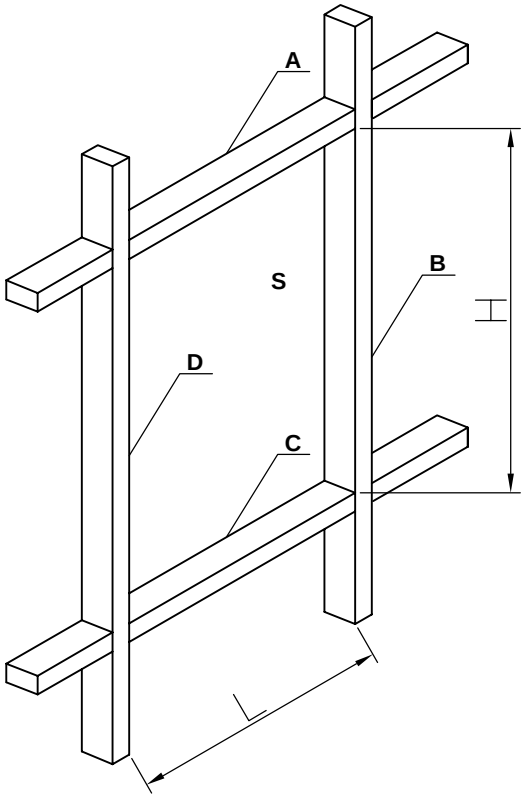
$M = 115$ cm

$H = 320$ cm

$q = 100$ Kg/m²

$Jx = 87.5$ cm⁴

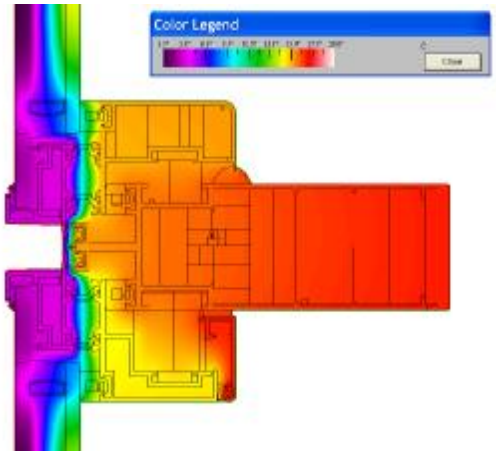




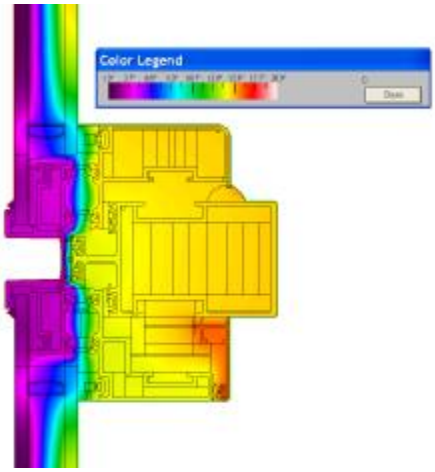
Proračun koeficijenta prolaska topline počiva na dvodimenzionalnoj numeričkoj metodi konačnih elemenata određene prema prEN ISO 10077-2.

DIMENZIJE	L	(m)	1
	H	(m)	1.2
A-vodoravnica	U_A	(W/m^{2}K)	2.92
B-okomica	U_B	(W/m^{2}K)	3.19
C-vodoravnica	U_C	(W/m^{2}K)	3.16
D-okomica	U_D	(W/m^{2}K)	3.14
S-staklo	U_S	(W/m^{2}K)	2.62
Kombinacija stakla i profila	U_F	(W/m^{2}K)	2.74

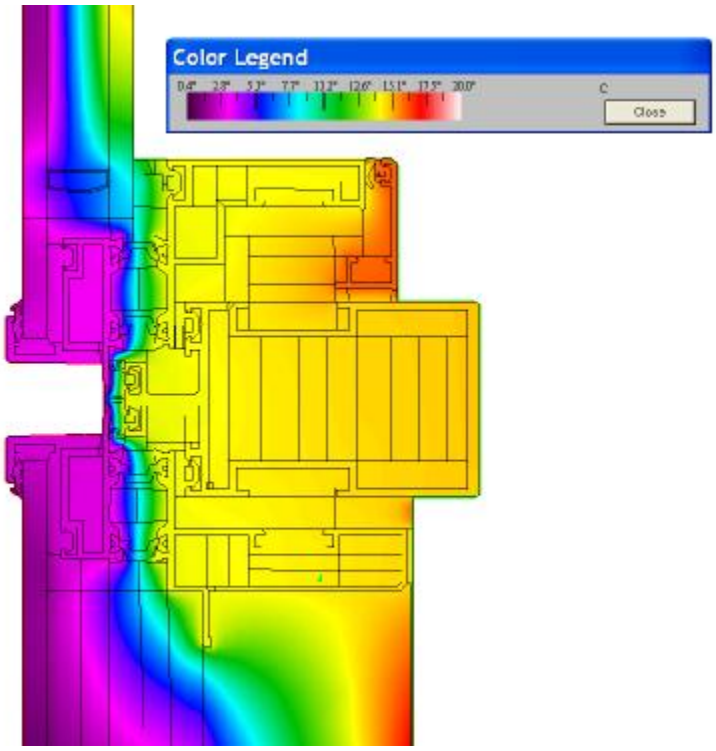
Temperaturni dijagram za B i D



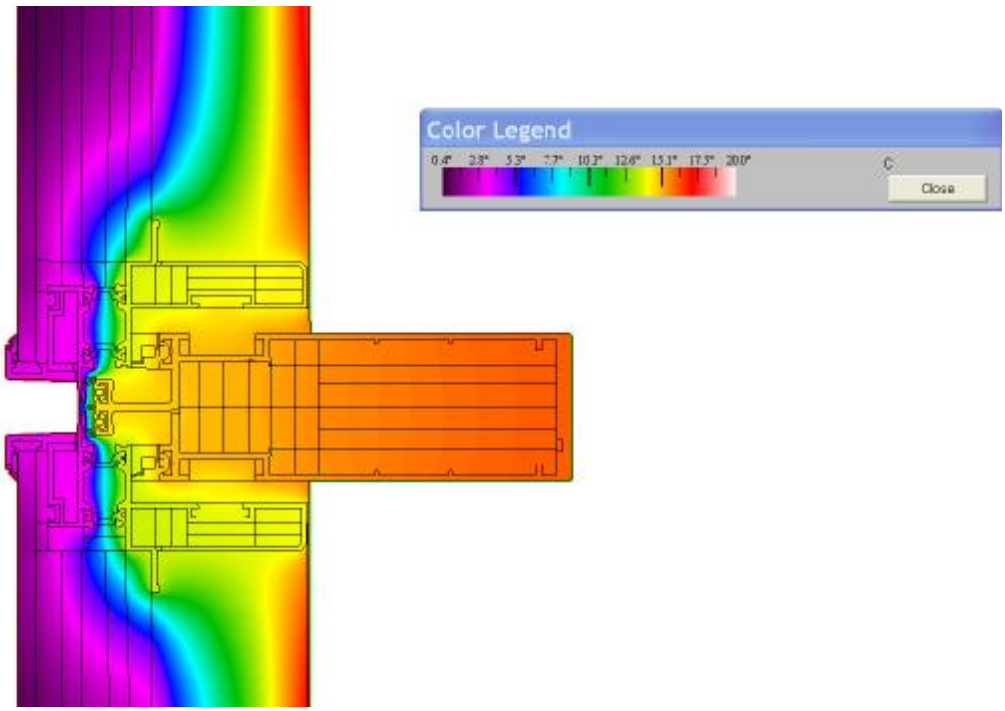
Temperaturni dijagram za A



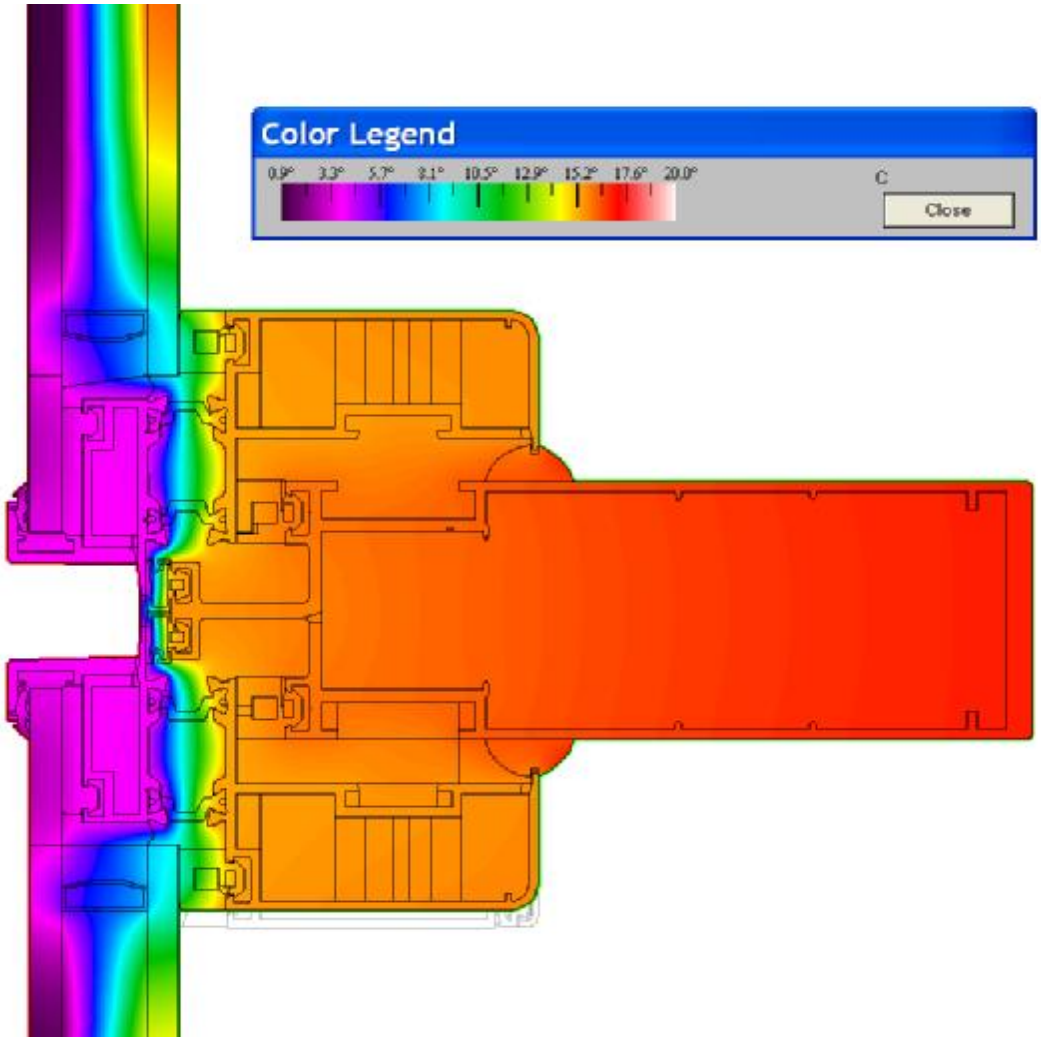
Temperaturni dijagram za C

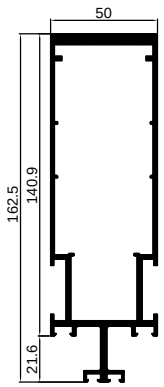


Temperaturni dijagram za E (parapet)

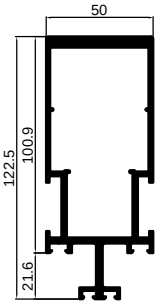


Temperaturni dijagram za F (fiksno)

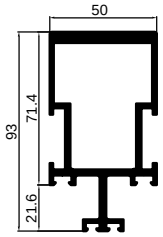




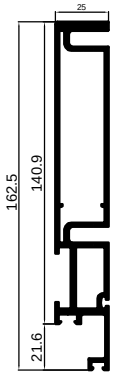
SB-003/50
T: kg/ml 3,1



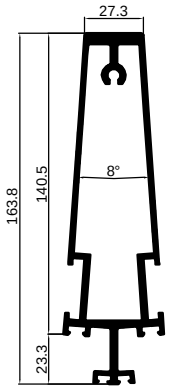
SB-002/50
T: kg/ml 2,62



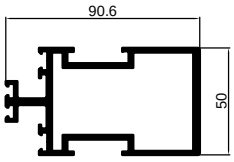
SB-001/50
T: kg/ml 2,28



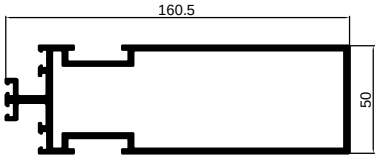
SB-004/25
T: kg/ml 2,44



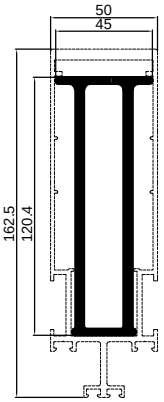
SB-003/50-S4
T: kg/ml 2,95



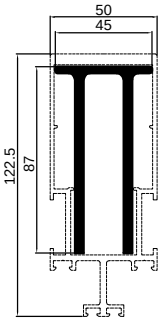
SB-011/50
T: kg/ml 1,99



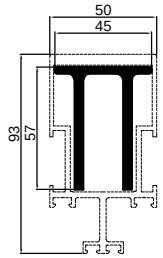
SB-012/50
T: kg/ml 2,67



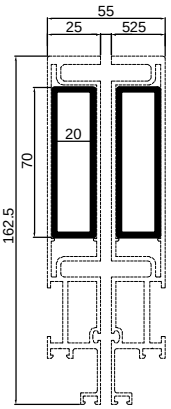
SB-061/M
T: kg/ml 3,1

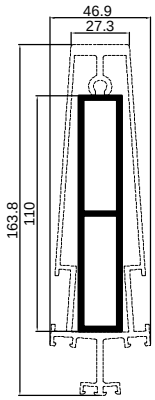


SB 061/M-87

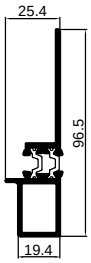


SB-061/M-57



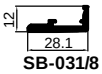


F-0062
T: kg/ml 1,44



FT-0123
T: kg/ml 0,96

SB-031/6
T: kg/ml 0,24

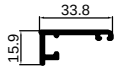


SB-031/8
T: kg/ml 0,266

F-0850
T: kg/ml 0,257

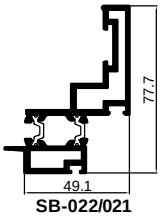
F-0810
T: kg/ml 0,22

F-0860
T: kg/ml 0,287

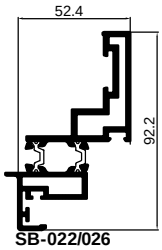


SB-025
T: kg/ml 0,245

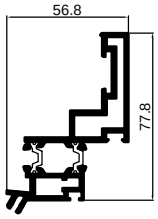
SB-051/K
T: kg/ml 0,34



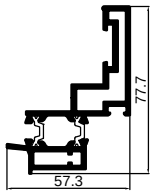
SB-022/021
T: kg/ml 1,62



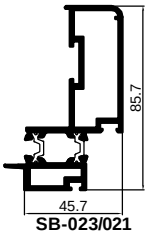
SB-022/026
T: kg/ml 1,79



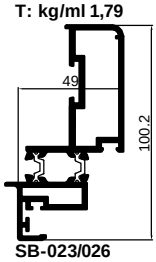
FT-0140
T: kg/ml 1,68



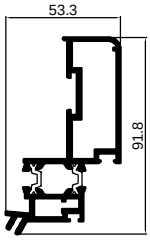
SB-022/027
T: kg/ml 1,60



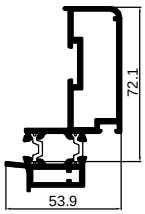
SB-023/021
T: kg/ml 1,66



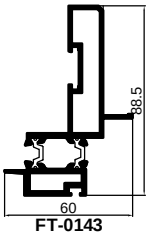
SB-023/026
T: kg/ml 1,84



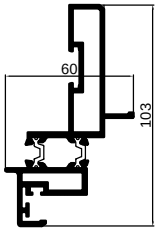
FT-0139
T: kg/ml 1,7



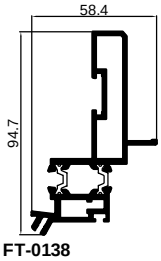
SB-023/027
T: kg/ml 1,62



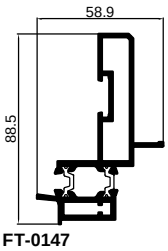
FT-0143
T: kg/ml 1,5



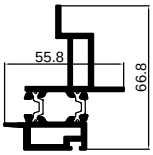
FT-0144
T: kg/ml 1,68



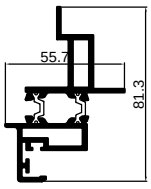
FT-0138
T: kg/ml 1,56



FT-0147
T: kg/ml 1,47

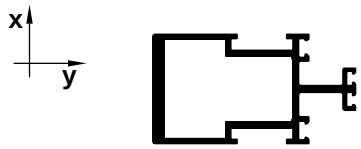
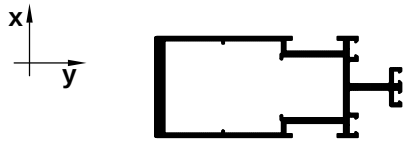
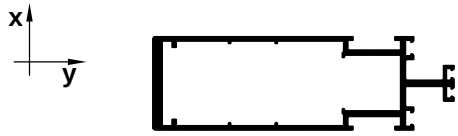
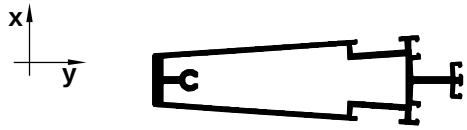
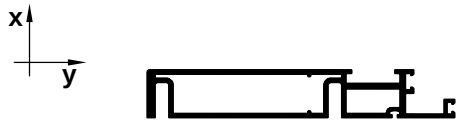
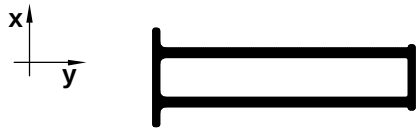
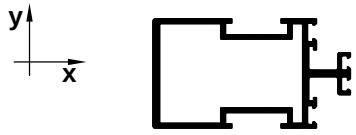
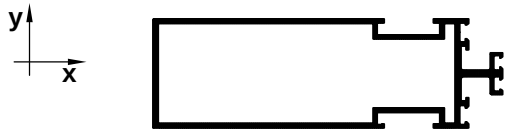


SB-024/021
T: kg/ml 1,32

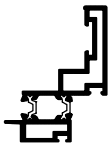
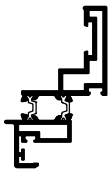
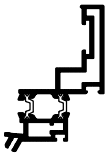
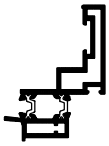
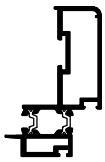
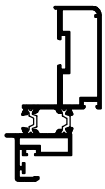
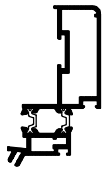
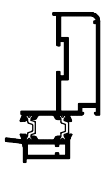


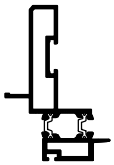
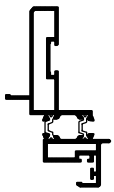
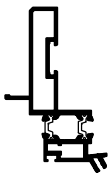
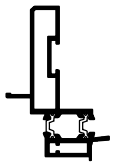
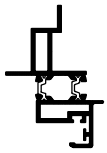
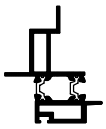
SB-024/026
T: kg/ml 1,52

FEAL	50 PS	LISTA PROFILA	202–02

Oznaka	Izgled-presjek	Težina /kg/ml/	Opseg /mm/	Ix / Iy /cm⁴/	Wx / Wy /cm³/
SB-001/50		2.28	428.8	77,8 22,65	14,4 9,1
SB-002/50		2.61	487.8	164 29,7	24,2 11,9
SB-003/50		3.09	567.73	354,7 39,7	40,6 15,9
SB-003/50-S4		2.95	545.4	319 19,6	37,7 8,4
SB-004/25		2.442	531.04	219.3 8,1	25,1 6,3
SB-061 M		3.1	331	178,1 14,8	28,3 6,6
SB-011/50		1.99	425.23	21,9 66,5	8,8 14,1
SB-012/50		2.688	570	37,6 285,8	15 33,9
SB-051/K		0.34	104.95		

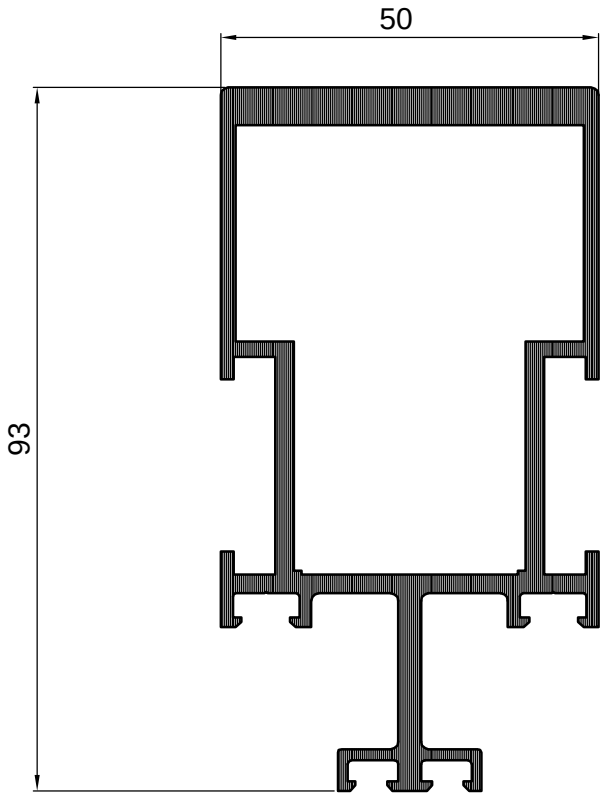
FEAL	50 PS	LISTA PROFILA	202–03

Oznaka	Izgled-presjek	Težina /kg/ml/	Opseg /mm/	Ix /cm^4 /	Wx /cm^3 /
SB-022/021		1,62	333.40		
SB-022/026		1,79	410.36		
FT-0140		1,682	364.00		
SB-022/027		1,6	319.50		
SB-023/021		1,66	342.80		
SB-023/026		1,84	418.30		
FT-0139		1,707	374.30		
SB-023/027		1,62	328.40		

FEAL	50 PS	LISTA PROFILA			202–04
Oznaka	**Izgled-presjek**	**Težina /kg/ml/**	**Opseg /mm/**	**Ix $/cm^4$ /**	**Wx $/cm^3$ /**
FT-0143		**1,5**	**345.30**		
FT-0144		**1,68**	**418.09**		
FT-0138		**1,557**	**375.18**		
FT-0147		**1,472**	**330.60**		
SB-024/026		**1,52**	**360.6**		
SB-024/021		**1,32**	**286.00**		
FT-0123		**0,961**	**256.43**		

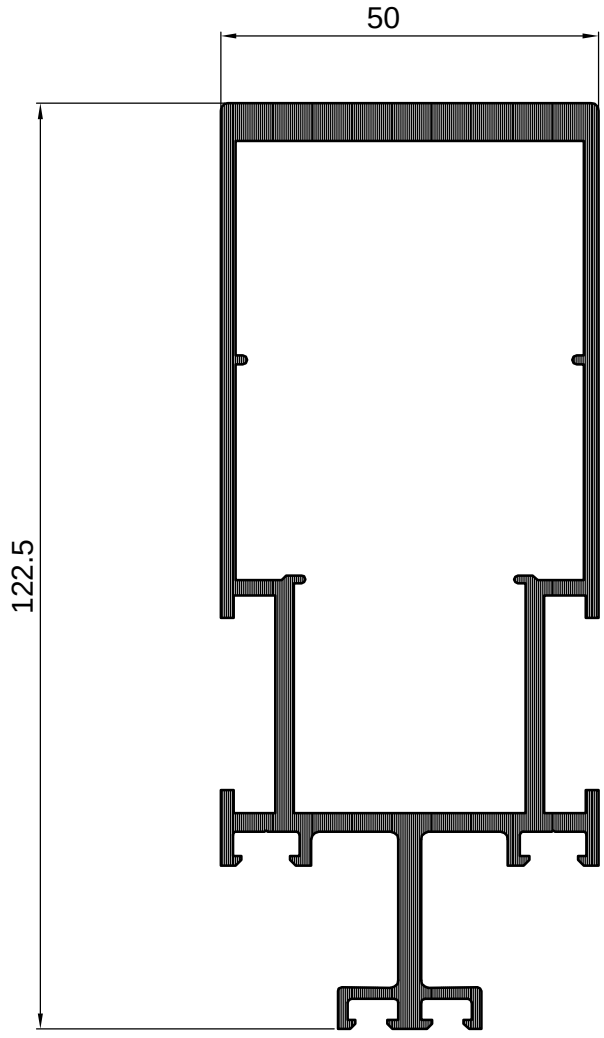
FEAL	50 PS	LISTA PROFILA	202–05

Oznaka	Izgled-presjek	Težina /kg/ml/	Opseg /mm/	Ix /cm^4 /	Wx /cm^3 /
SB-025		0,245	128		
SB-051/K		0,34	105		
SB-031/6		0,24	82		
SB-031/8		0,266	90		
F-0860		0,287	117		
F-0850		0,257	69		
F-0810		0,22	105		



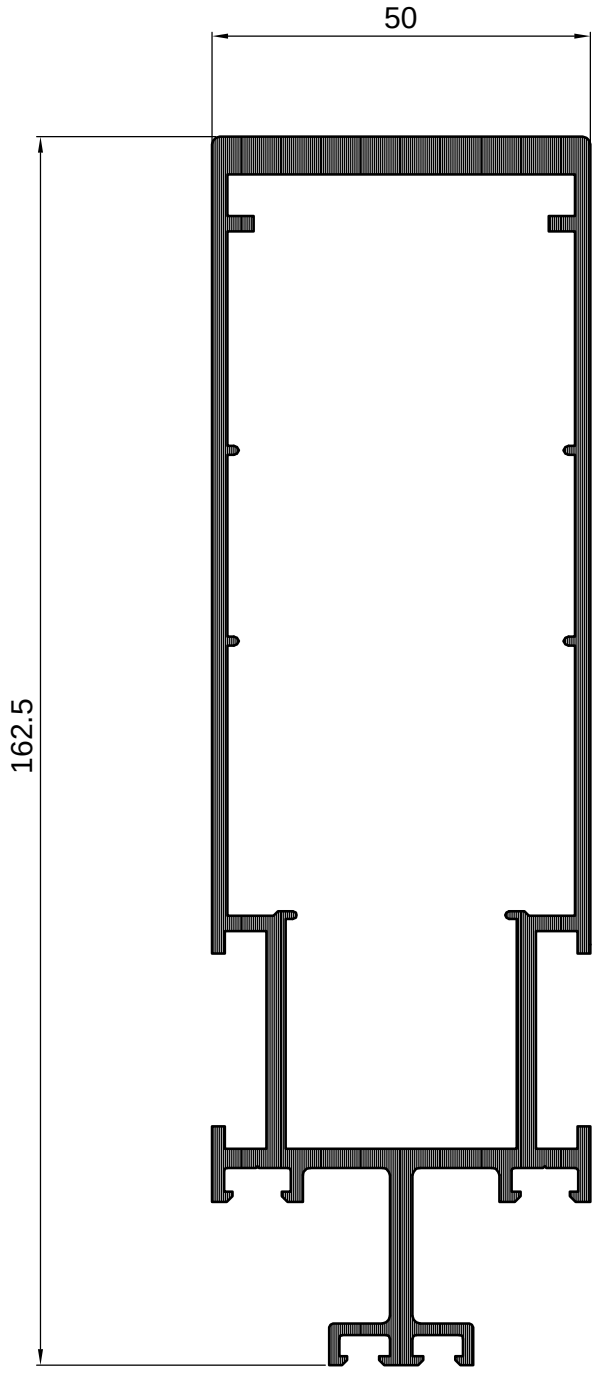
SB-001/50

P	846	mm2
T	2,284	kg/m1
Ix	77,8	cm4
Iy	22,65	cm4
Wx	14,37	cm3
Wy	9,06	cm3



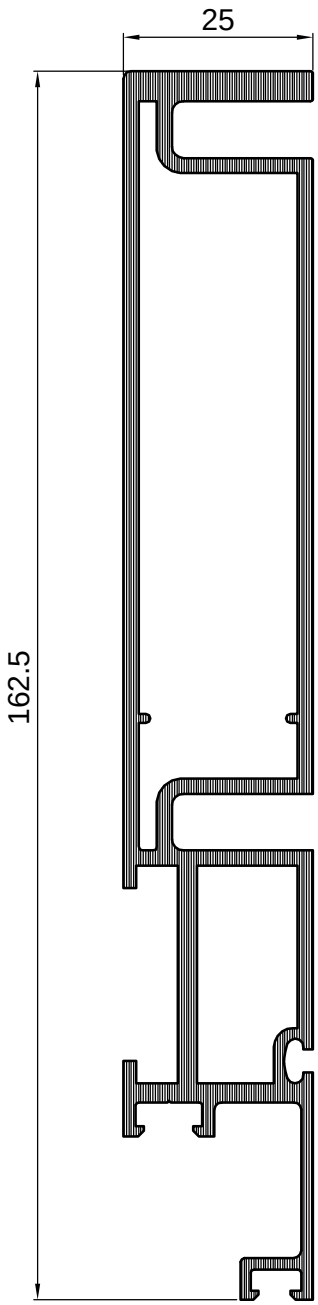
SB-002/50

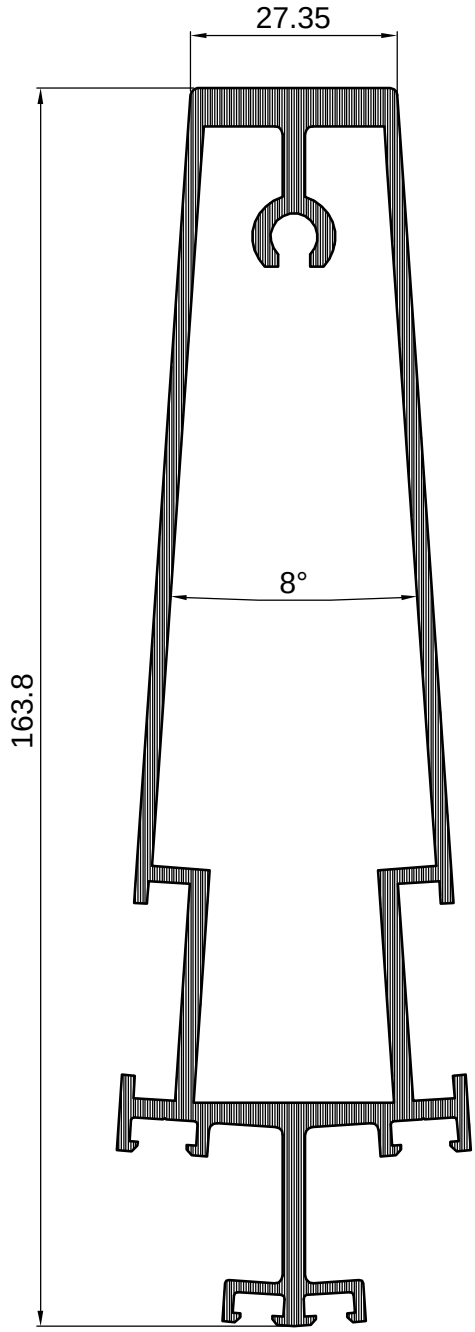
P	970,5	mm2
T	2,62	kg/m1
Ix	164	cm4
Iy	29,7	cm4
Wx	24,2	cm3
Wy	11,9	cm3



SB-003/50

P	1147,8	mm2
T	3,1	kg/m1
Ix	354,7	cm4
Iy	39,7	cm4
Wx	40,6	cm3
Wy	15,9	cm3



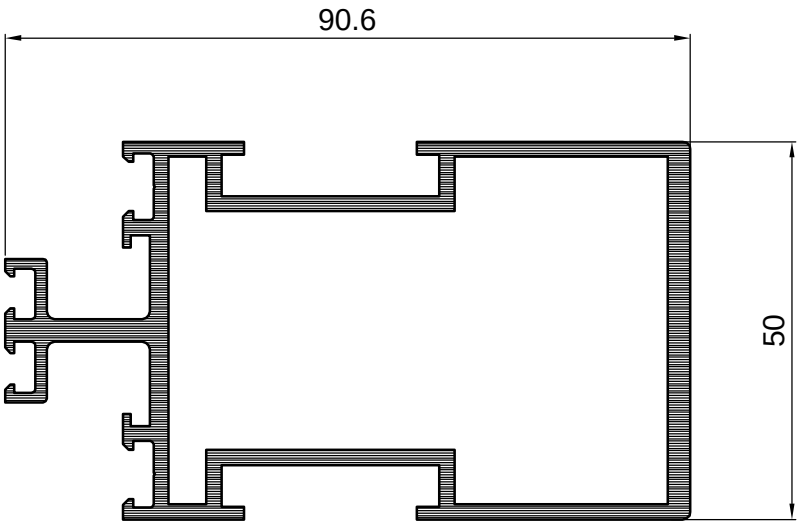


SB-004/25

P	904,34	mm2
T	2,44	kg/m1
Ix	219,25	cm4
Iy	8,1	cm4
Wx	25,1	cm3
Wy	6,3	cm3

SB-003/50-S4

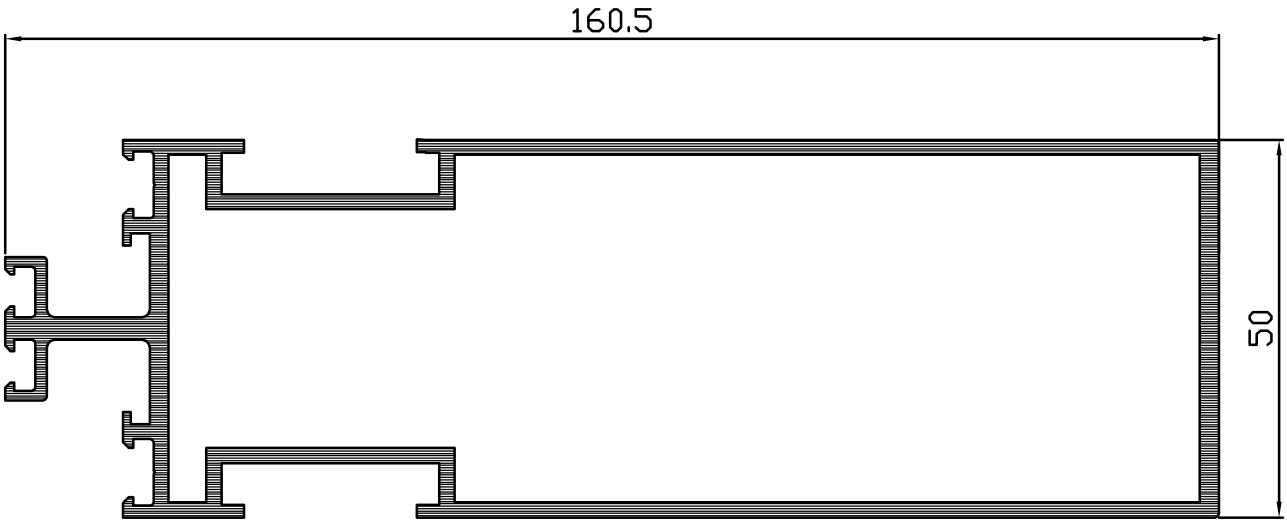
P	1092,7	mm2
T	2,95	kg/m1
Ix	319	cm4
Iy	19,55	cm4
Wx	37,67	cm3
Wy	8,34	cm3



SB-011/50

P	738,63	mm2
T	2	kg/m1
Ix	21,92	cm4
Iy	66,46	cm4
Wx	8,77	cm3
Wy	14,13	cm3

SB-011/50
tezina: kg/ml 1.99

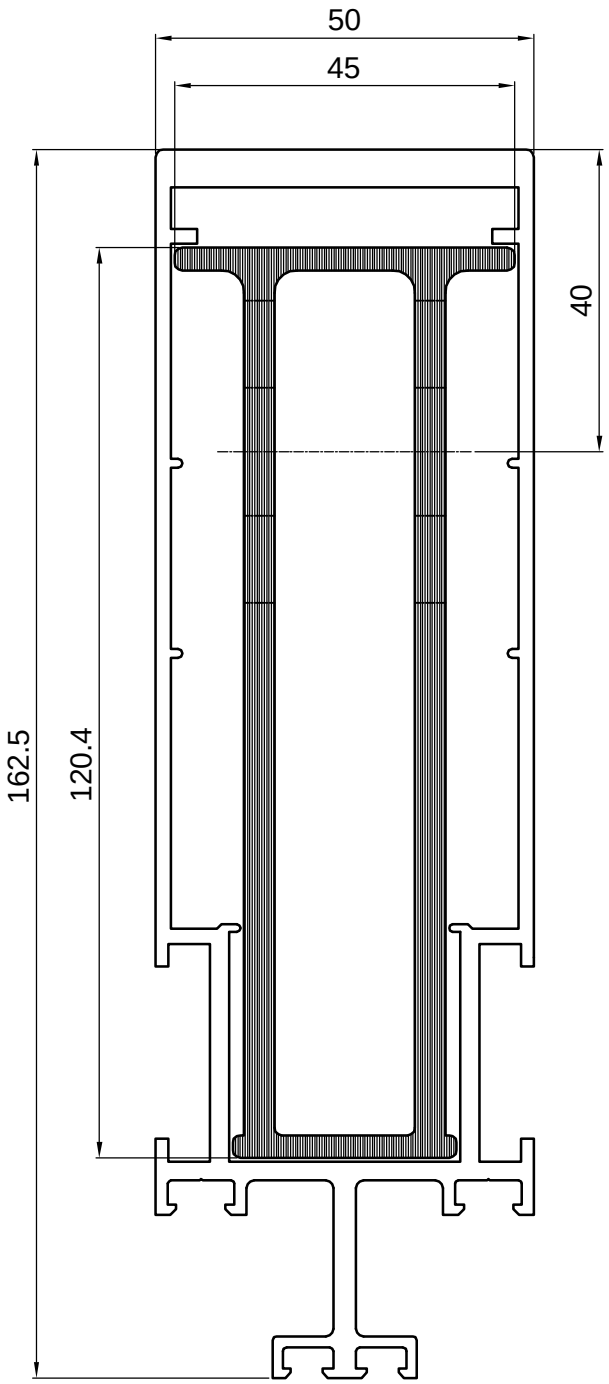


SB-012/50
tezina: kg/ml 2.688

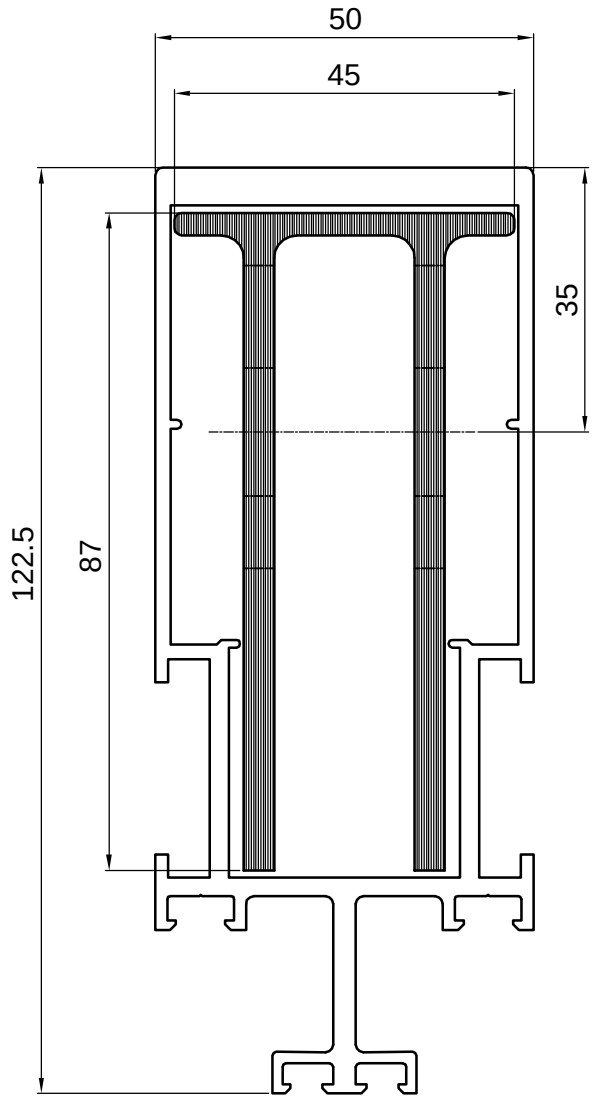
SB-012/50

P	995,67	mm2
T	2,688	kg/m1
Ix	37,65	cm4
Iy	285,77	cm4
Wx	15	cm3
Wy	33,9	cm3

SPOJNICA OKOMICE SB-061/M

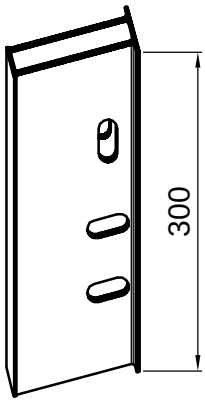


SPOJNICA OKOMICE SB-061/M-87

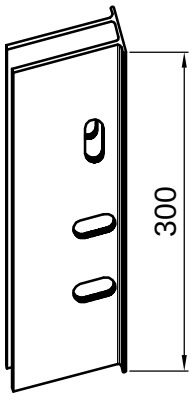


SB-061/M

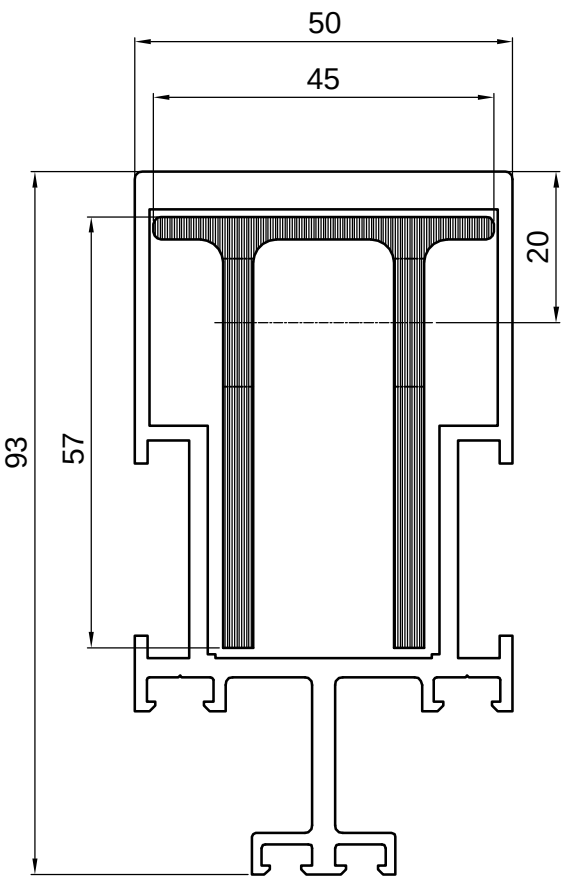
P	1145,5	mm2
T	3,1	kg/m1
Ix	178,1	cm4
Iy	14,8	cm4
Wx	28,3	cm3
Wy	6,6	cm3



