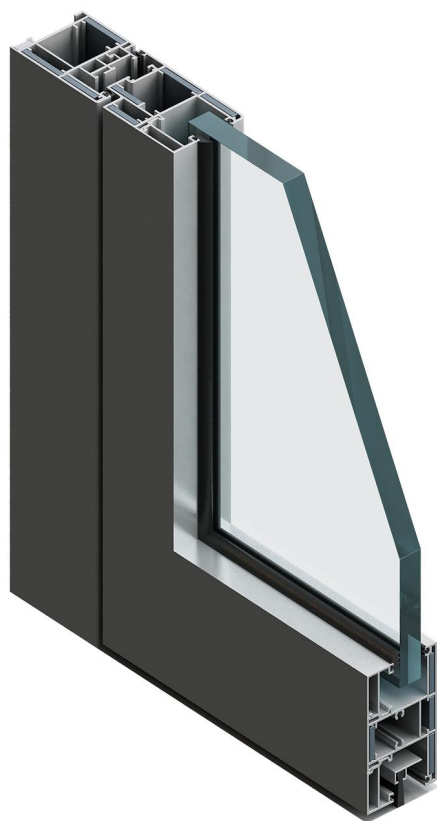


FEAL

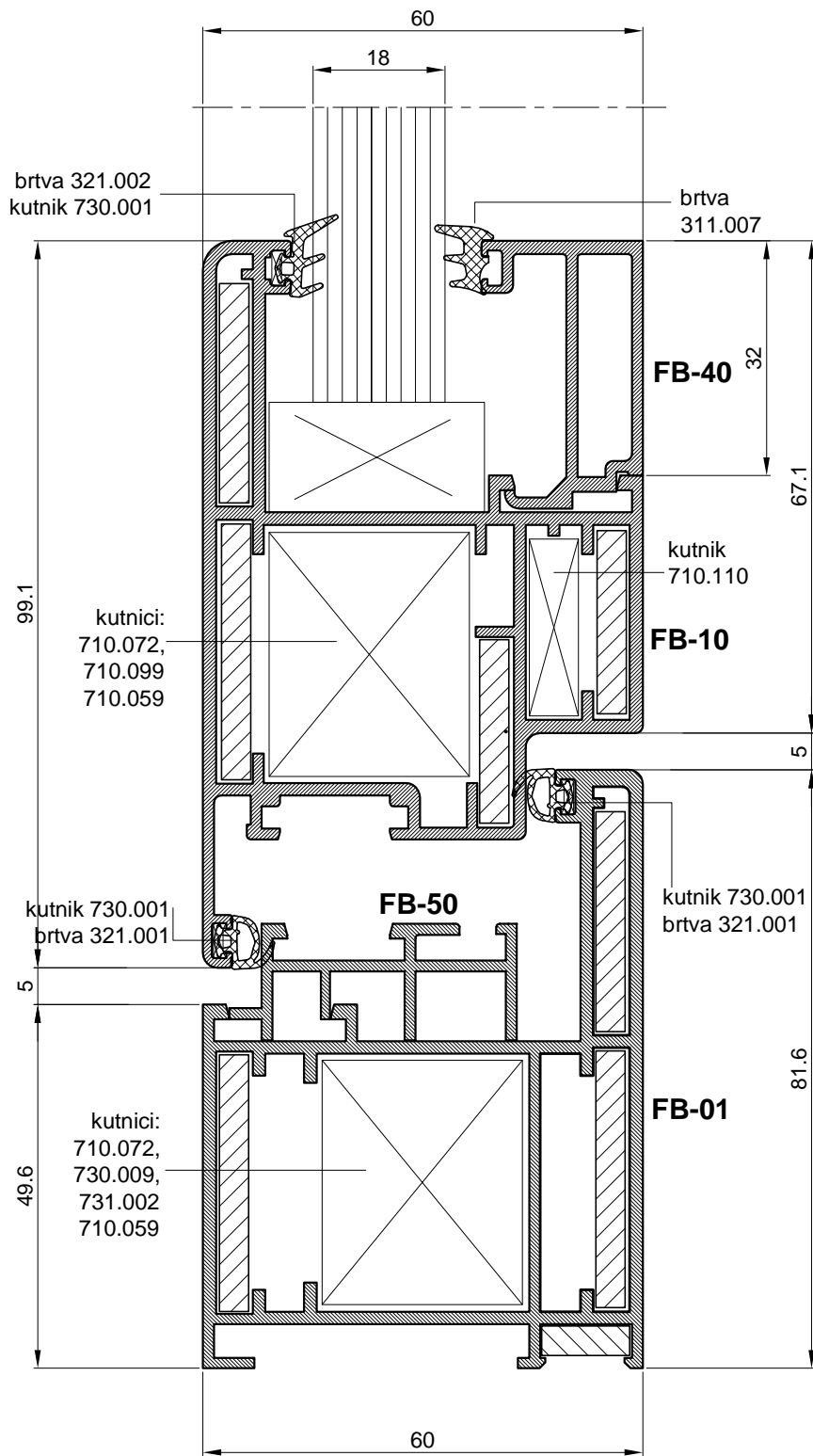
FEAL d.o.o za preradu aluminija-Široki Brijeg, Trnska cesta 146