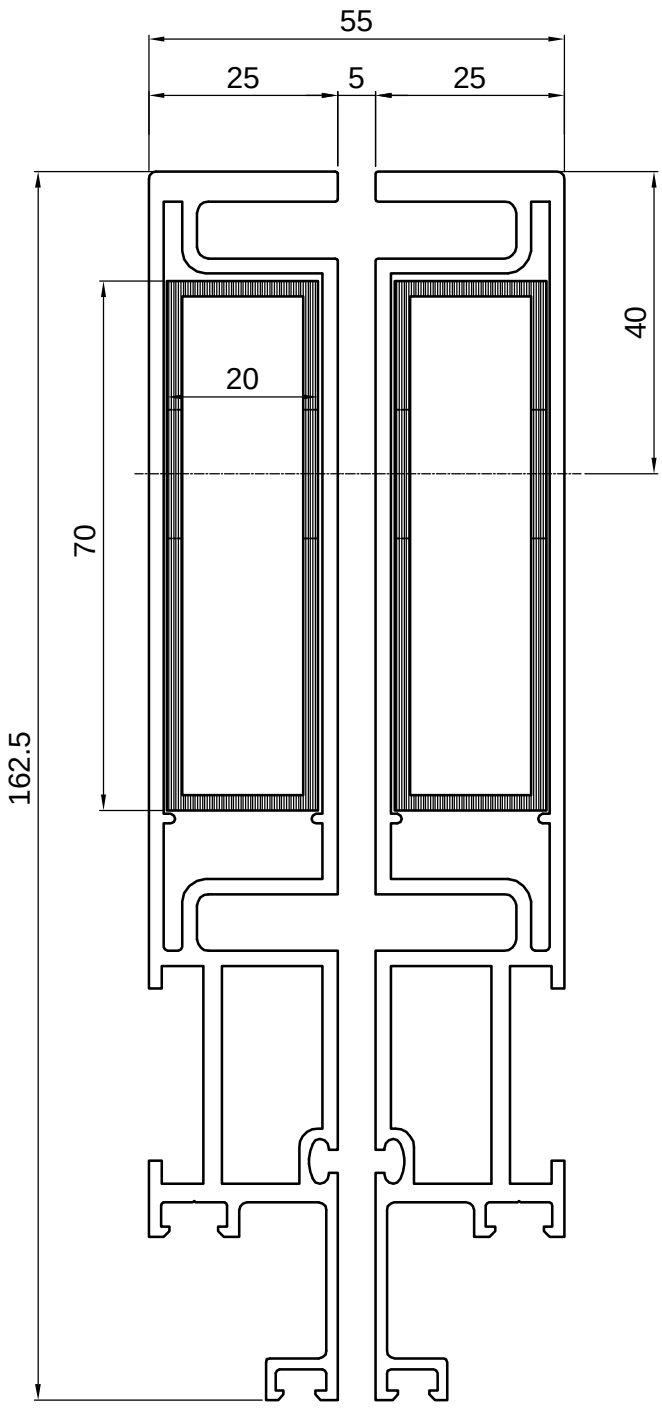
SB-061/M-87



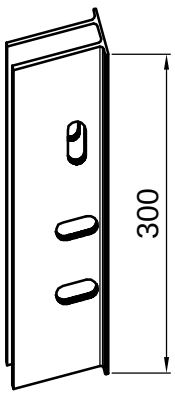
SPOJNICA OKOMICE SB-061/M-57



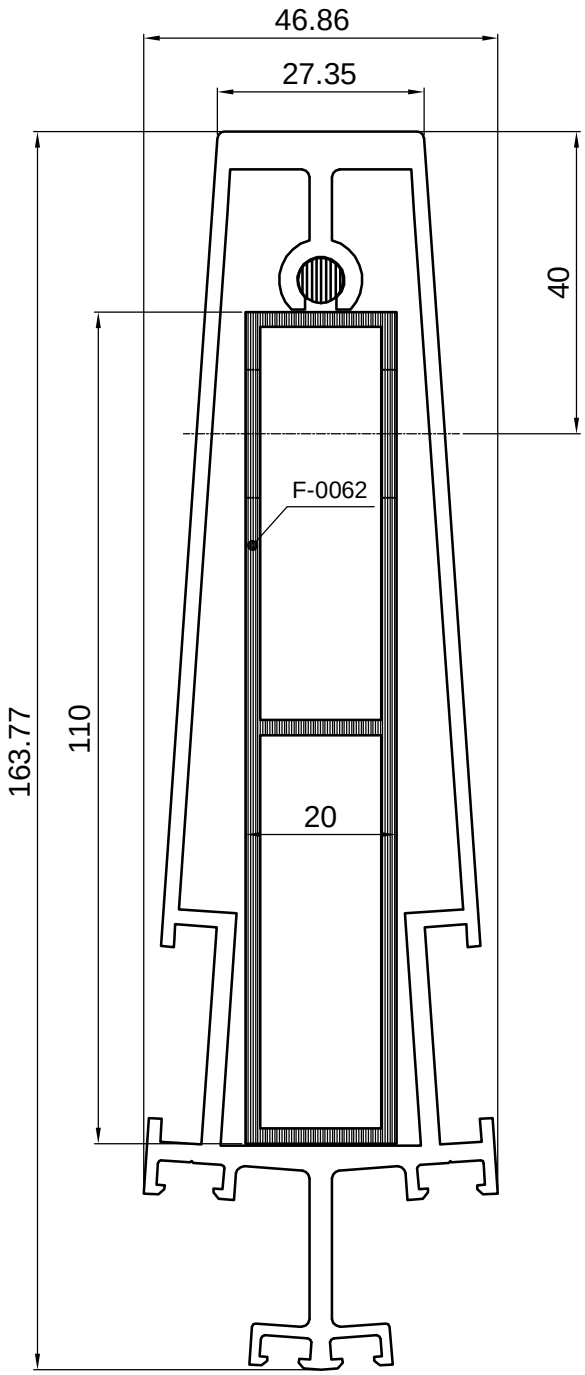
SPOJNICA OKOMICE □70x20x2,5

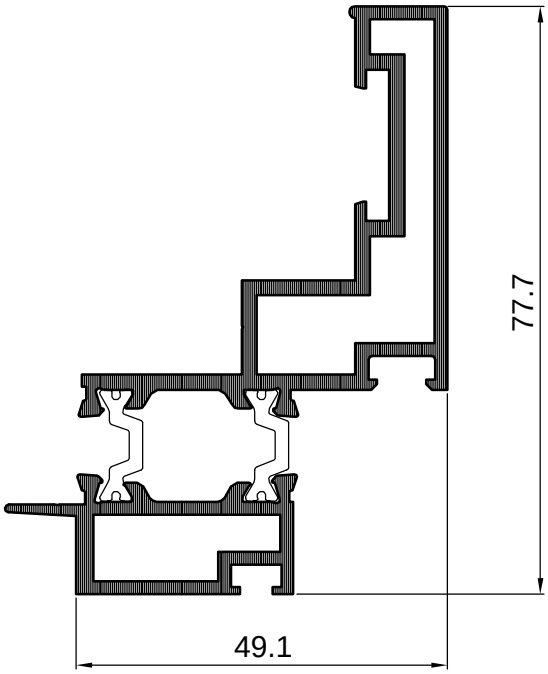


SB-061/M-57

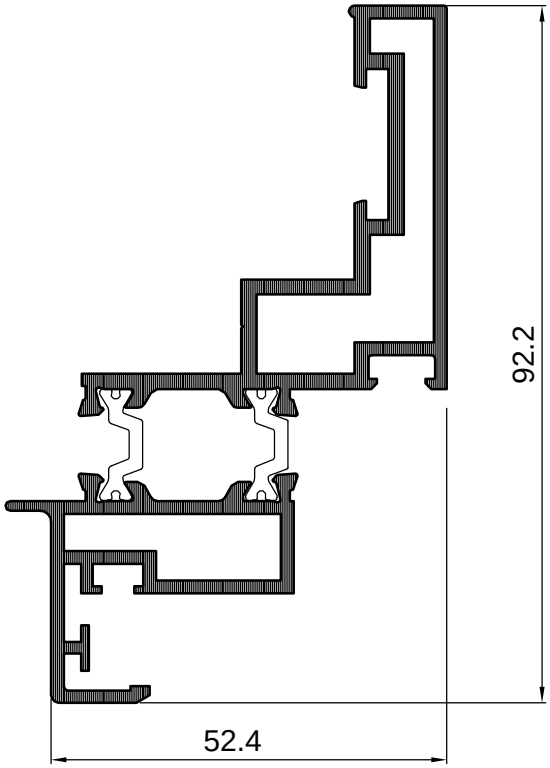


SPOJNICA OKOMICE F-0062

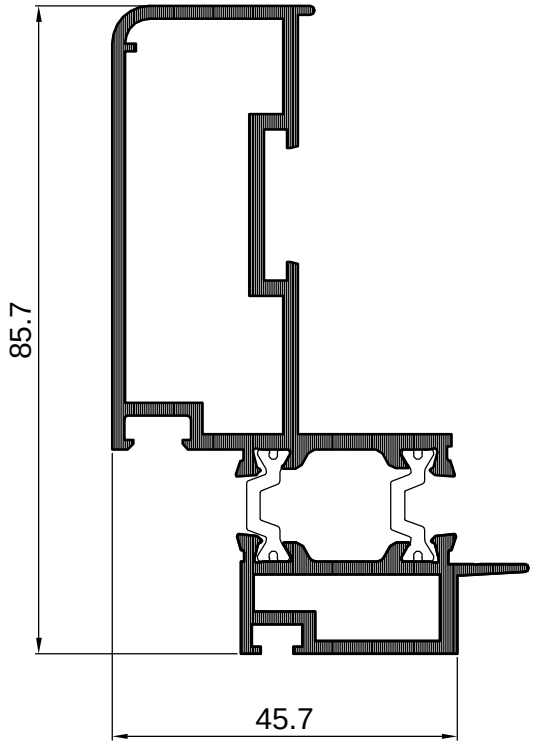




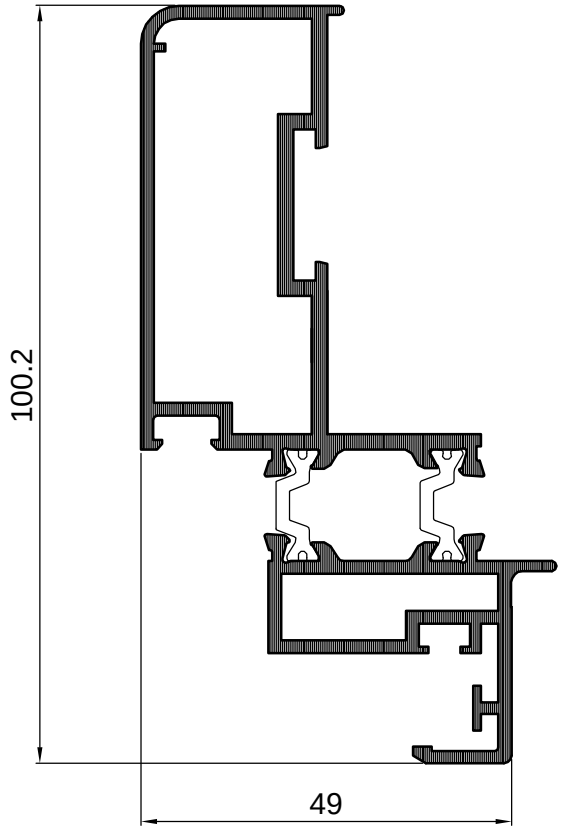
SB-022/021
tezina: kg/ml 1,62



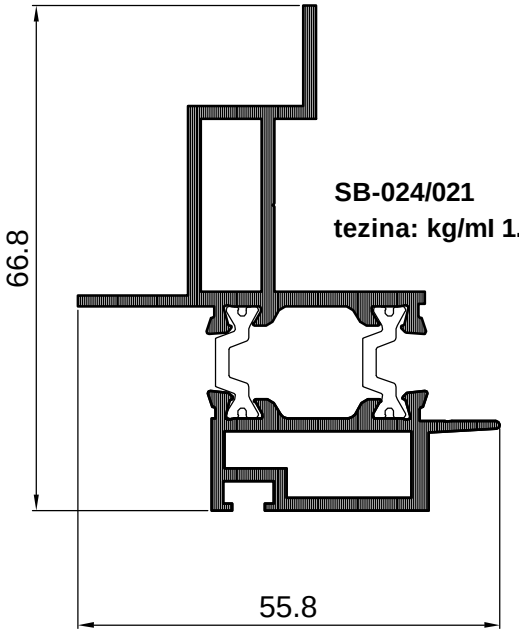
SB-022/026
tezina: kg/ml 1,79



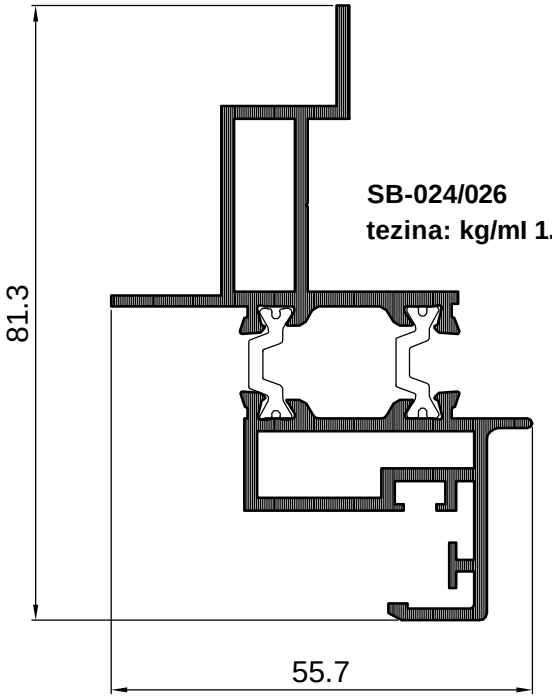
SB-023/021
tezina: kg/ml 1.66



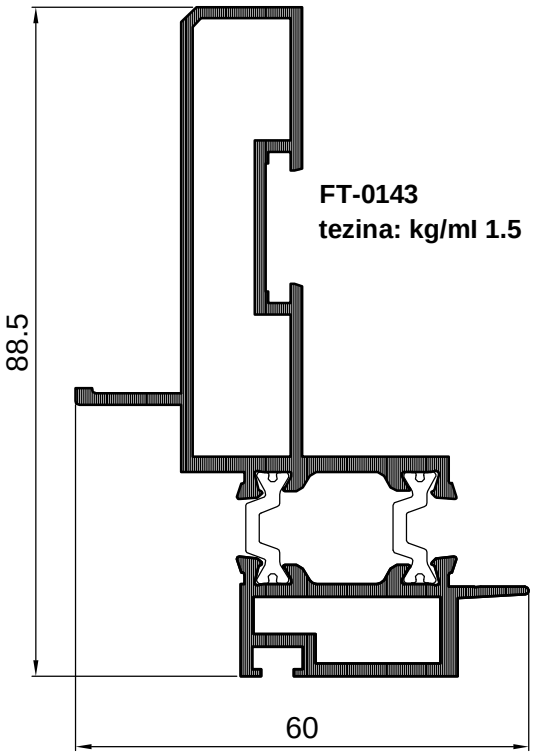
SB-023/026
tezina: kg/ml 1,84



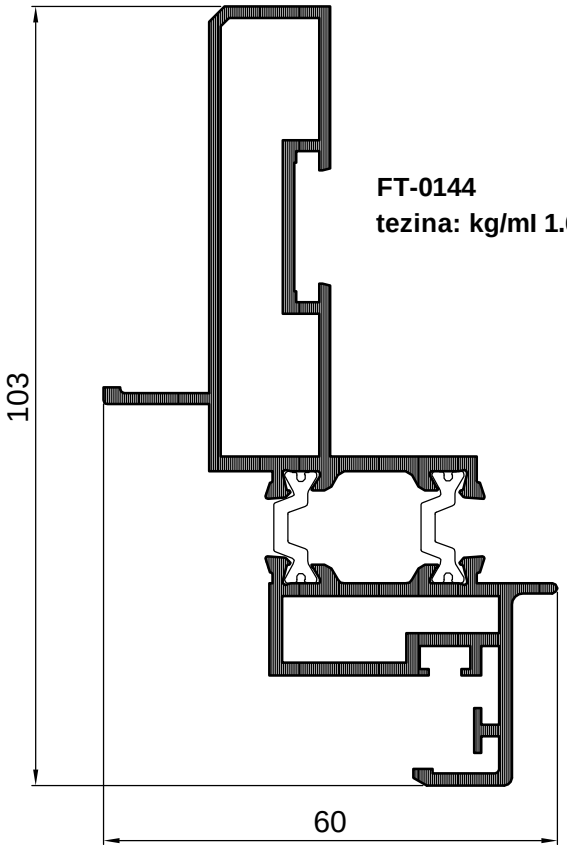
SB-024/021
tezina: kg/ml 1.32



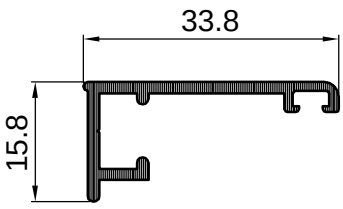
SB-024/026
tezina: kg/ml 1.52



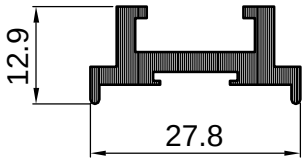
FT-0143
tezina: kg/ml 1.5



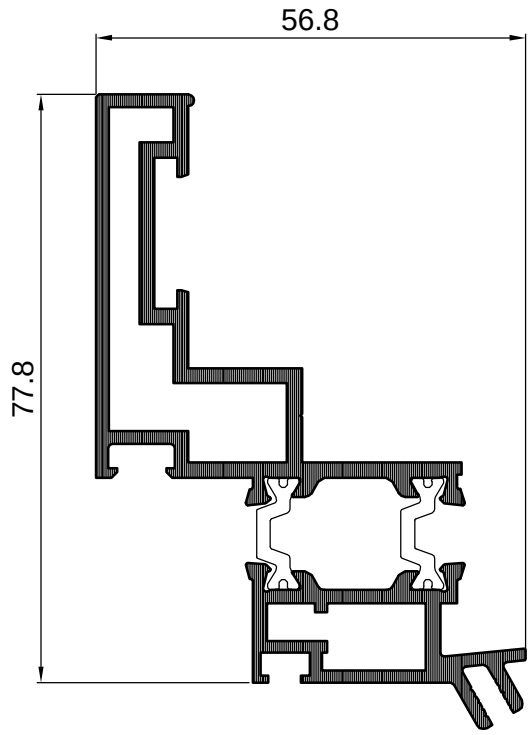
FT-0144
tezina: kg/ml 1.68



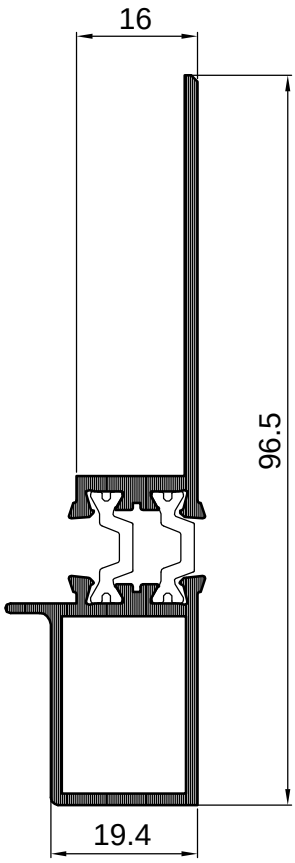
SB-025
tezina: kg/ml 0.245



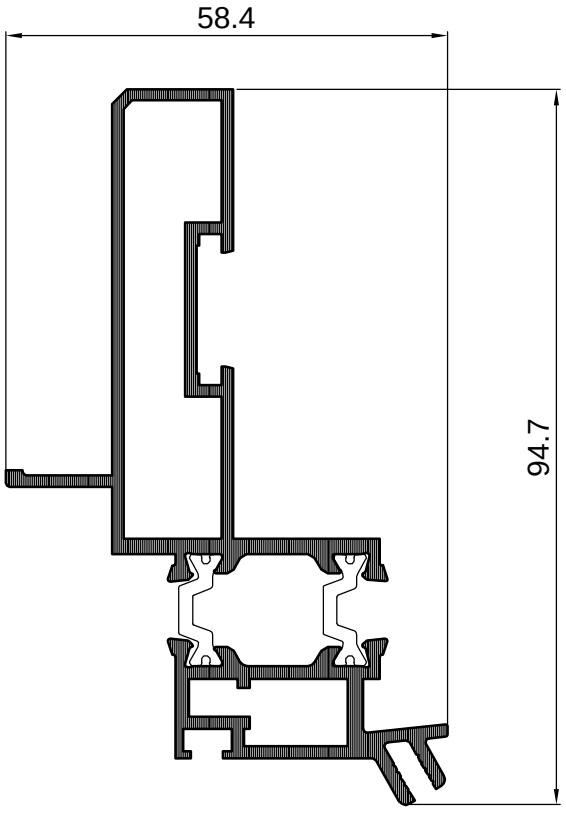
SB-051/K
tezina: kg/ml 0.34



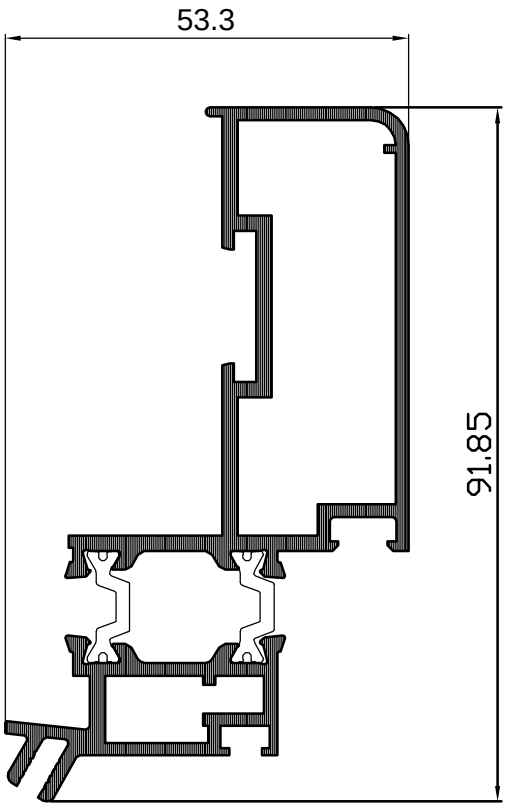
FT-0140
tezina: kg/ml 1.682



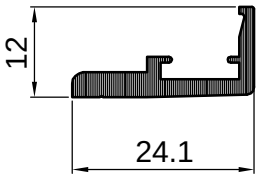
FT-0123
tezina: kg/ml 0.961



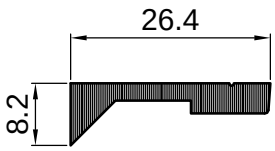
FT-0138
tezina: kg/ml 1.557



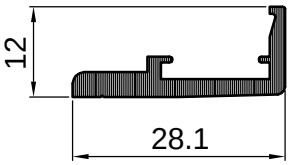
FT-0139
tezina: kg/ml 1.707



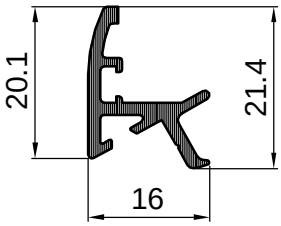
SB-031/6
tezina: kg/ml 0.24



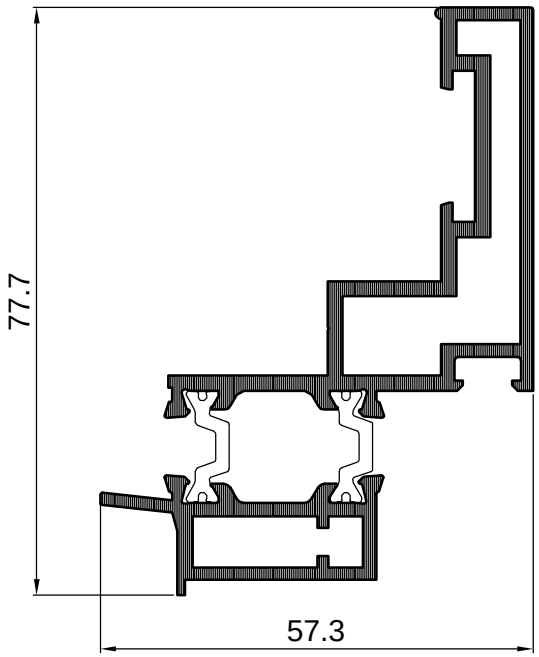
F-0850
tezina: kg/ml 0,257



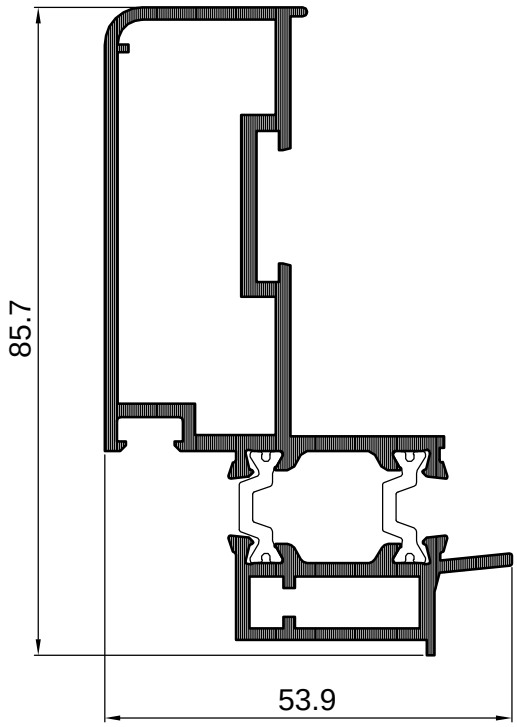
SB-031/8
tezina: kg/ml 0.266



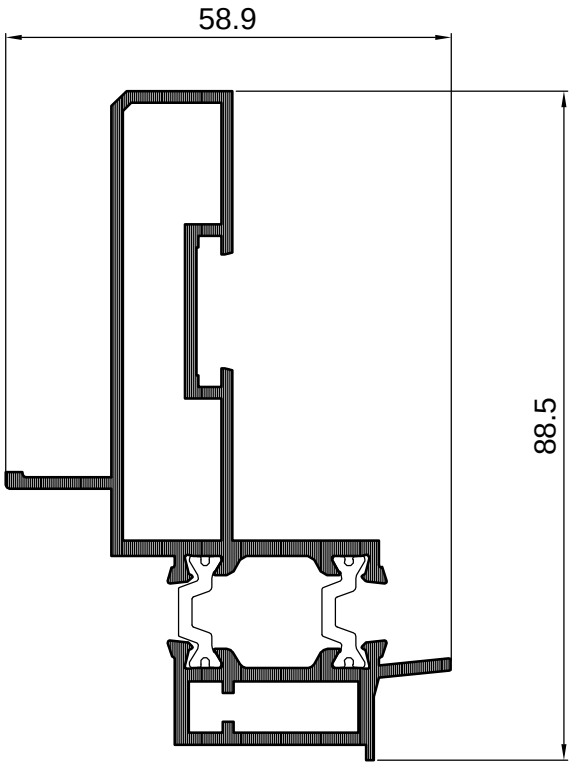
F-0810
tezina: kg/ml 0.22



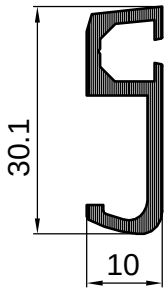
SB 022/027
tezina: kg/ml 1,60



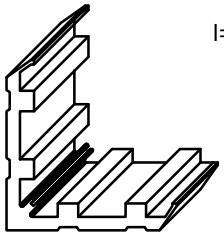
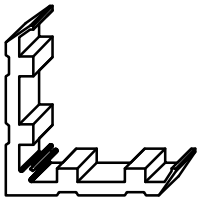
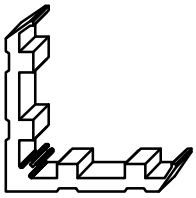
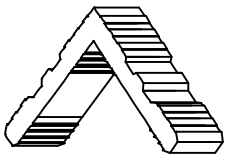
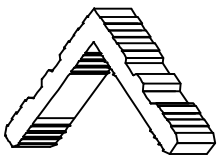
SB 023/027
tezina: kg/ml 1,62

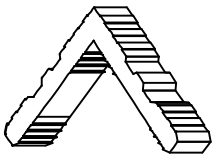
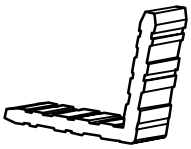
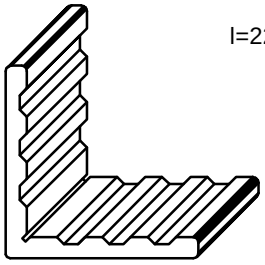
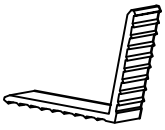


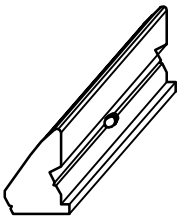
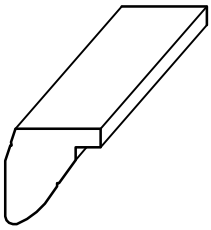
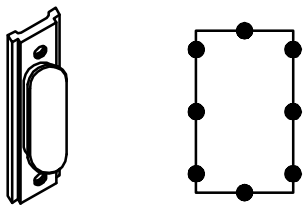
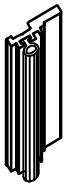
FT-0147
tezina: kg/ml 1,472

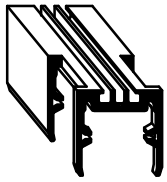
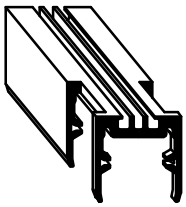
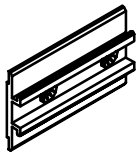
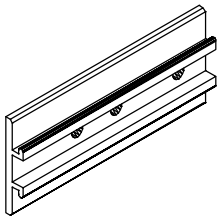
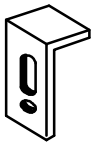


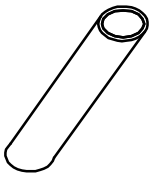
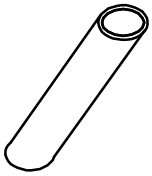
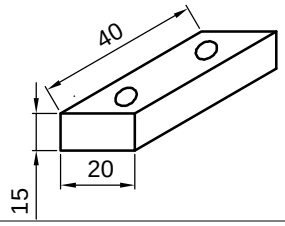
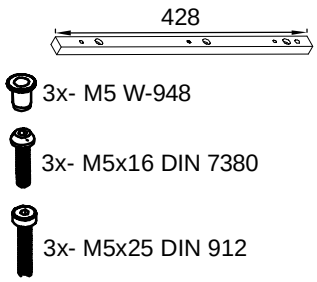
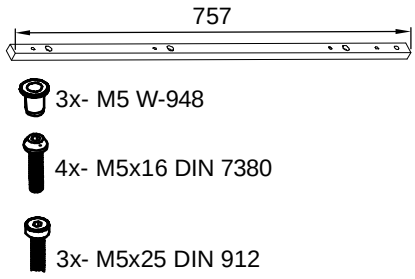
F-0860
tezina: kg/ml 0.287

CODE	Izgled-presjek	Opis	Materijal	Nap.
725.012	l=46 mm 	- Kutna spojnica za komoru 16,4x46.5 - Stara oznaka K-SP-01	Al.	
725.013	l=8,3mm 	- Kutna spojnica za komoru 16,5x8,8 - Stara oznaka K-SP-02	Al.	
725.014	l=6,6mm 	- Kutna spojnica za komoru 16,5x6,8 - Stara oznaka K-SP-11	Al.	
725.107	l=18,3mm 	- Kutna spojnica za komoru 18,8x13 - Stara oznaka K-SP-09	Al.	
725.108	l=14,5mm 	- Kutna spojnica za komoru 15x13 - Stara oznaka K-SP-10	Al.	
725.109	l=10mm 	- Kutna spojnica za komoru 10,5x13 - Stara oznaka K-SP-03	Al.	

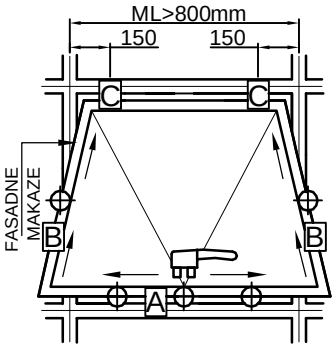
CODE	Izgled-presjek	Opis	Materijal	Nap.
725.110	l=8,6mm 	- Kutna spojnica za komoru 8,9x13 - Stara oznaka K-SP-08	Al.	
725.203	l=4,3mm 	- Kutna spojnica za komoru 8,5x4,7 - Stara oznaka K-SP-04	Al.	
725.302	l=14mm 	- Kutna spojnica za komoru 14,4x2,2 - Stara oznaka K-SP-12	Al.	
725.303	l=10mm 	- Kutna spojnica za komoru 10,4x2,2 - Stara oznaka K-SP-06	Al.	
725.402	l=22,3mm 	- Kutna spojnica za komoru 7,8x22,8 - Stara oznaka K-SP-07	Al.	
725.601	l=9,5mm 	- Kutna spojnica za komoru 10x5 - Stara oznaka K-SP-05	Al.	

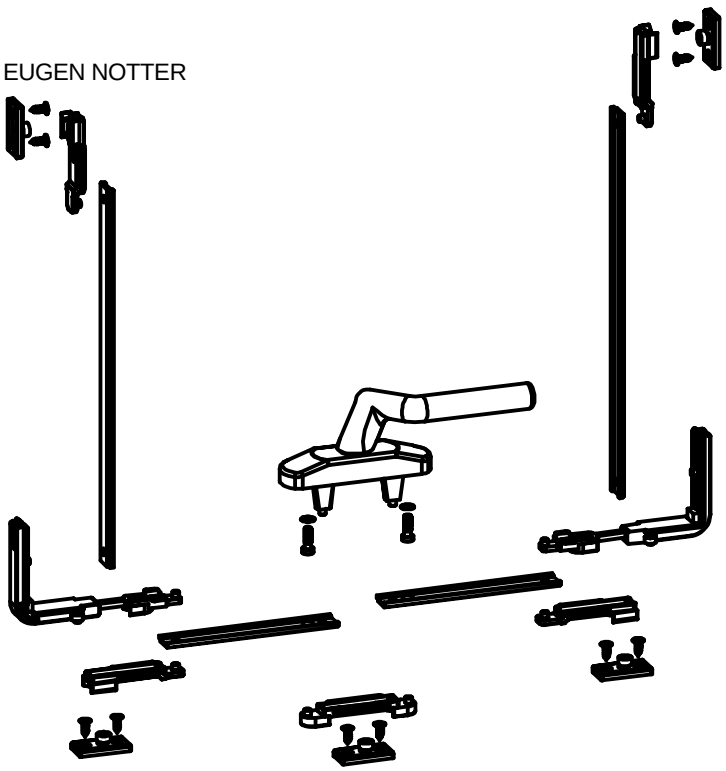
CODE	Izgled-presjek	Opis	Materijal	Nap.
730.001		- Kutna spojnica za komoru 1.7x4.7 - Stara oznaka 210001186,(g 112 gs 0365 kutnik pomoćni), (0365 /G112/)	Inox	
730.001		- Kutna spojnica za komoru 1.7x4.7 - Stara oznaka 210001187,(g 112/a pomoćni kutnik), (G112/A)	Inox	
724.009		- Umetak za dodatno zaklju čavanje gornje vodoravnice otvaraju ćeg krila - 50PS - Stara oznaka - KPS-001	Al.	
724.010		- Umetak za dodatno zaklju čavanje gornje vodoravnice otvaraju ćeg krila - 50PS - Stara oznaka - KPS-002	Al.	
385.007		- Bravica za zaklju čavanjel fiksnih staklenih otvora na fasadi 6-8 kom. / otvoru - Stara oznaka BS-P-11	ZAMAK	
724.011		- Podmeta č fiksnog otvora 60 mm - Stara oznaka - P-SP-21	Al.	

CODE	Izgled-presjek	Opis	Materijal	Nap.
721.301		- Klizač za vodoravnicu l=65,5 mm - Stara oznaka KV-1- 50	Al.	
721.302		- Klizač za vodoravnicu l=134,5 mm - Stara oznaka KV-2- 50	Al.	
720.001		- Klizač za vodoravnicu l=59 mm - Stara oznaka KO-1-60	Al.	
720.301		- Klizač za vodoravnicu l=129 mm - Stara oznaka KO-2-50	Al.	
724.012		- Al. distancer kliza ča okomice - Stara oznaka - KO-1-50	Al.	
724.013		- Držač makaza u okomici L=22mm - Stara oznaka - D.M-1	Al.	

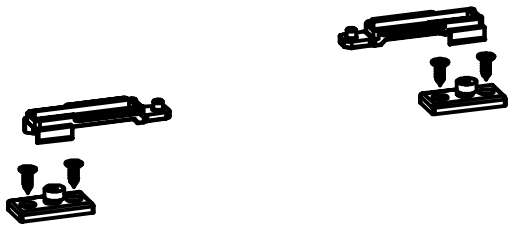
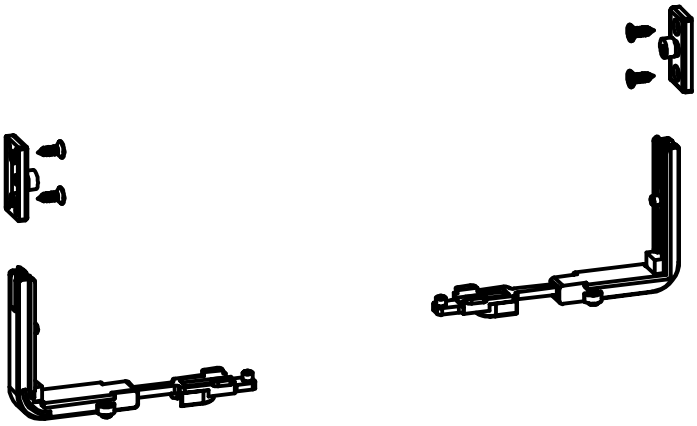
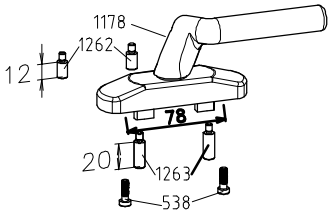
CODE	Izgled-presjek	Opis	Materijal	Nap.
521.019		- Distancer za čelični kutnik koji drži profil - Stara oznaka Distancer L=63 mm Ø 16/13	Inox	
521.020		- Distancer za čelični kutnik koji drži profil - Stara oznaka Distancer L=73 mm Ø 16/13	Inox	
724.014		- Umetak za dodatno zaklju čavanje na okomici - Stara oznaka - UDZ-40	Al.	
724.015		- Podmeta č za makazu Notter 400 R - Stara oznaka - DPF-400	Al.	
724.016		- Podmeta č za makazu Notter 600 R - Stara oznaka - DPF-600	Al.	

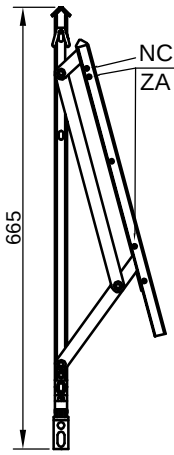
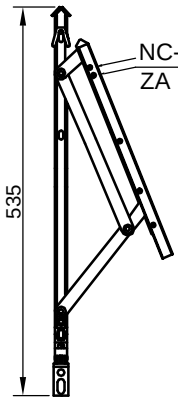
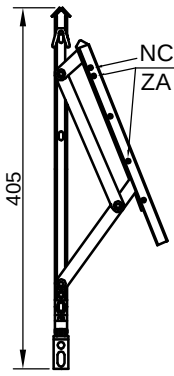
Okov fasadnog ventusa
sa mogućnošću zaključavanja u više točaka- EUGEN NOTTER



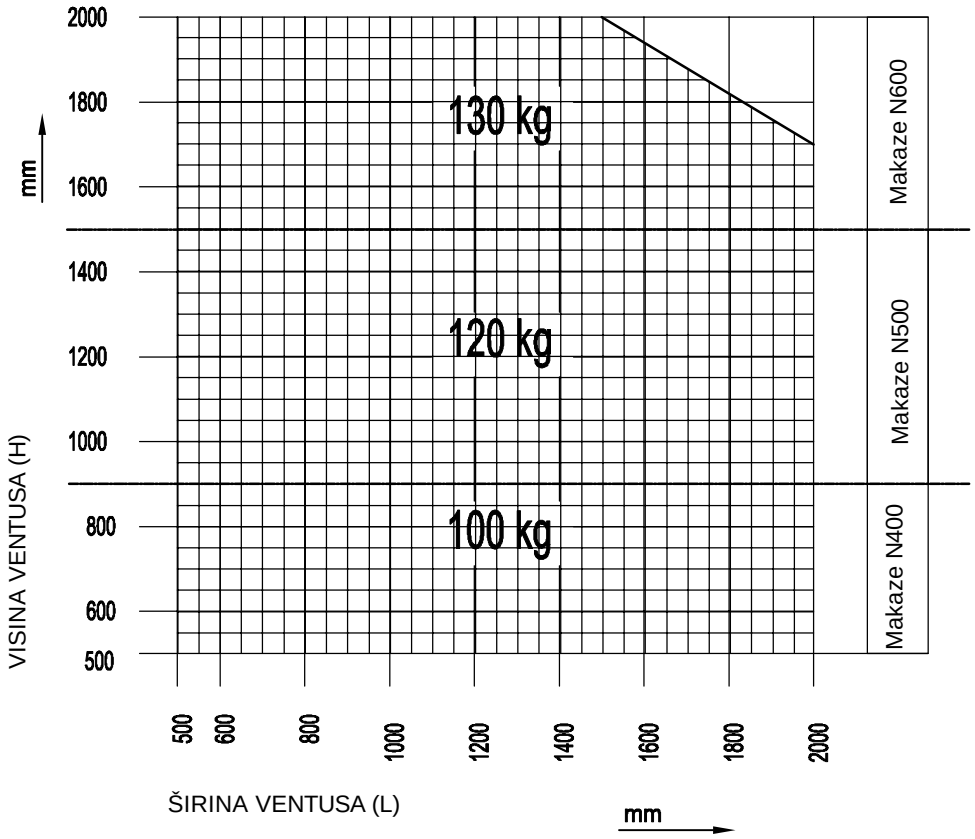


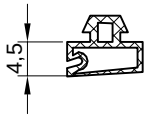
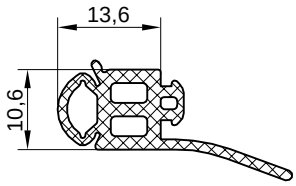
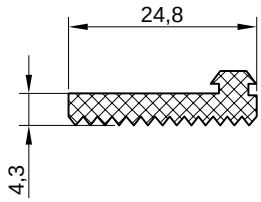
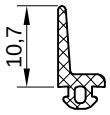
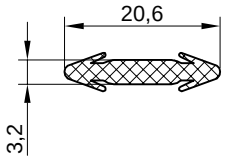
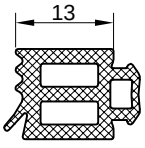
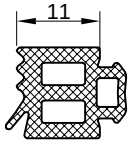
*Zaključavanje stranice "A"
-480 876 26 kom:1
-430 879 05 kom:1-(jedno zaključ.)
-430 877 05 set:1-(tri zaključava.)
*Zaključavanje stranice "A"+"B"
-480 876 26 kom:1
-430 879 05 kom:1
-430 877 05 set:1-(pet zaključava.)
-430 878 05 set:1
*Zaključavanje stranice "C"
-727.009 / 724.010 1par

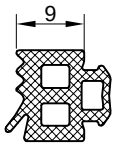
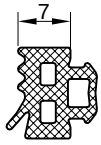
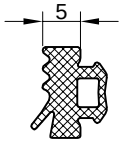
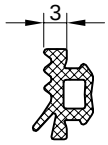
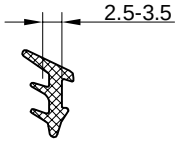
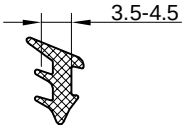
CODE	Kod proizvođača	Pozicija	Izgled pozicije	Opis
133.003	430 877 05	1		-Bazni mehanizam
133.004	430 878 05	2		-Bočno ključanje za visinu iznad 800 mm
133.005	430 879 05	3		-Dodatno ključanje za širinu iznad 1300 mm
101.000.01 101.000.02 101.000.03 101.000.04	480 876 21 480 876 23 480 876 25 480 876 26	4		-Ručica Elox So 21 RAL9016 23 RAL9005 25 RAL9006 26

CODE	Kod proizvođača	Makaze fasadnog ventusa	Opis	Materijal	Proizvođač
133.000	030 956 00		visina 1500-2000mm širina <1750mm težina <120 kg kut otvaranja - 15°	Inox	E. Notter
133.001	030 955 00		visina 1100-1600mm širina <1750mm težina <105 kg kut otvaranja - 19°	Inox	E. Notter
133.002	030 954 00		visina 500-1200mm širina <1750mm težina <80 kg kut otvaranja - 25°	Inox	E. Notter

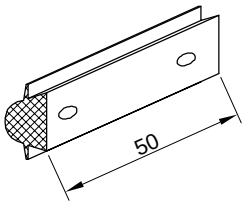
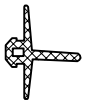
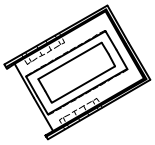
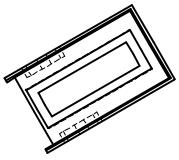
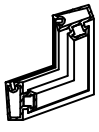
Dijagram nosivosti makaza Eugen Notter

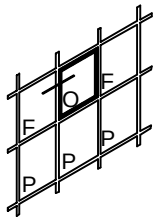


CODE	Izgled-presjek	Opis	Materijal	Tvrdoća (ShA)
322.004		- Brtva prema staklu-vanjska. Nosi 4.5 mm. - Stara oznaka AT 1304	EPDM	71
322.005		- Brtva prema staklu-vanjska. Nosi 12 mm. - Stara oznaka 20-009	EPDM	71
322.006		- Brtva prema staklu-vanjska. Nosi 4 mm. - Stara oznaka AT 1502	EPDM	71
322.007		- Brtva vanjska - Stara oznaka 02675	EPDM	71
322.008		- Brtva na dilataciji - Stara oznaka 02164	EPDM	71
351.017		- Brtva prema staklu /unutarnja/ nosi 13mm - Stara oznaka 02892	EPDM	71
351.016		- Brtva prema staklu /unutarnja/ nosi 11mm - Stara oznaka 02856	EPDM	71

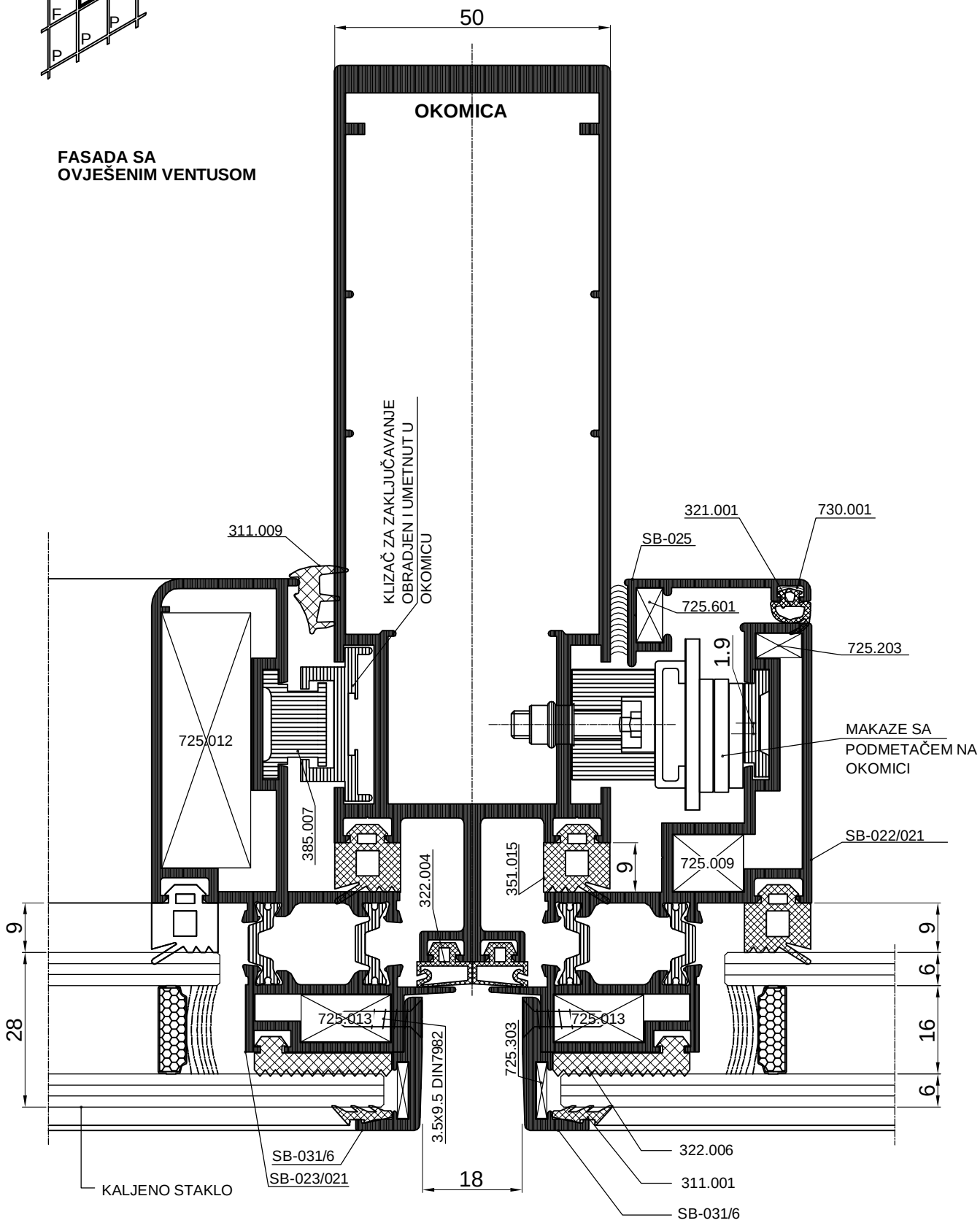
CODE	Izgled-presjek	Opis	Materijal	Tvrdoća (ShA)
351.015		- Brtva prema staklu /unutarnja/ nosi 9mm - Stara oznaka 02877	EPDM	71
351.014		- Brtva prema staklu /unutarnja/ nosi 7mm - Stara oznaka 1966	EPDM	71
351.013		- Brtva prema staklu /unutarnja/ nosi 5mm - Stara oznaka 02864	EPDM	71
351.011		- Brtva prema staklu /unutarnja/ nosi 3mm - Stara oznaka 02852	EPDM	71
311.009		- Brtva prema staklu /unutarnja/ nosi 7mm - Stara oznaka UP-7	EPDM	71
311.001		- Brtva prema staklu /unutarnja/ - Stara oznaka 210.001.125 (921)	EPDM	71
311.002		-Brtva prema staklu /unutarnja/ - Stara oznaka 210.001.123 (918)	EPDM	71

FEAL	50 PS	BRTVE	205–03

CODE	Izgled-presjek	Opis	Materijal	Tvrdoća (ShA)
321.001		- Brtva u krilu - Stara oznaka 210.001.090 (Z106)	EPDM	61
355.001		- Brtva na okomici prema vodoravnici 50 mm - Stara oznaka 217 585	EPDM	71
324.001		- Vanjska brtva fasade F-0860 - Stara oznaka 02-0860-4	EPDM	71
344.021		- Brtva poluokomise i podmet. fiksnog otvora - Stara oznaka C-781	EPDM	71
365.036		- Gomeni odstojnik vodoravnice SB-011/50 - Stara oznaka DG-2	EPDM	71
365.037		- Gumeni odstojnik vodoravnice SB-012/50 - Stara oznaka DG-2A	EPDM	71
365.038		- Vanjski kutnik brtve AT1304 - Stara oznaka K1304	EPDM	71



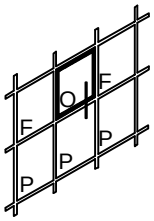
FASADA SA OVJEŠENIM VENTUSOM



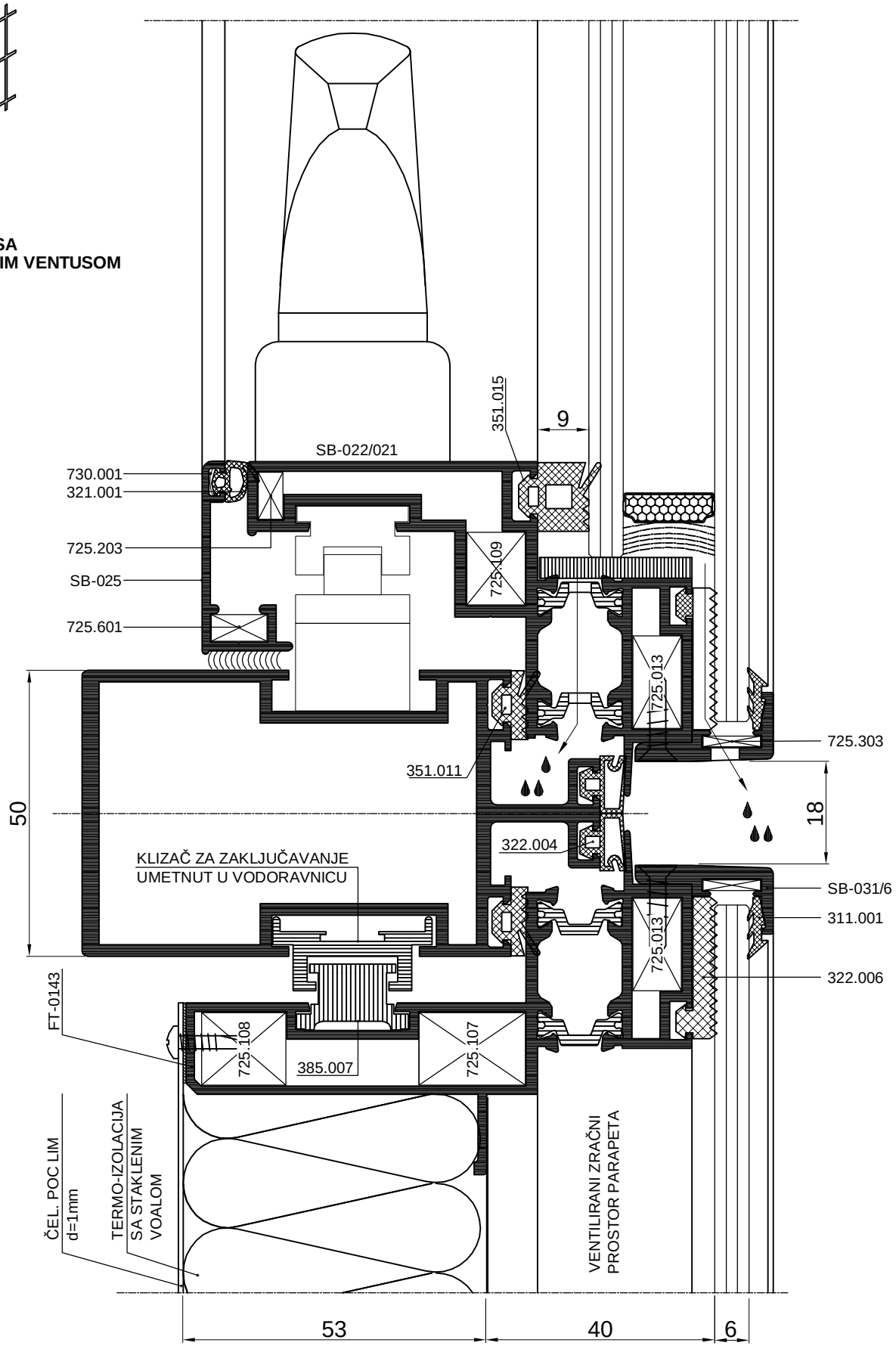
**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m²

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I PODMETAČEM (20x15xL) ZA FIXIRANJE MAKAZA