FEAL BLIND

SADRŽAJ - KAZALO

01	ZNAČAJKE SERIJE PROFILA	001.001
02	ISPITIVANJA I CERTIFIKATI	001.002-007
03	PROFILI	002.001-003
03	PROFILI M 1:1	002.004-009
04	OKOVI	003.001-006
05	BRTVE I OSTAKLJIVANJE	004.001-003
06	PRESJECI	005.001-008
07	DETALJI OBRADJE	006.001-012
08	REZNE LISTE	007.001-002





INSTITUT GRAĐEVINARSTVA HRVATSKE d.d.
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RAZREDBA PROIZVODA OBZIROM NA OTPORNOST NA METAK BR. 2920-972/07

proizvod:

NSAL-1: ostakljena stijena s vratima i transfer-ladicom

- Naručitelj:** FEAL Hrvatska d.o.o.
Rudeška 3a
HR-10000 Zagreb, Hrvatska
- Proizvođač:** "ROHER" proizvodnja i trgovina
Dinarska 14
HR-10 361 Dumovec, Hrvatska
- Ispitni laboratorij:** Institut građevinarstva Hrvatske d.d.
Laboratorij građevinske fizike
Zavod za zgradarstvo
Janka Rakuše 1, Zagreb
- Norma ispitivanja:** HRN EN 1523:2006: Prozori, vrata, zaslони i sjenila – Otpornost na metak – Ispitna metoda (EN 1523:1998)
- Norma vrednovanja:** HRN EN 1522:2006: Prozori, vrata, zaslони i sjenila – Otpornost na metak – Zahtjevi i razredba (EN 1522:1998)

Temeljem Izvještaja o ispitivanju br. 2920-198/07 od 5. svibnja 2007. godine, izdanog od Laboratorija građevinske fizike Zavoda za zgradarstvo Instituta građevinarstva Hrvatske d.d., uzorak **ostakljene stijene s vratima i transfer-ladicom, tip NSAL-1, s ugrađenim staklom razreda EN 1063 BR2(S)**, proizvođača uzorka „Roher“, se prema normi HRN EN 1522:2006 može vrednovati kao

EN 1522 FB2(S)

(neprobojno na kalibar 9 mm Luger s pojavom krhotina).

Napomene uz vrednovanje:

- Ovo vrednovanje vrijedi uz uvjet korištenja istih sastavnih materijala konstruktivno sastavljenih na način opisan u izvještaju 2920-198/07.
- Spoj uzorka stijene NSAL-1 s drugim eventualnim konstrukcijama (zidovi, strop, pod i slično) nije ispitivan, te se ovo vrednovanje na takove spojeve ne odnosi.

Voditelji ispitivanja:

Zlatko Franolić

dr. sc. Ivica Kušević, dipl. ing. fizike



Voditelj laboratorija:

Ivica Kušević

dr. sc. Ivica Kušević, dipl. ing. fizike



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IZVJEŠTAJ O ISPITIVANJU BR. 2920-198/07

Naručitelj: FEAL Hrvatska d.o.o.
Rudeška 3a
10000 Zagreb

Radni nalog: RN 29208808

Narudžba: narudžbenica od FEAL Hrvatska d.o.o., Rudeška cesta 3a, Zagreb, broj narudžbenice 06/02-2007 od 2007-02-06

Proizvod: neprobojna stijena NSAL-1

Proizvođač aluminijskih profila: FEAL d.o.o.
Trnska cesta 146
88220 Široki Brijeg, Bosna i Hercegovina

Proizvođač uzorka: "ROHER" tehnička zaštita
Dinarska 14
10 361 Dumovec

Ispitni zadatak: ispitati otpornost na propucavanje prema normi HRN EN 1523:2006 i vrednovanje rezultata ispitivanja prema normi HRN EN 1522:2006

Ispitni laboratorij: Institut građevinarstva Hrvatske d.d.
Laboratorij građevinske fizike
Zavod za zgradarstvo
Janka Rakuše 1, Zagreb

Voditelj ispitivanja:

Zlatko Franolić

dr. sc. Ivica Kušević, dipl. ing. fizike



Voditelj laboratorija:

dr. sc. Ivica Kušević, dipl. ing. fizike

Laboratorij građevinske fizike Zavoda za zgradarstvo, IGH, Zagreb, akreditiran je od Hrvatske akreditacijske agencije (HAA) prema zahtjevima norme HRN EN ISO/IEC 17025 za ispitivanja toplinsko-izolacijskih proizvoda za primjenu u graditeljstvu, izabranih ispitivanja: građevnih materijala i proizvoda s obzirom na toplinu, vlagu i akustička svojstva, toplinskih značajki zgrada, svojstava prozora i vrata, boja i lakova, te građevnih materijala i elemenata u požaru, prema Prilogu potvrde o akreditaciji br. 1033/07.



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OPĆI PODACI

Ispitni zadatak:	ispitati otpornost na propucavanje prema normi HRN EN 1523:2006 i vrednovanje rezultata ispitivanja prema normi HRN EN 1522:2006 za pretpostavljeni razred FB2(S) (kalibar 9 mm Luger s pojavom krhotina)
Ime građevnog proizvoda:	neprobojna stijena NSAL-1
Norma ispitivanja:	HRN EN 1523:2006: Prozori, vrata, zaslони i sjenila – Otpornost na metak – Ispitna metoda (EN 1523:1998)
Norma vrednovanja	HRN EN 1522:2006: Prozori, vrata, zaslони i sjenila – Otpornost na metak – Zahtjevi i razredba (EN 1522:1998)
Korištena oprema:	<ul style="list-style-type: none"> – Opitna cijev 9 mm Para duljine 200 mm, br. cijevi B2000002 – Prijenosni uređaj za mjerenje brzine zrna: Werner Mehl Kurzeitmesstechnik Diebach, tip BMC 18 USB – Pomična mjerka Mitutoyo, model MM85 – Termohigrometar Rotronic, tip Hygroclip S – vaga Mettler-Toledo, tip PB 153 Lab Style
Proizvođač zrna:	Bullet d.o.o., broj lota B-2 STAKLA, tip zrna VM ^{DPV}
Zahtjevi norme HRN EN 1522:1998 na zrno:	
<ul style="list-style-type: none"> - kalibar 9 mm Luger FJ/RN/SC (metalna košuljica/zaobljeni vrh/mekana jezgra (olovo)) - masa zrna (8,0±0,1) g 	<p>zadovoljava (slika desno)</p> <p>(8,001±0,006) g na osnovu vaganja 252 zrna (prema protokolu 4/06)- zadovoljava</p>
Zahtjev norme HRN EN 1522:1998 na brzinu zrna:	
<ul style="list-style-type: none"> - (400±10) m/s, na udaljenosti 2,5 m od uzorka 	brzina zrna se mjeri i bilježi kod svakog ispućavanja
Zahtjev norme HRN EN 1522:1998 na udaljenost uzorka od usta cijevi:	
<ul style="list-style-type: none"> - (5,0±0,5) m 	(5,0±0,5) m - zadovoljava





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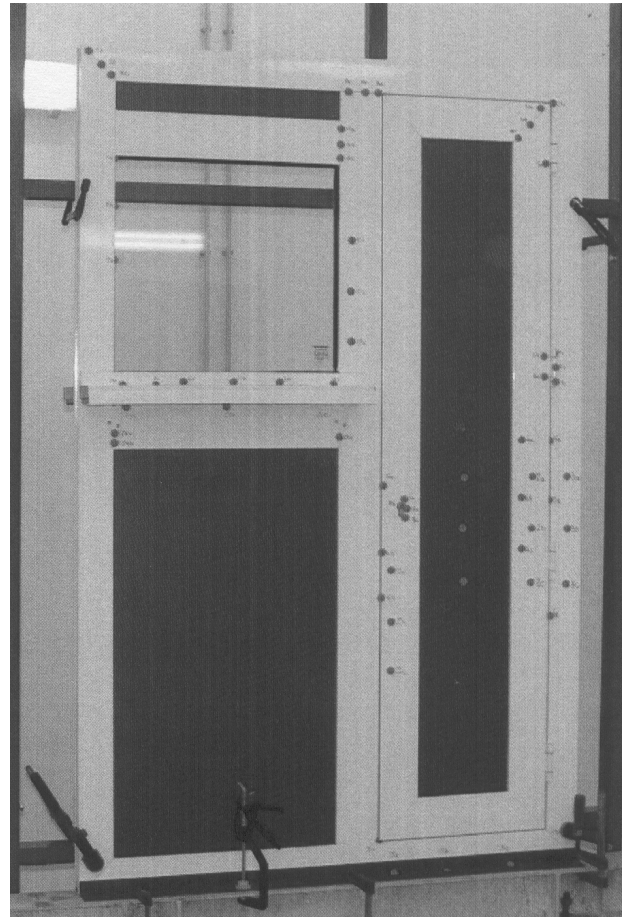
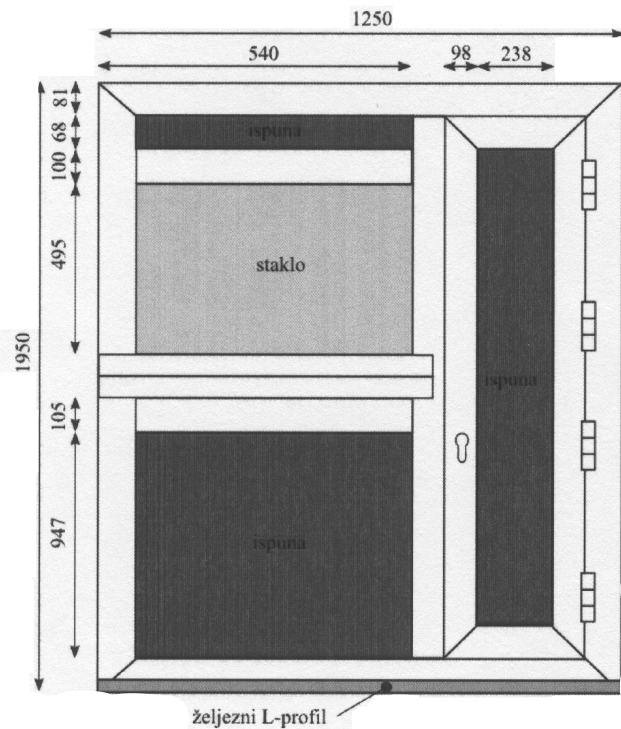
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ISPITIVANJE

Datum dopremanja uzorka u laboratorij: 2007-01-08
 Laboratorijski broj uzorka: LGF 002/07

1.1 Opis uzorka

Uzorak neprobojne stijene pod imenom NSAL-1 sastoji se od okvira u kojem su vrata, pult s ladicom za transfer novca i ostakljenje. Skica s izmjerama prednje strane dana je na slici 1, a slika uzorka na ispitnom postolju na slici 2. Vrata se otvaraju prema vani, ostakljenje je fiksno, a na stražnjoj strani ladice je pomični poklopac koji se otvara povlačenjem prema nazad prilikom transfera novca, a inače je zatvoren.