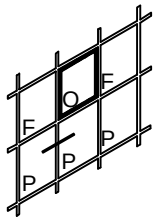


FASADA SA OVJEŠENIM VENTUSOM

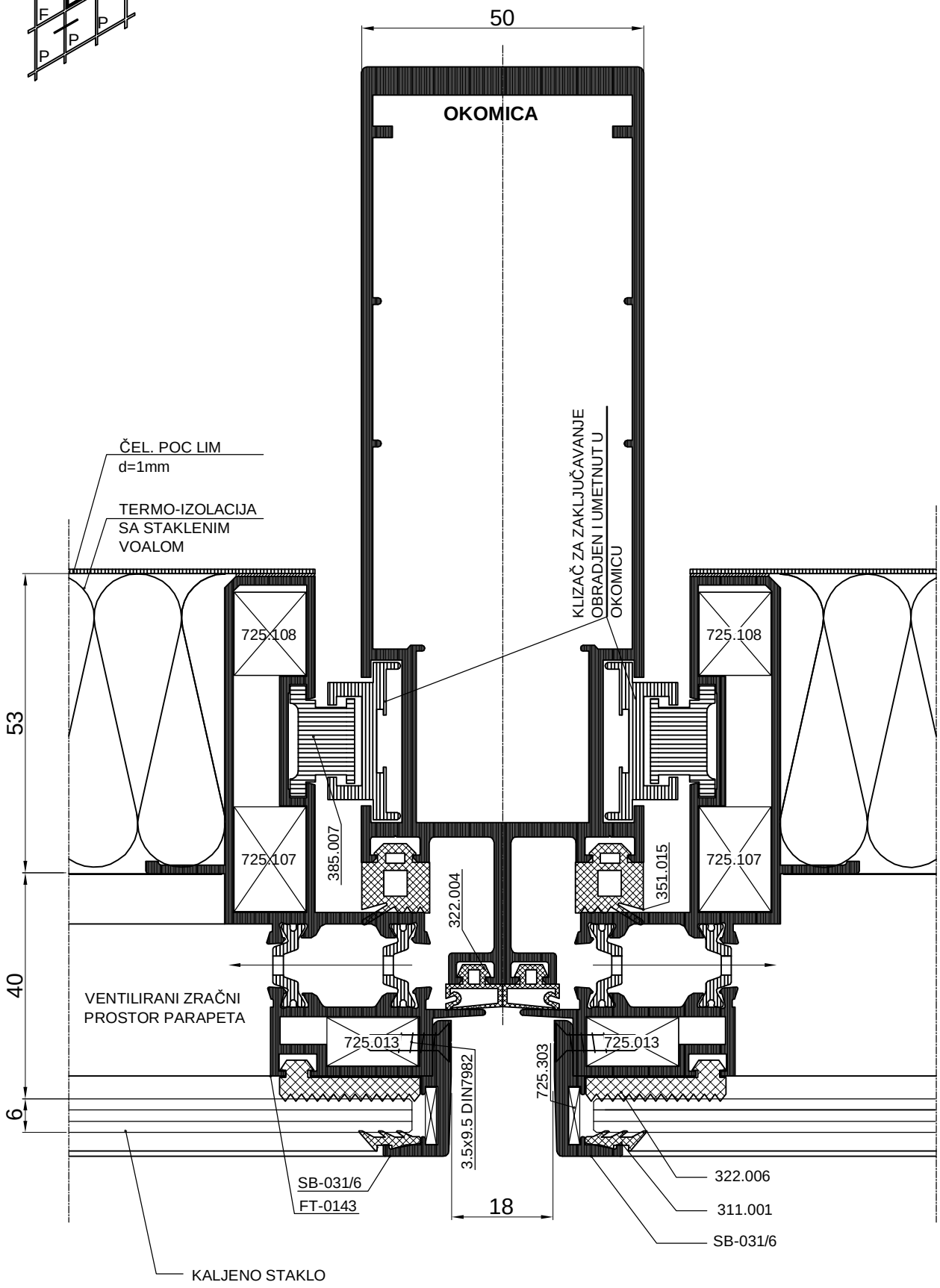


**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m [2]



PARAPETNI DIO FASADE

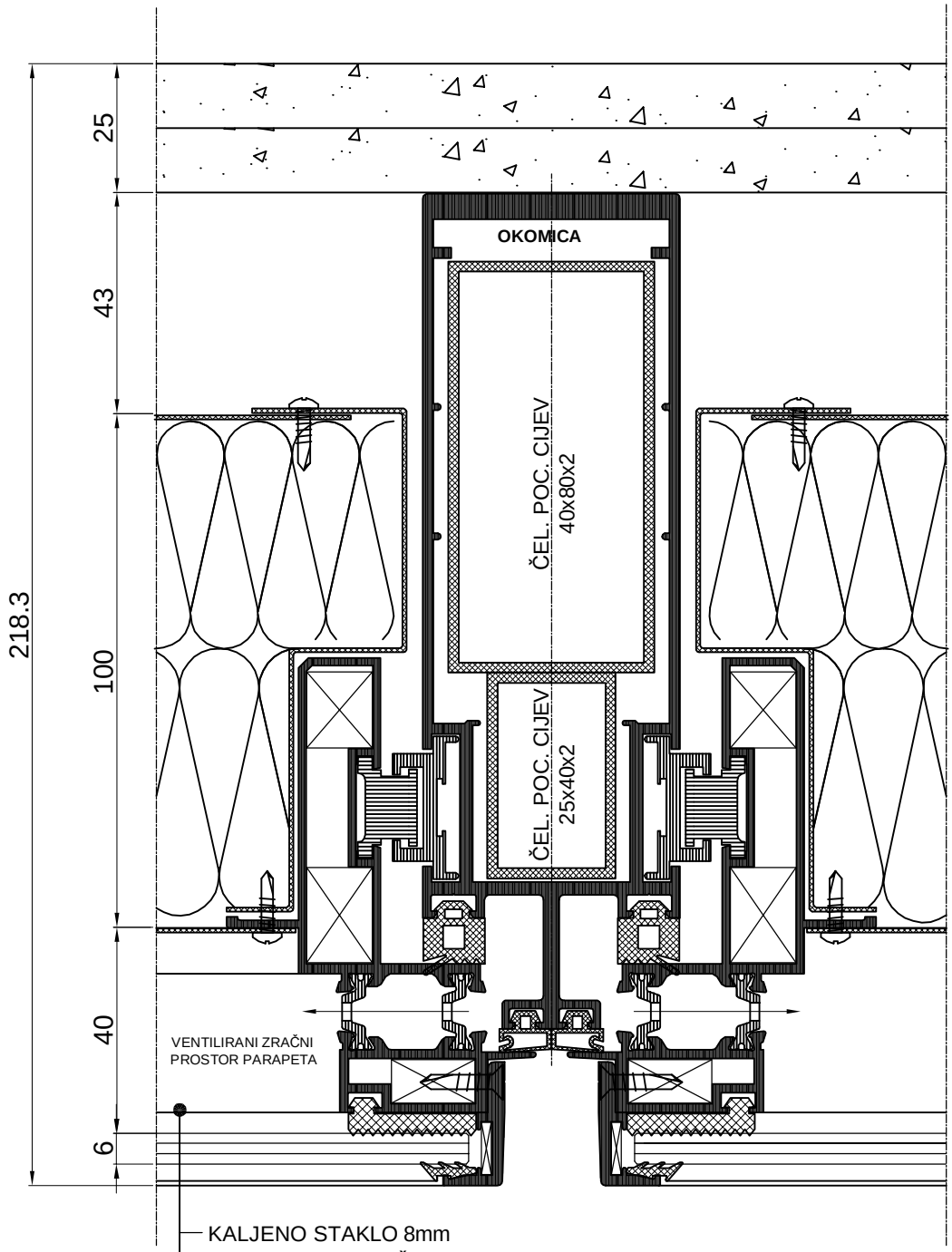


VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m²

OTVORI 4x25 ZA VENTILIRANJE PARAPETNOG DIJELA FASADE

PROTUPOŽARNI PARAPETNI DIO FASADE



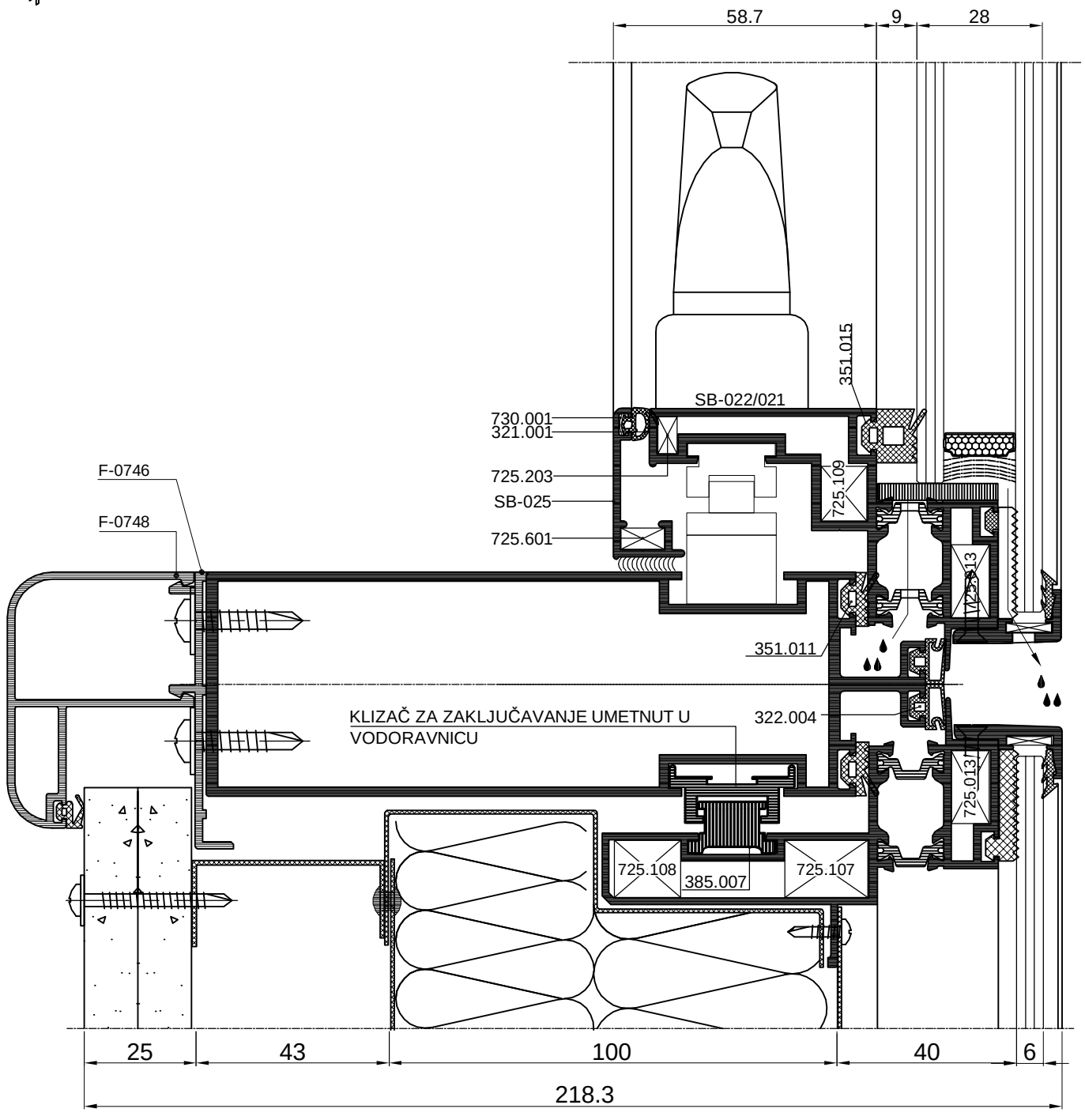
- KALJENO STAKLO 8mm
- VENTILIRANI ZRAČNI PROSTOR 27mm
- POCINČANI ČELIČNI LIM 0,8mm
- KAMENA VUNA 2x50mm (90kg/m3)
- POCINČANI ČELIČNI LIM 0,8mm (U ČELIČNOM OKVIRU)
- PROTUPOŽARNI KNAUF 2x12,5mm(RIDURIT)
- ČELIČNO OJAČANJE OKOMICE ZA VISINU PARAPETA

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

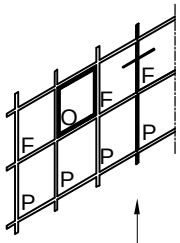
**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m^2

OTVORI 4x25 ZA VENTILIRANJE PARAPETNOG DIJELA FASADE

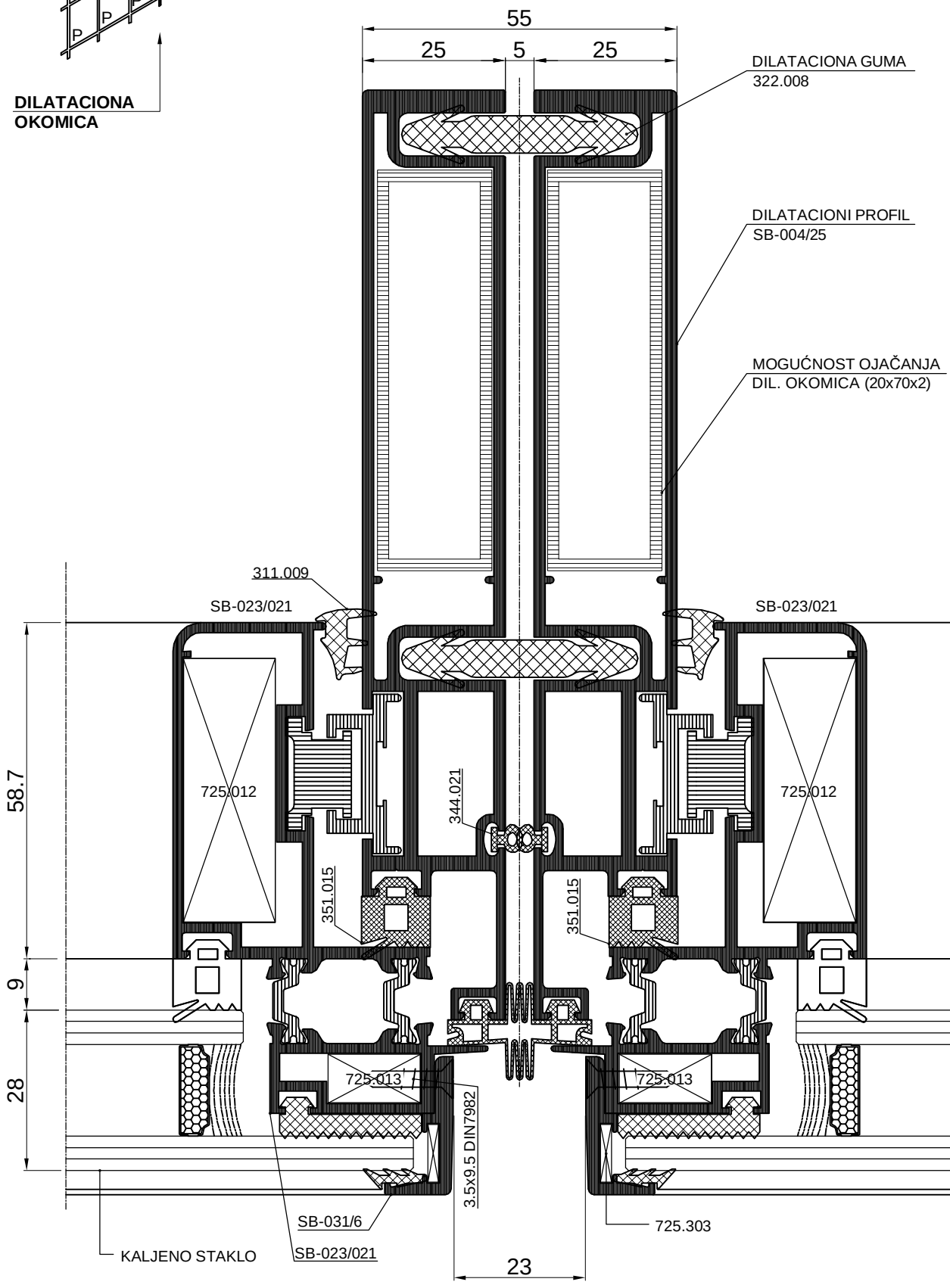
PROTUPOŽARNI PARAPETNI DIO FASADE



- KALJENO STAKLO 8mm
- VENTILIRANI ZRAČNI PROSTOR 27mm
- POCINČANI ČELIČNI LIM 0,8mm
- KAMENA VUNA 2x50mm (90kg/m3)
- POCINČANI ČELIČNI LIM 0,8mm (U ČELIČNOM OKVIRU)
- PROTUPOŽARNI KNAUF 2x12,5mm(RIDURIT)

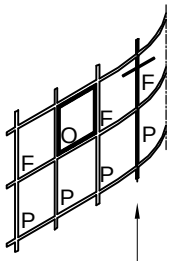


DILATACIONA OKOMICA

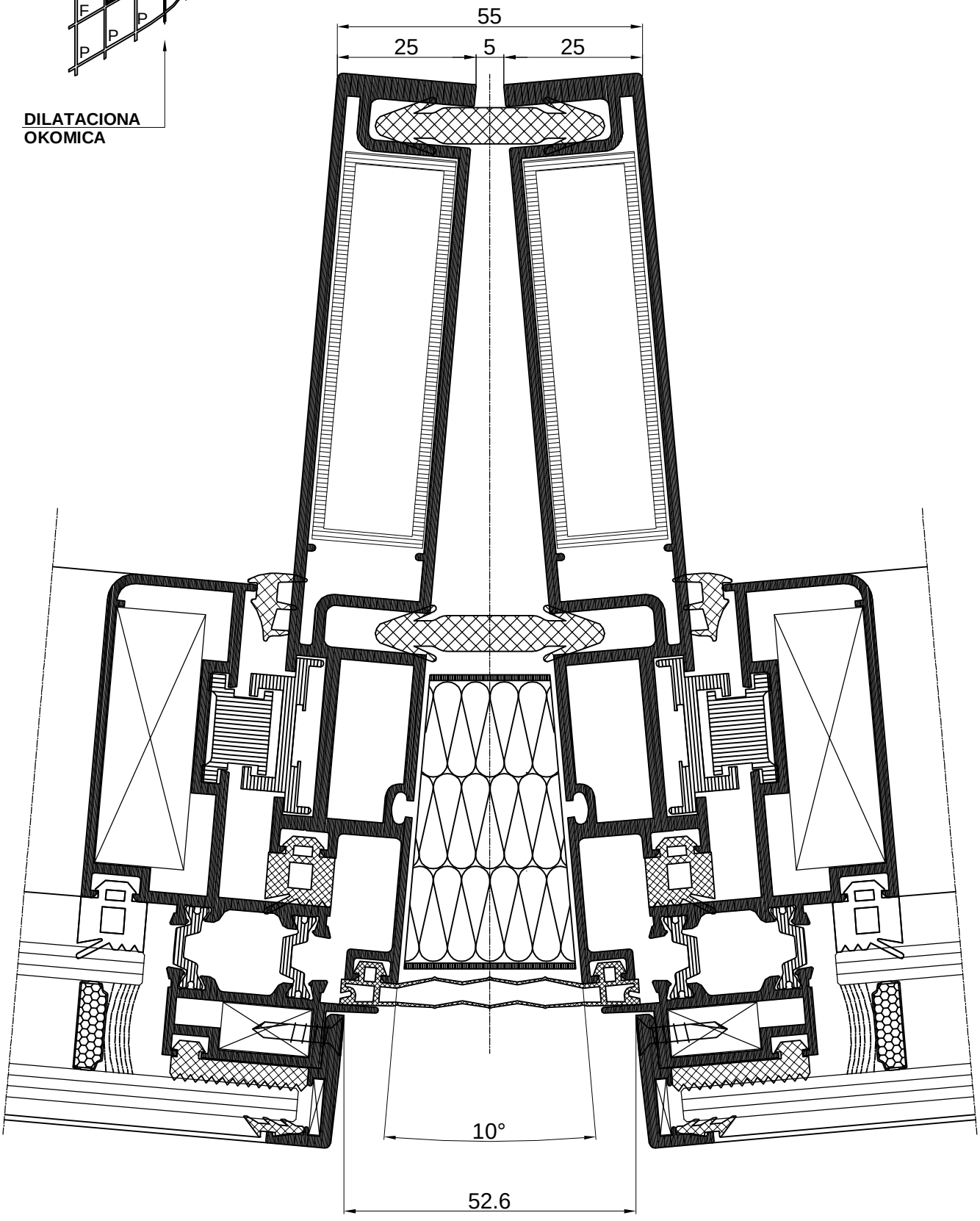


VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m²

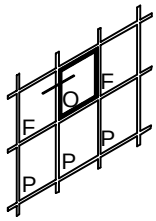


DILATACIONA OKOMICA

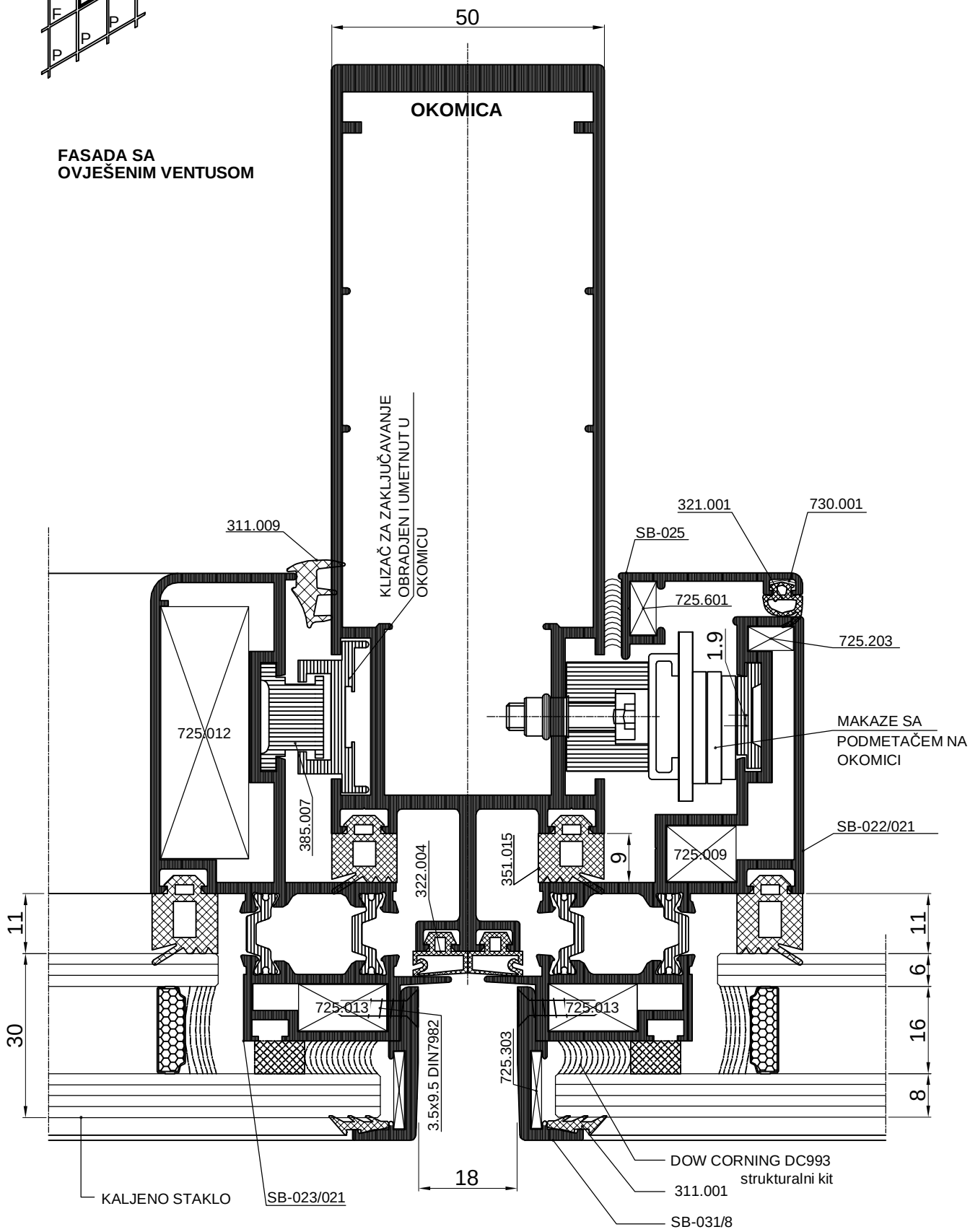


VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m²



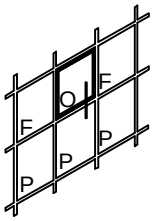
FASADA SA OVJEŠENIM VENTUSOM



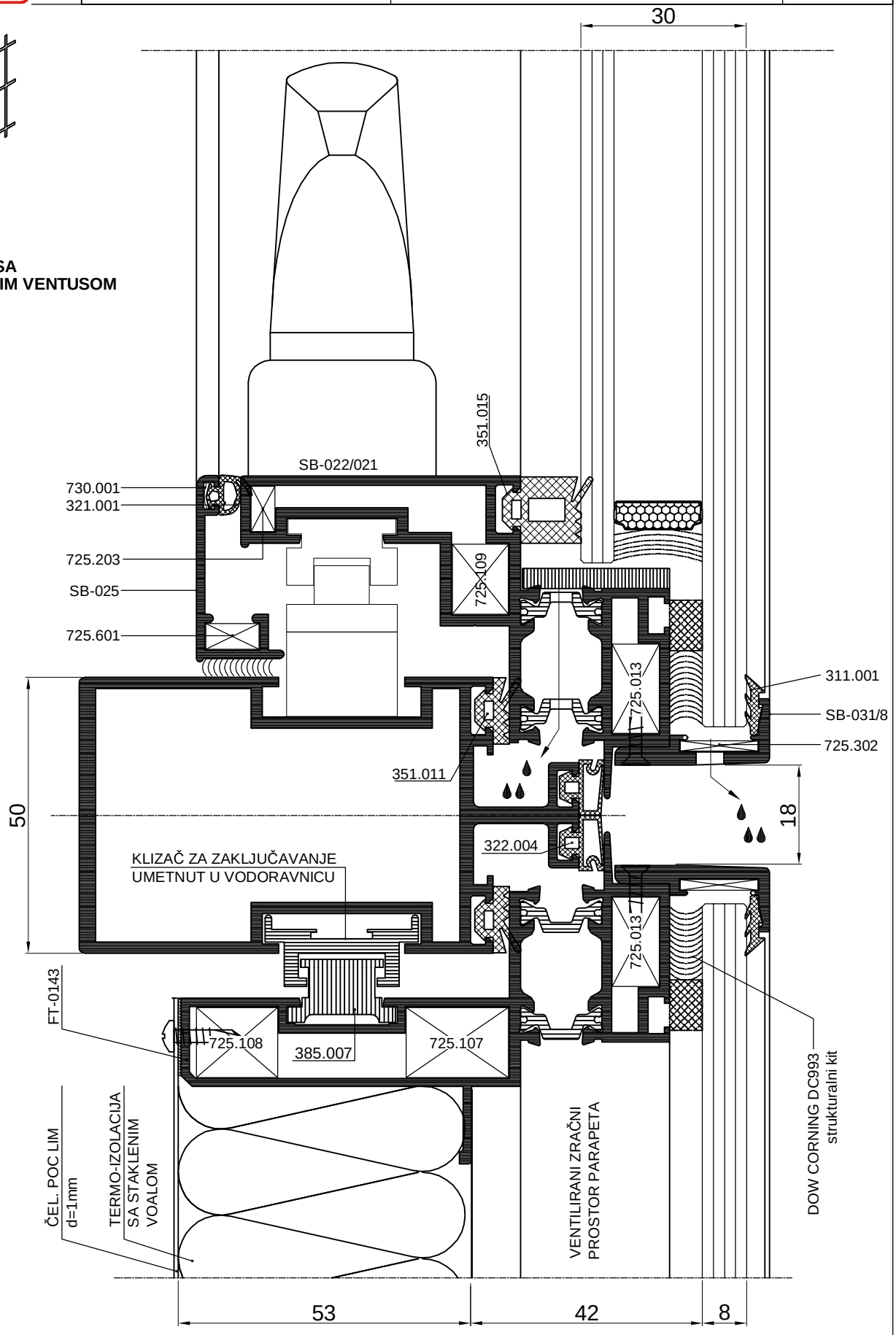
**VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE>1,8m **

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I PODMETAČEM (20x15xL) ZA FIKSIRANJE MAKAZA



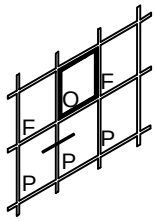
FASADA SA OVJEŠENIM VENTUSOM



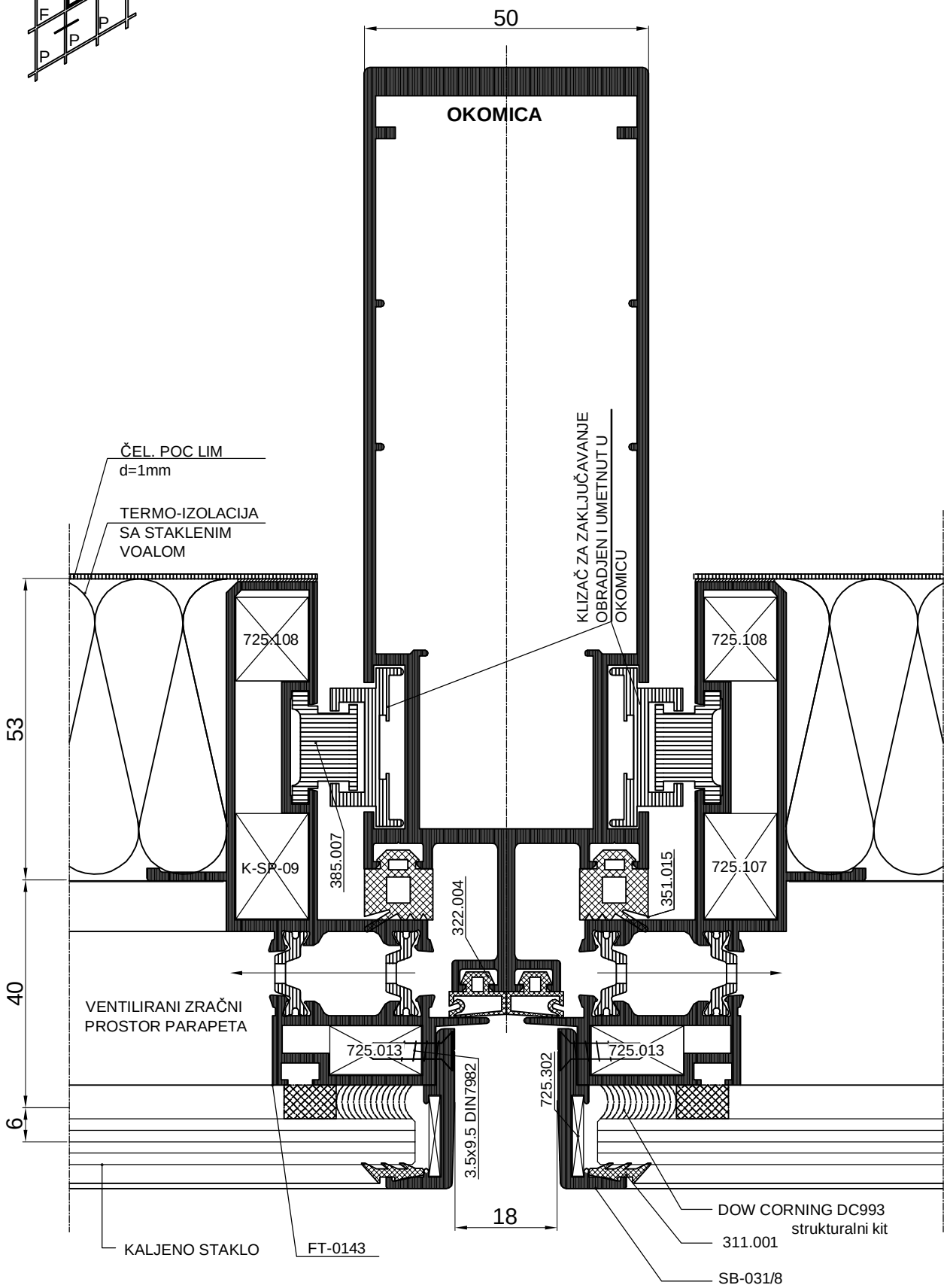
**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE>1,8m [2]

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6



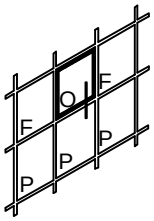
PARAPETNI DIO FASADE



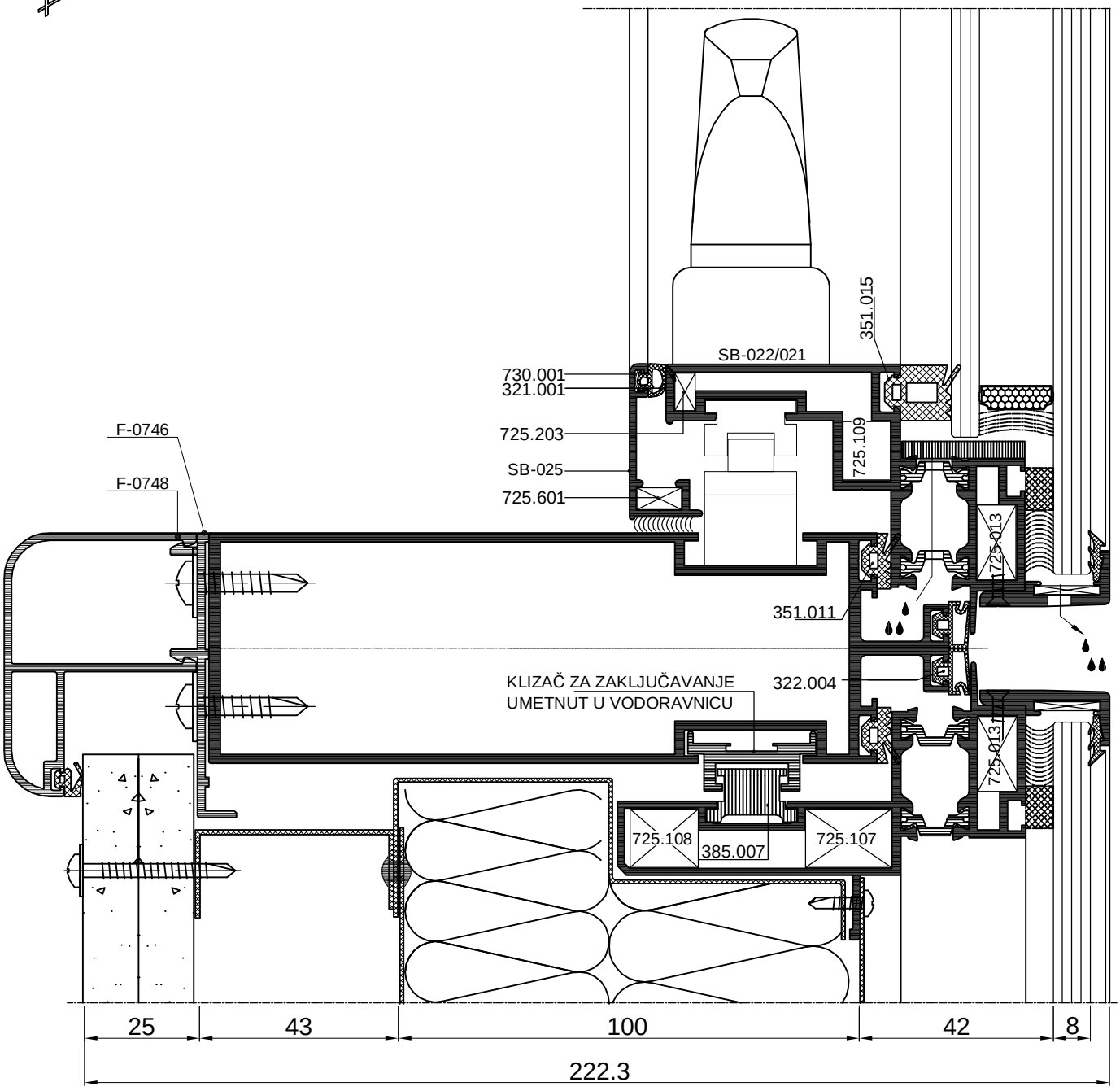
OTVORI 4x25 ZA VENTILIRANJE PARAPETNOG DIJELA FASADE

VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE>1,8m ^{2}

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6



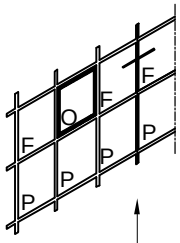
PROTUPOŽARNI PARAPETNI DIO FASADE



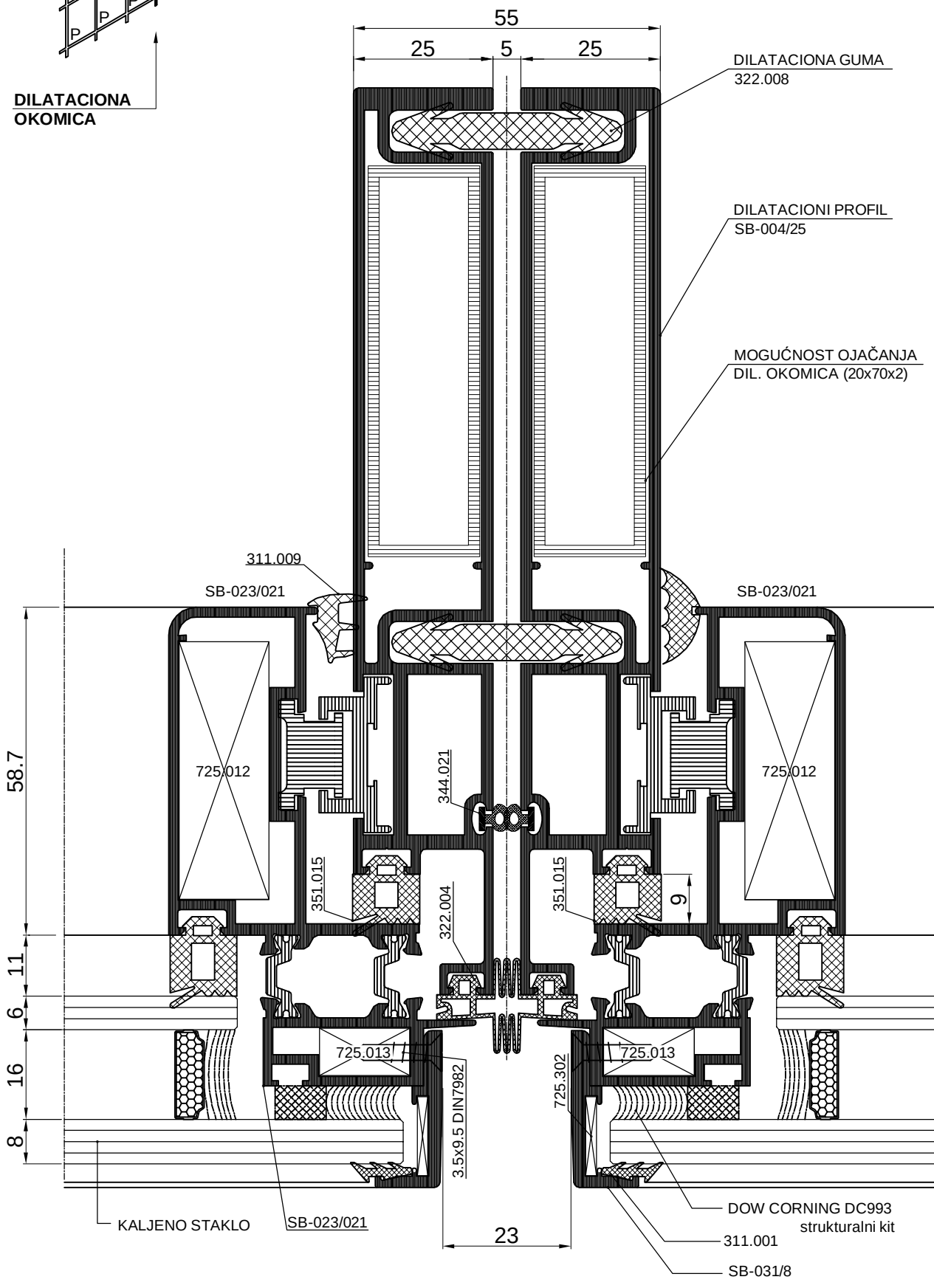
- KALJENO STAKLO 8mm
- VENTILIRANI ZRAČNI PROSTOR 27mm
- POCINČANI ČELIČNI LIM 0,8mm
- KAMENA VUNA 2x50mm (90kg/m3)
- POCINČANI ČELIČNI LIM 0,8mm (U ČELIČNOM OKVIRU)
- PROTUPOŽARNI KNAUF 2x12,5mm(RIDURIT)

VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE>1,8m²

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6

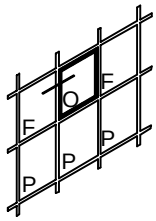


DILATACIONA OKOMICA

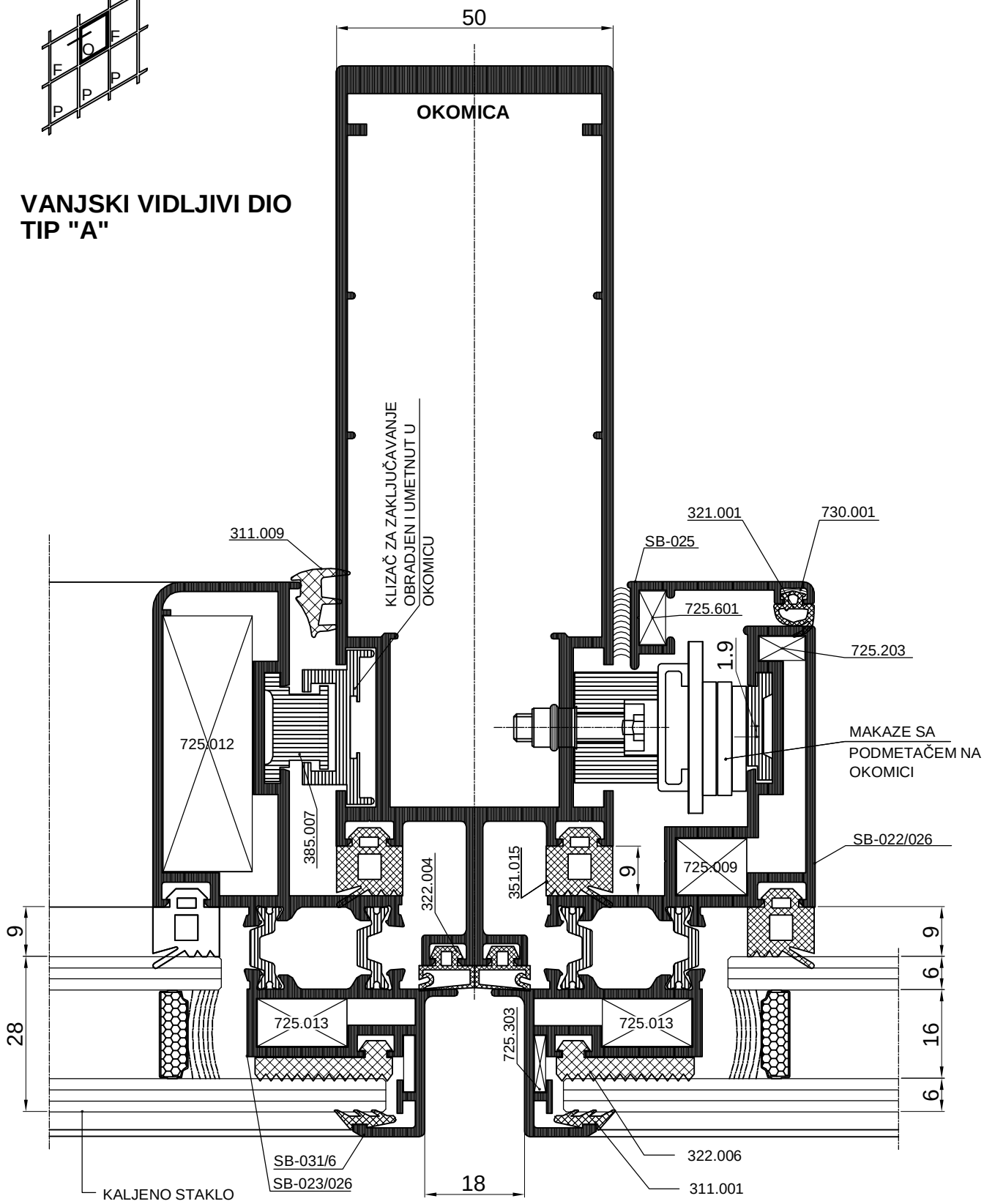


**VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE>1,8m **2

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM SB-031/6



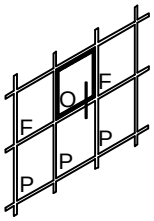
VANJSKI VIDLJIVI DIO
TIP "A"



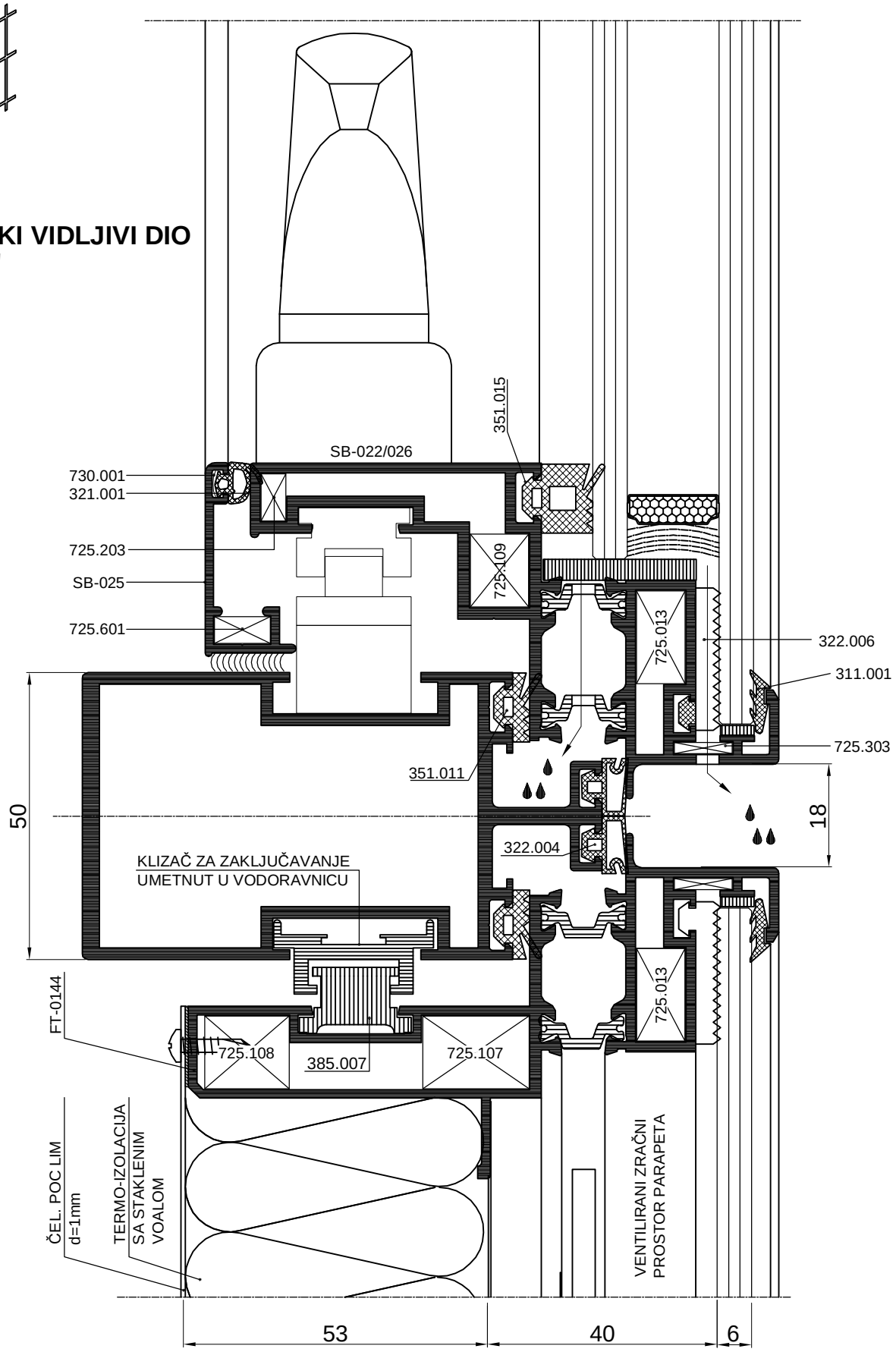
**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m ²

VANJSKO STAKLO OBRUBLJENO PROFILOM SB-023/026

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I PODMETAČEM (20x15xL) ZA FIXIRANJE MAKAZA



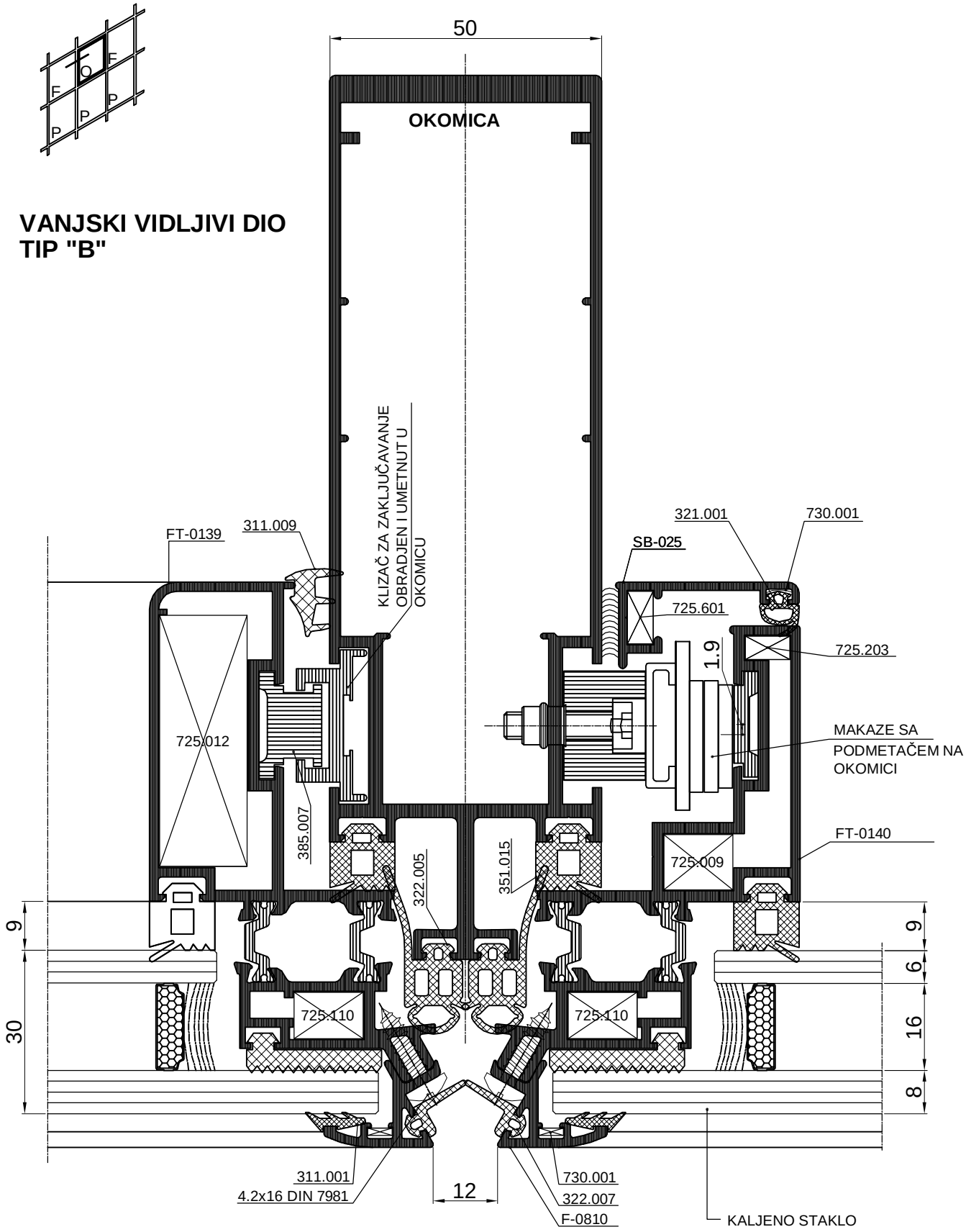
VANJSKI VIDLJIVI DIO
TIP "A"