Slika 1: Skica uzorka LGF 002/07 s izmjerama i opisom dijelova. **Slika 2:** Ispitni uzorak LGF 002/07 na ispitnom postolju.

Tehnički opis stijene NSAL-1 preuzet je od naručitelja i za uzorak LGF 002/07 dan je sljedećim slikama:

- slika 3: popis i skice korištenih aluminijskih profila FEAL-BLIND, proizvođača Feal d.o.o., 88220 Široki Brijeg, BiH,
- slika 4: popis s opisom čeličnih profila kvalitete ST 52-3 prema DIN 17100 (S355J2G3 prema EN 10025) umetnutih u aluminijske profile radi ojačanja,
- slika 5: presjek profila FB-01 i FB-10 s čeličnim umecima,
- slika 6: presjek profila FB-20 i FB-30 s čeličnim umecima,



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- slika 7: presjek profila FB-40, FB-41 i FB-50,
- slika 8: popis i skice okova, kutnika i nosača,
- slika 9: popis i skice brtvi i aluminijskog profila,
- slika 10: karakteristični presjeci profila i neprobojne ispune,
- slika 11: karakteristični presjeci vrata i dovratnika,
- slika 12: shema spajanja 1 profila kutnikom,
- slika 13: shema spajanja 2 profila kutnikom,
- slika 14: shema spajanja 3 profila kutnikom,
- slika 15: detalji spajanja prečke s ramom,

Ispuna se, gledano s napadane strane, sastoji od iverala debljine 8 mm iza koje se nalazi čelični lim ST 52-3 debljine 4 mm.

Brava na vratima je protuprovalna brava proizvođača Omece (Italija), tip 2120/14 H.

Staklo je laminirano višeslojno sigurnosno zaštitno staklo debljine 23 mm proizvođača Staklo SLS, Radničko naselje 6, 34550 Pakrac, koje je Svjedodžbom o sukladnosti broj 600130 od 2006-10-06 potvrđeno kao razreda BR 2 (S), a koju je izdao Eurostandard, Mesnička 13, 10000 Zagreb.

Radi osiguranja neprobojnosti, umetnuti čelični lim u profilima FB01, FB10 i FB20 je postavljen u profile tako da su spojevi limova unakrsni s prednje i stražnje strane profila, a time i cijelog ispitnog uzorka (slika 16).

Presjek dijela stijene u kojoj se nalazi pult s ladicom dane je na slici 17, a izgled pulta s ladicom dan je na slikama 18 (vanjski dio stijene) i 19 (unutarnji dio stijene). S nenapadne strane stijene ladica je pokrivena pomičnom prekrivnom pločom od ST 52-3 lima debljine 3 mm, koja se izvlači za vrijeme transfera. Sama ladica je izrađena od nehrđajućeg čelika AISI 430 (W.Nr. 1.4016) debljine 1,5 mm.

Radi osiguranja neprobojnosti spoja stijene s podom, na spoj poda (kojega u ispitivanju simulira čelična greda) i donjeg ruba stijene pričvršćen je čelični ST 52-3 L profil širine 58 i visine 33 mm, debljine 3 mm.



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ZAKLJUČAK I VREDNOVANJE

Nakon ispitivanja uzoraka ostakljene stijene s pultom, transfer ladicom i vratima, ime stijene NSAL-1 (uzorak laboratorijskog broja LGF 002/07), te modifikacija iste stijene (uzorci LGF 005/07 (drugo ispitivanje) i LGF 022/07 (treće ispitivanje)), proizvođača: „Roher“ tehnička zaštita, izrađene od aluminijskih profila FEAL BLIND proizvođača: Feal, ojačanih čeličnim umecima od lima ST 52-3 i s korištenim staklom debljine 23 mm proizvođača: Staklo SLS, sve prema opisu i specifikacijama iz prethodnog dijela ovog izvještaja, zaključuje se sljedeće:

- raspored mjesta propucavanja **zadovoljava** zahtjeve norme HRN EN 1523:2006,
- niti kod jednog** ispaljenja zrna kod modificiranih uzoraka (drugo i treće ispitivanje) nije došlo do probijanja zrna niti njegovih dijelova kroz uzorke,
- bilo je** krhotina stakla u metalnoj posudi između uzorka i aluminijske folije,
- na aluminijskoj foliji **nastala su oštećenja** u vidu sitnih rupa.

Obzirom da su svi uvjeti ispitivanja po normama HRN EN 1523:2006 i HRN EN 1522:2006 bili zadovoljeni, te s obzirom na gornje zaključke, uzorak NSAL-1 ostakljene stijene s pultom, transfer ladicom i vratima s navedenim modifikacijama iz drugog i trećeg dijela ovog izvještaja, te uz zatvorenu transfer ladicu, može se prema normi HRN EN 1522:2006 vrednovati kao

EN 1522 FB2(S)

(neprobajno na kalibar 9 mm Luger sa stvaranjem krhotina).

NAPOMENE:

- Ovo vrednovanje vrijedi uz uvjet korištenja istih sastavnih materijala konstruktivno sastavljenih na način opisan u ovom izvještaju.
- Spoj uzorka stijene NSAL-1 s drugim eventualnim konstrukcijama (zidovi, strop, pod i slično) nije ispitivan, te se ovo vrednovanje na takove spojeve ne odnosi.

Voditelji ispitivanja:

Zlatko Franolić

dr. sc. Ivica Kušević, dipl. ing. fizike



Voditelj laboratorija:

Ivica Kušević

dr. sc. Ivica Kušević, dipl. ing. fizike

Evidence of Performance

Air permeability, Watertightness, Resistance to wind load



Test Report

No. 14-001849-PR04

(PB-C01-02-en-02)

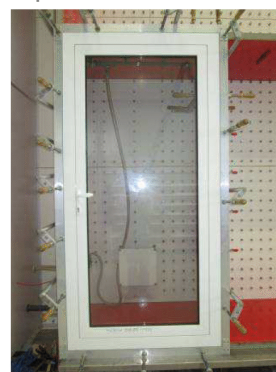
Client	FEAL d.o.o. Trnska cesta 146 88220 Siroki Brijeg Bosnia-Herzegovina
Product	Single external pedestrian doorset, outward opening
Designation	System designation: FEAL BLIND
Performance-relevant product details	Material: Aluminium Seals/gaskets: Leaf: 4-sided EPDM seal 321.003, ISEO GOMMA S.p.A. Trim: 4-sided EPDM seal 321.001, ISEO GOMMA S.p.A. Hardware: Multi point lock GU-Bks MR-2, Gretsch-Unitas GmbH Single strike plate Item No. 6-29513-00, Gretsch-Unitas GmbH two-part screw-on hinges max. -3D-Max /Alu-B d.o.o. Slovenia
Overall dimensions (W x H)	1,100 x 2,245
Locking situation	closed and locked (in main and additional latch bolts)
Special features	Test sequence.

Basis

EN 14351-1:2006+A1:2010

Test standard/s:
EN 1026:2000-06
EN 1027:2000-06
EN 12211:2000-06
Correspond/s to the national standard/s (e.g. DIN EN)
14-001849-PR04 (PB-C01-02-en-02) dated 12.08.2014

Representation



Instructions for use

The results obtained can be used by the manufacturer as the basis for the manufacturer ITT test report summary. Observe the specifications set out by the applicable product standard.

Validity

The data and results refer solely to the tested and described specimen. Classification remains valid as long as the product and the above basis remain unchanged. The results can be extrapolated under the manufacturer's own liability subject to observance of the relevant specifications set out by the applicable product standard. This test/evaluation does not allow any statement to be made on any further characteristics regarding performance and quality of the construction presented; in particular the effects of weathering and ageing were not taken into account.

Notes on publication

The ift-Guidance Sheet "Advertising with ift test documents" applies. The cover sheet can be used as an abstract.

The report contains a total of 19 pages.

Results

Air permeability according to EN 12207:1999-11



Class 4

Watertightness according to EN 12208:1999-11



Class E1050

Resistance to wind load according to EN 12210:1999-11/AC:2002-08



Class C4 / B4

ift Rosenheim

18.08.2014

Thomas Stefan, Dipl.-Ing. (FH)
Head of Testing Department
Construction Product Testing

Michael Breckl-Stock, M.Eng., Dipl.-Ing. (FH)
Operating Testing Officer
Construction Product Testing

ift Rosenheim GmbH

Geschäftsführer:
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Prof. Ulrich Sieberath

Theodor-Gietl-Str. 7 - 9
D-83026 Rosenheim
Tel.: +49 (0)8031/261-0
Fax: +49 (0)8031/261-290
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Sitz: 83026 Rosenheim
AG Traunstein, HRB 14763

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SWIFT-BIC: BYLADEM1TROS

Anerkannte Stelle
Notified Body 0757
PUZ-Stelle: BAY 18

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D-26-11349-01-00
D-IS-11349-01-00

Annex 1: Representation of product/test specimen

Page 1 of 4

Evidence of Performance

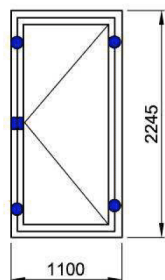
Air permeability, Watertightness, Resistance to wind load