**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m [2]

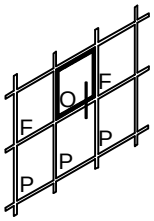
VANJSKI VIDLJIVI DIO
TIP "B"



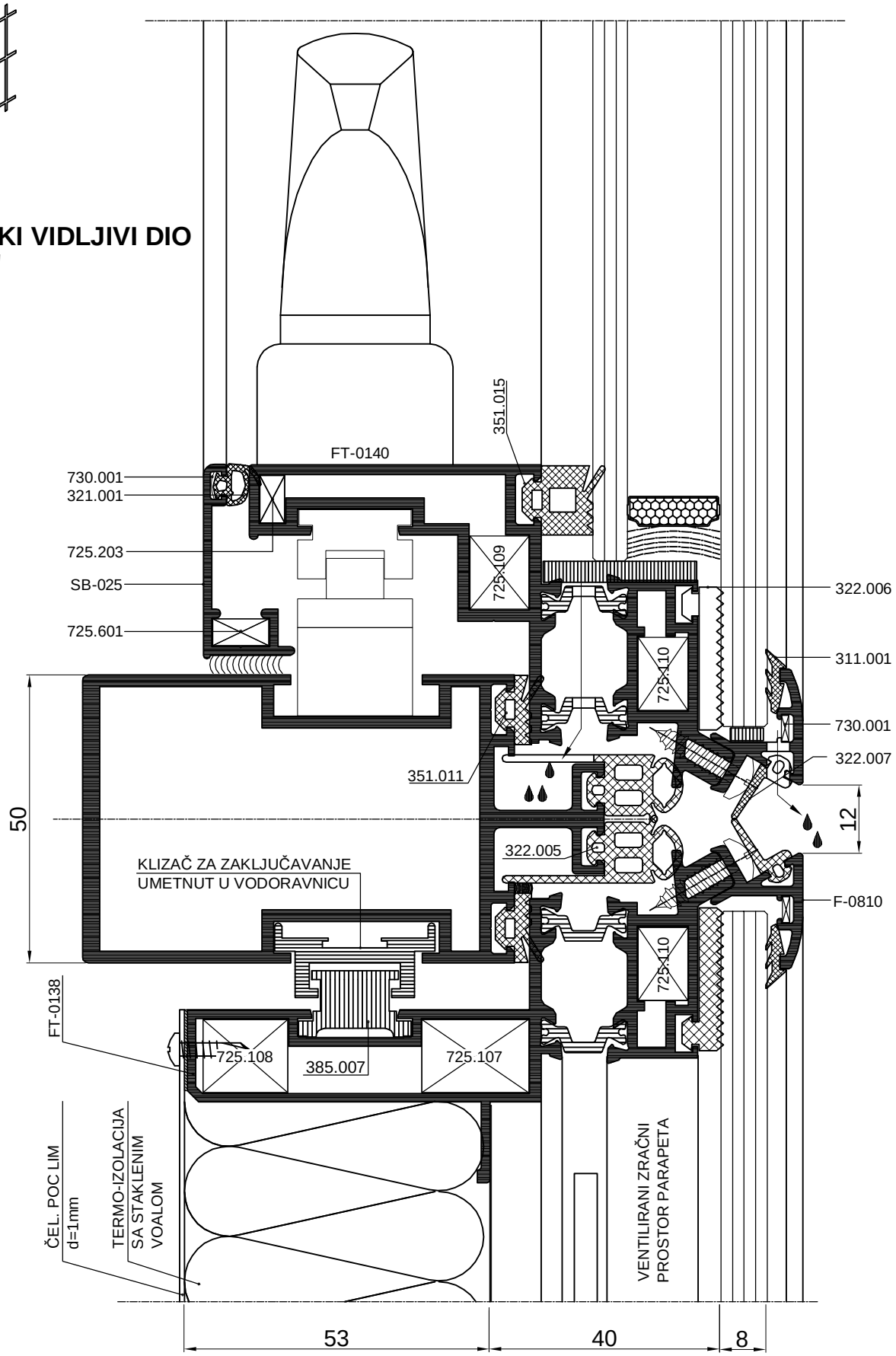
**OSTAKLJENJE SA BRTVOM 322.006 SE KORISTI ZA PLOHE MANJE OD 1,8 m ²

VANJSKO STAKLO OBRUBLJENO PROFILOM F-0810

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I PODMETAČEM (20x15xL) ZA FIXIRANJE MAKAZA

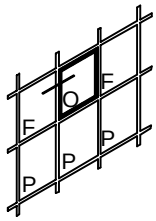


VANJSKI VIDLJIVI DIO
TIP "B"

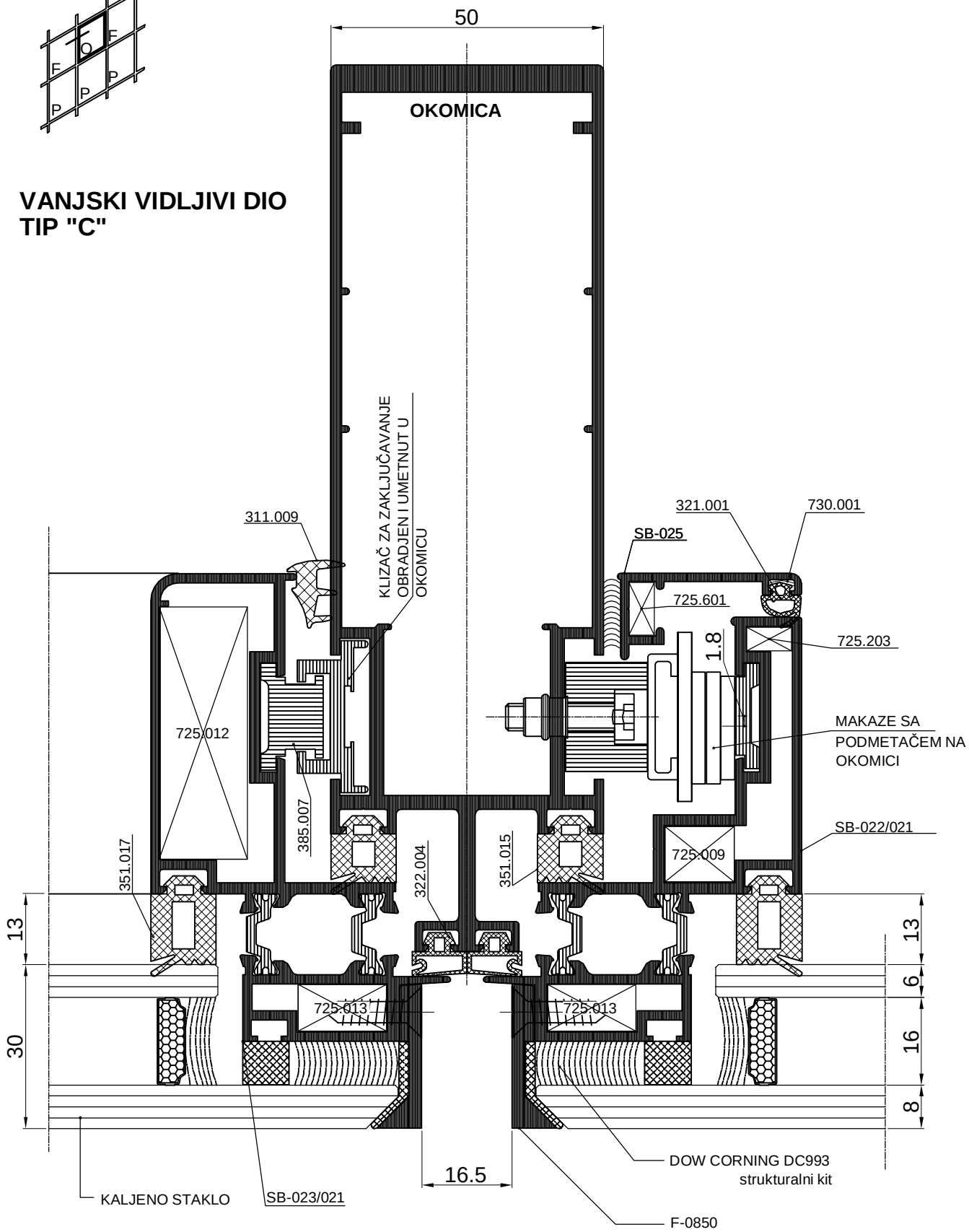


**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

**OSTAKLJENJE SA BRTVOM AT 1502 SE KORISTI ZA PLOHE MANJE OD 1,8 m [2]



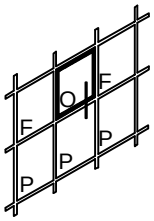
VANJSKI VIDLJIVI DIO
TIP "C"



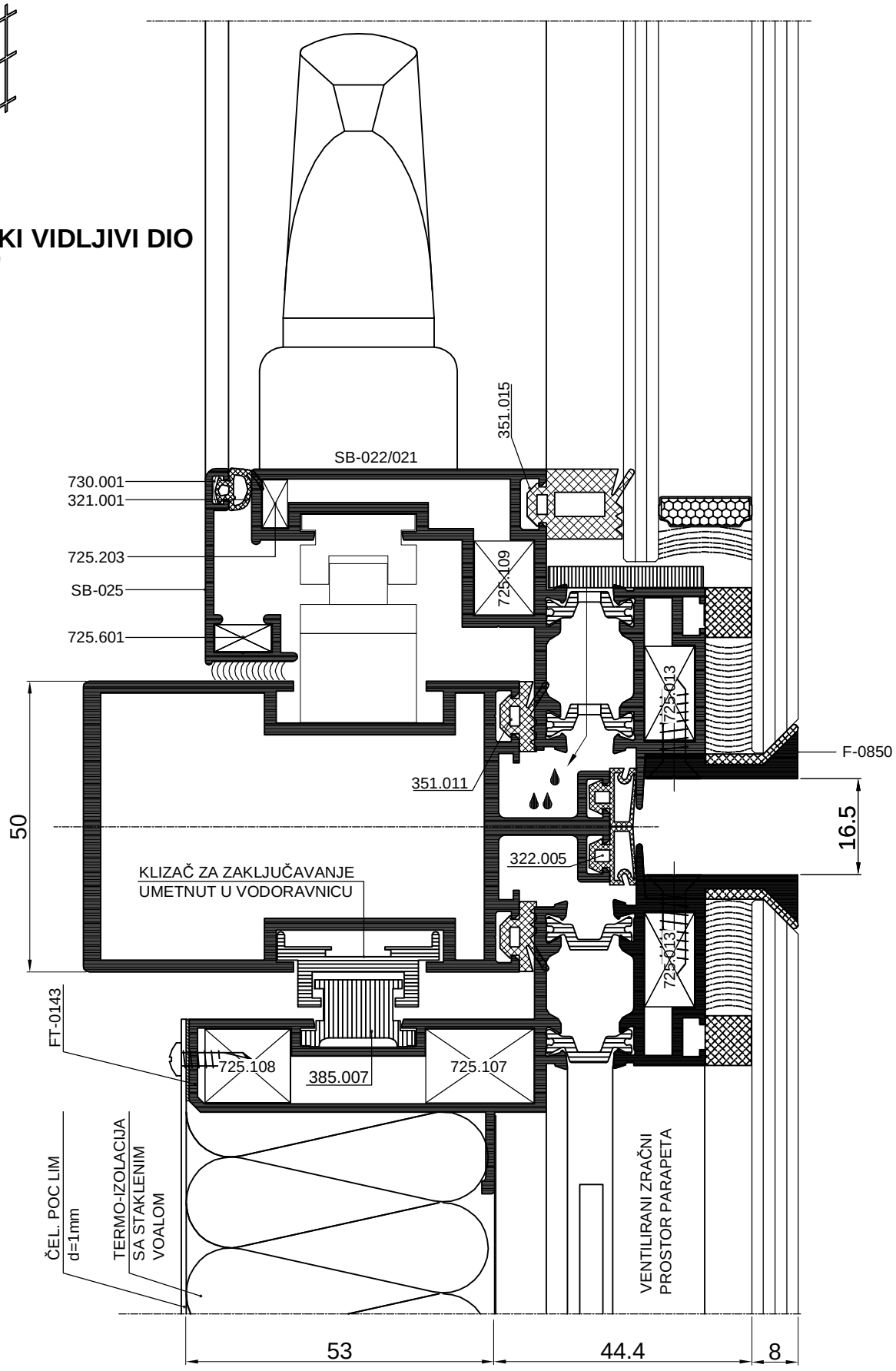
VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE > 1,8m ²

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM F-0850

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I PODMETAČEM (20x15xL) ZA FIKSIRANJE MAKAZA



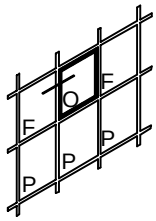
VANJSKI VIDLJIVI DIO
TIP "C"



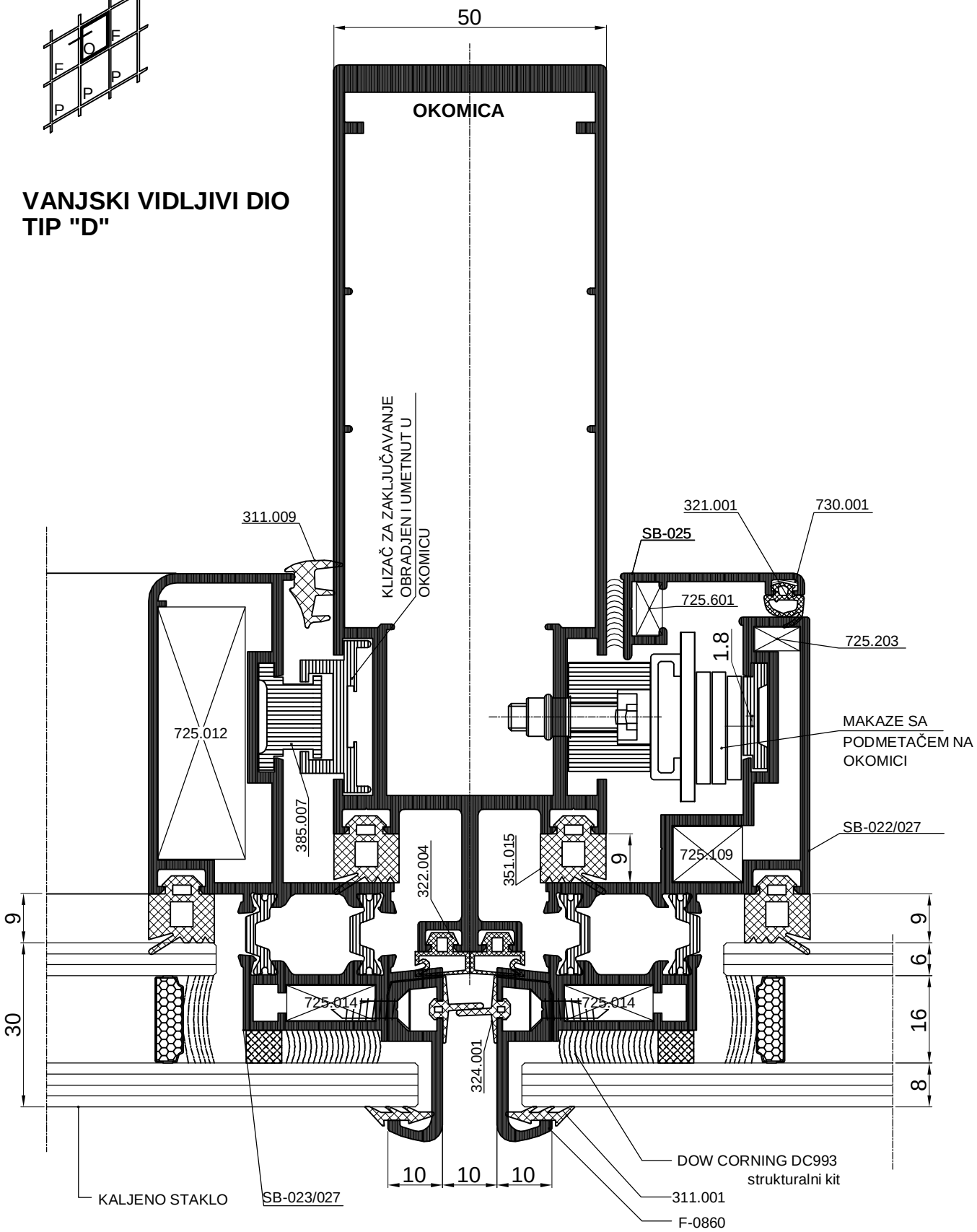
**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE > 1,8m [2]

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM F-0850



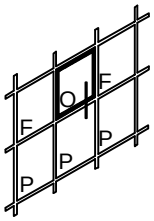
VANJSKI VIDLJIVI DIO
TIP "D"



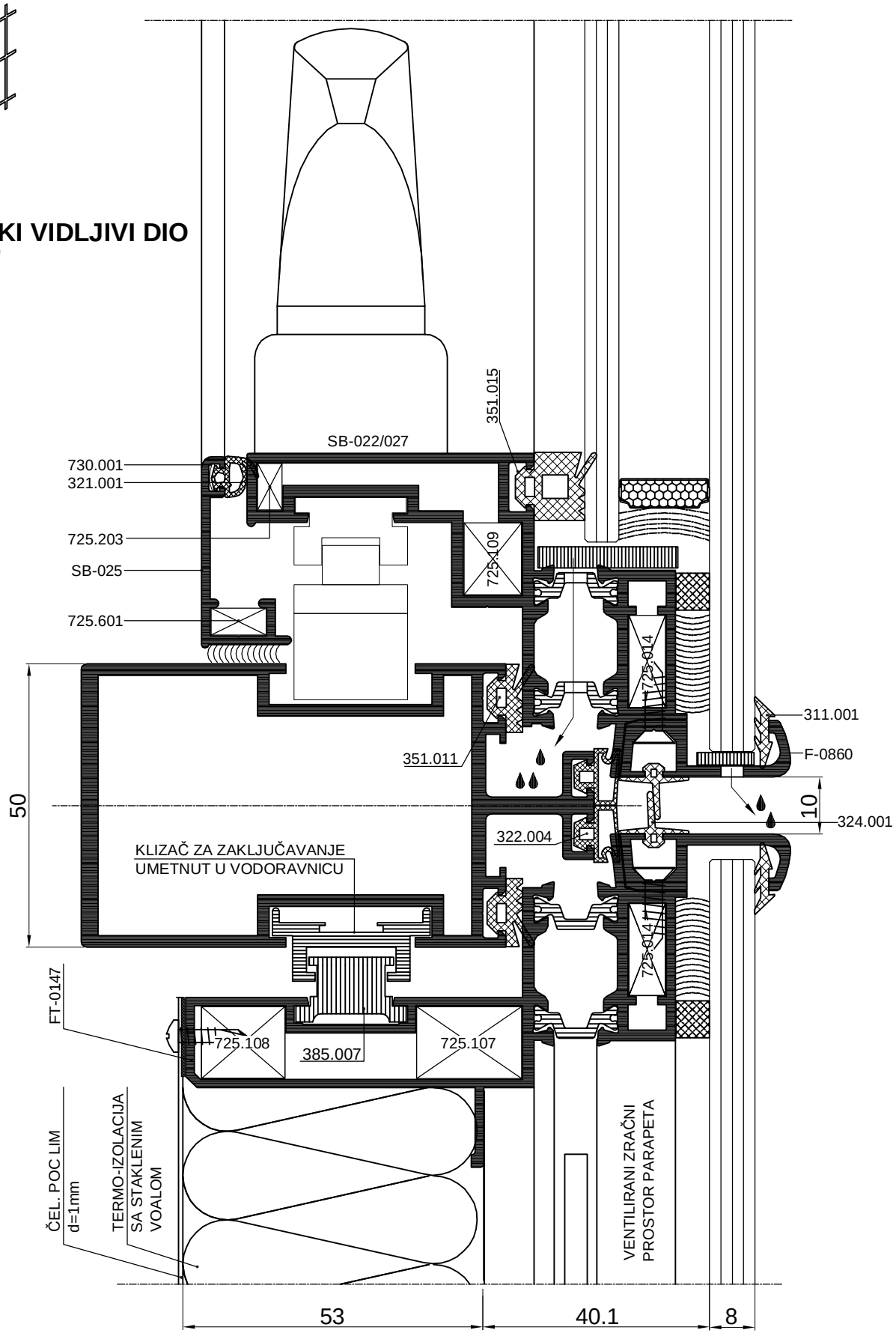
VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE > 1,8m²

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM F-0860

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I UMETKOM (20x15xL) ZA FIXIRANJE MAKAZA



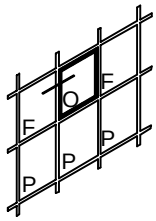
VANJSKI VIDLJIVI DIO
TIP "D"



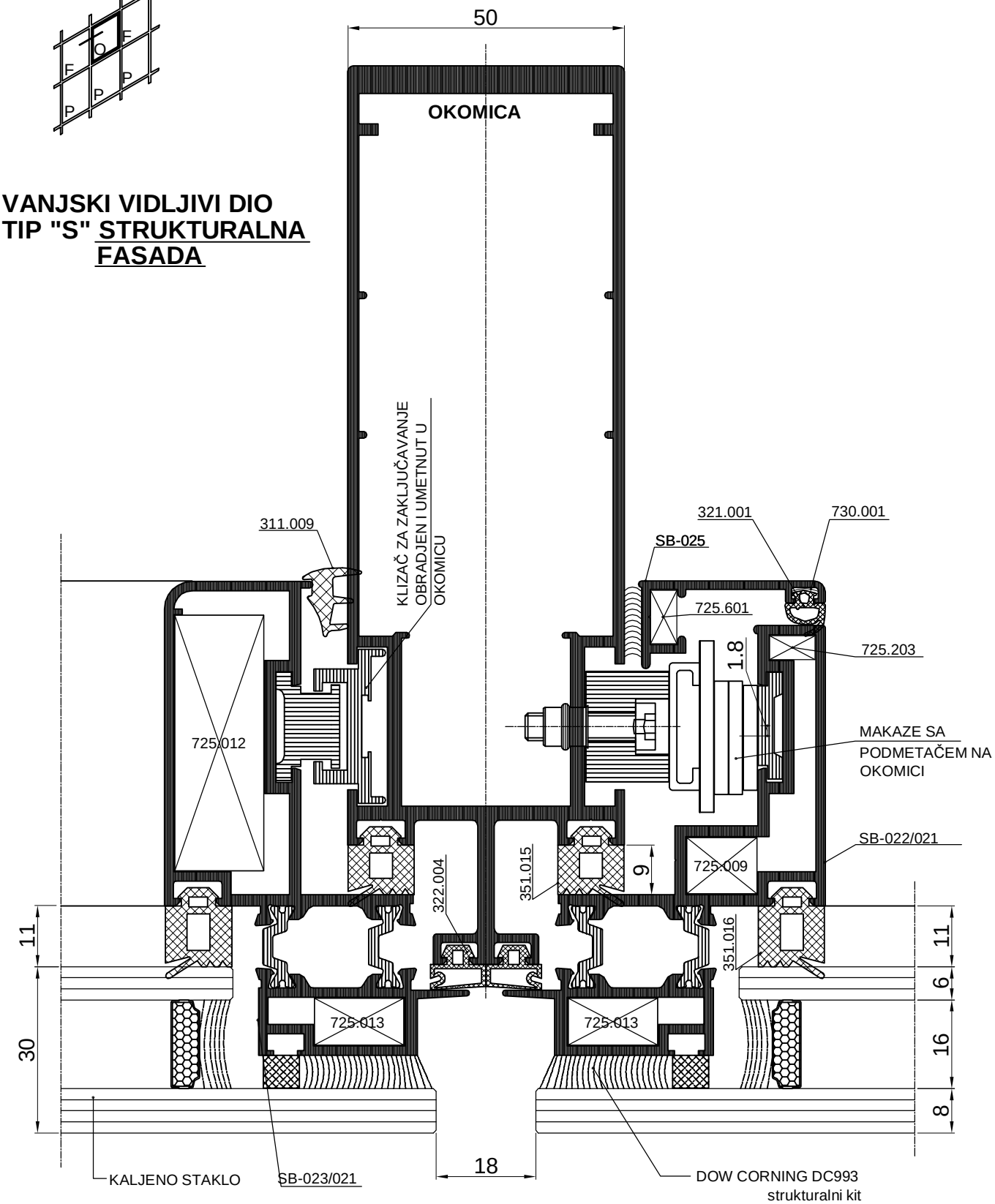
**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE > 1,8m [2]

VANJSKO STAKLO OBRUBLJENO MONTAŽNO-DEMONTAŽNOM LAJSNOM F-0860



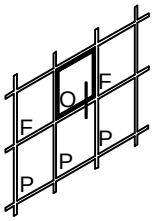
VANJSKI VIDLJIVI DIO TIP "S" STRUKTURALNA FASADA



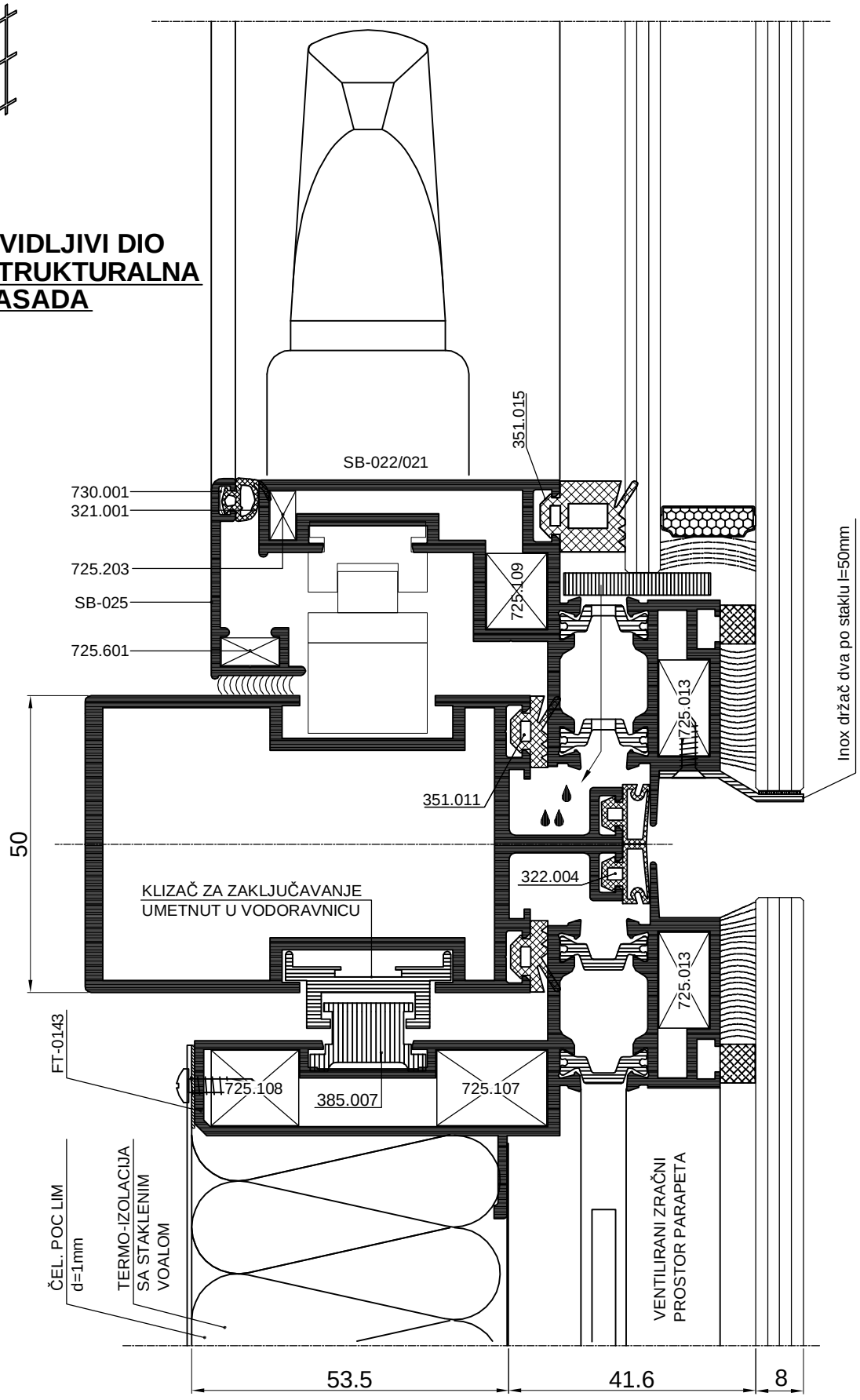
STRUKTURALNA FASADA ZA RAZLIKU OD POLUSTRUKTUEALNE FASADE IMA ZA ZAVR ŠNI PROFIL SB-021 KOJI MORA BITI ELOKSIRAN(eloksa ža mladja od 6 mjeseci). NA SASTAVLJENI FASADNI ELEMENT LIJEPI SE FASADNO STAKLO POMO ĆU NORTONOVE TRAKE I STRUKTURALNOG KITA DC 993. LJEPLJENJE IZVODI KU ĆA KOJA IMA ODGOVARAJU ĆU ATESTNU DOKUMENTACIJU .

VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE < 1,8m ^{2}

MAKAZE SA ZAKOVANIM KLIZAČEM NC-1459 I PODMETAČEM (20x15xL) ZA FIXIRANJE MAKAZA



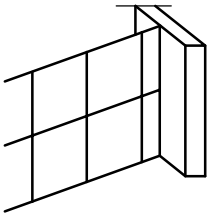
VANJSKI VIDLJIVI DIO
TIP "S" STRUKTURALNA FASADA

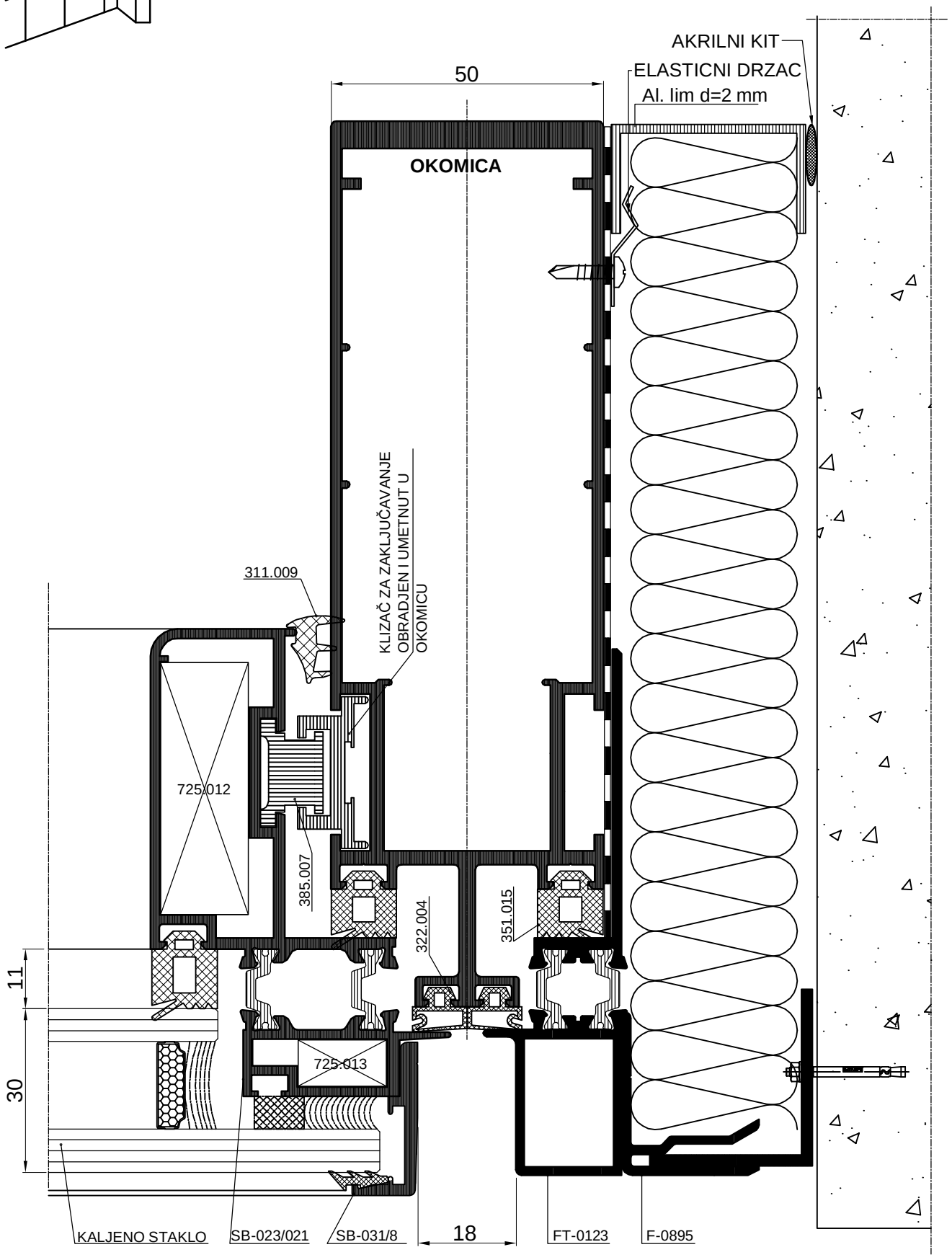


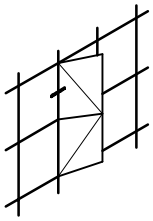
**OTVORI 4x25 ZA IZVOD MOGUĆIH KAPLJEVINA [2]

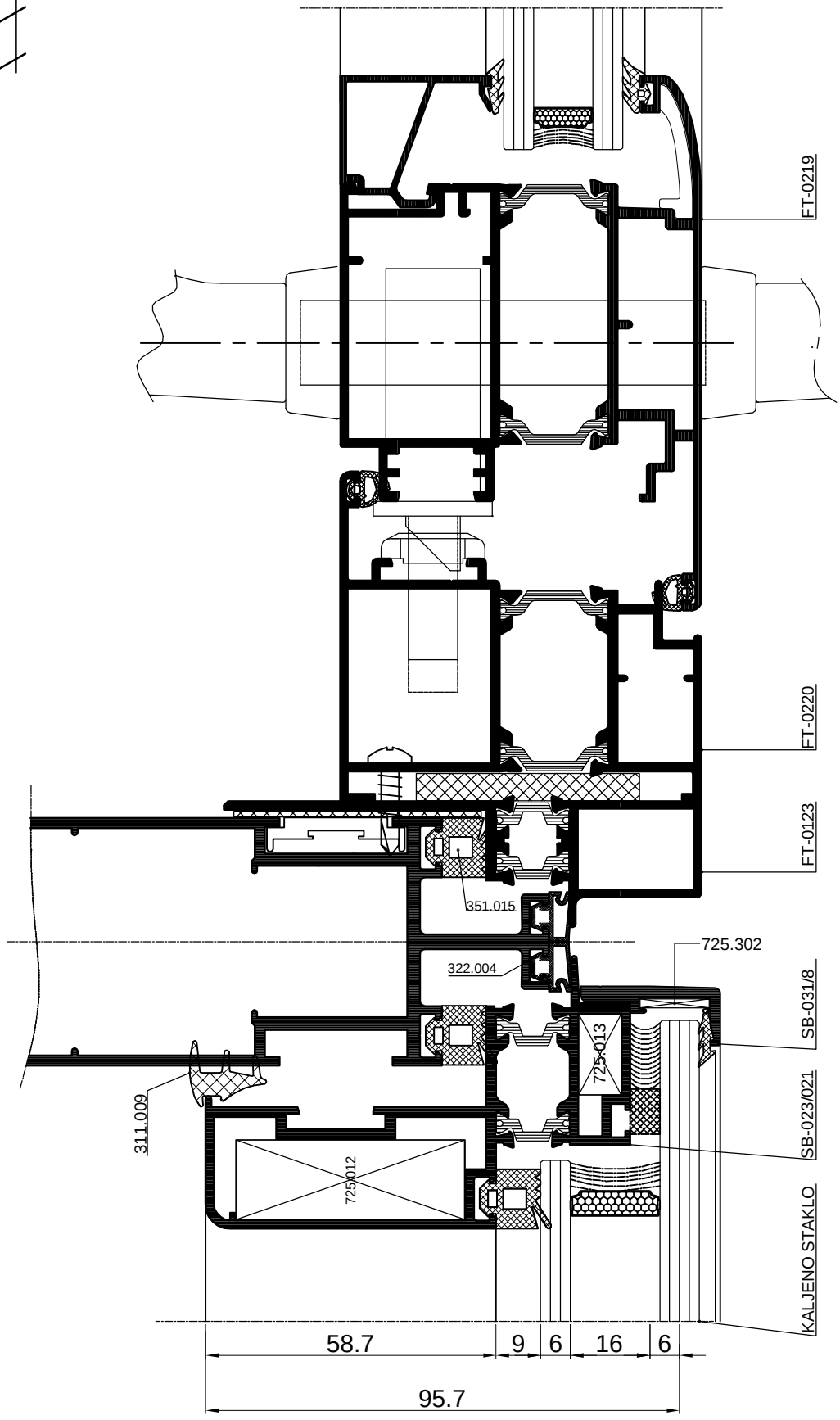
VANJSKO STAKLO ZALIJEPLJENO ZA AL. OKVIR STRUKTURALNIM LJEPILOM d=6mm ZA OKVIRE < 1,8m [2]

FEAL	50 PS	PRESJECI	207–01

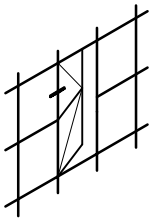


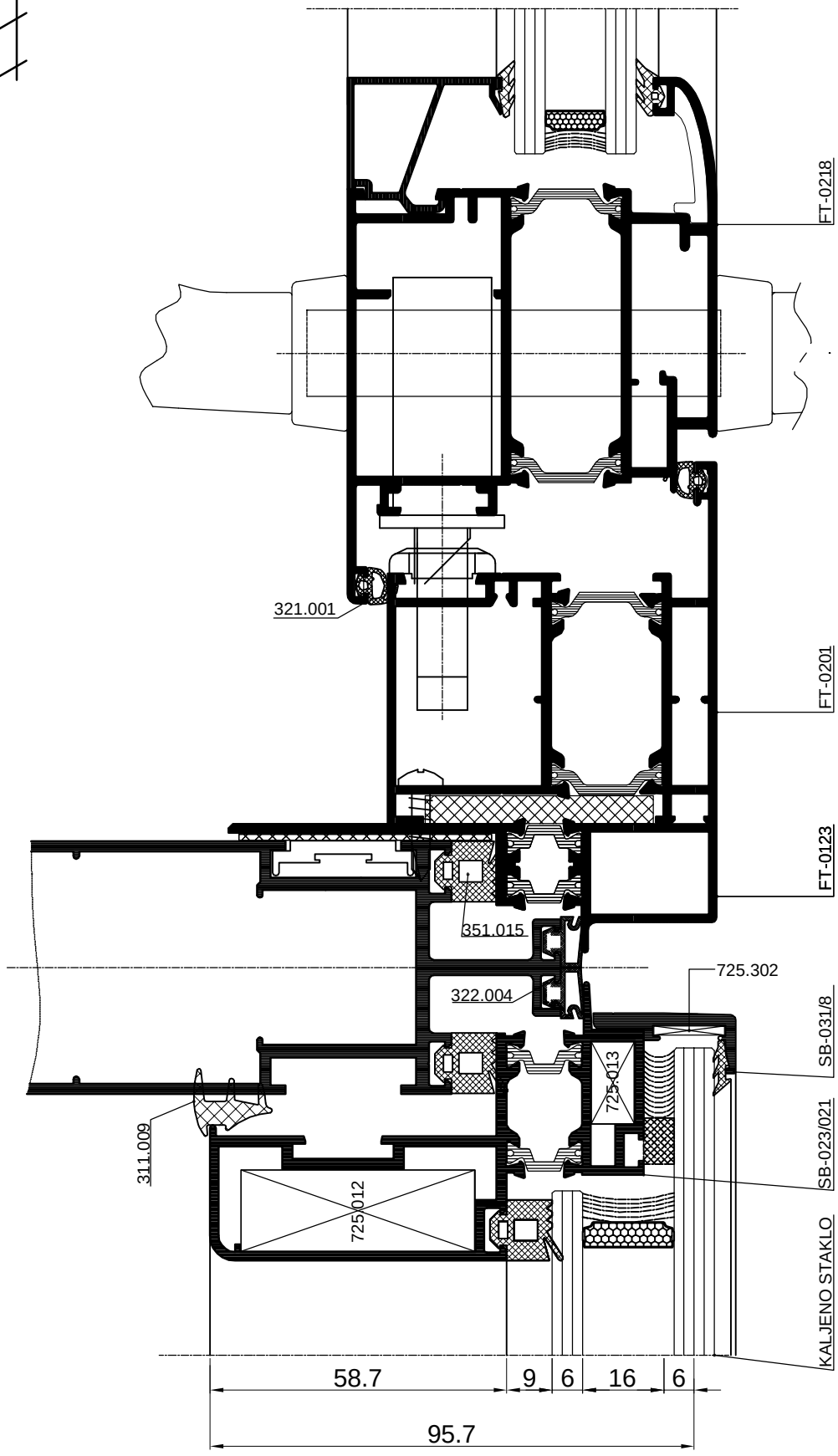




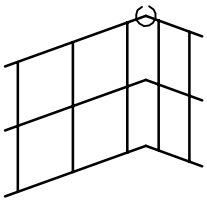


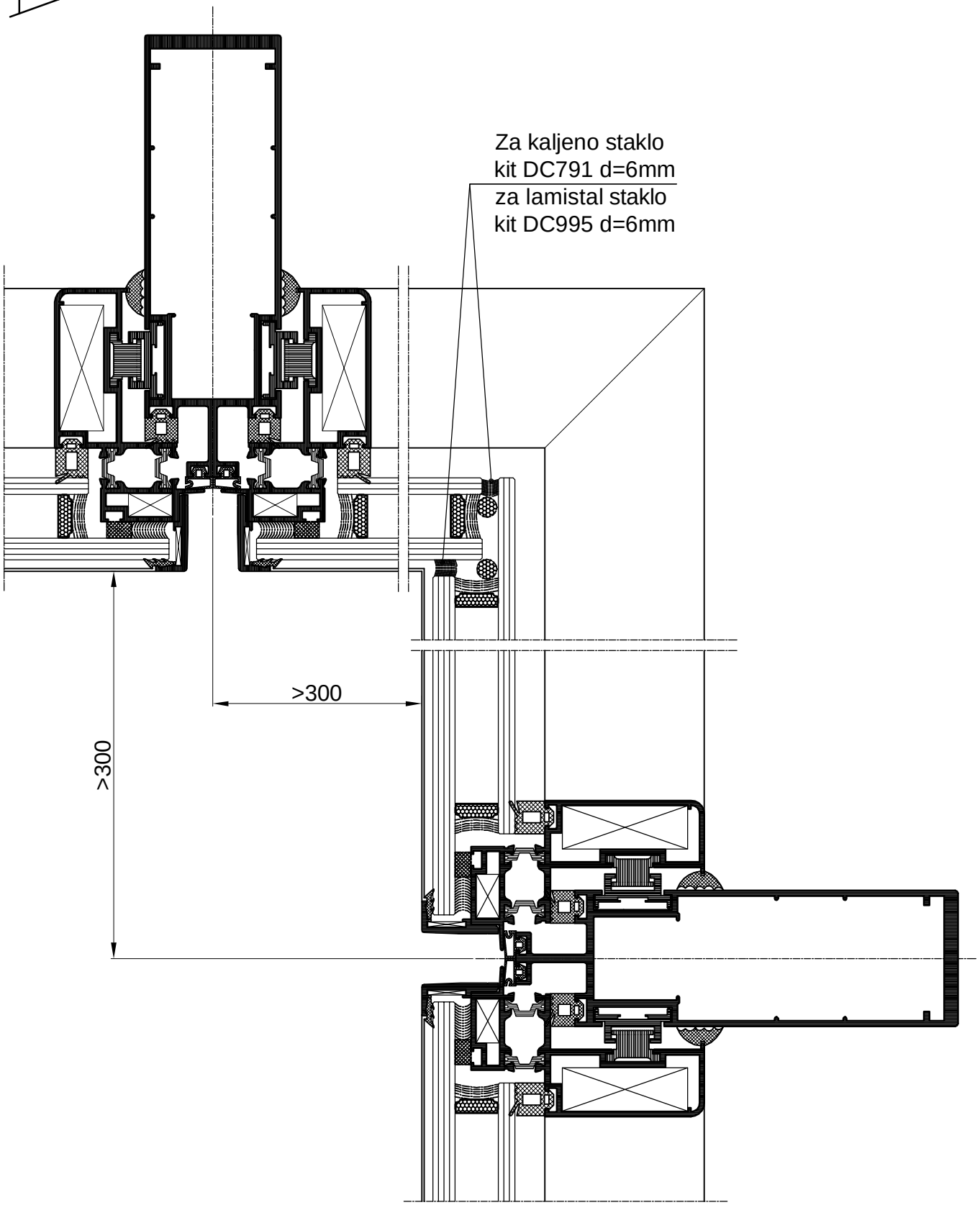
UGRADNJA VANJSKIH VRATA U POLUSTRUKTURALNU FASADU