Test Report 14-001849-PR04 (PB-C01-02-en-02) dated 18.08.2014

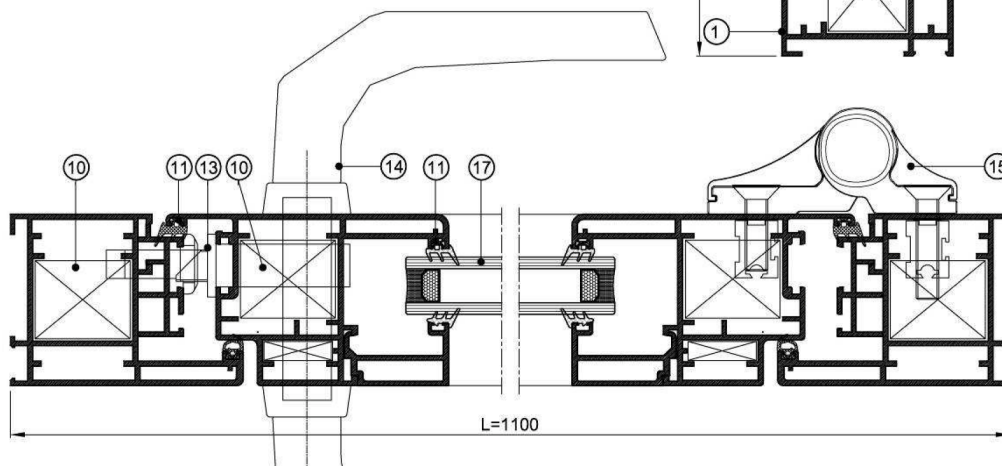
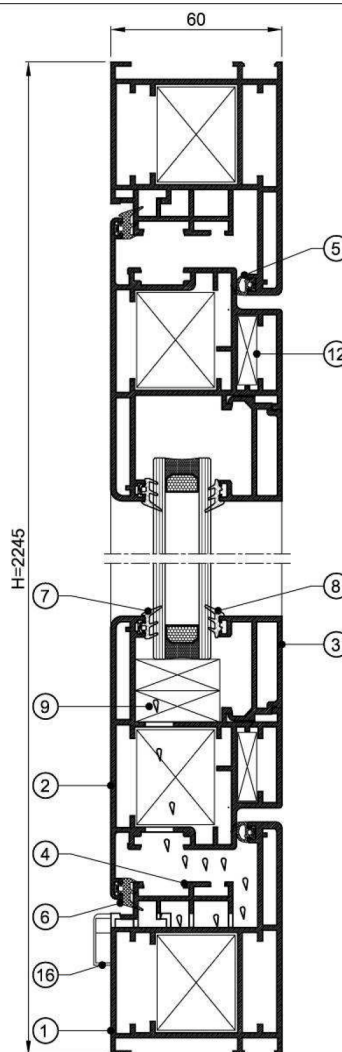
Client FEAL d.o.o., 88220 Siroki Brijeg (Bosnia-Herzegovina)



SAMPLE TESTING
FEAL BLIND


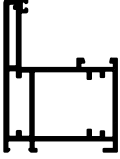
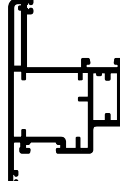
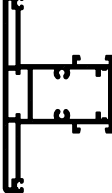
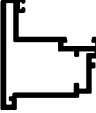



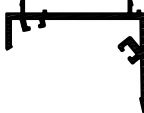



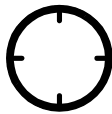

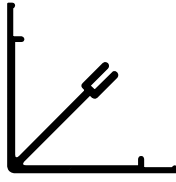

Poz.	profile / gaskets / accessories / glass	producer
1	al. profile (frame) FB-01	FEAL
2	al. profile (wing) FB-10	FEAL
3	al. profile FB-40	FEAL
4	al. profile FB-50	FEAL
5	gasket 321.001(EPDM)	Iseo Gomma
6	gasket 321.003(EPDM)	Iseo Gomma
7	gasket 321.002 (EPDM)	Iseo Gomma
8	gasket 311.001 (EPDM)	Iseo Gomma
9	coasters for glass	Metaltgovina
10	al. angled connector 710.072	FEAL
11	al. angled connector 730.001	Ditrx
12	al. angled connector 710.110	FEAL
13	door locks - MR2	GU-Bks
14	handle door	GU-Bks
15	two-part hinge max-3d	Alu-b
16	water drain cap 373.003	Metaltgovina
17	glass 20 mm (4+12+4)	Kristal

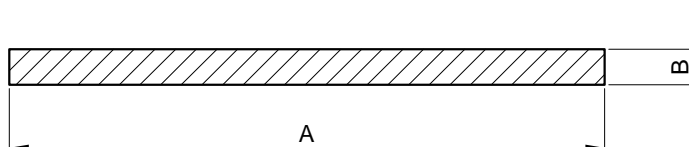
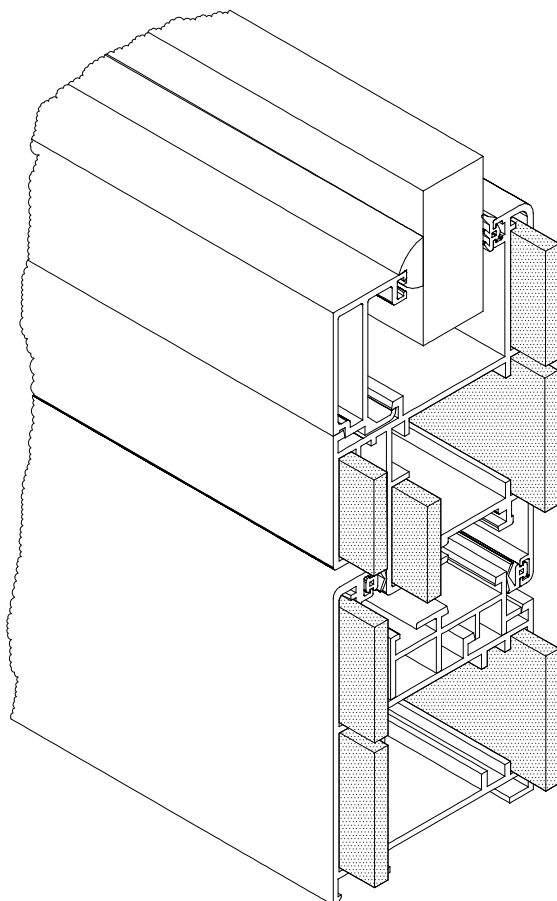