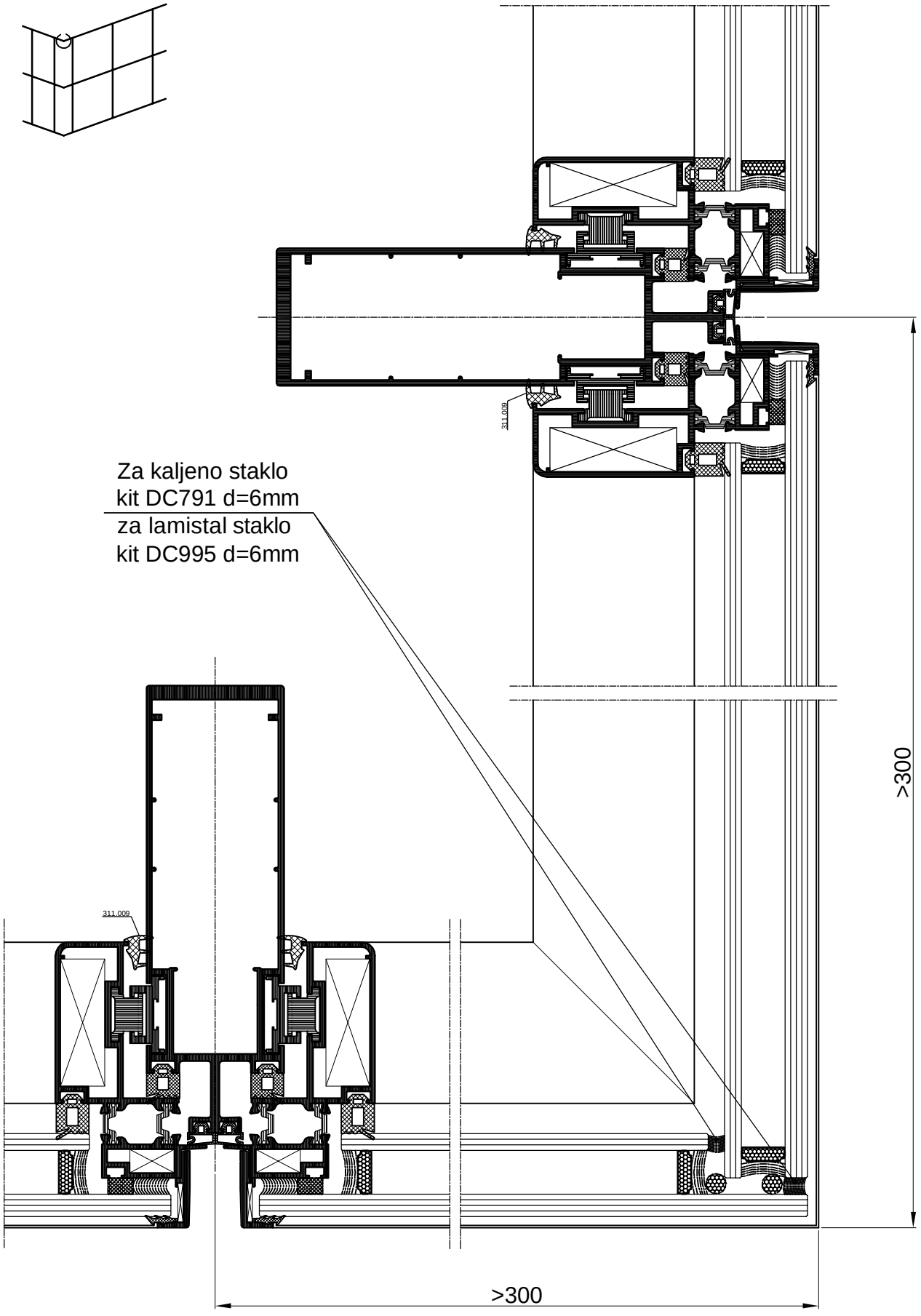


UGRADNJA UNUTARNJIH VRATA U POLUSTRUKTURALNU FASADU

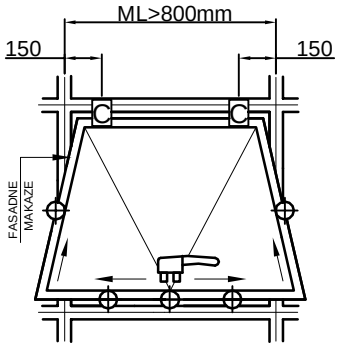


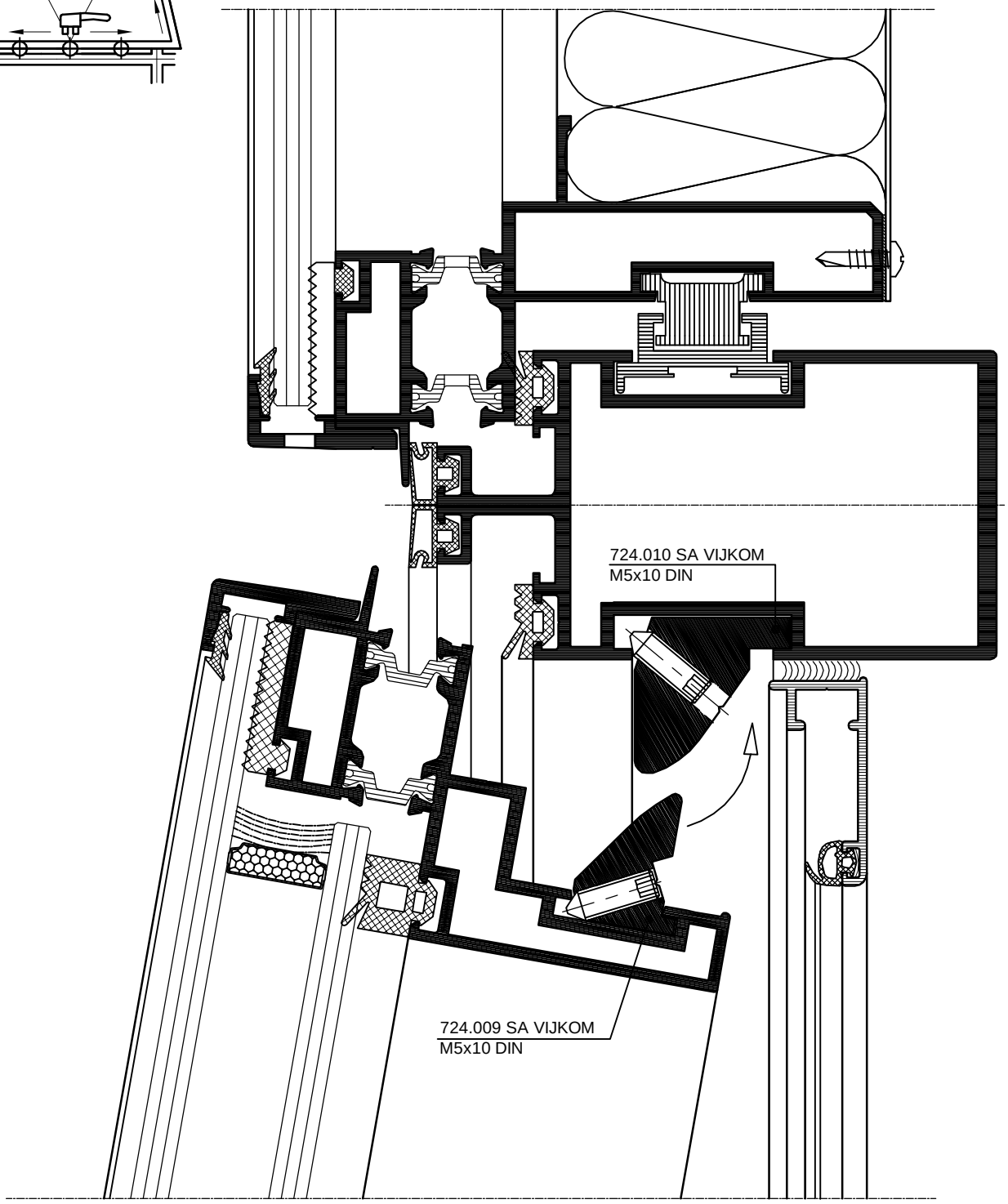


UNUTARNJI KUT

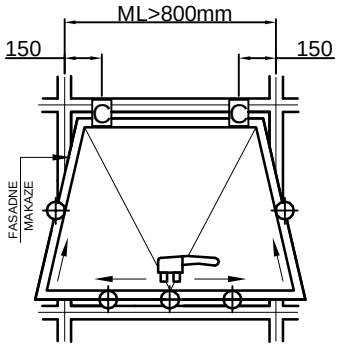

311.009
Za kaljeno staklo
kit DC791 d=6mm
za lamistal staklo
kit DC995 d=6mm
311.009
>300
>300

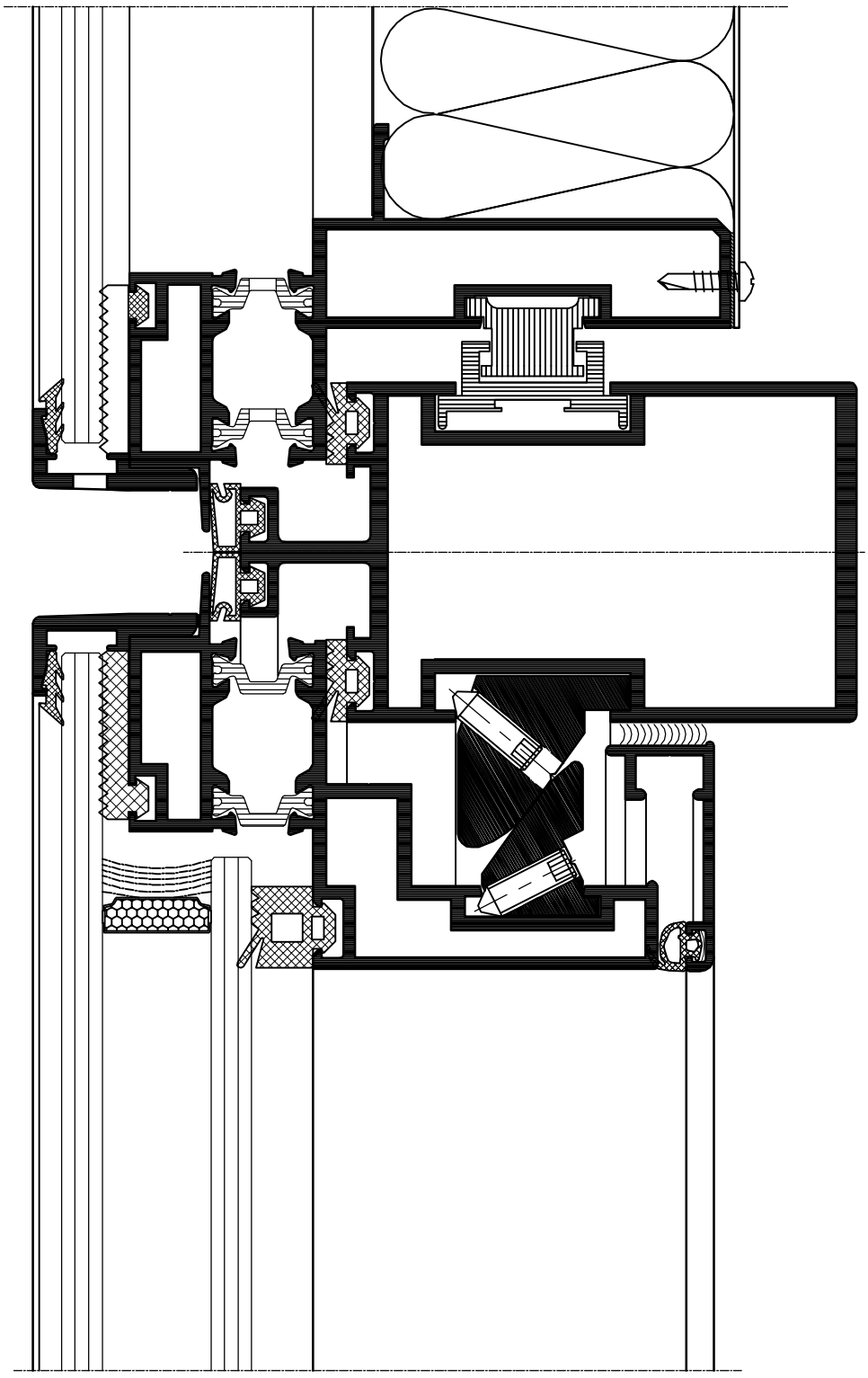
VANJSKI KUT



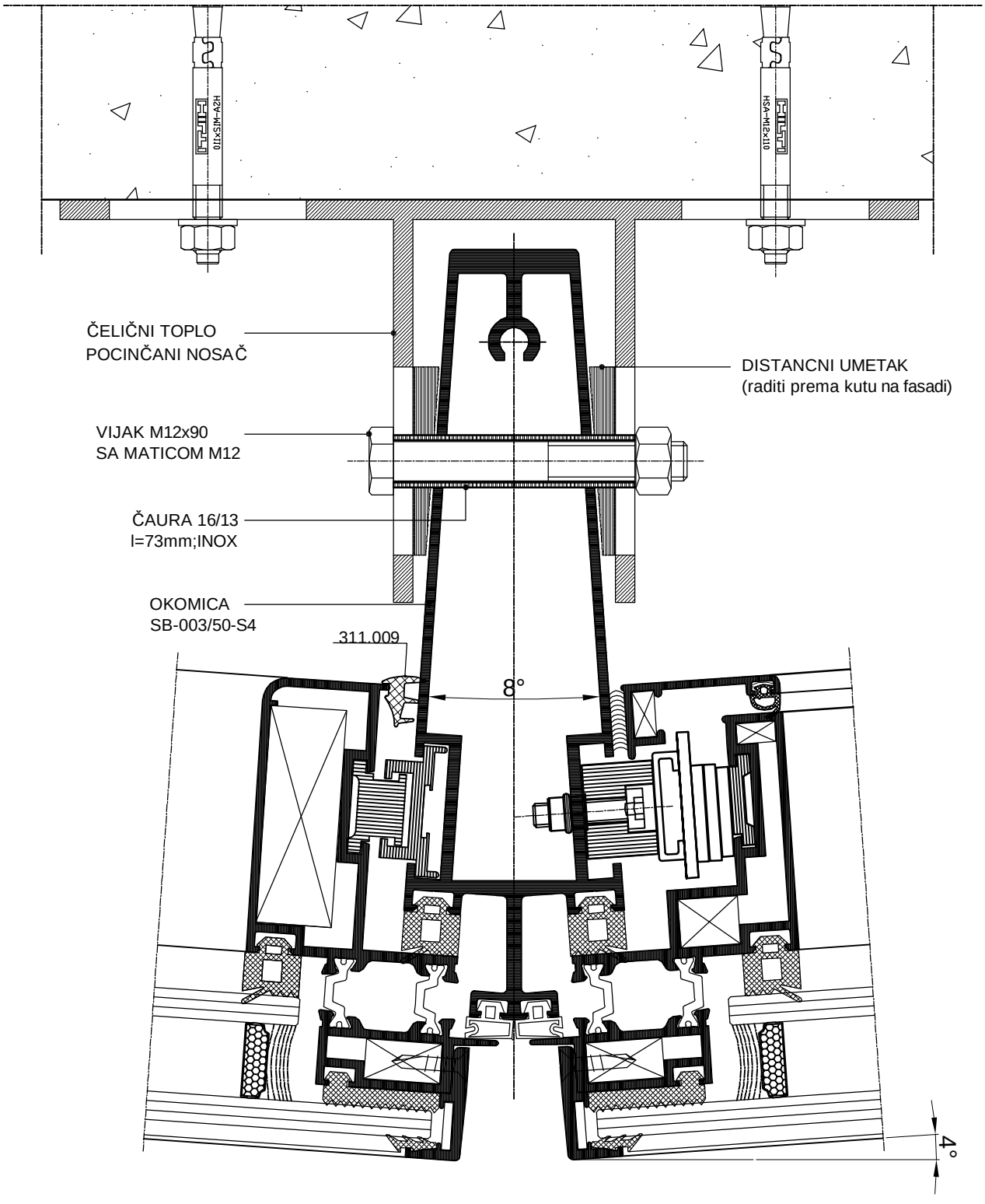


DODATNO ZAKLJUČAVANJE GORNJE VODORAVNICE FASADNOG VENTUSA

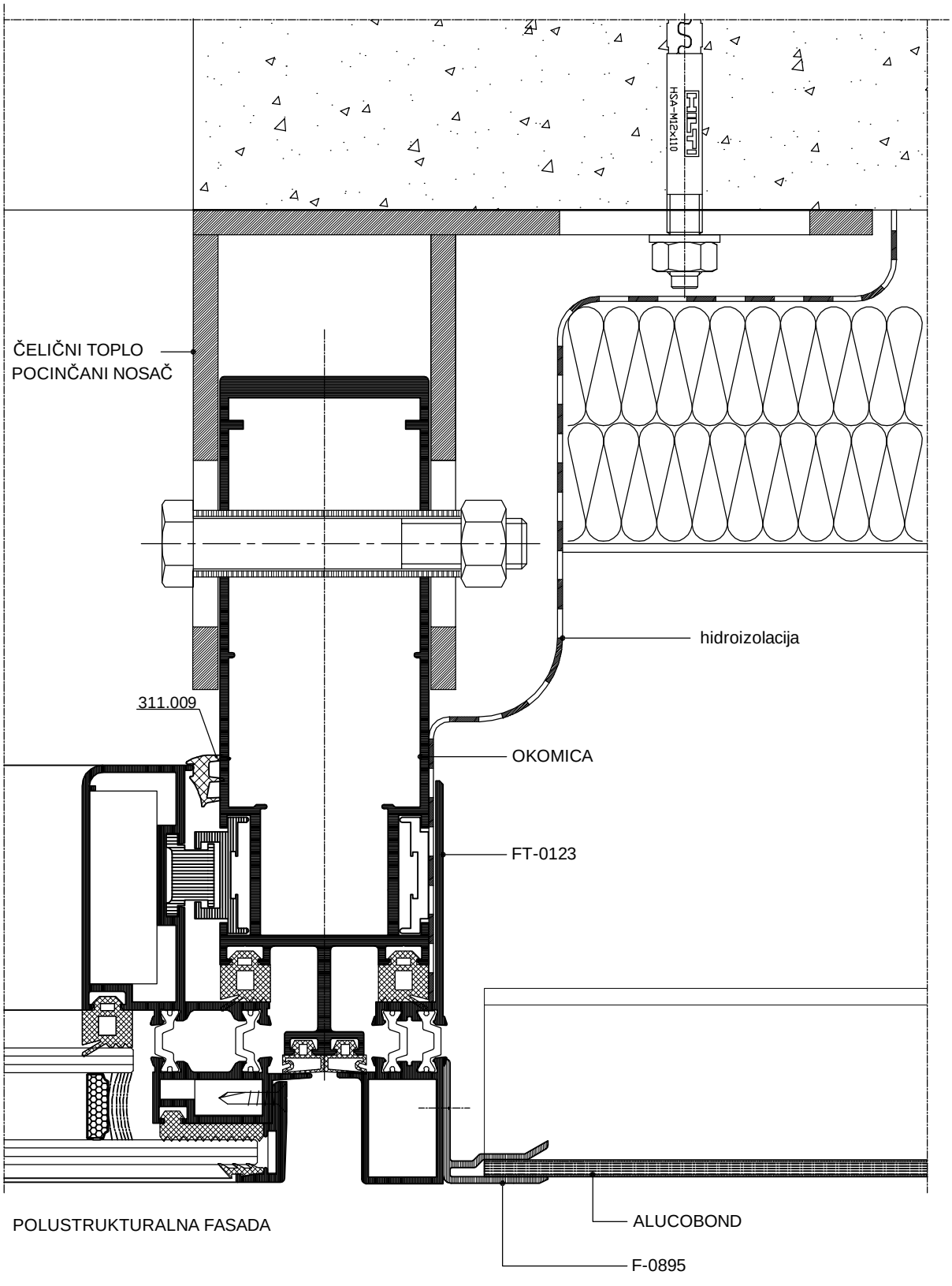


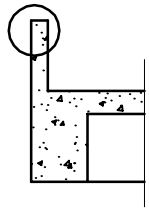


DODATNO ZAKLJUČAVANJE GORNJE VODORAVNICE FASADNOG VENTUSA

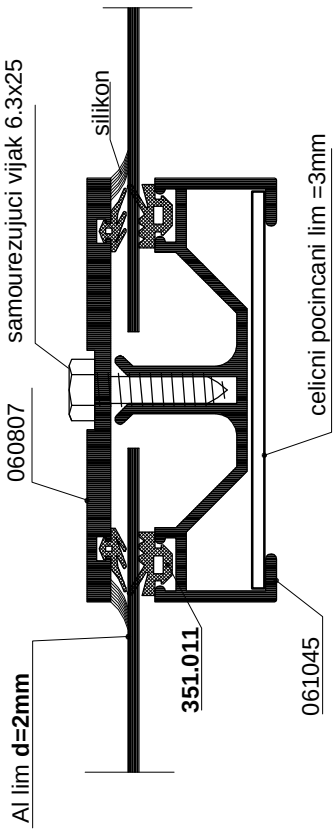


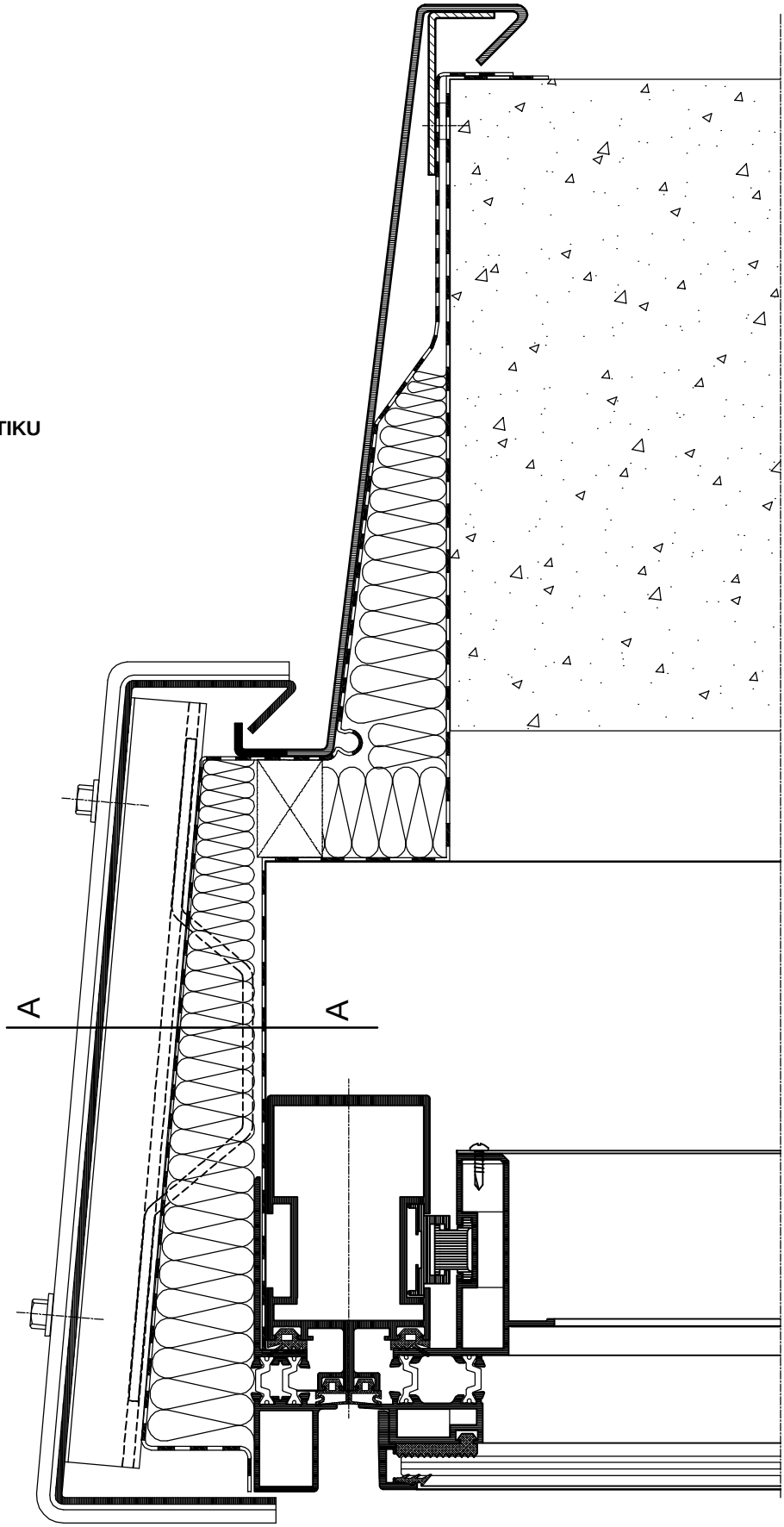
LUČNA FASADA KUT 7-9°

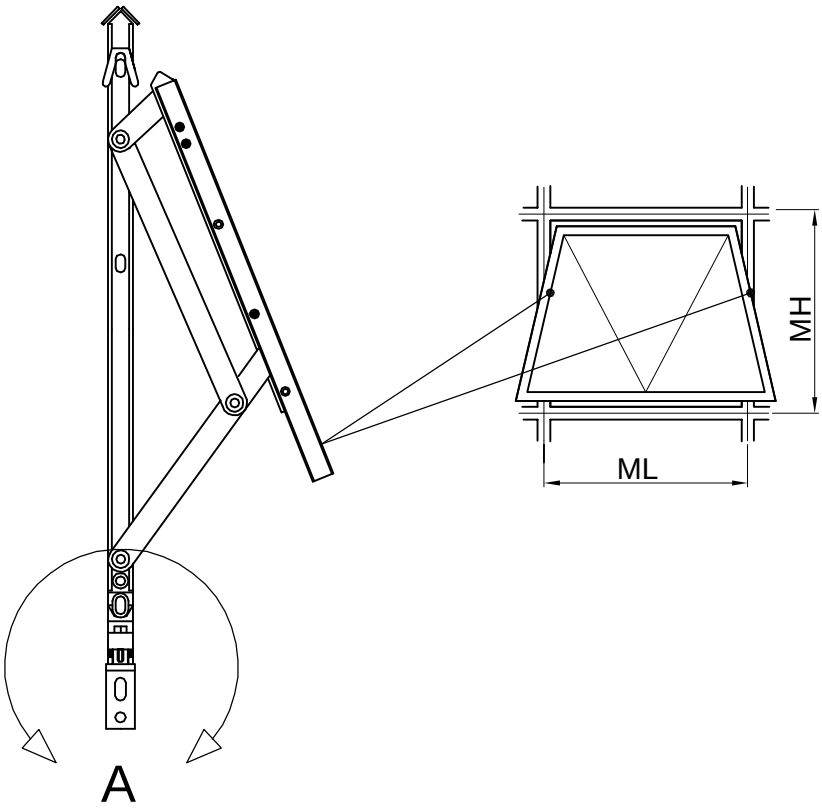

HSA-M12x110
ČELIČNI TOPLO POCINČANI NOSAČ
hidroizolacija
311.009
OKOMICA
FT-0123
ALUCOBOND
F-0895
POLUSTRUKTURALNA FASADA



PRESJEK KROZ ATIKU

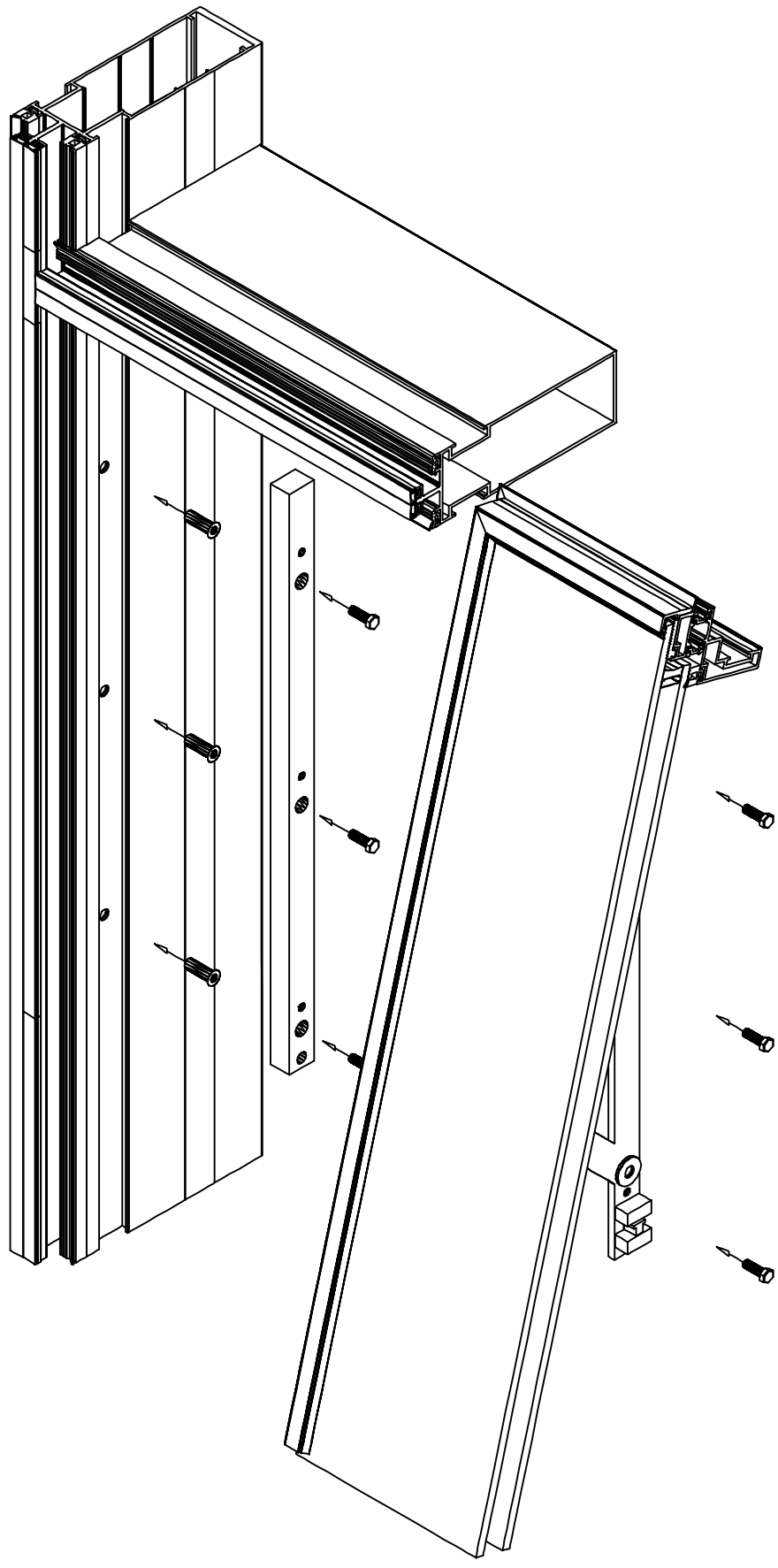


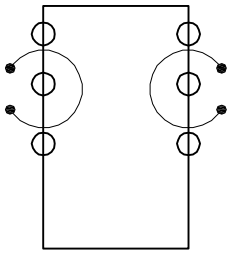



MH
ML
A

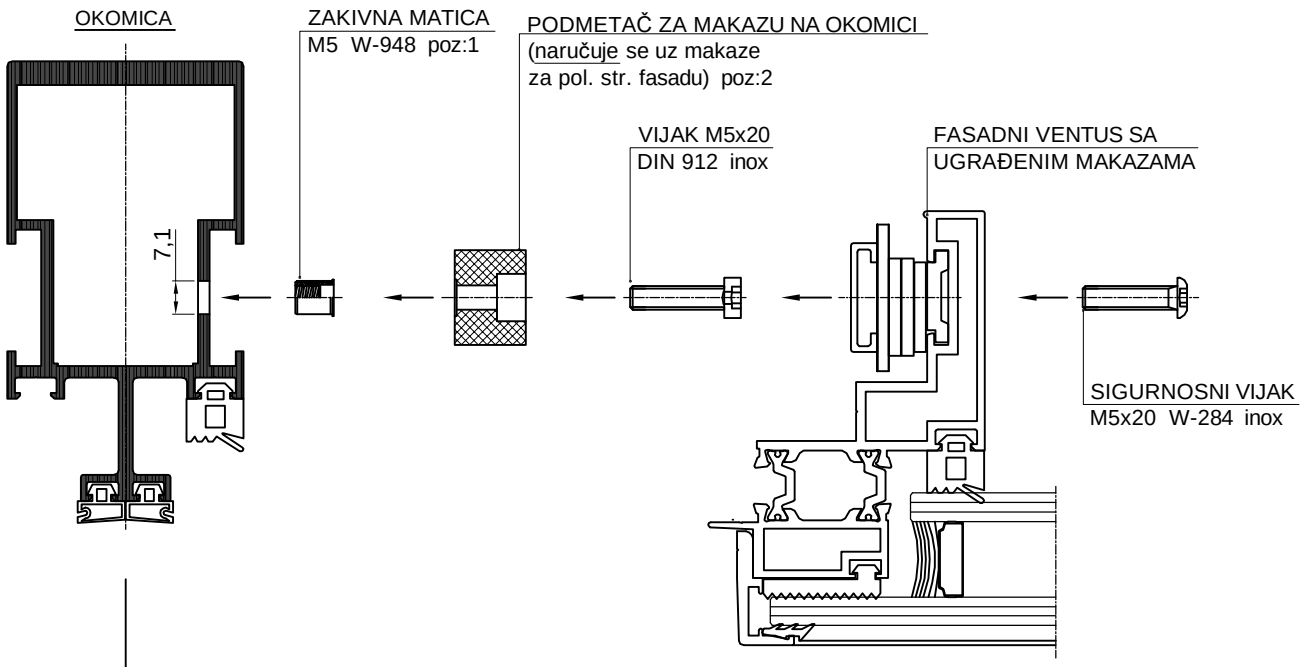
DETALJ - A

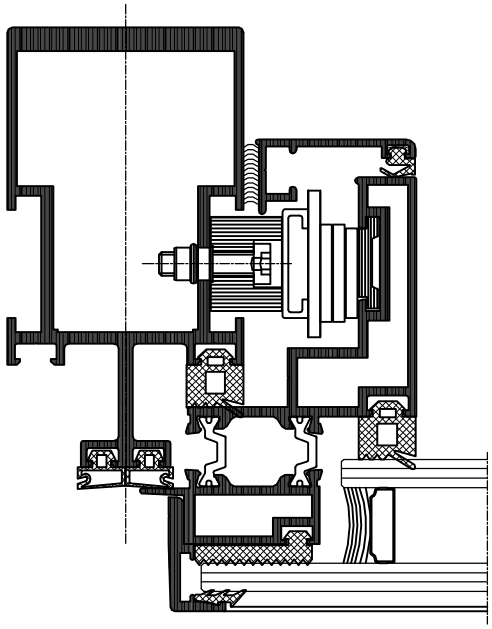

VIJAK M5x25 ZA FINO
PODEŠAVANJE VISINE KEILA
DRŽAČ MAKAZE FASADNOG VENTUSA
U OKOMICI " DM-1"



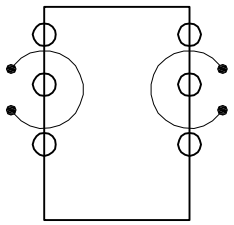


ZA VENTUSE
VANJSKO OTVARANJE

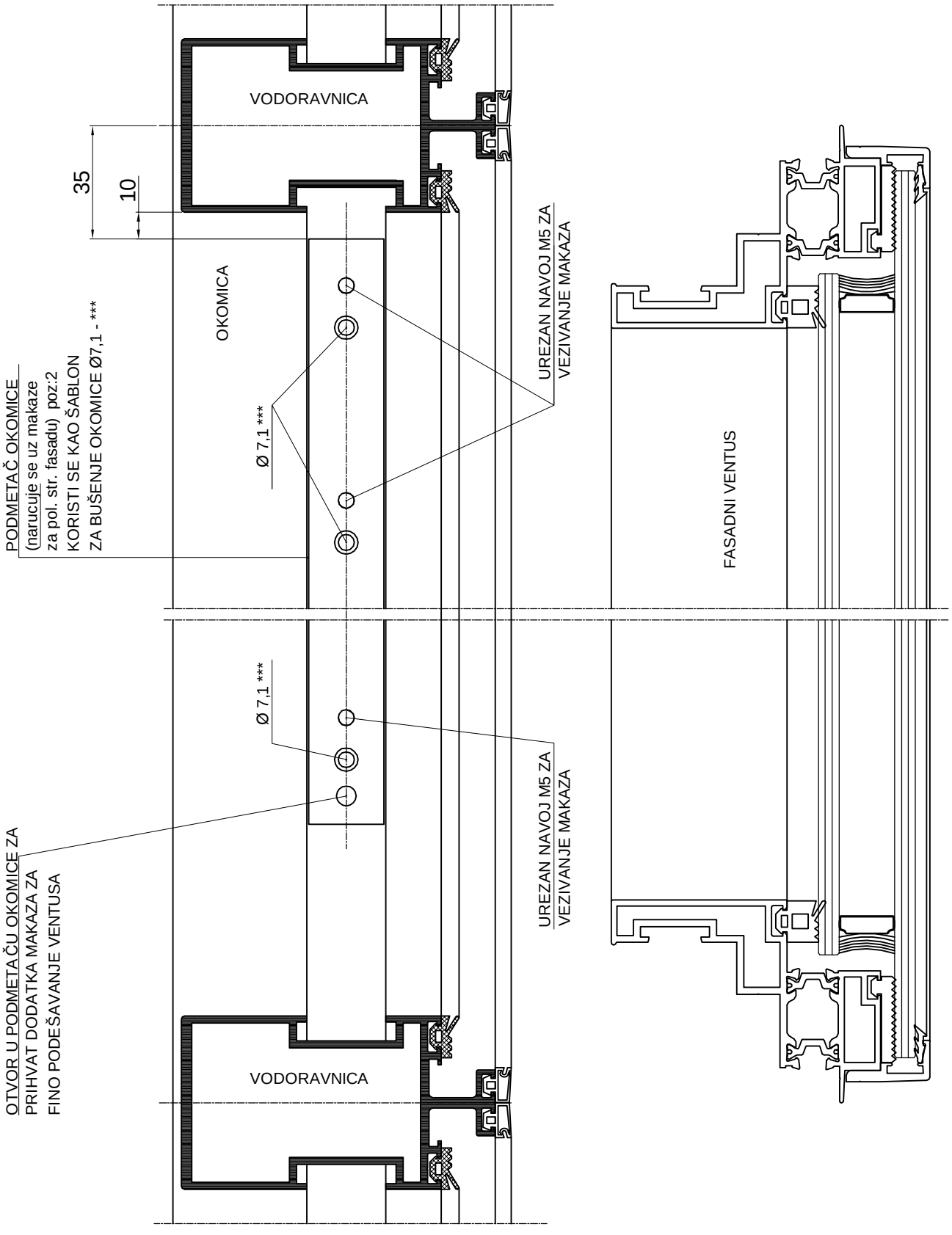


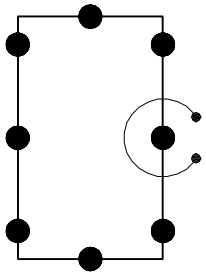


- OKOMICA SE BUŠI Ø7,1mm PO ŠABLONU (poz:2) ZA UGRADNJU ZAKIVNIH MATICA (poz:1) PRIJE UGRADNJE OKOMICA
- PODMETAČ OKOMICE poz:2 SE SPAJA ZA OKOMICU VIJKOM M5x20 KROZ ZAKIVNE MATICE
- OSTAKLJENI FASADNI VENTUS SA UGRAĐENIM MAKAZAMA SE U OTVORENOM POLOŽAJU MAKAZA SPAJA SIGURNOSNIM VIJCIMA ZA VEĆ MONTIRANI PODMETAČ OKOMICE
- FINO PODRŠAVANJE SE IZVODI VIJKOM M5x25 UGRAĐENIM U DONJEM DIJELU MAKAZA.



ZA VENTUSE
VANJSKO OTVARANJE



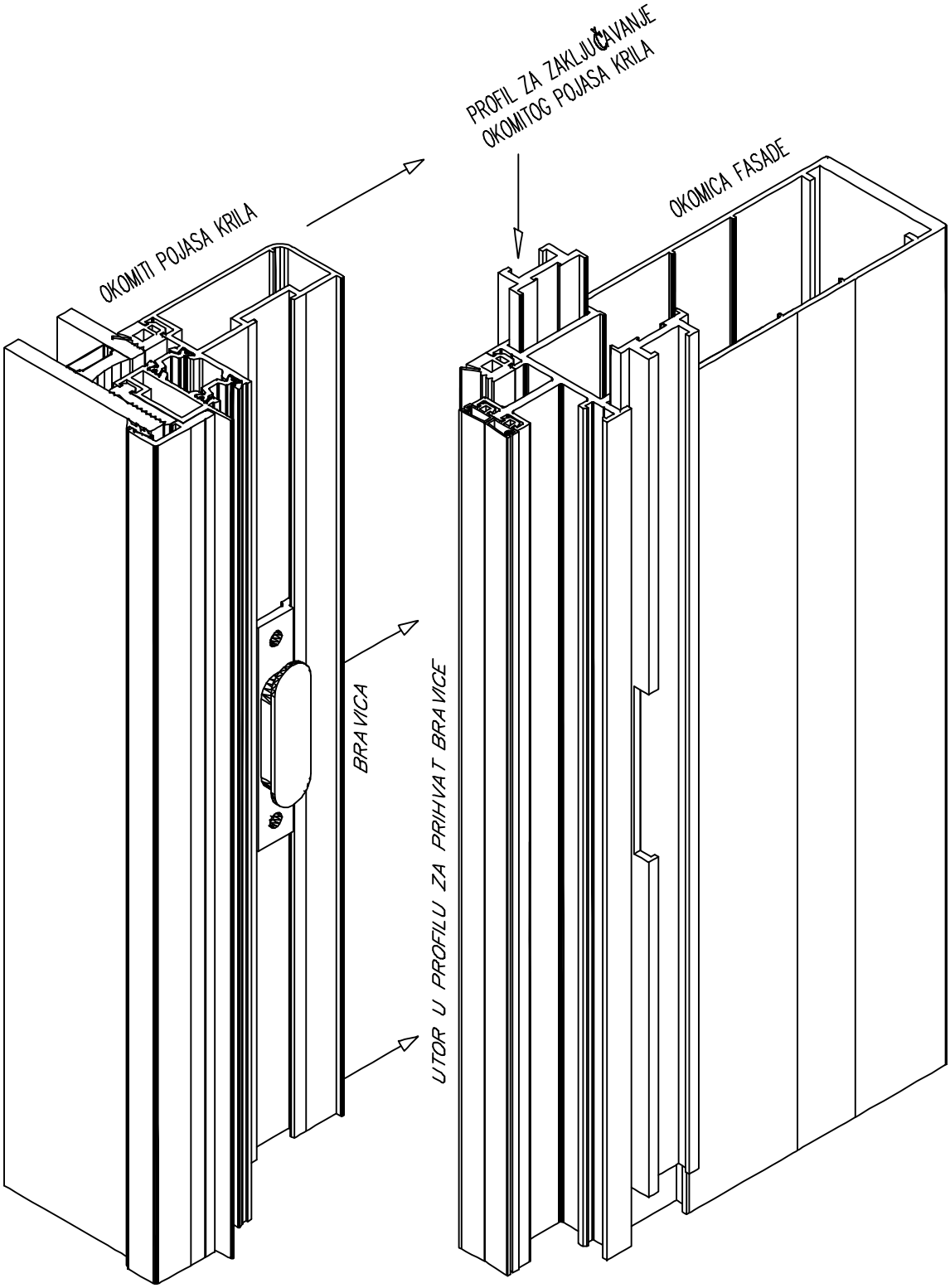


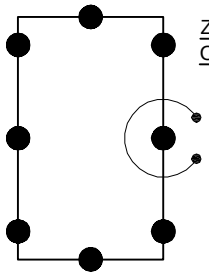
— ZA FIKSNE ILI PARAPETNE OKVIROVE FASADE

— BRAVICAE ZA ZAKLJUČAVANJE NA OKOMITOM I VODORAVNOM POJASU KRILA OSTAKLJENOG FIKSNOG ILI PARAPETNOG DIJELA FASADE SE UMETNU KROZ UTORE U PROFIL ZA ZAKLJUČAVANJE (PRETHODNO OBRADJEN I MONTIRAN U OKOMICU I VODORAVNICU).

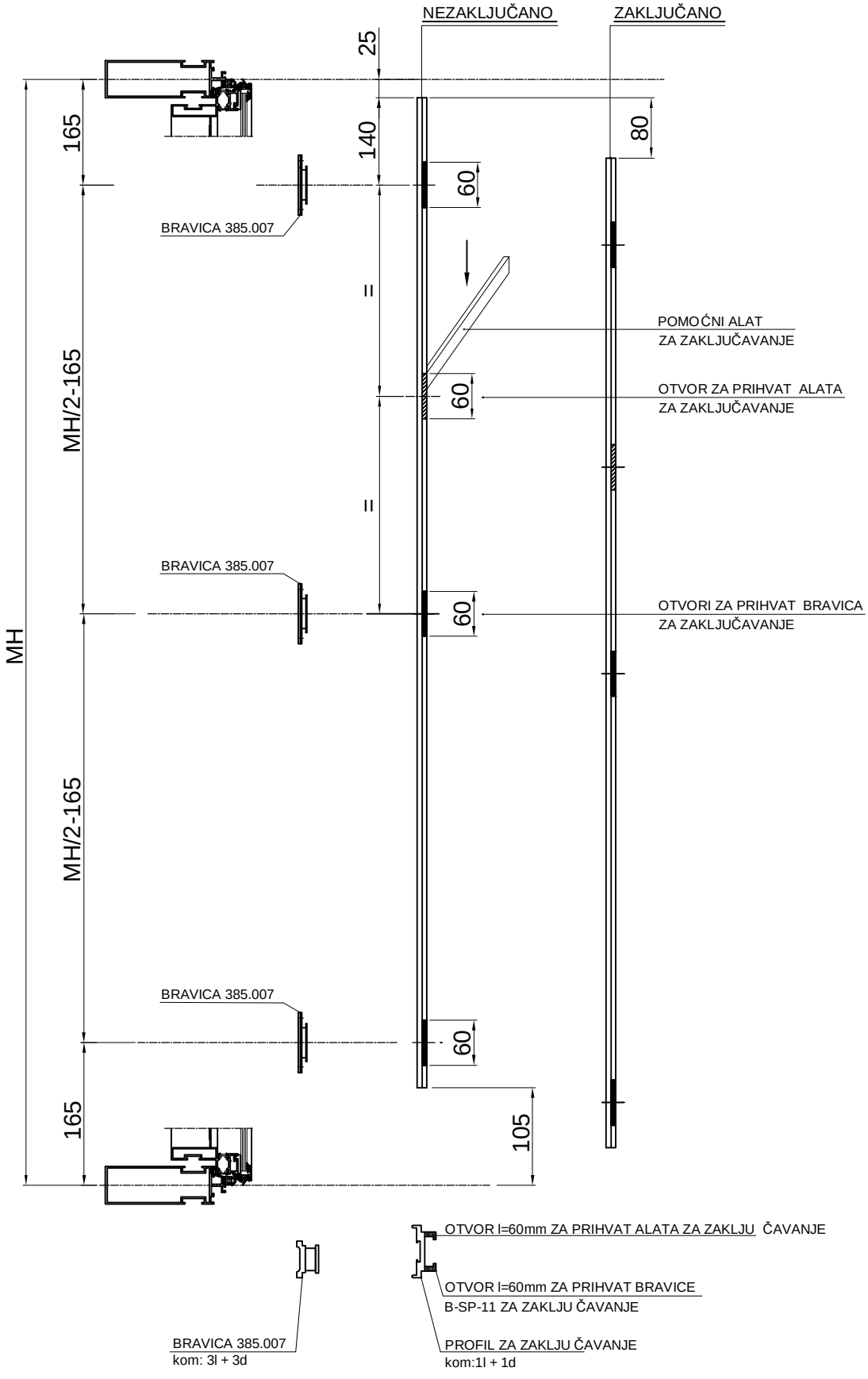
— VERTIKALNIM POMJERANJEM PROFILA ZA ZAKLJUČAVANJE PREMA DOLJE U OKOMICI OKVIR JE ZAKLJUČAN.

— BRAVICE NA VODORAVNOM POJASU OKVIRA SE ZAKLJUČAVAJU POMJERANJEM PROFILA ZA ZAKLJUČAVANJE l=200mm LIJEVO ILI DESNO U VODORAVNICAMA FASADE .





ZA FIKSNE ILI PARAPETNE
OKVIROVE FASADE



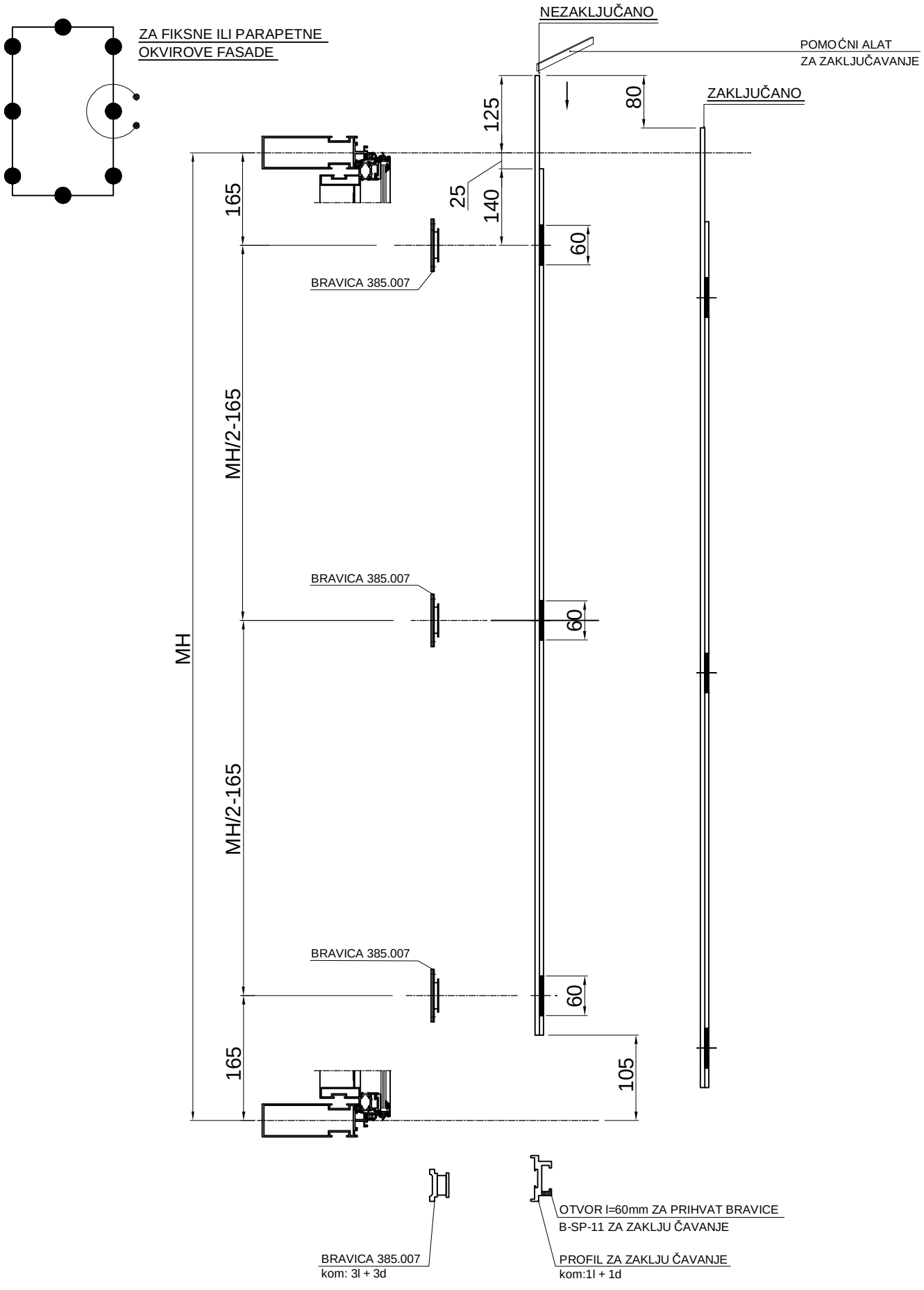
BRAVICA 385.007
kom: 3l + 3d

OTVOR l=60mm ZA PRIHVAT ALATA ZA ZAKLJU ČAVANJE

OTVOR l=60mm ZA PRIHVAT BRAVICE
B-SP-11 ZA ZAKLJU ČAVANJE

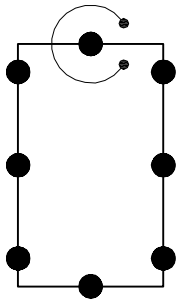
PROFIL ZA ZAKLJU ČAVANJE
kom:1l + 1d

- VERTIKALNIM POMJERANJEM PROFILA ZA ZAKLJUČAVANJE PREMA DOLJE (~80mm) U OKOMICI OKVIR JE ZAKLJUČAN.
- OVAKAV NAČIN MONTAŽE JE PRIMJENLJIV UKOLIKO IZA PARAPETNIH OKVIROVA FASADE NEMA BETONSKOG PLATNA

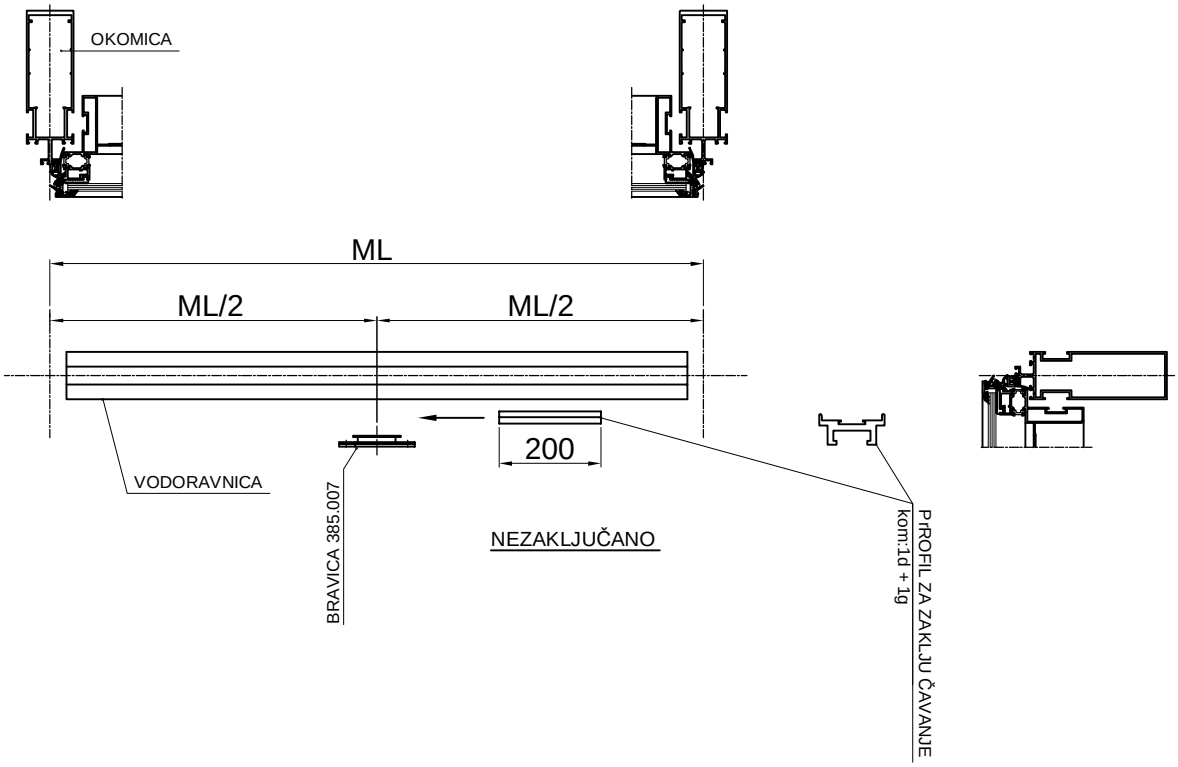


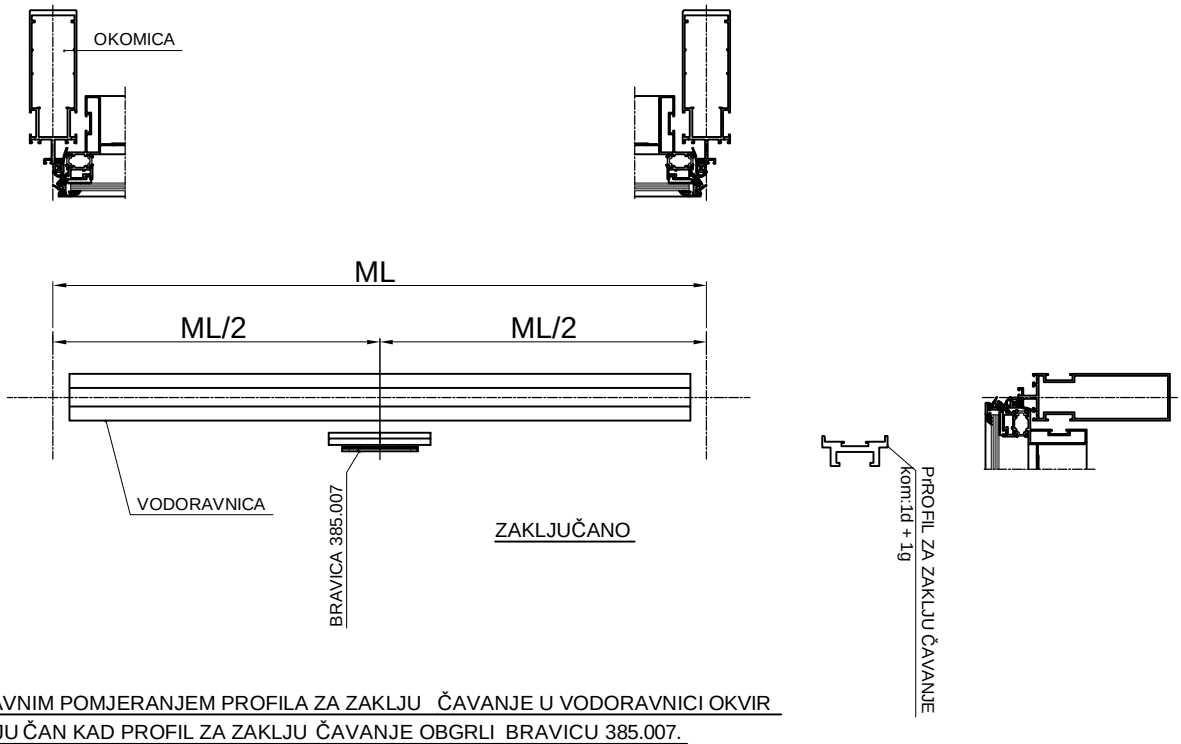
— VERTIKALNIM POMJERANJEM PROFILA ZA ZAKLJUČAVANJE PREMA DOLJE (~80mm) U OKOMICI OKVIR JE ZAKLJUČAN.

— OVAKAV NAČIN MONTAŽE JE PRIMJENLJIV UKOLIKO IZA PARAPETNIH OKVIROVA FASADE POSTOJE BETONSKA PLATNA



ZA FIKSNE ILI PARAPETNE
OKVIROVE FASADE

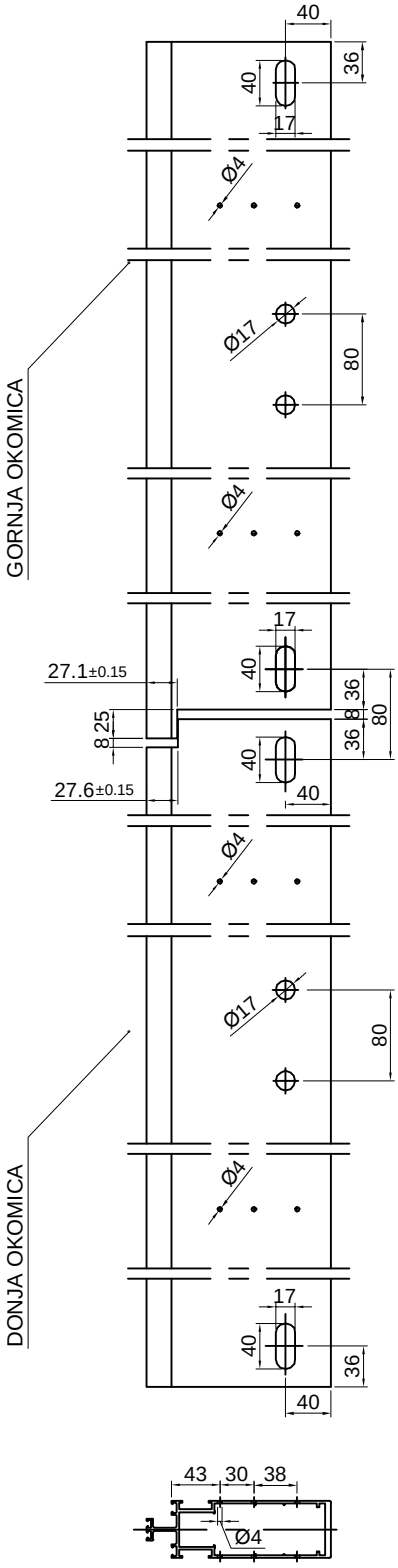




— VODORAVNIM POMJERANJEM PROFILA ZA ZAKLJU ČAVANJE U VODORAVNICI OKVIR JE ZAKLJU ČAN KAD PROFIL ZA ZAKLJU ČAVANJE OBGRLI BRAVICU 385.007.

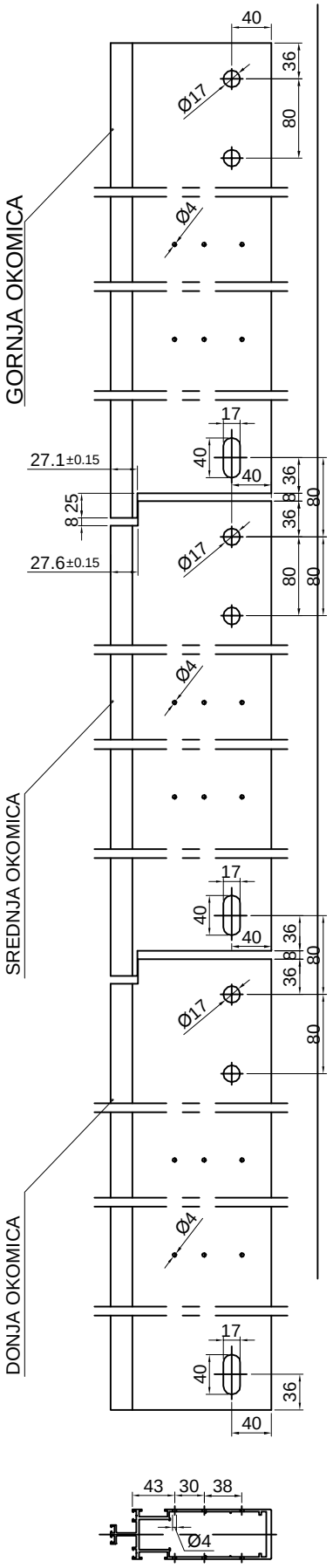
— OVJEŠENA FASADA

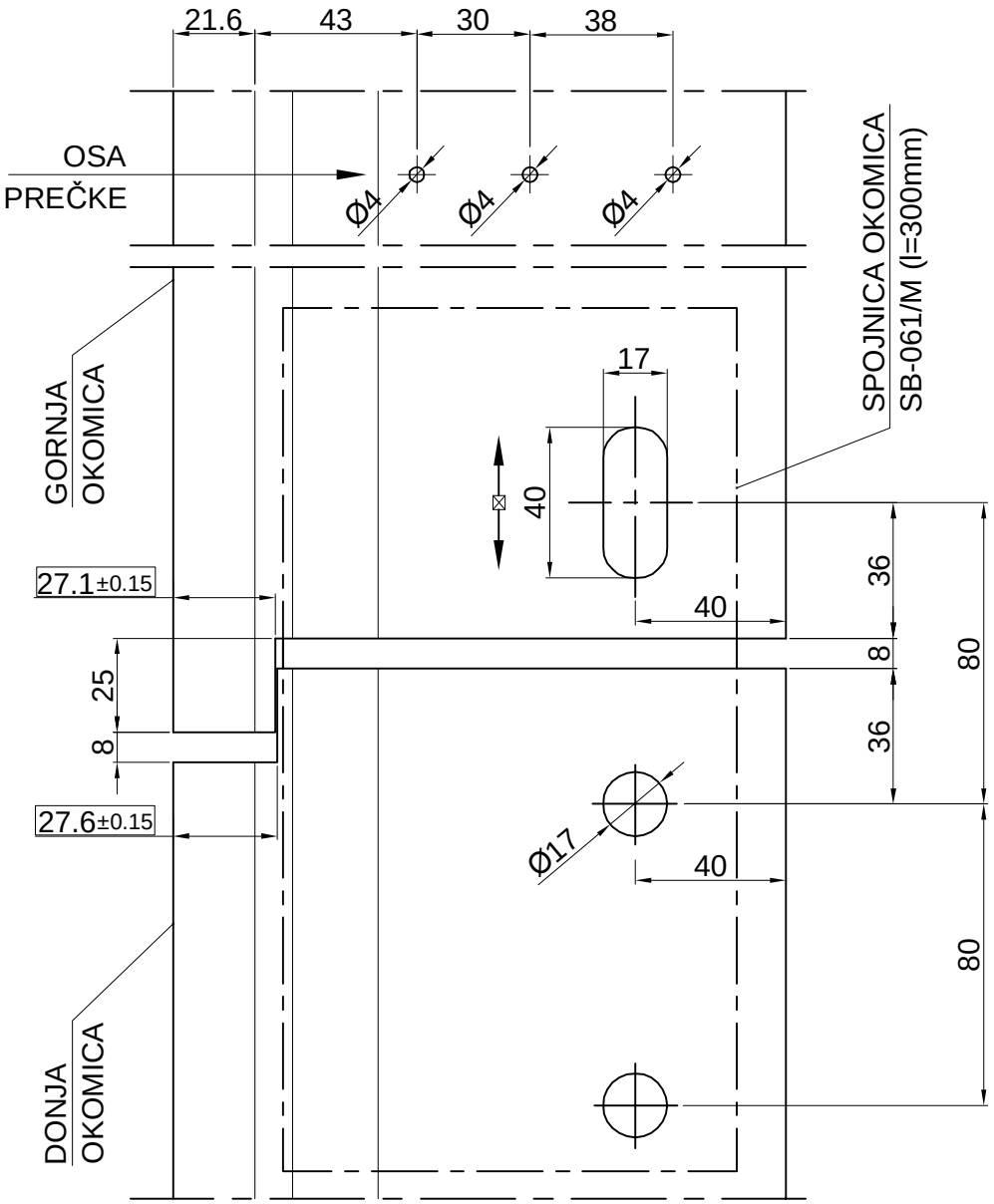
— OKOMICA NA TRI OSLONCA

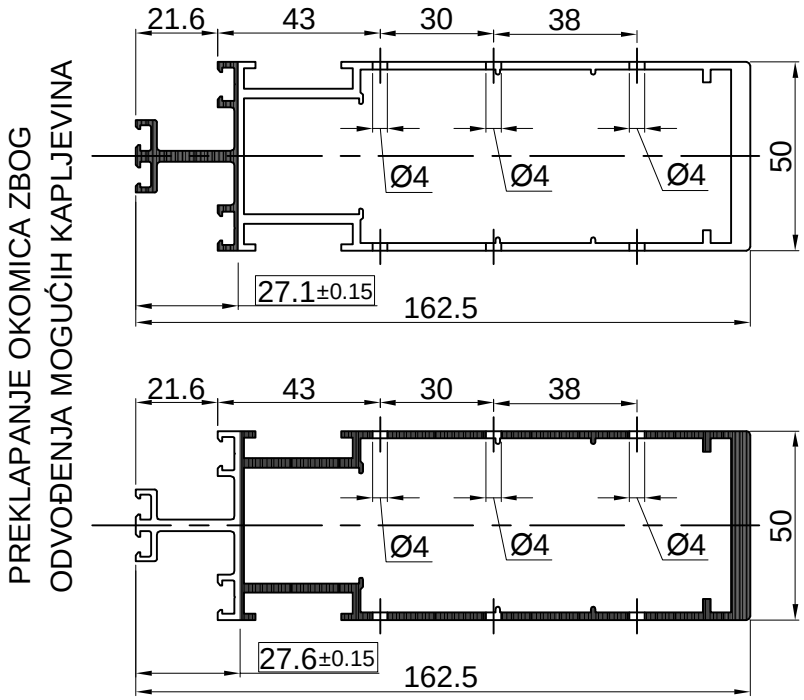


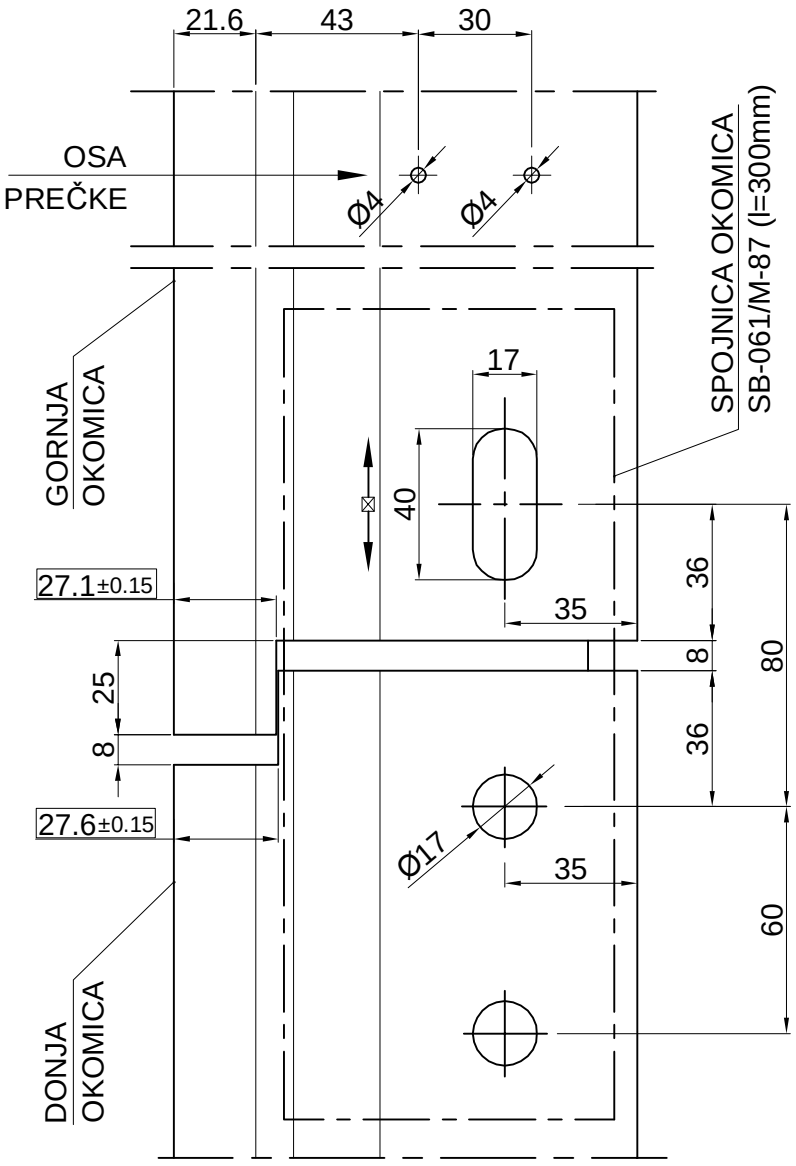
— OVJEŠENA FASADA

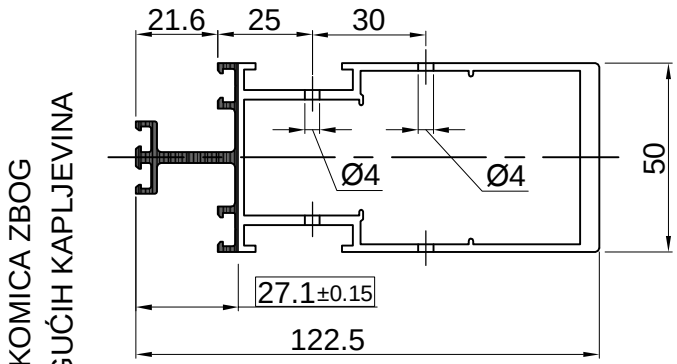
— OKOMICA NA DVA OSLONCA



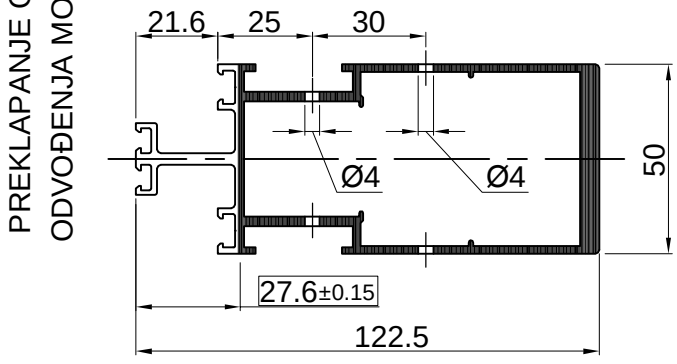

21.6
43
30
38
OSA
PREČKE
Ø4
Ø4
Ø4
SPOJNICA OKOMICA
SB-061/M (l=300mm)
GORNJA
OKOMICA
17
40
27.1±0.15
40
36
8
80
25
8
36
27.6±0.15
Ø17
40
80
DONJA
OKOMICA

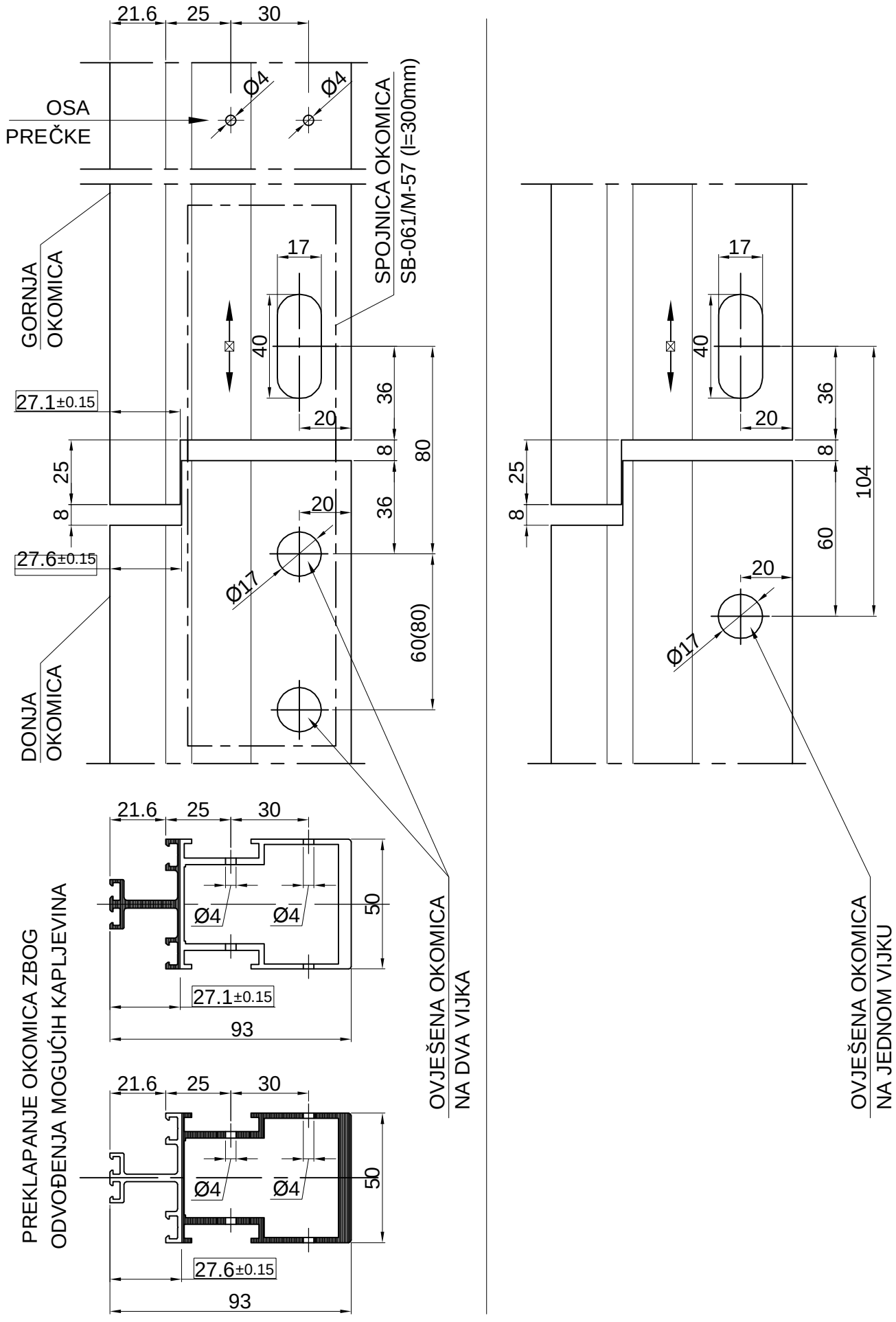

PREKLAPANJE OKOMICA ZBOG
ODVOĐENJA MOGUĆIH KAPLJEVINA
21.6
43
30
38
Ø4
Ø4
Ø4
50
27.1±0.15
162.5
21.6
43
30
38
Ø4
Ø4
Ø4
50
27.6±0.15
162.5

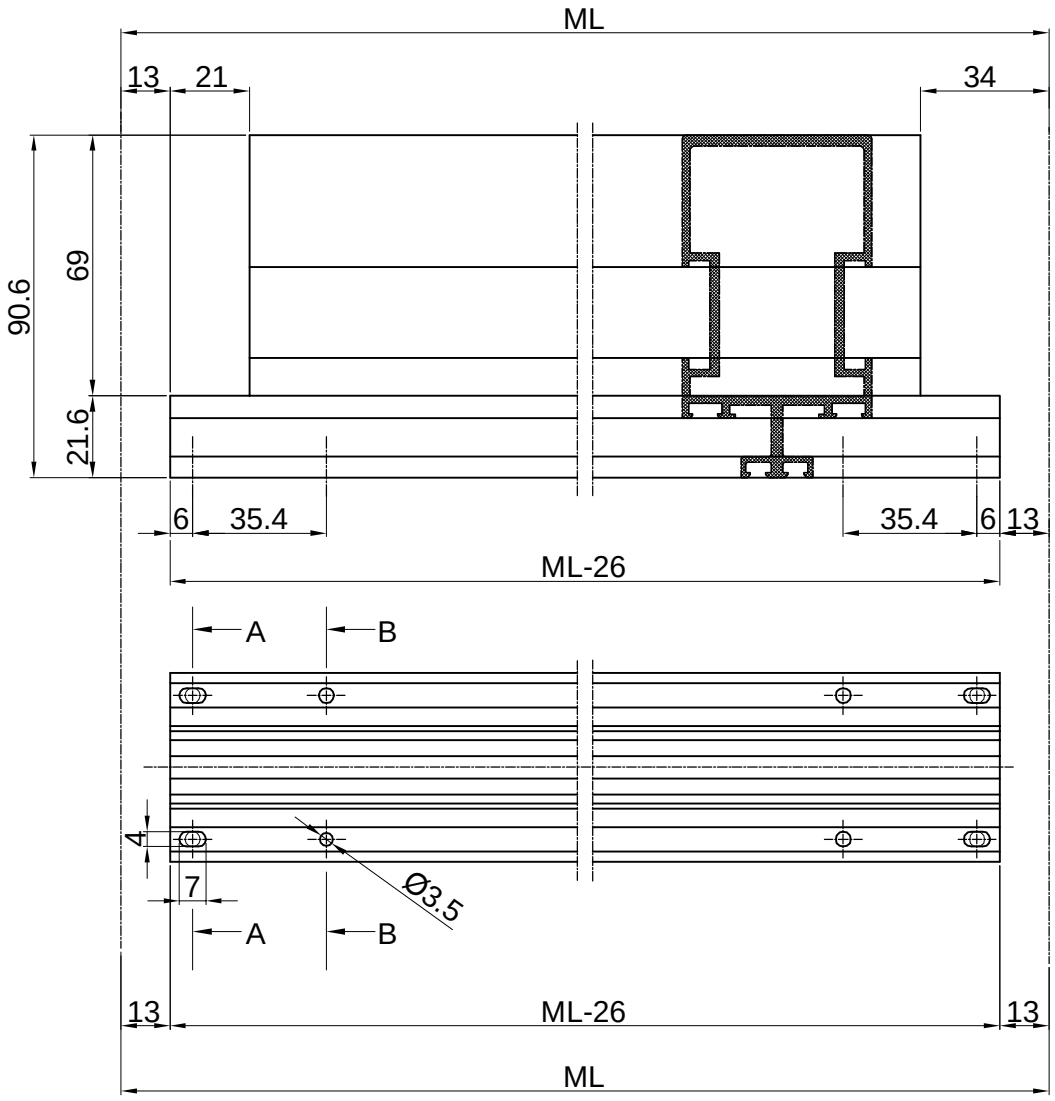


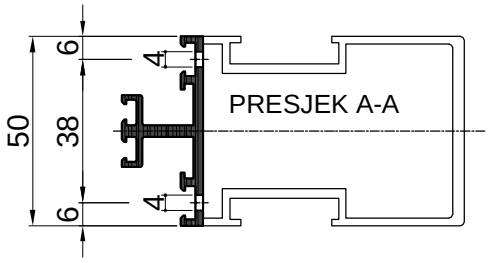


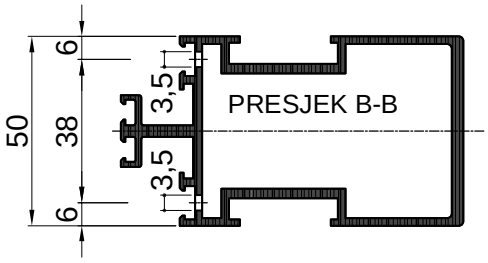
PREKLAPANJE OKOMICA ZBOG
ODVOĐENJA MOGUĆIH KAPLJEVINA

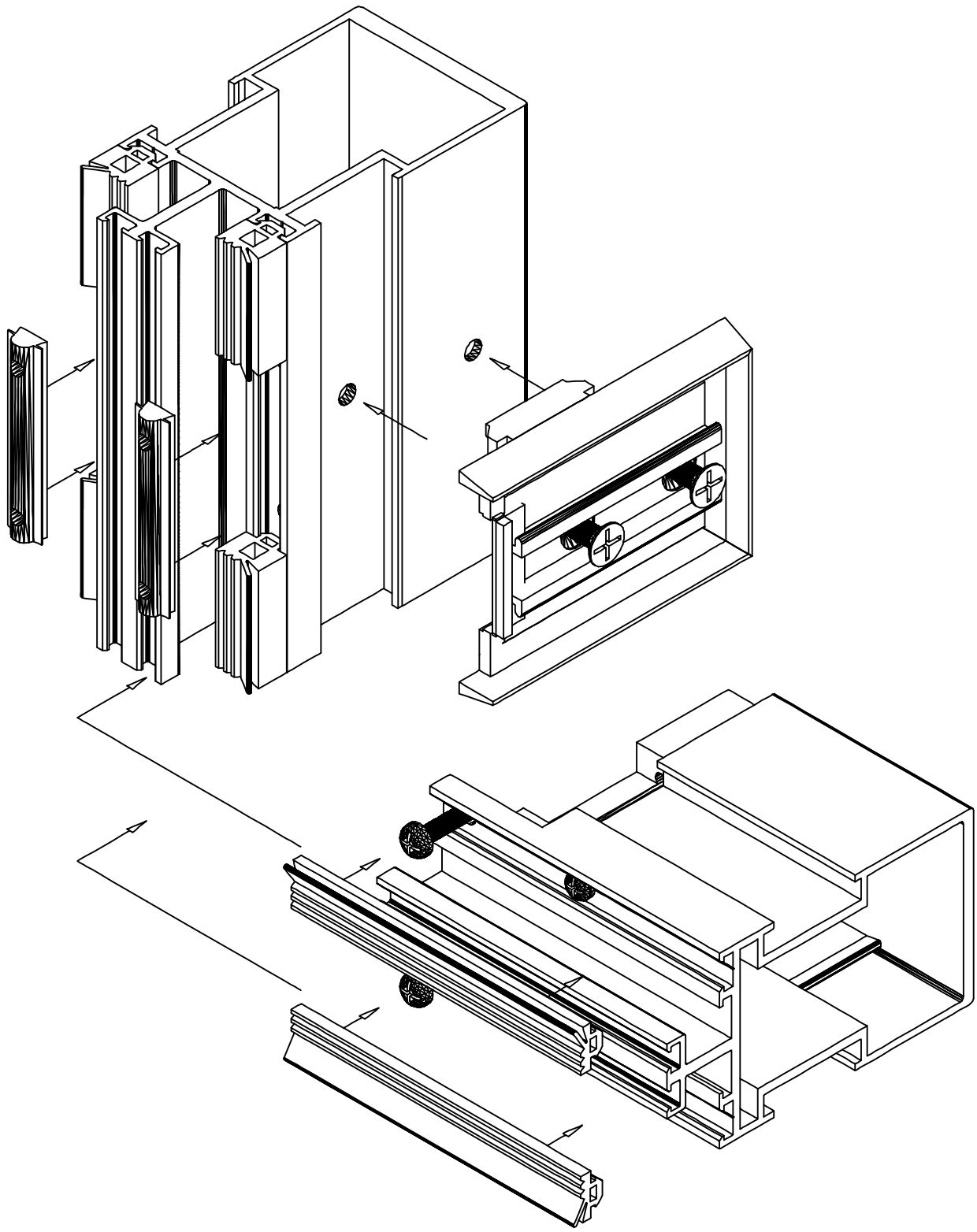


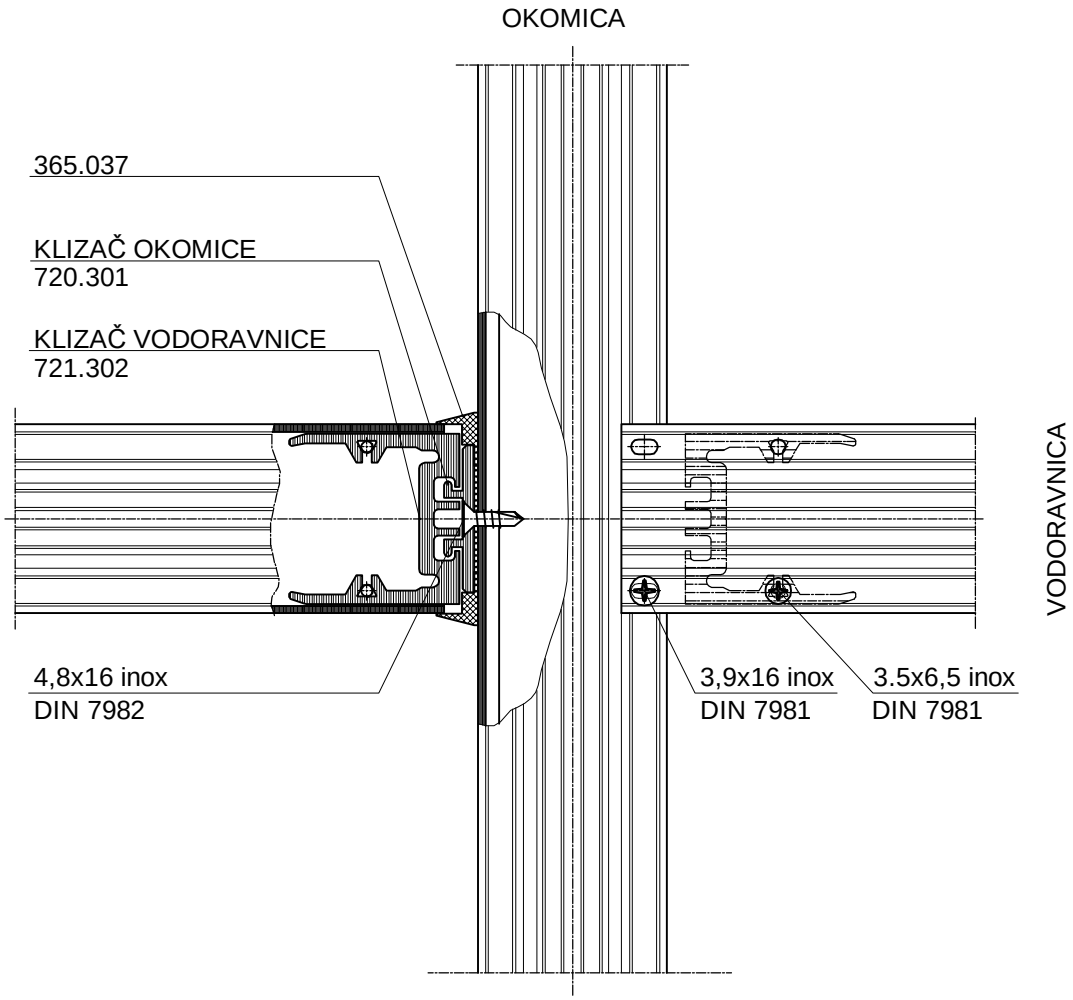

21.6
25
30
OSA PREČKE
Ø4
Ø4
GORNJA OKOMICA
SPOJNICA OKOMICA SB-061/M-57 (l=300mm)
17
40
36
20
8
80
27.1±0.15
25
8
27.6±0.15
Ø17
60(80)
DONJA OKOMICA
OVJEŠENA OKOMICA NA DVA VIJKA
PREKLAPANJE OKOMICA ZBOG ODVOĐENJA MOGUĆIH KAPLJEVINA
50
93
OVJEŠENA OKOMICA NA JEDNOM VIJKU
104
60

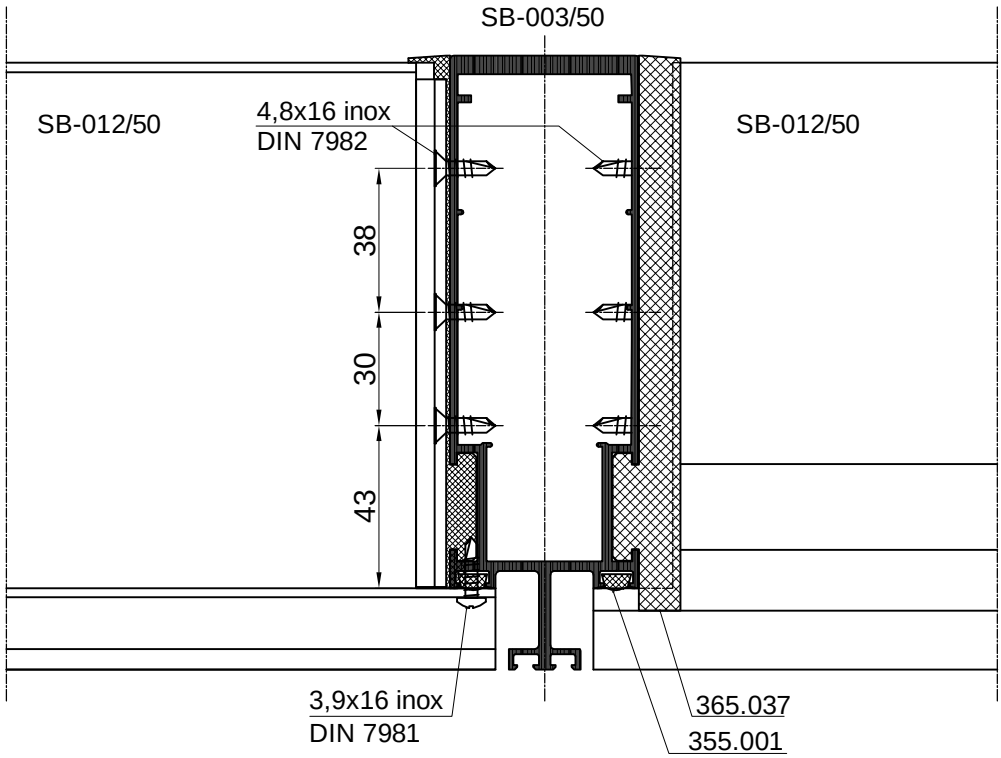

ML
13
21
34
90.6
69
21.6
6
35.4
35.4
6
13
ML-26
A
B
4
7
Ø3.5
A
B
13
ML-26
13
ML

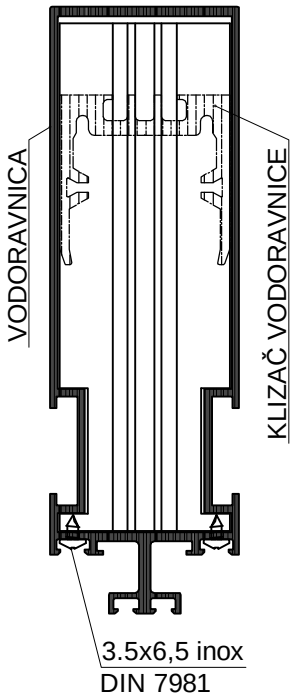

50
6
38
6
4
4
PRESJEK A-A

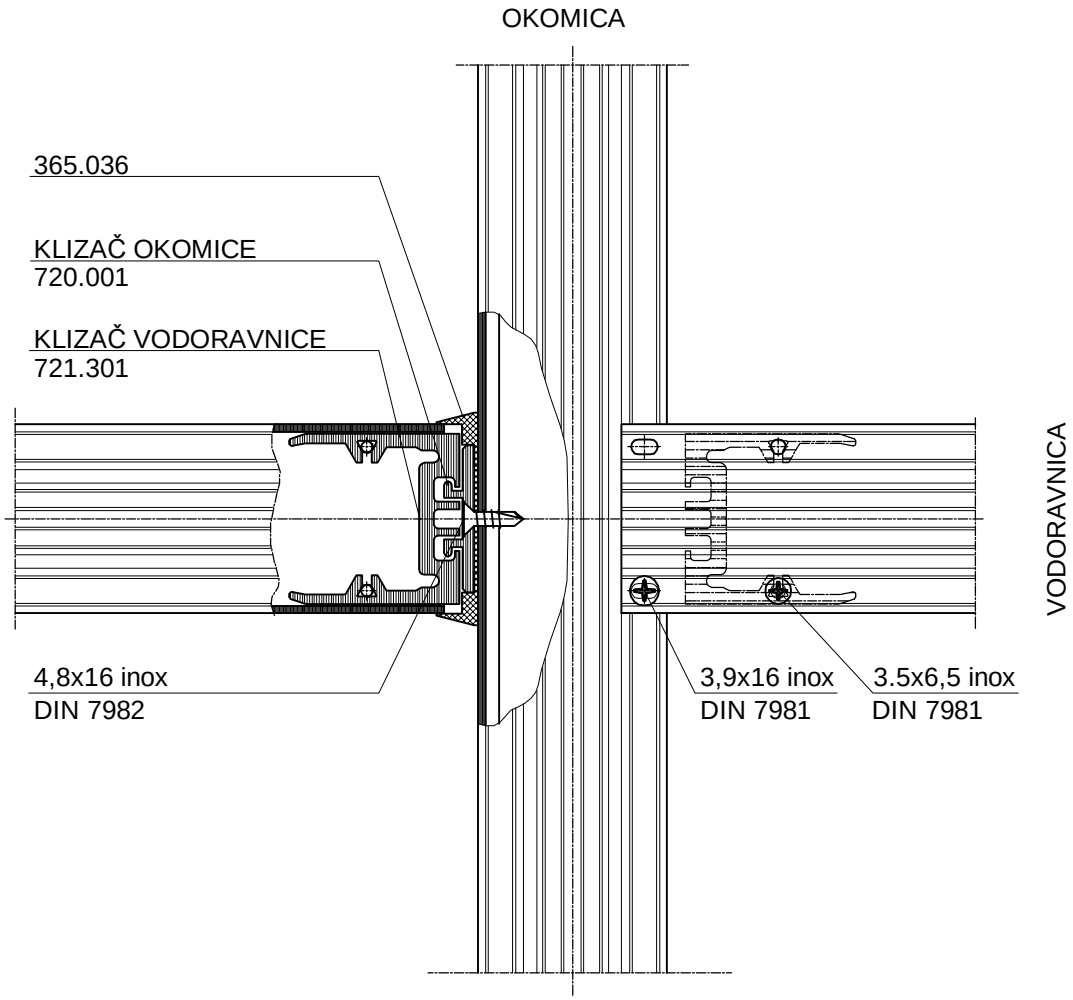

50
6
38
6
3,5
3,5
PRESJEK B-B

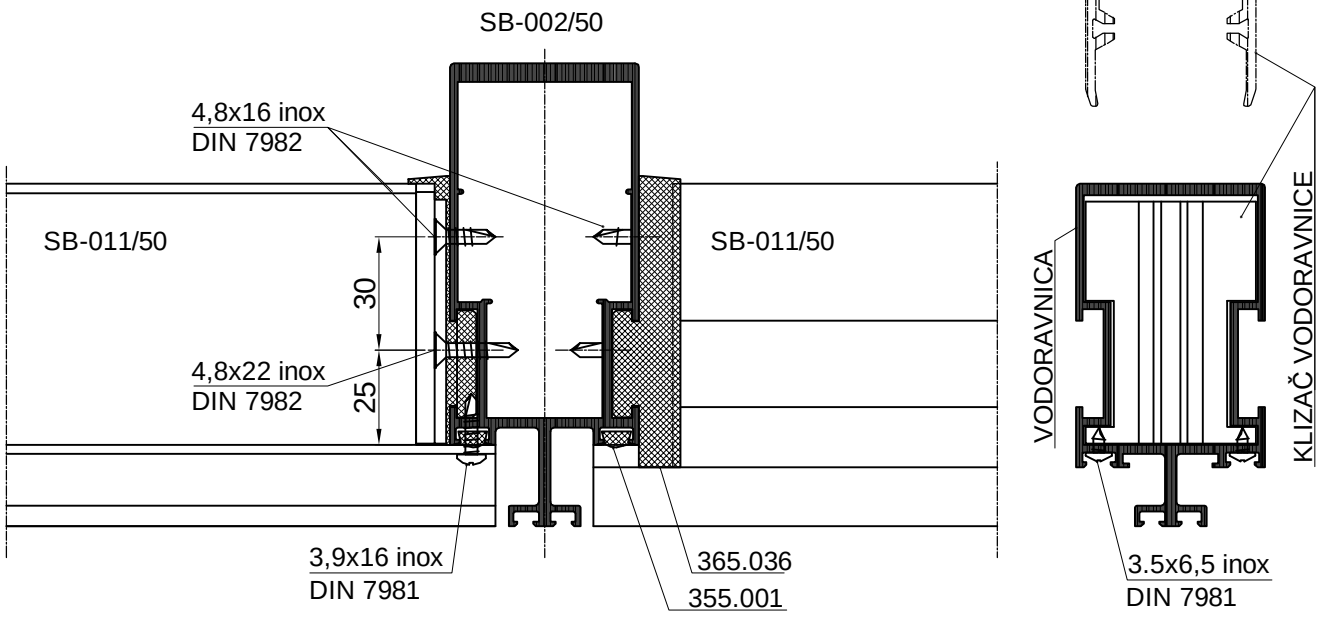


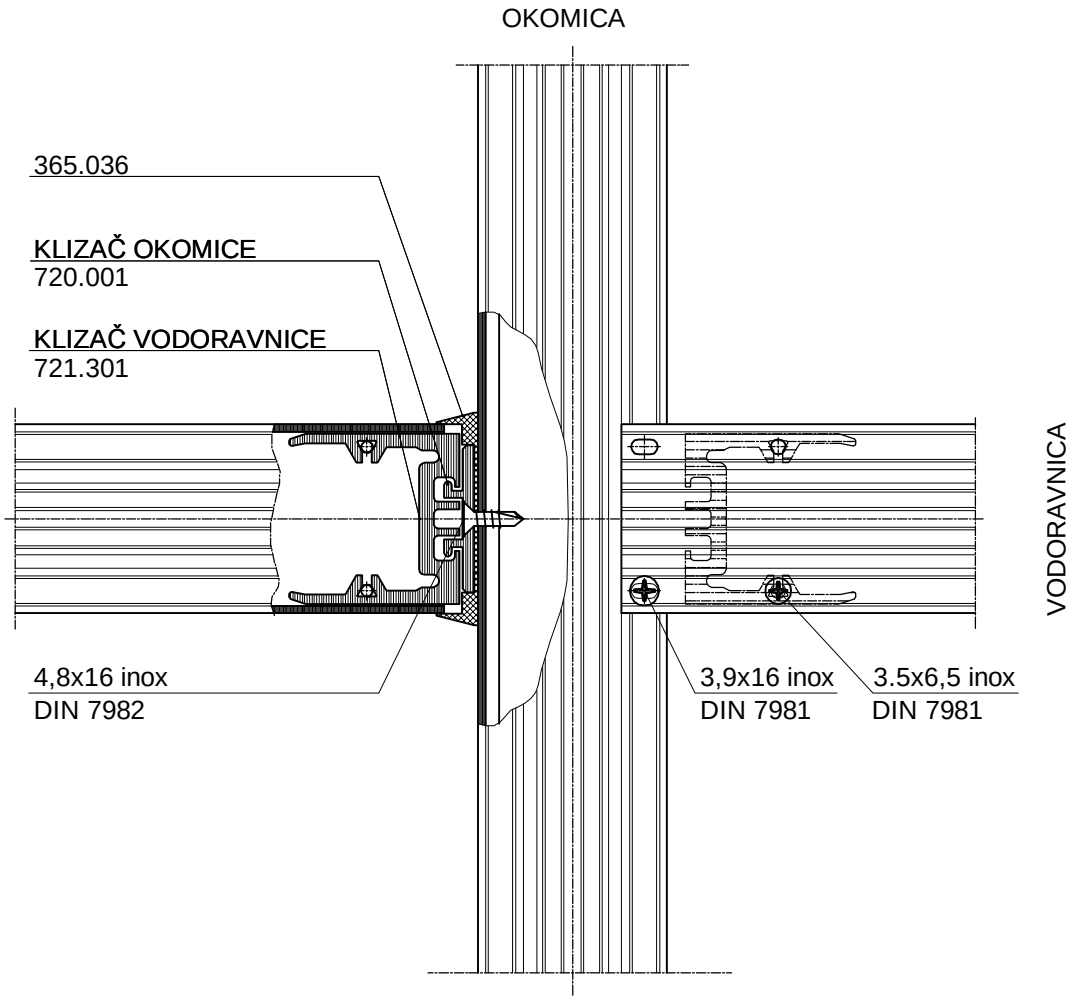

OKOMICA
365.037
KLIZAČ OKOMICE
720.301
KLIZAČ VODORAVNICE
721.302
VODORAVNICA
4,8x16 inox
DIN 7982
3,9x16 inox
DIN 7981
3.5x6,5 inox
DIN 7981