Drawing 1

Test specimen, horizontal and vertical section

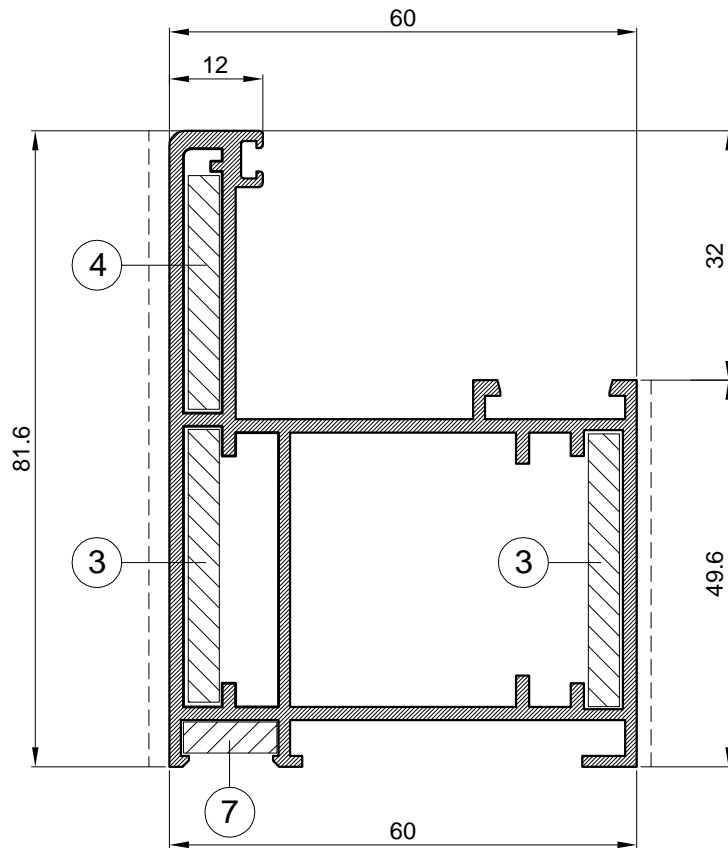
Oznaka		Izgled-presjek	Težina /kg/ml/	Opseg /mm/	I_x / cm^4	W_x / cm^3
					I_y / cm^4	W_y / cm^3
FB-01			1.704	365	30.04	8.2
FB-10			1.822	424	30.48	8.4
FB-20			1.994	404	29.3	7.69
FB-30			1.114	258	13.81	4.4
FB-40			0.487	152		
FB-41			0.535	172		
FB-50			0.404	202	2.22	1.05
M45-752			0.510	239		

Oznaka		Izgled-presjek	Težina /kg/ml/	Opseg /mm/	I_x / cm^4	W_x / cm^3
					I_y / cm^4	W_y / cm^3
F-0352/A			1.444	176		
061210			0.679	188		
061211			2.170	556		
060 353			0.825	225		

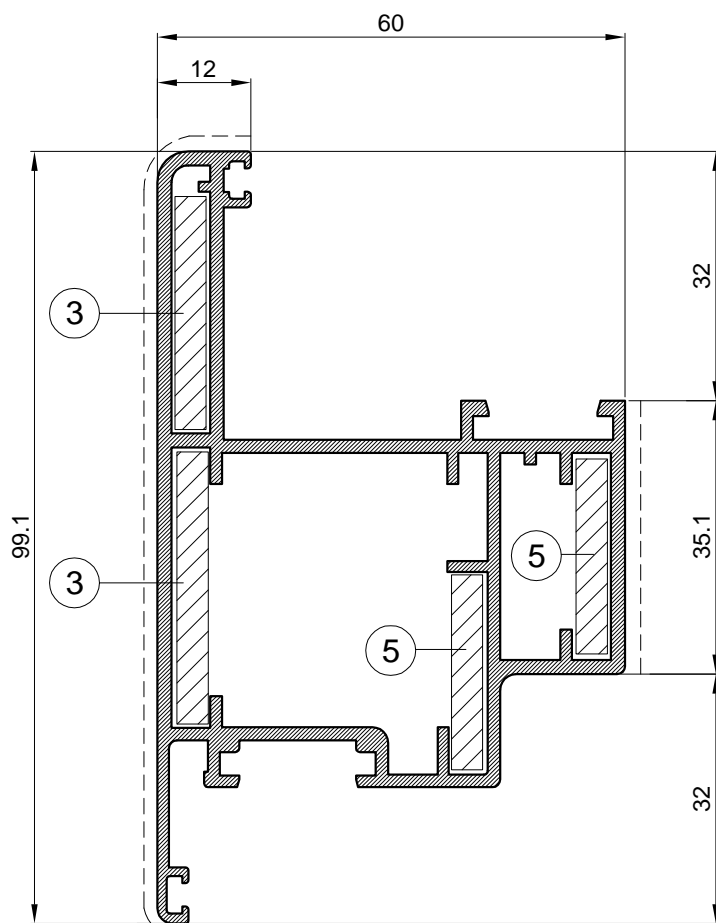


MJERE ČELIČNIH PROFILA				
	A /mm/	B /mm/	Težina /kg/m/	Napomena
1	50	4	1.560	
2	45	4	1.404	
3	35	4	1.092	
4	30	4	0.936	
5	25	4	0.780	
6	20	4	0.624	
7	12	4	0.374	