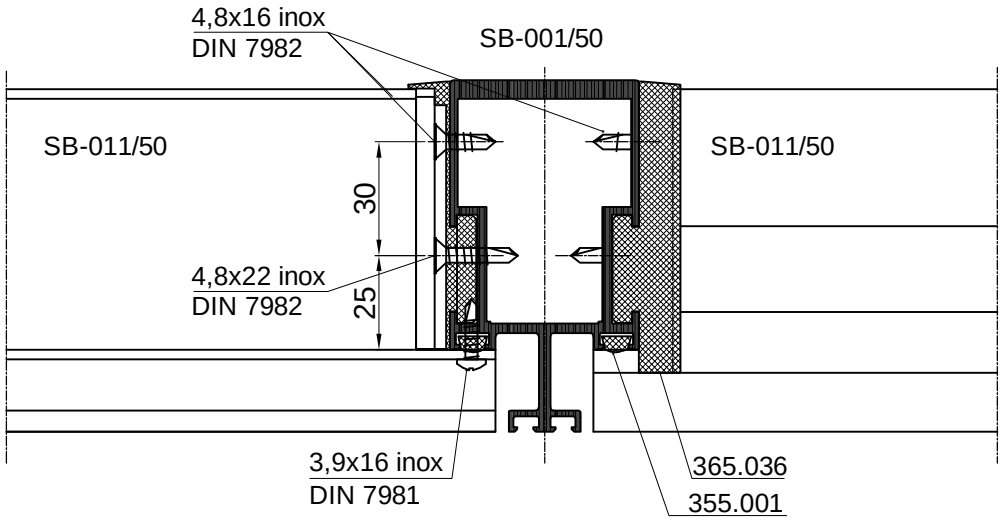

SB-003/50
SB-012/50
4,8x16 inox
DIN 7982
SB-012/50
38
30
43
3,9x16 inox
DIN 7981
365.037
355.001


VODORAVNICA
KLIZAČ VODORAVNICE
3.5x6,5 inox
DIN 7981


OKOMICA
365.036
KLIZAČ OKOMICE
720.001
KLIZAČ VODORAVNICE
721.301
VODORAVNICA
4,8x16 inox
DIN 7982
3,9x16 inox
DIN 7981
3.5x6,5 inox
DIN 7981


SB-002/50
4,8x16 inox
DIN 7982
SB-011/50
SB-011/50
30
4,8x22 inox
DIN 7982
25
3,9x16 inox
DIN 7981
365.036
355.001
VODORAVNICA
KLIZAČ VODORAVNICE
3.5x6,5 inox
DIN 7981


OKOMICA
365.036
KLIZAČ OKOMICE
720.001
KLIZAČ VODORAVNICE
721.301
VODORAVNICA
4,8x16 inox
DIN 7982
3,9x16 inox
DIN 7981
3.5x6,5 inox
DIN 7981


4,8x16 inox
DIN 7982
SB-001/50
SB-011/50
SB-011/50
30
4,8x22 inox
DIN 7982
25
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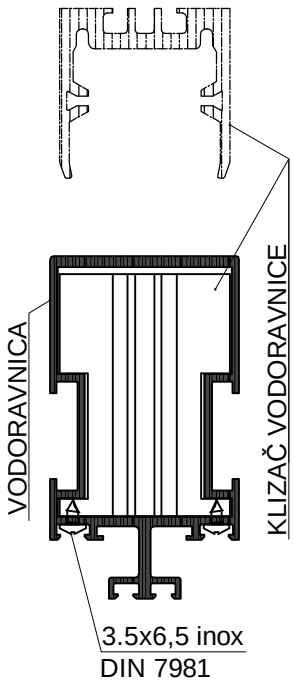
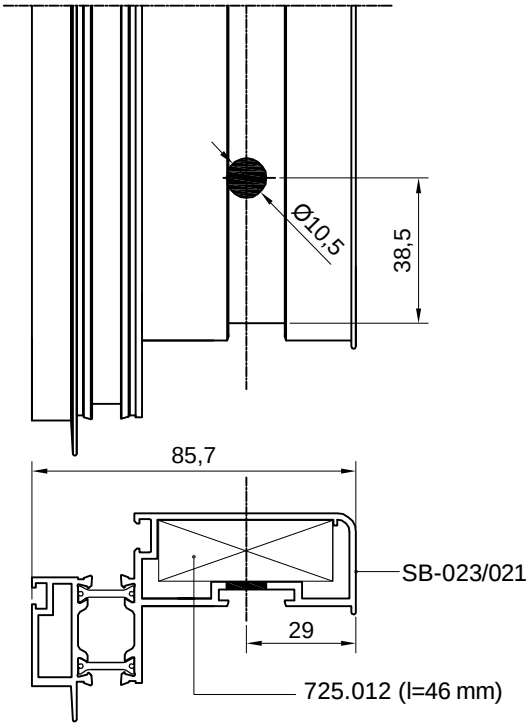
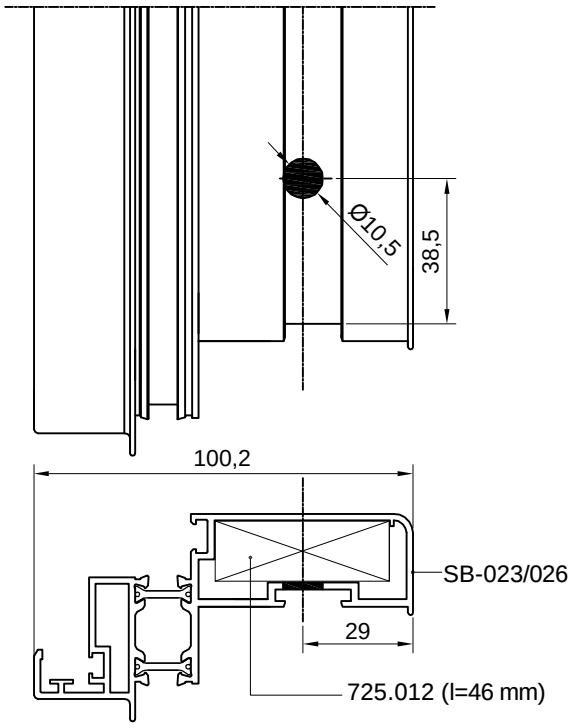
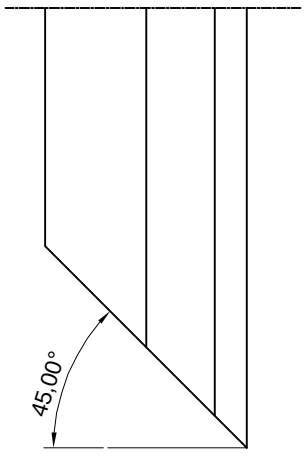
DIN 7981
365.036
355.001

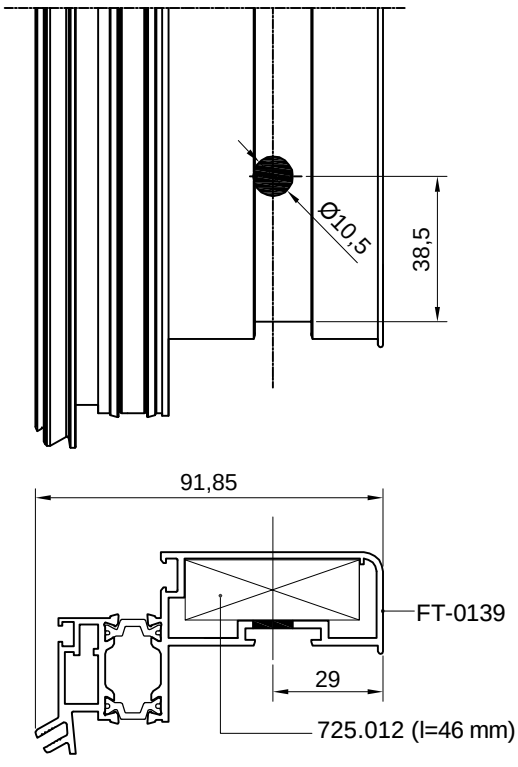

VODORAVNICA
KLIZAČ VODORAVNICE
3.5x6,5 inox
DIN 7981

- Obrada profila FT-0139, SB-023/021, SB-023/026 za kutnik 725.012

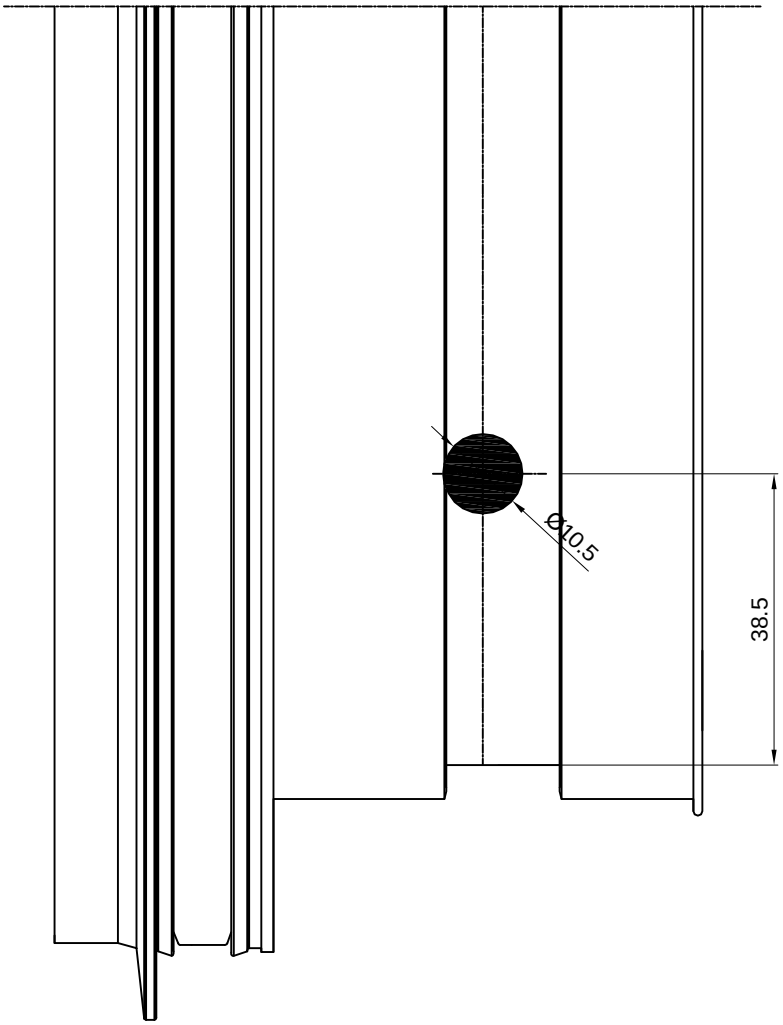


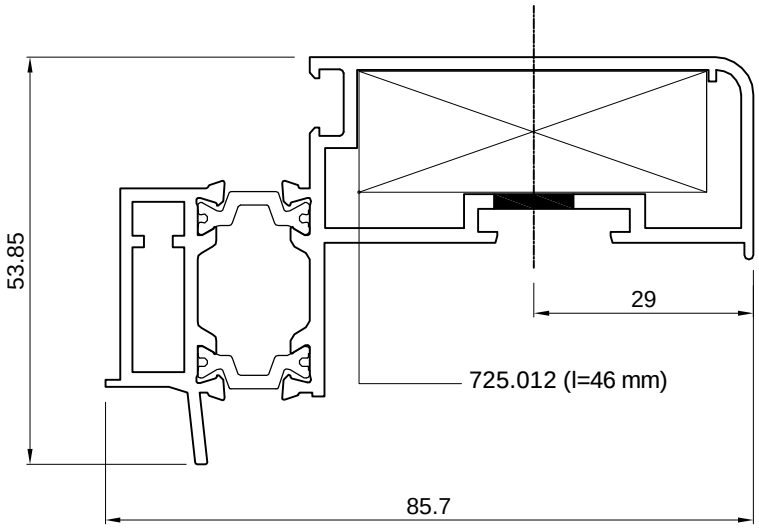




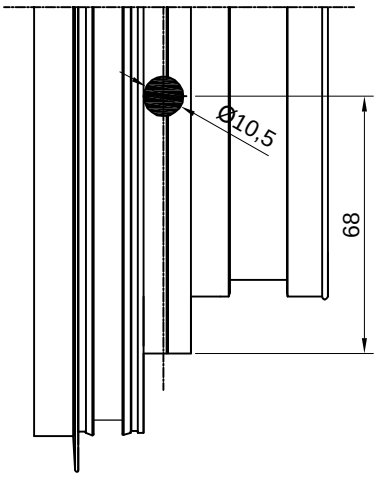


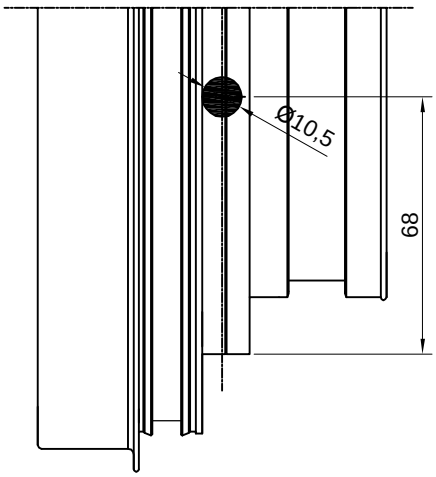
- Obrada profila SB 023/027 za kutnik 725.012

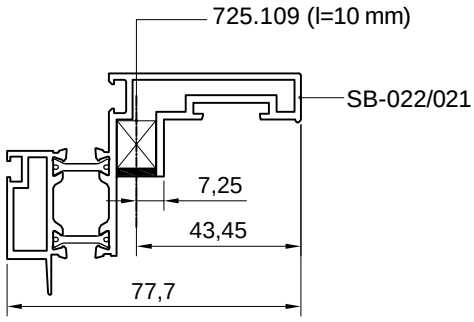


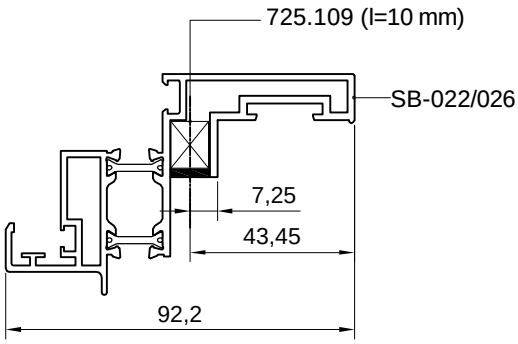


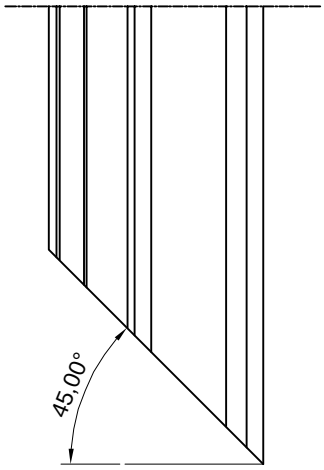
- Obrada profila FT-0140, SB-022/021, SB-022/026 za kutnik 725.109

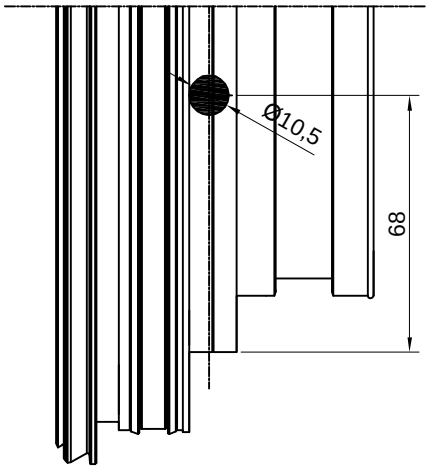


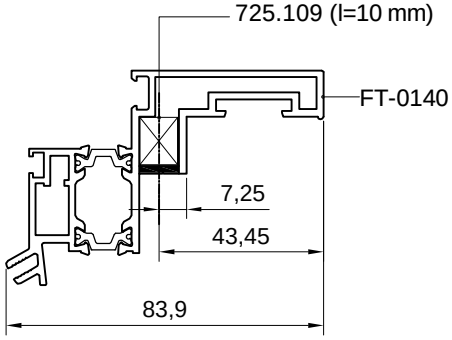




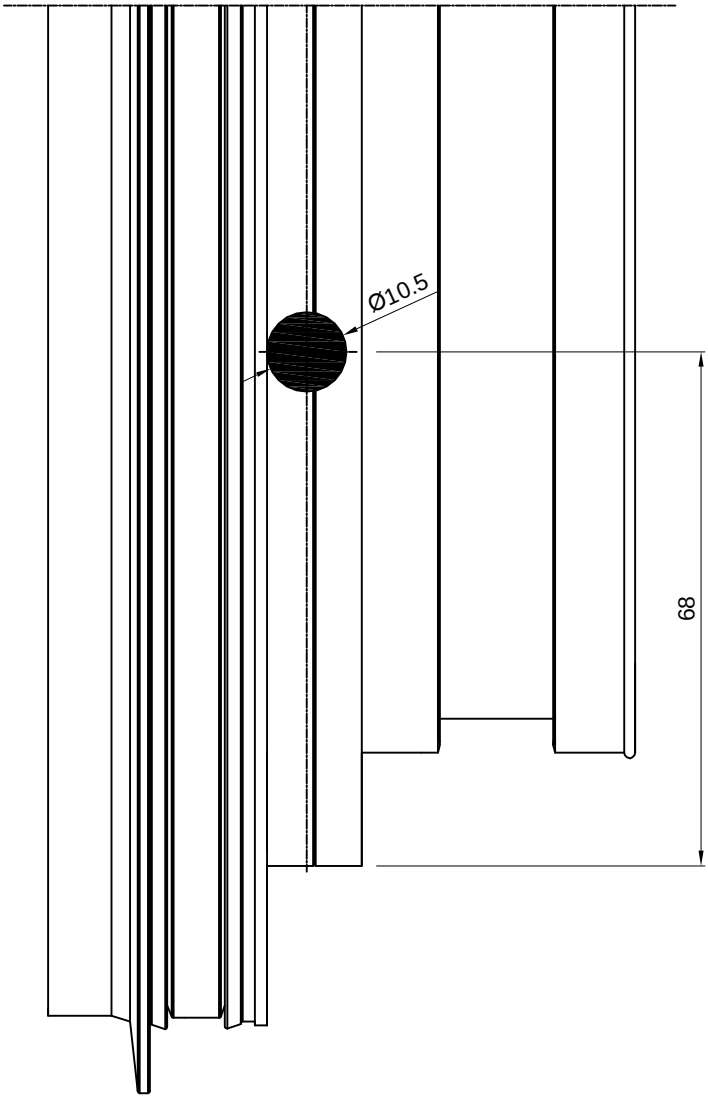


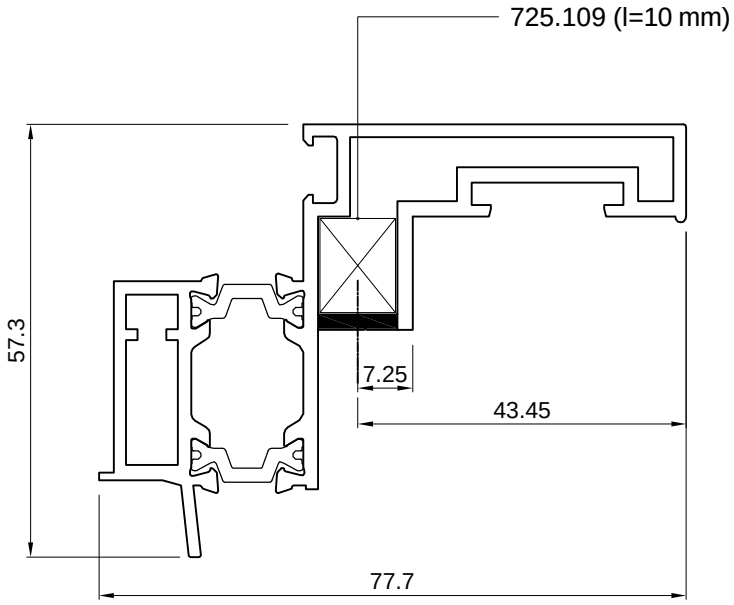




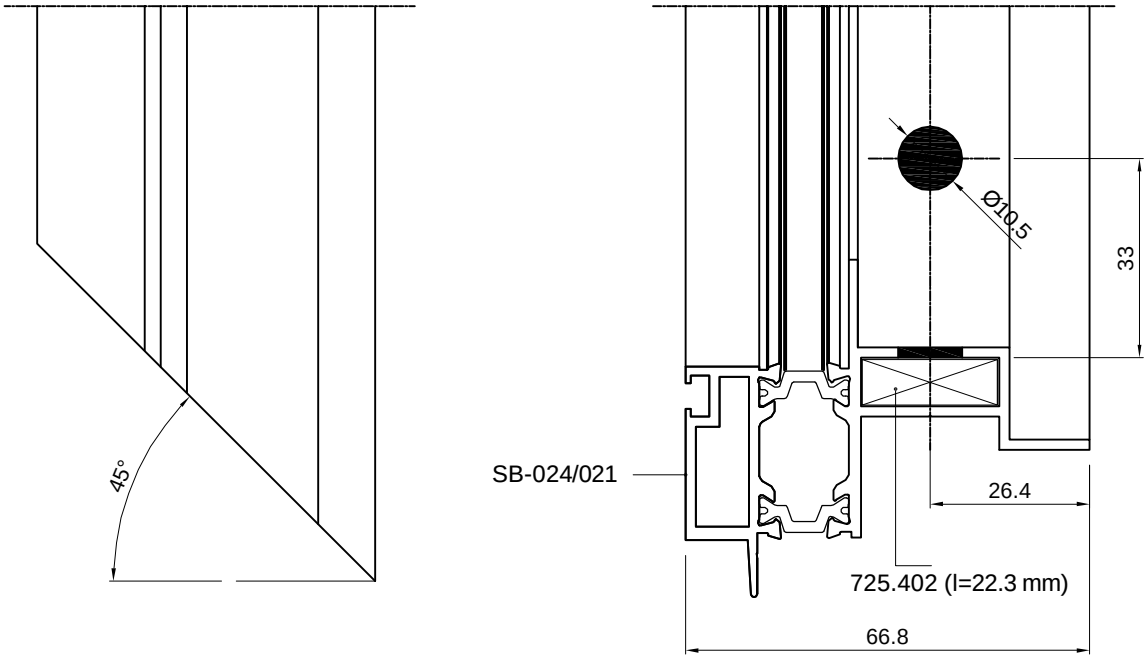


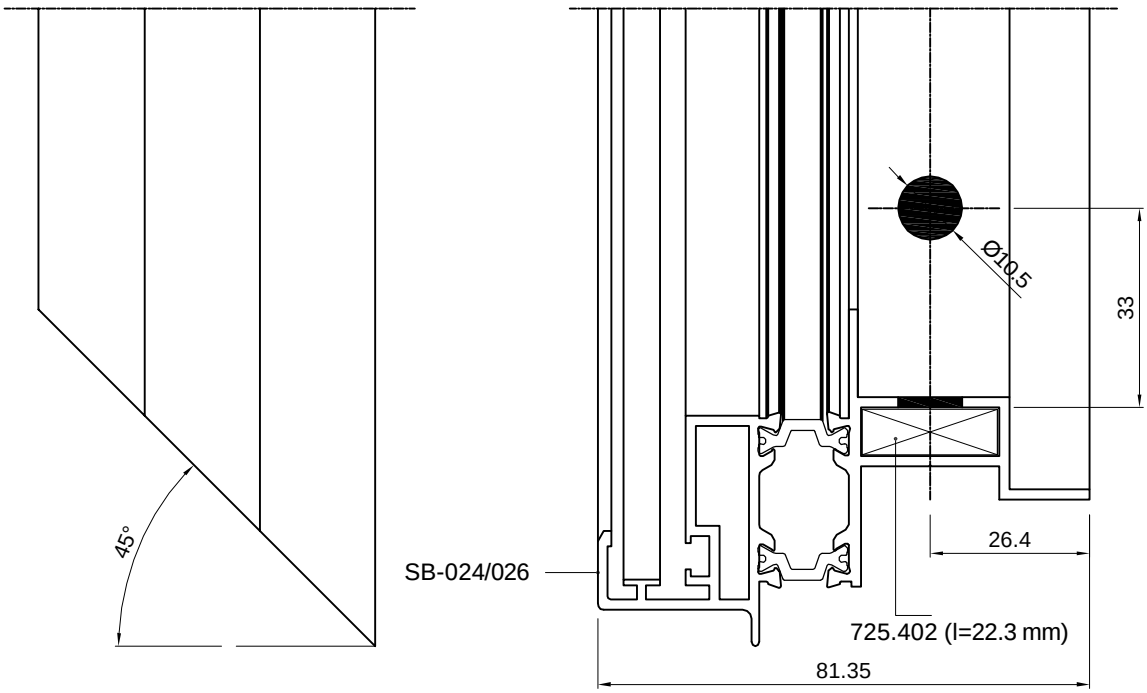
- Obrada profila SB-022/027 za kutnik 725.109



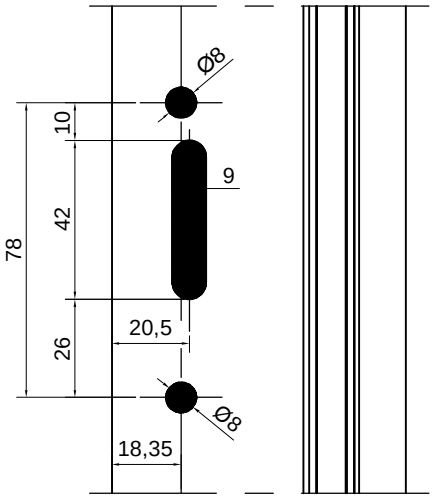


- Obrada profila SB-024/021, SB-024/026 za kutnik 725.402





SB-022/021
OBRADA ZA RUČKU - 480 876



SB-022/026
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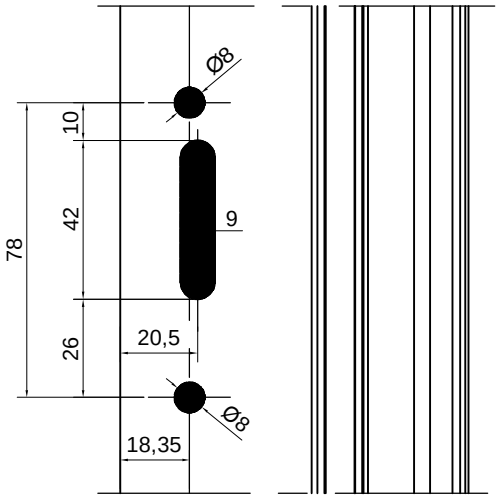

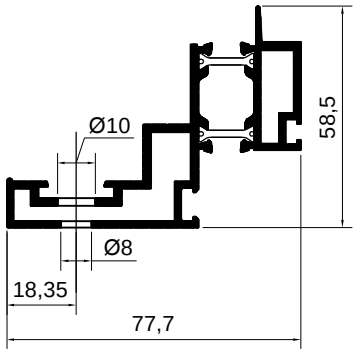

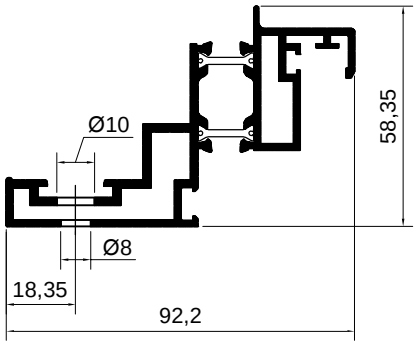

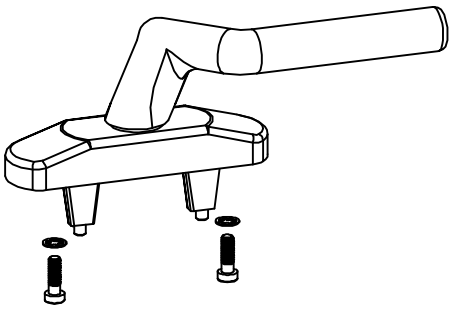

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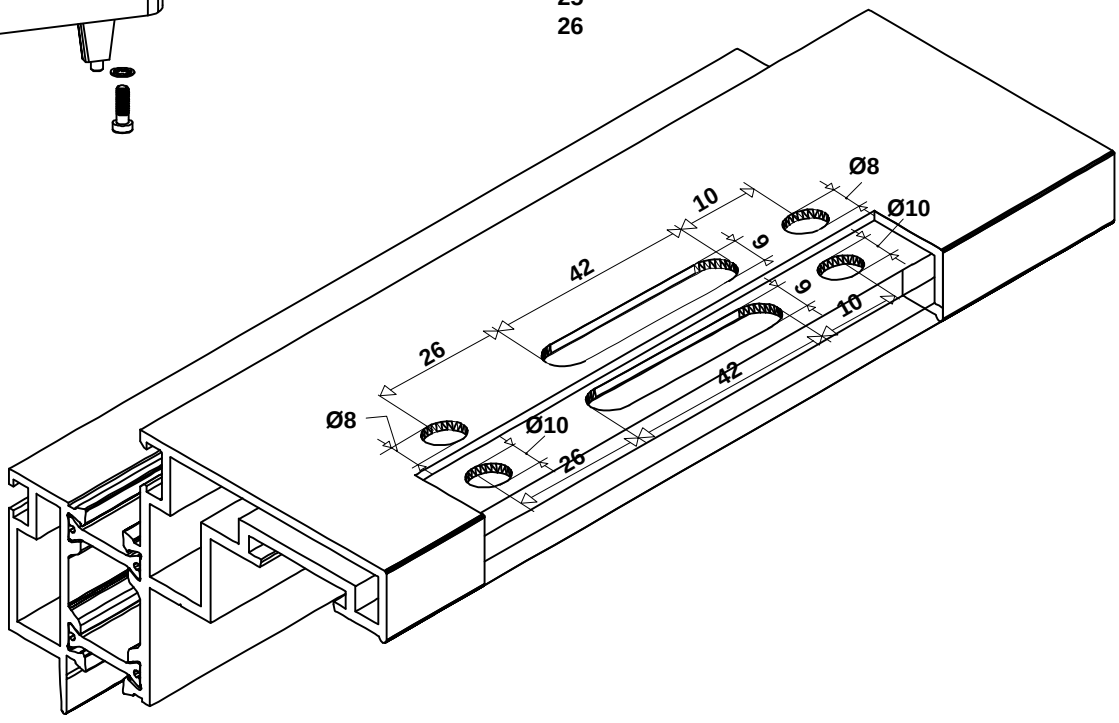

FT-0140
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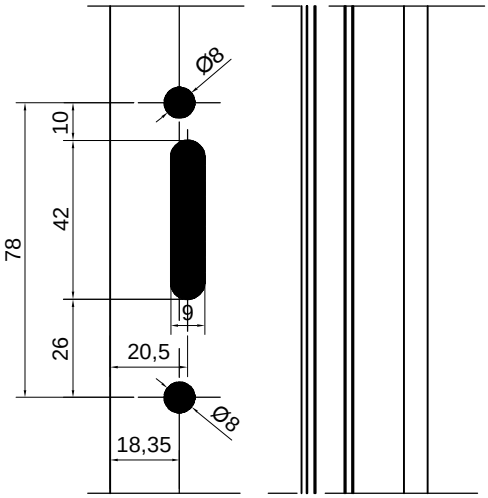

SB-022/027
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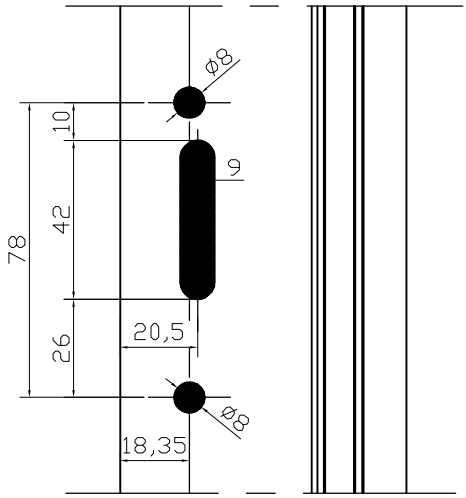

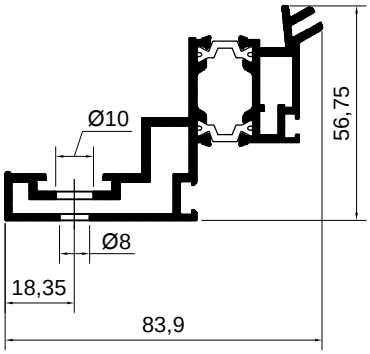

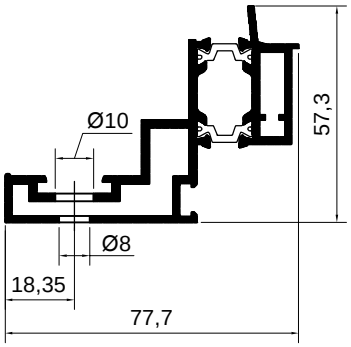

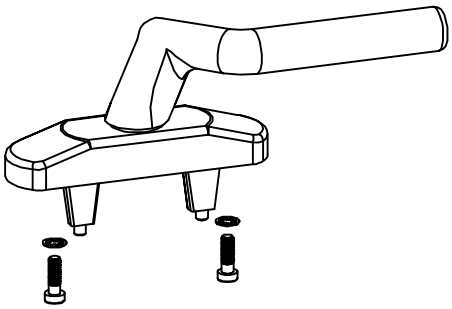

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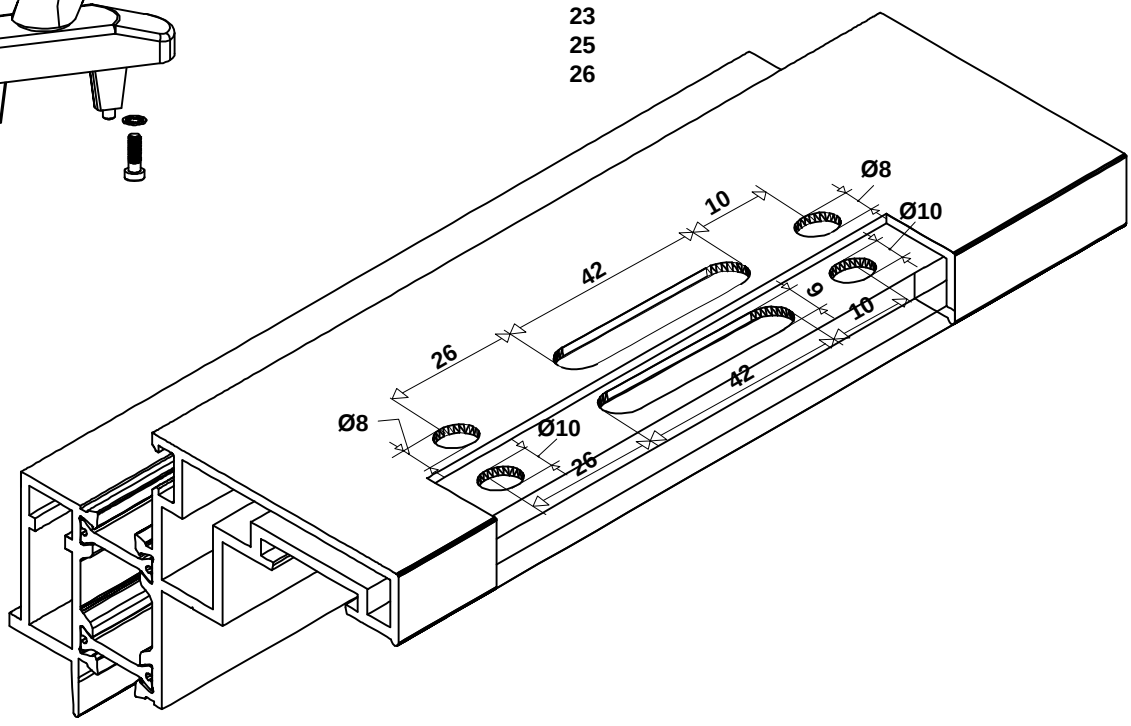

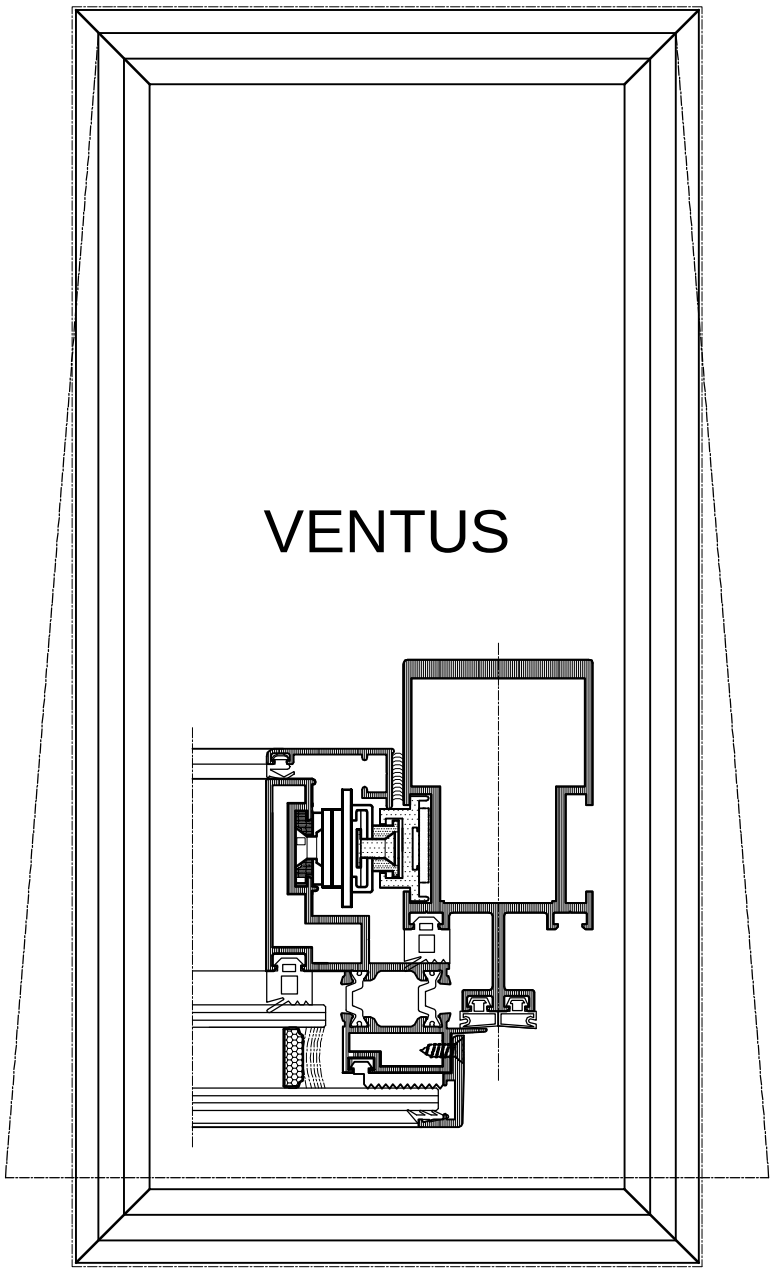
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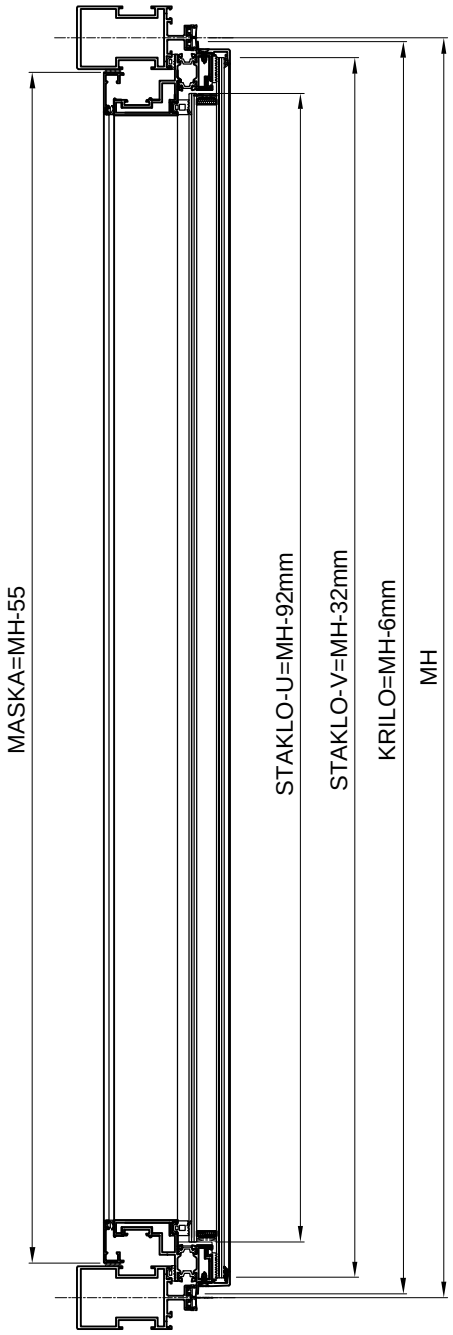
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STAKLO-V=MH-32mm
KRILO=MH-6mm
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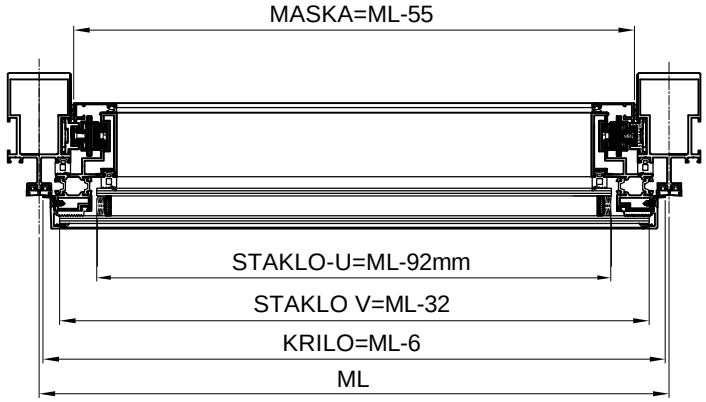
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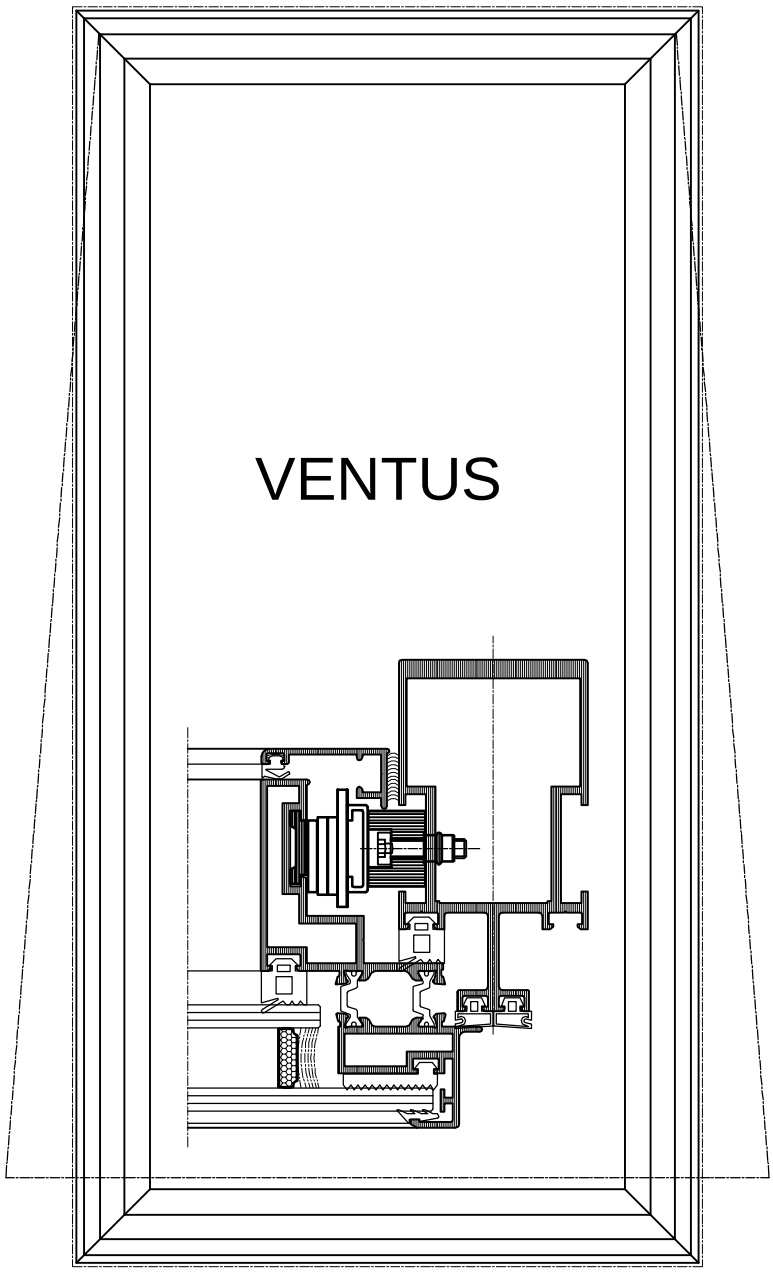
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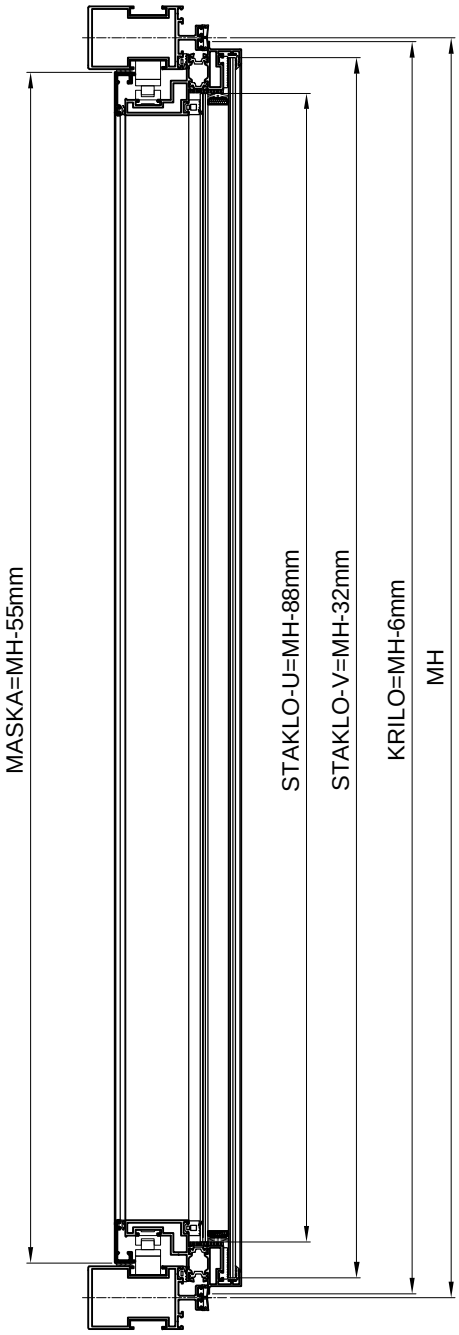
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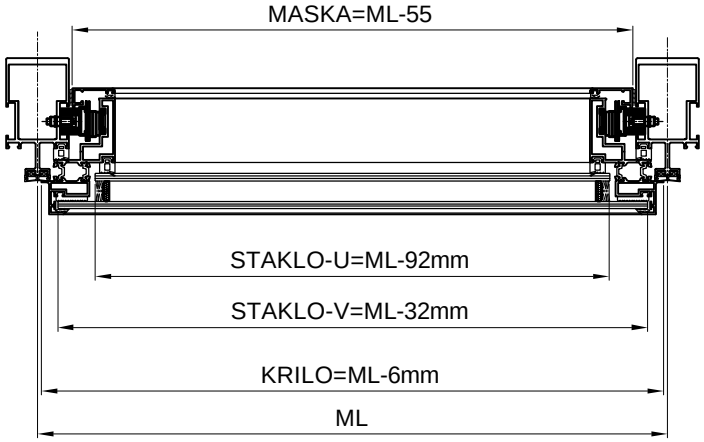
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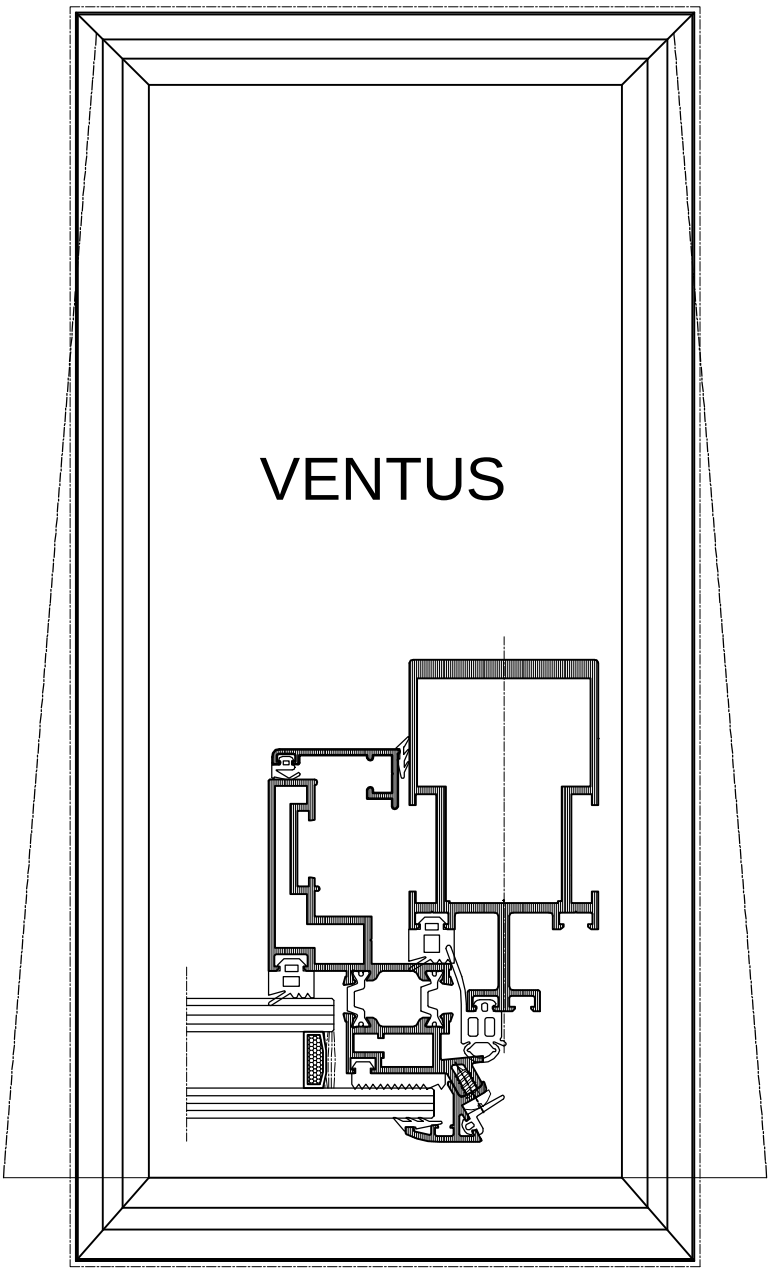
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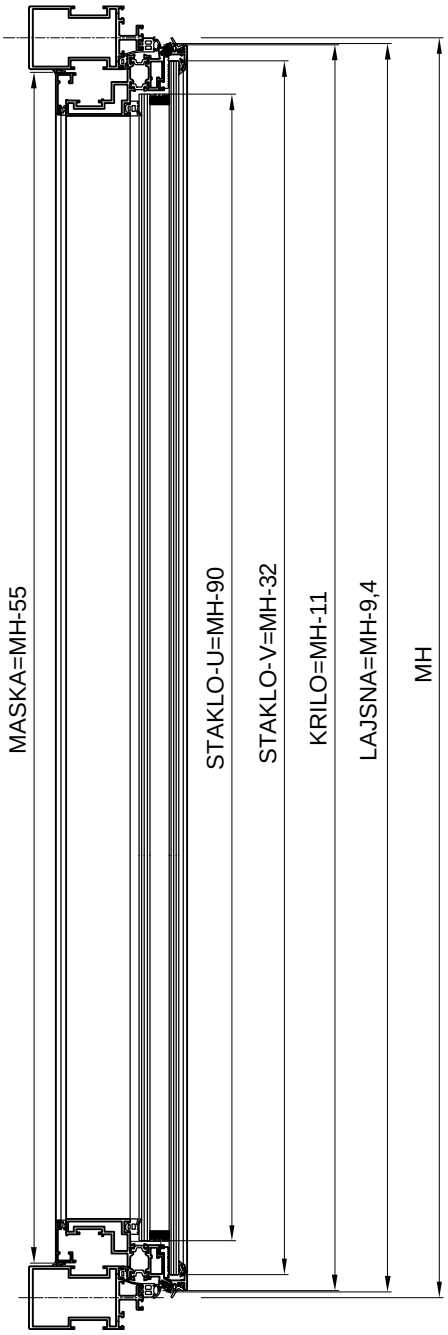
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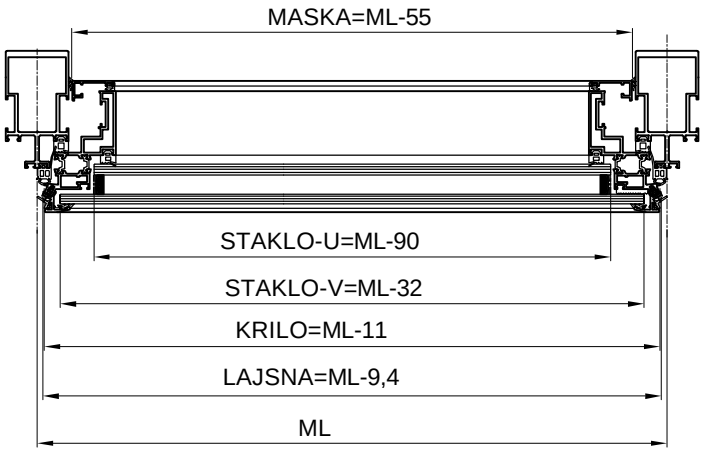
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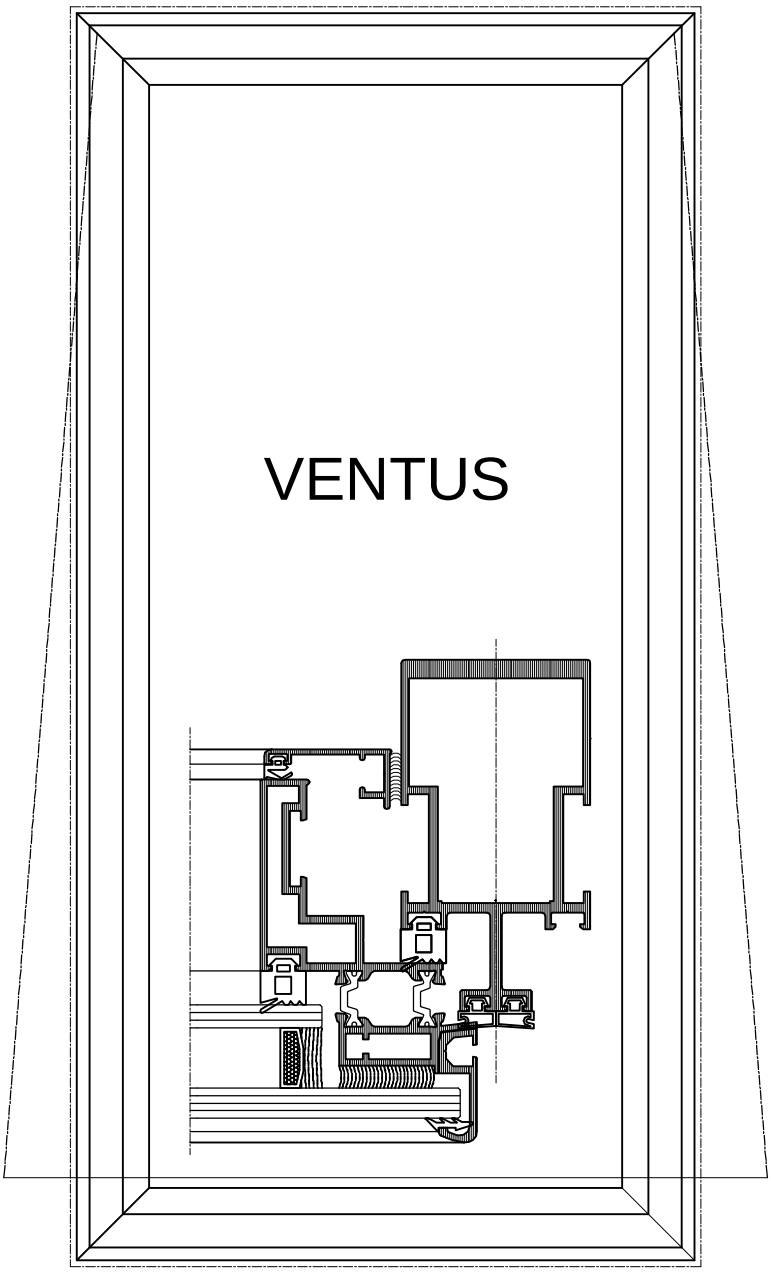
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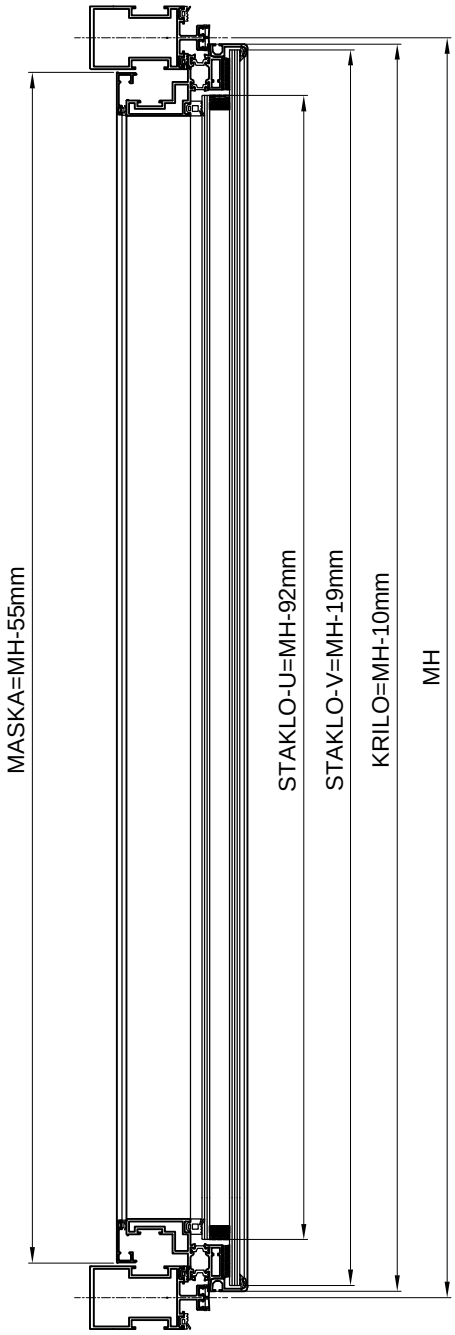
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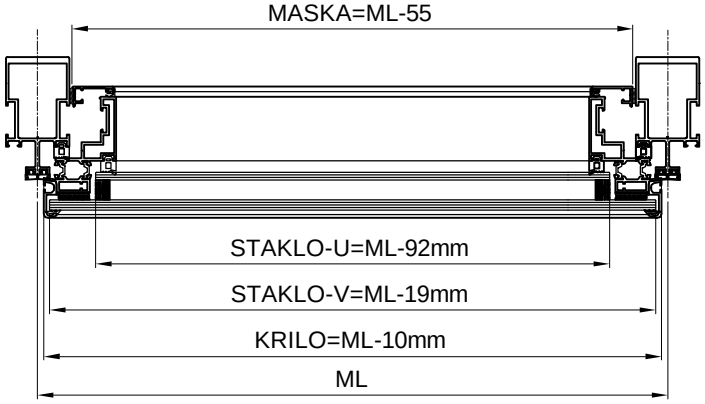
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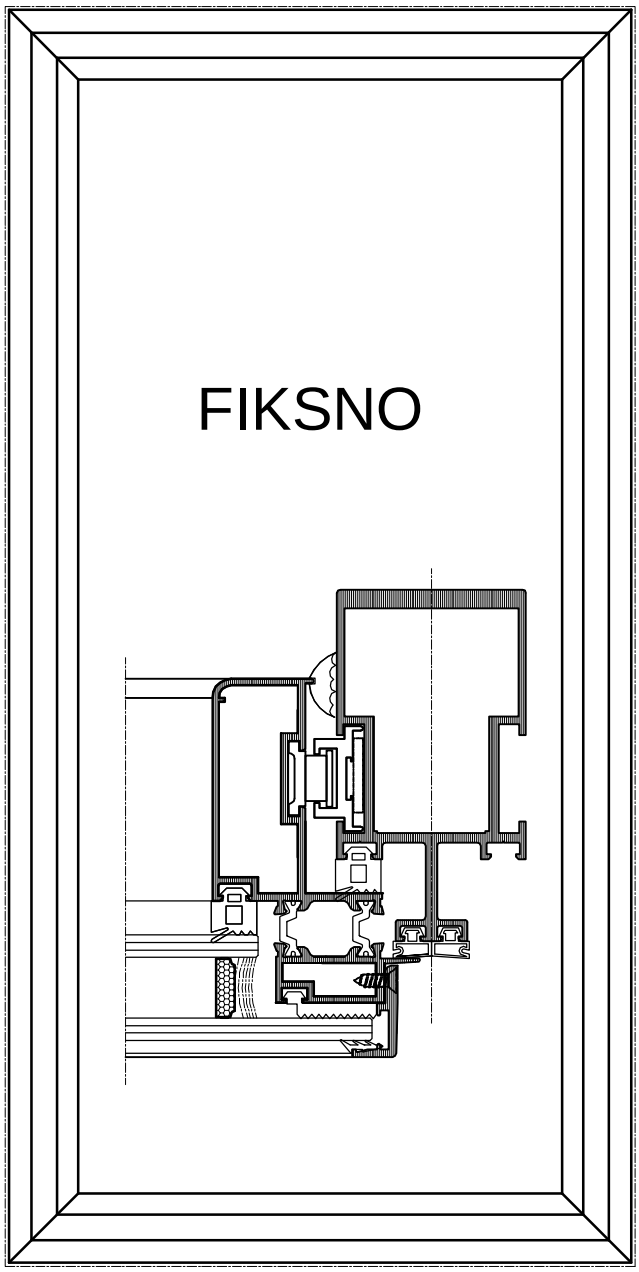
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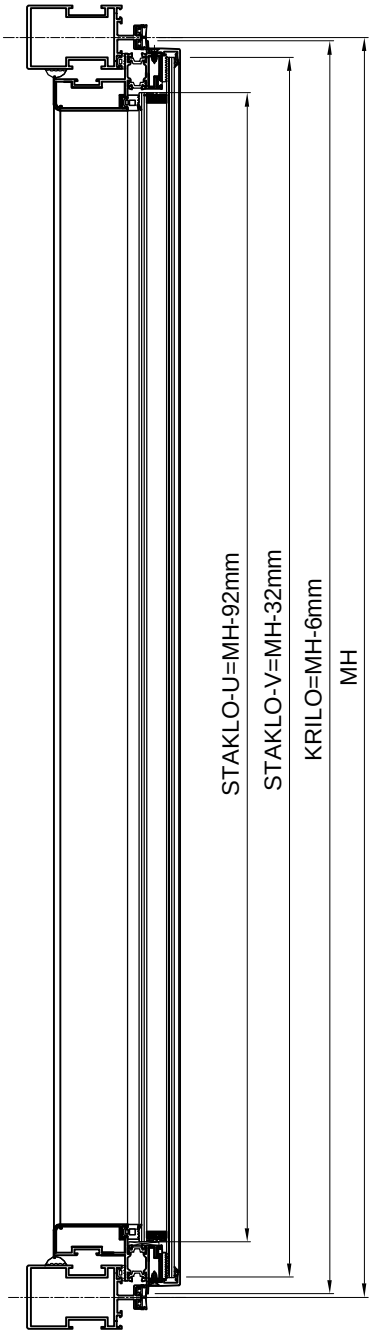
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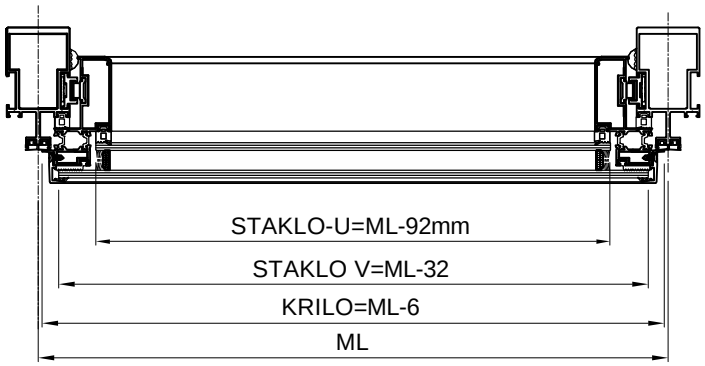
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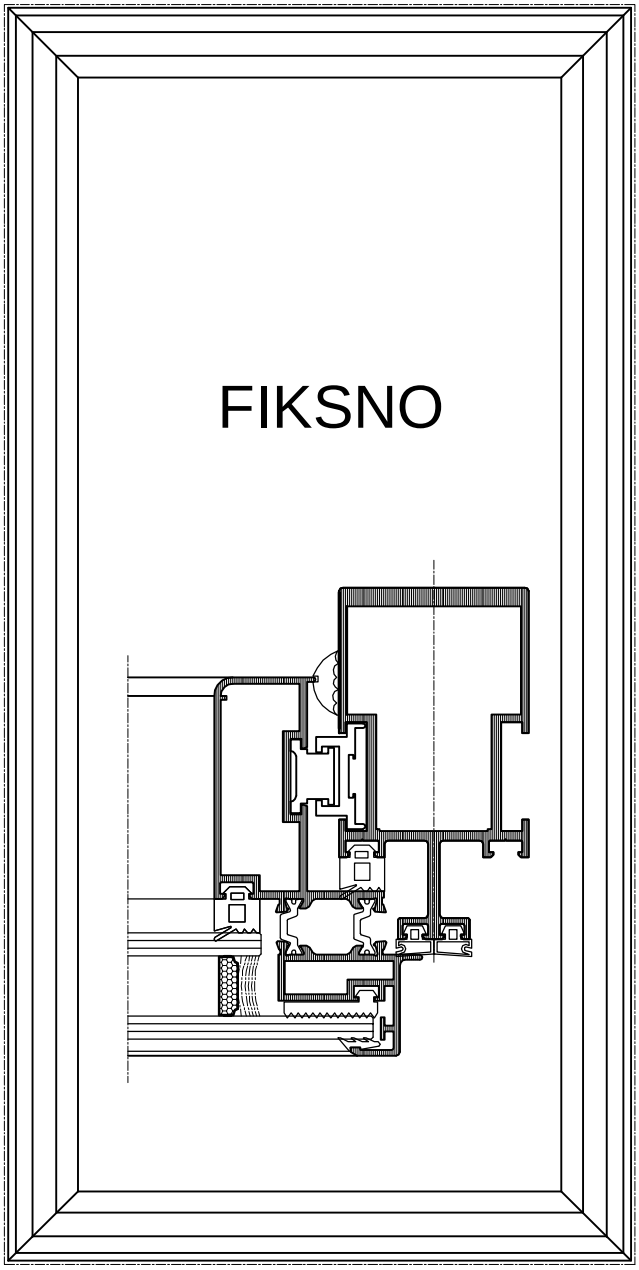
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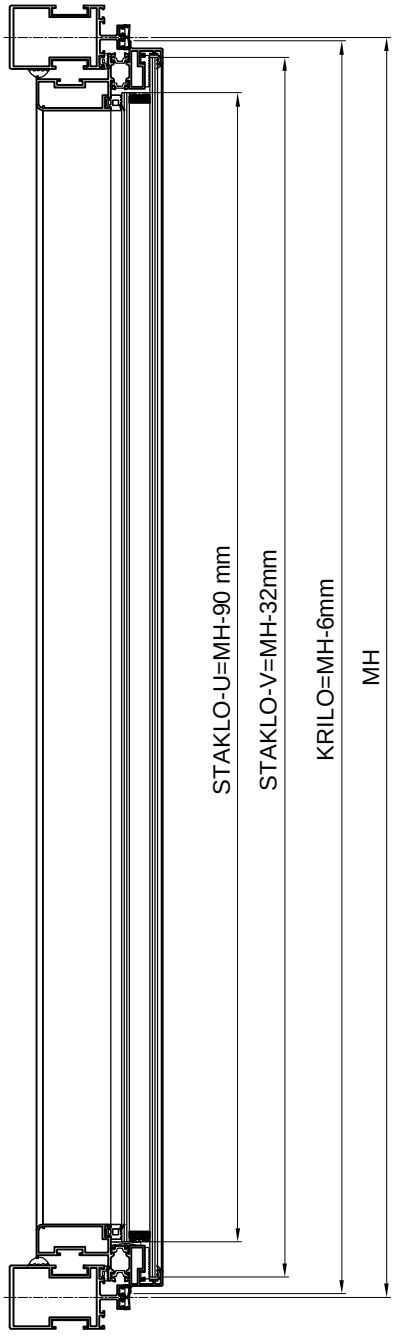
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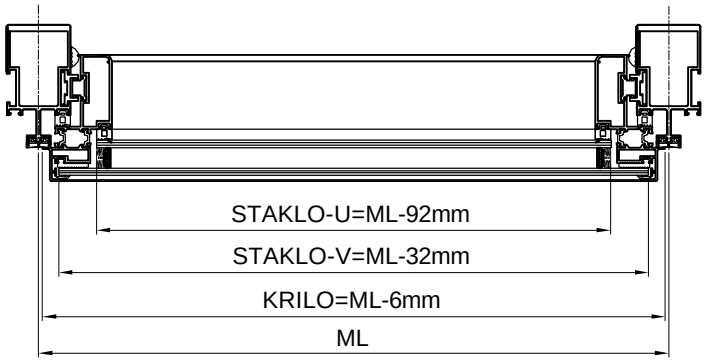
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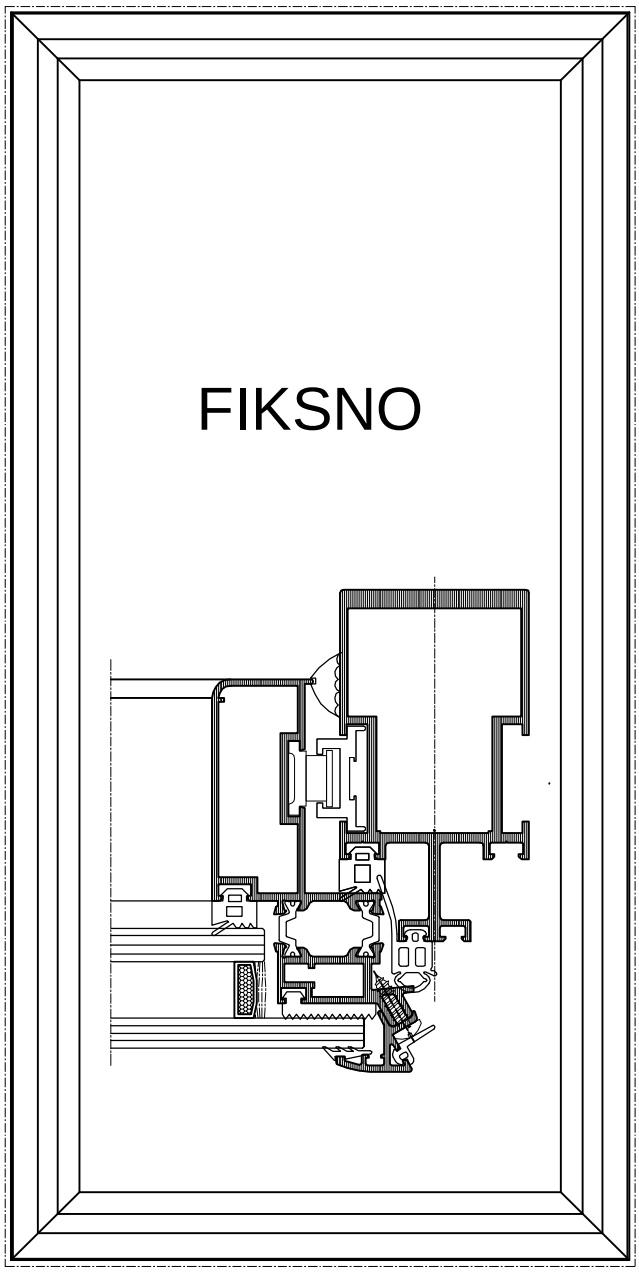
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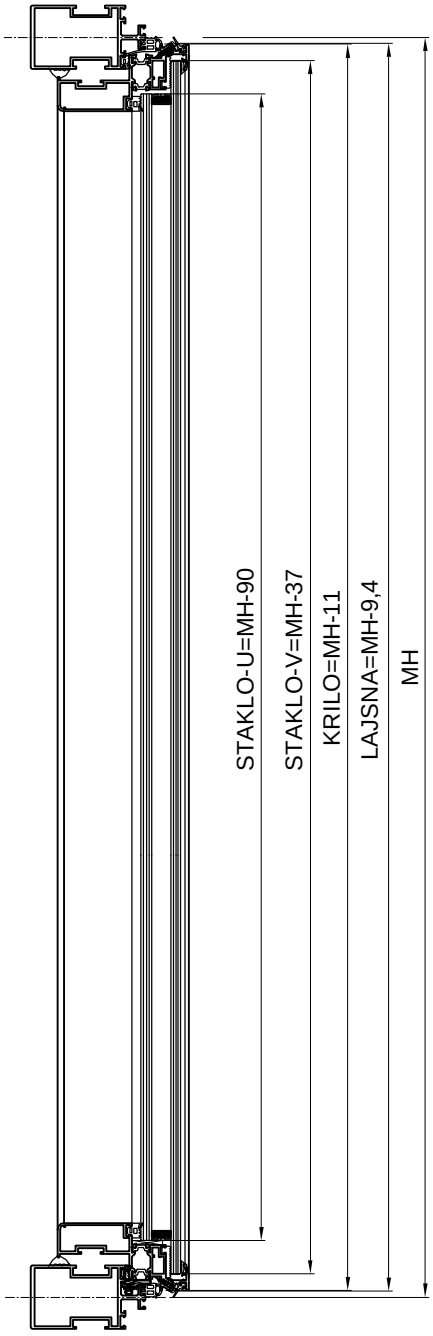
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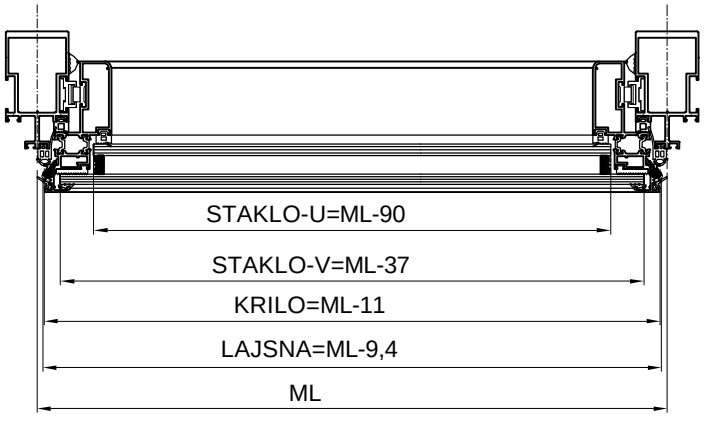
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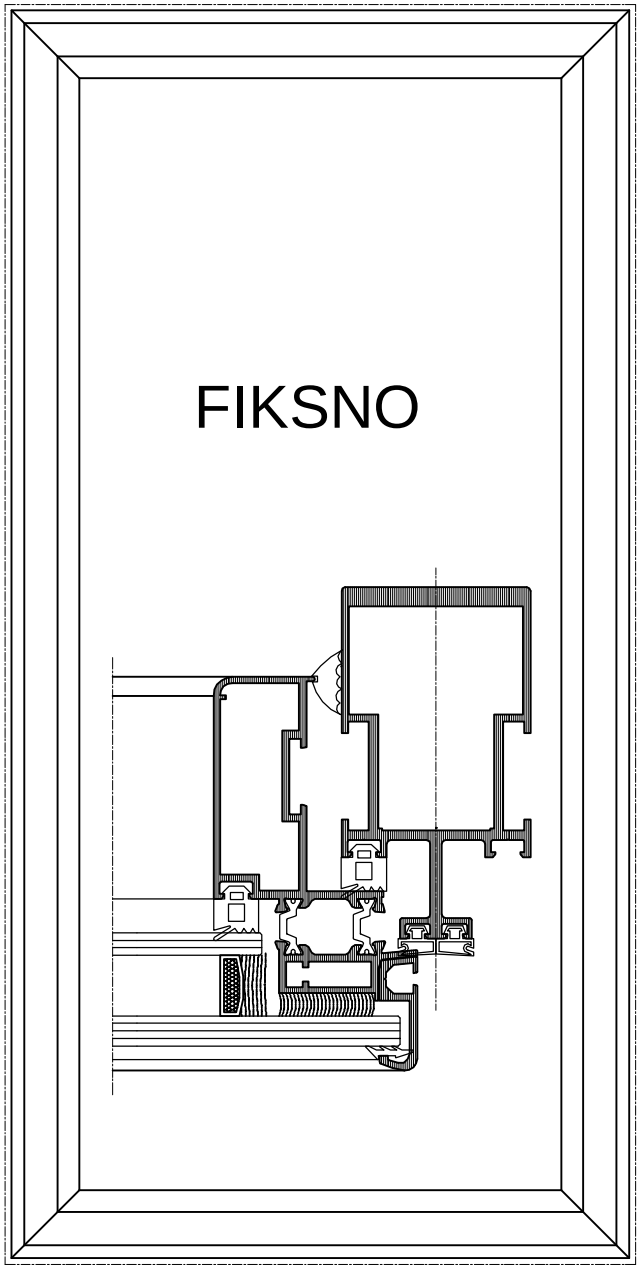
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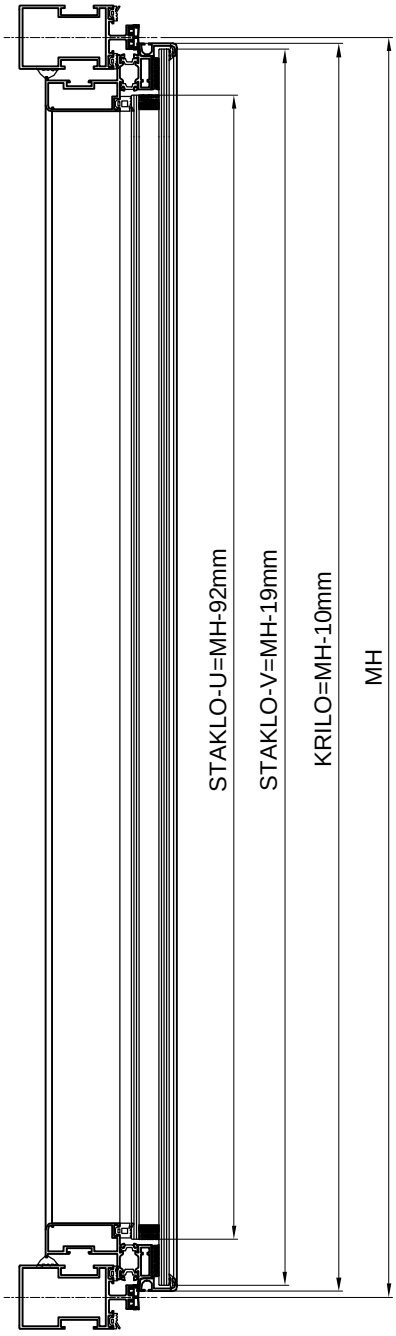
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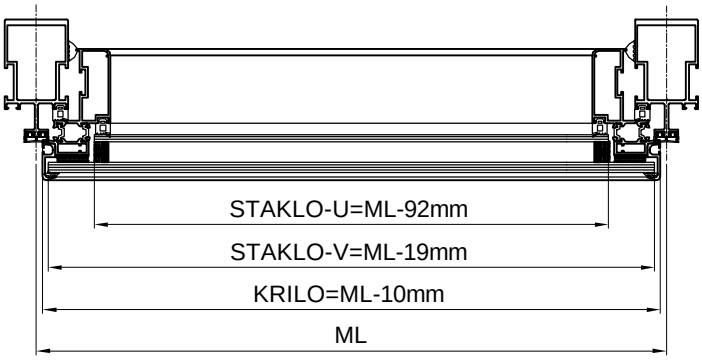
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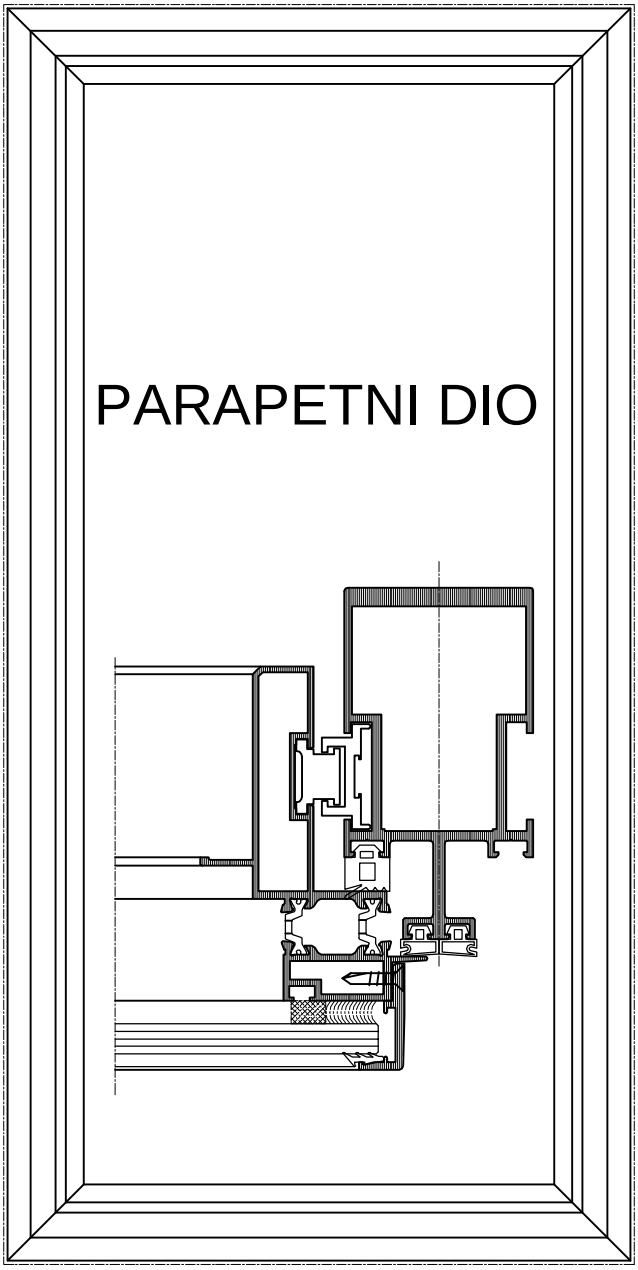
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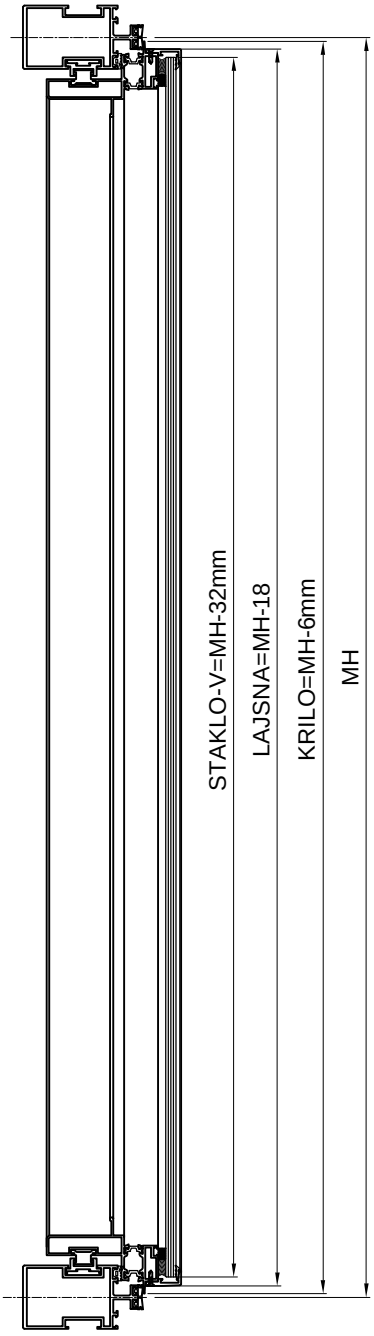
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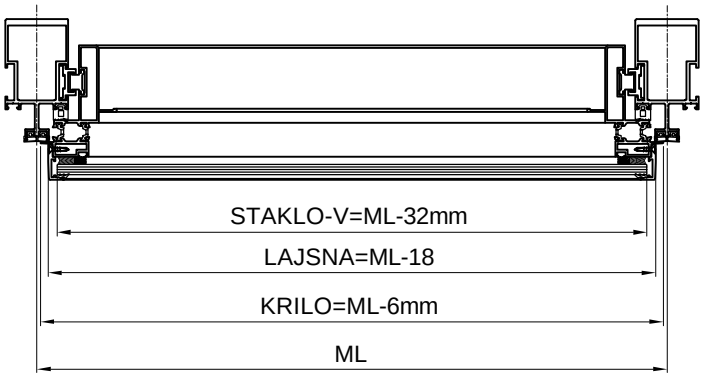
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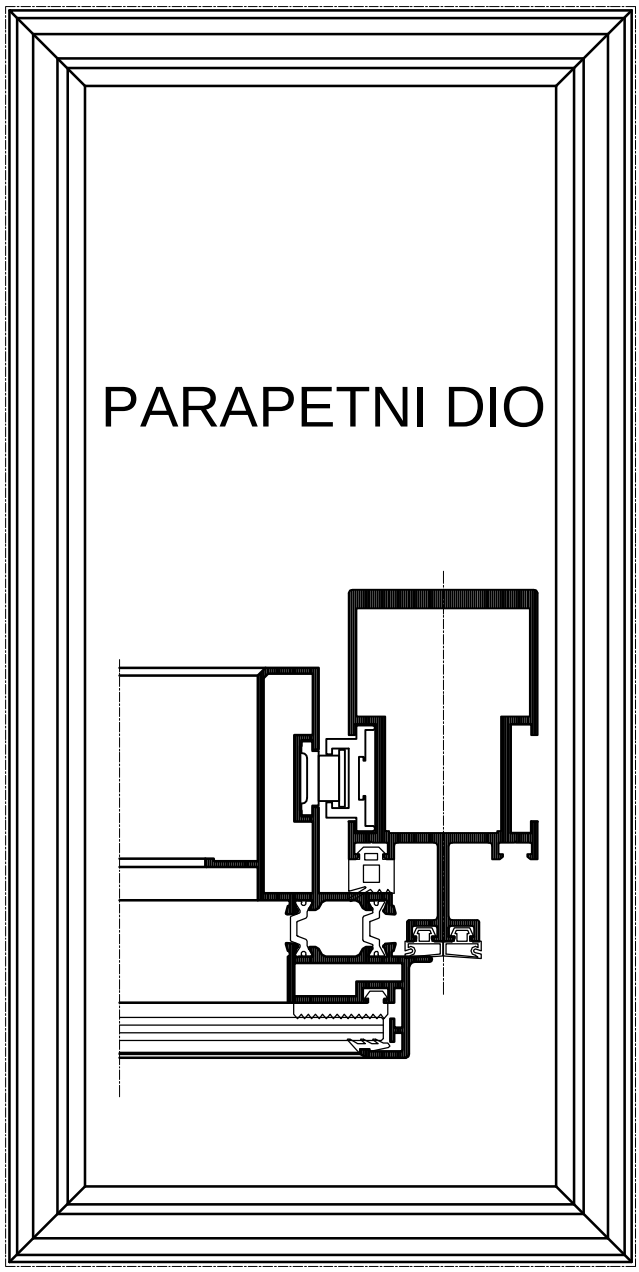
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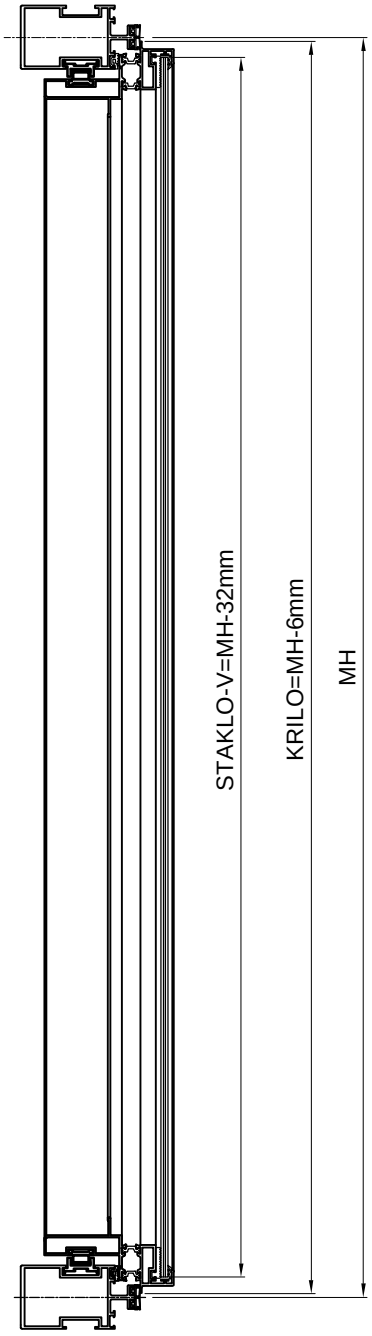
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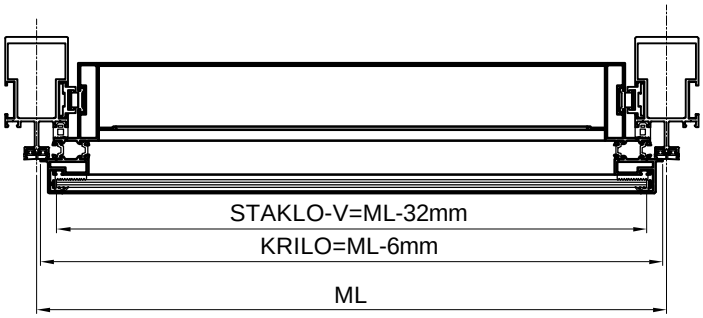
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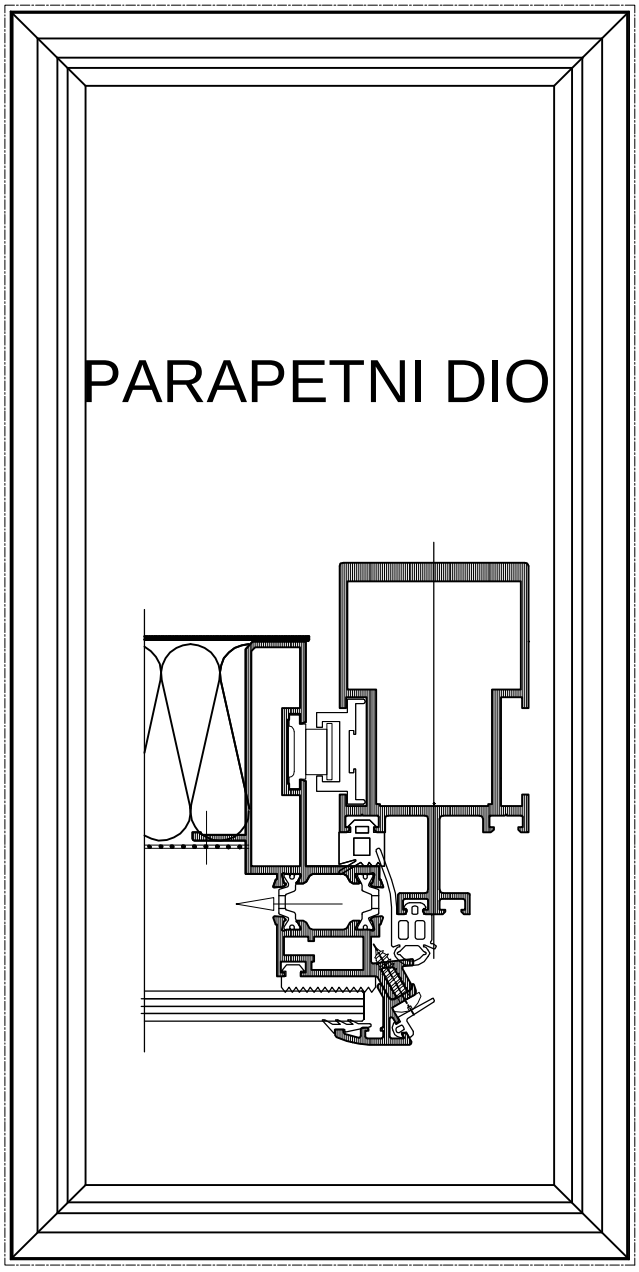
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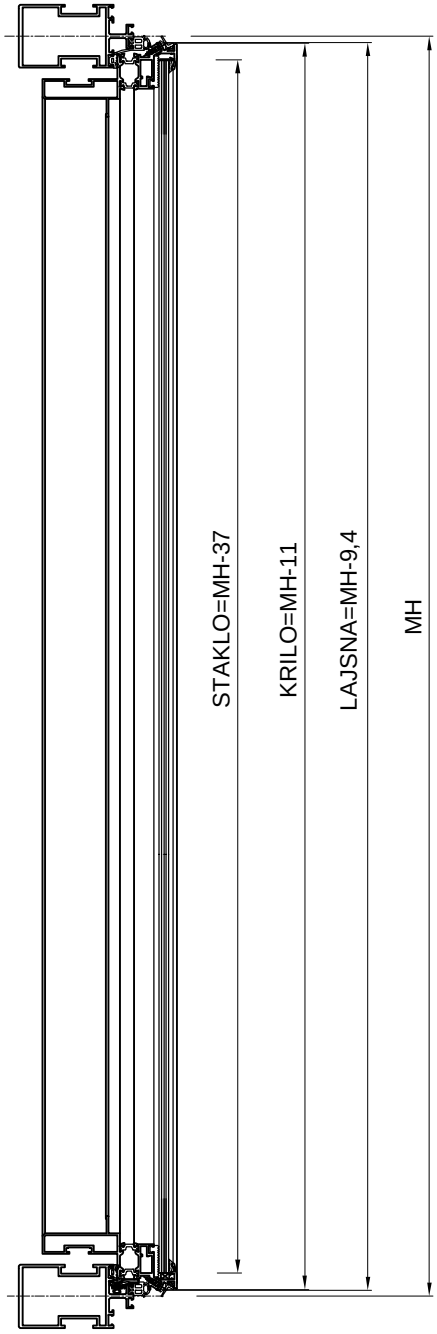
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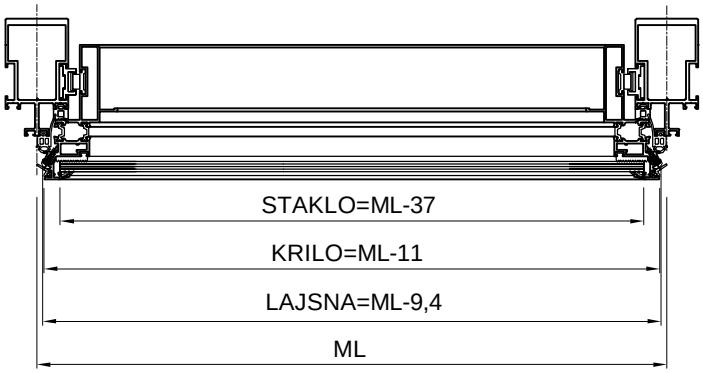
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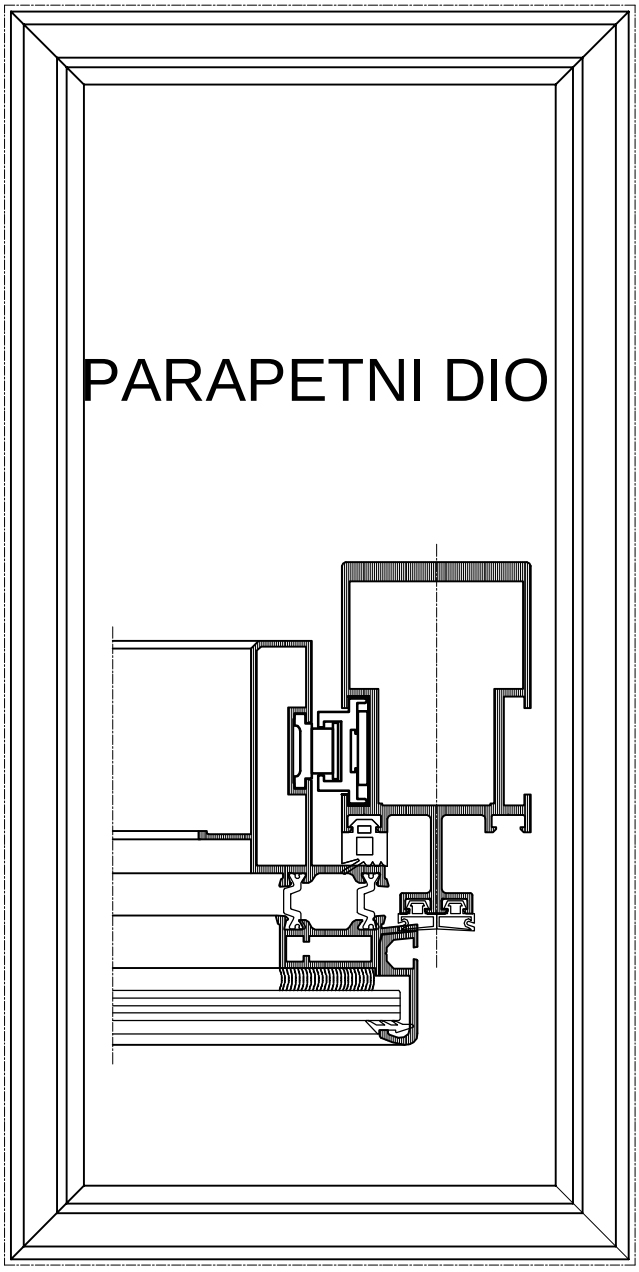
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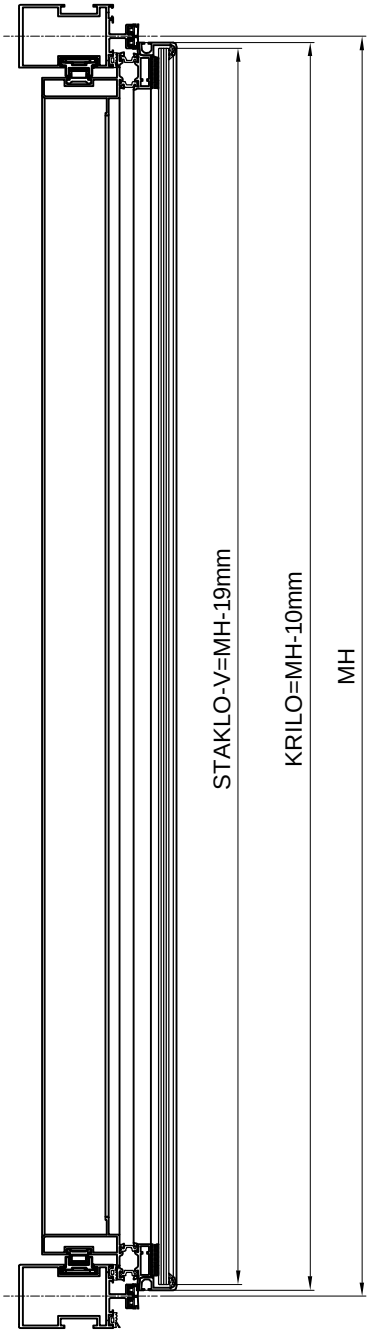
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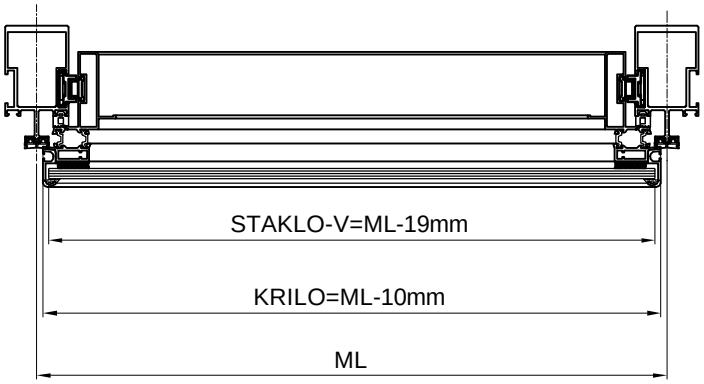
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