ČELIČNI PROFILI.....DIN 1710 oznaka ST 37-3 d=4 mm

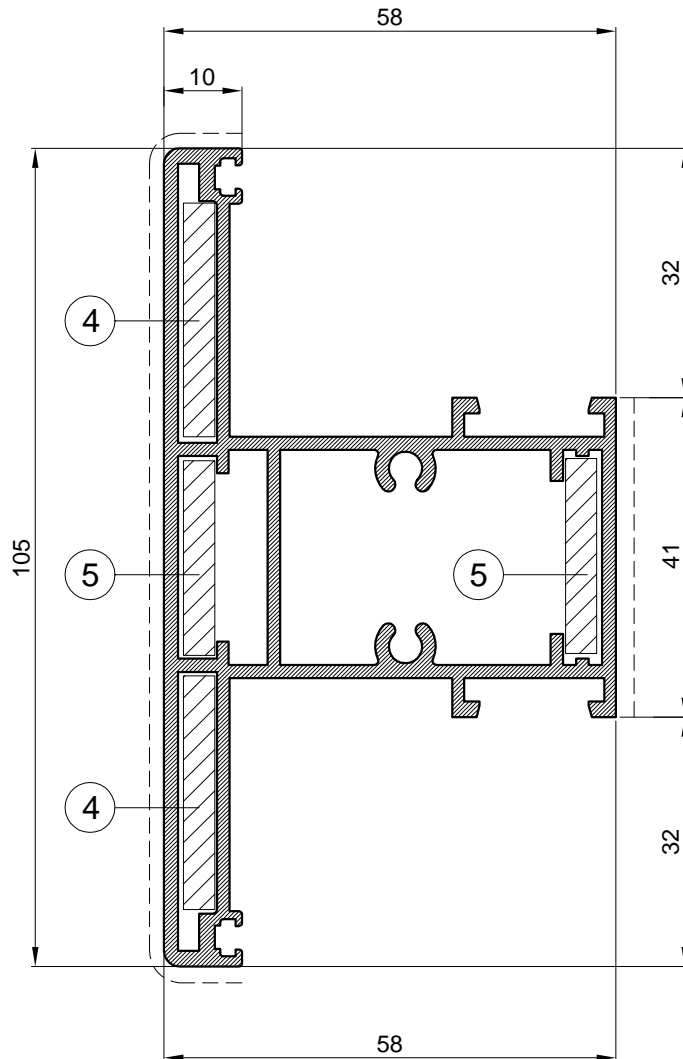


Profil rama		
Art.-Br.	FB-01	
Težina	kg/m	1.704
Opseg	mm	365
Moment inercije	I_x (cm ⁴)	34.7
	I_y (cm ⁴)	30.04
	W_x (cm ⁴)	7.39
	W_y (cm ⁴)	8.2
Dužina isporuke	mm	6500



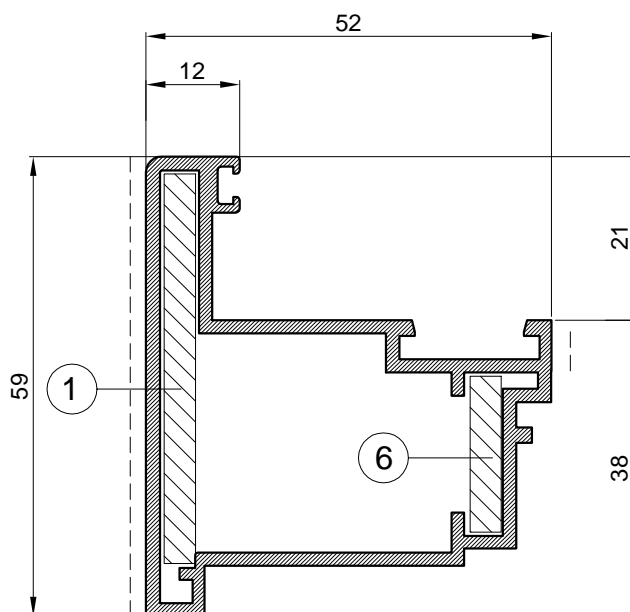
Čelični profili	
3	35x4
4	30x4
5	25x4
7	12x4

Profil krila		
Art.-Br.	FB-10	
Težina	kg/m	1.822
Opseg	mm	424
Moment inercije	I_x (cm ⁴)	39.63
	I_y (cm ⁴)	30.48
	W_x (cm ⁴)	8
	W_y (cm ⁴)	8.4
Dužina isporuke	mm	6500

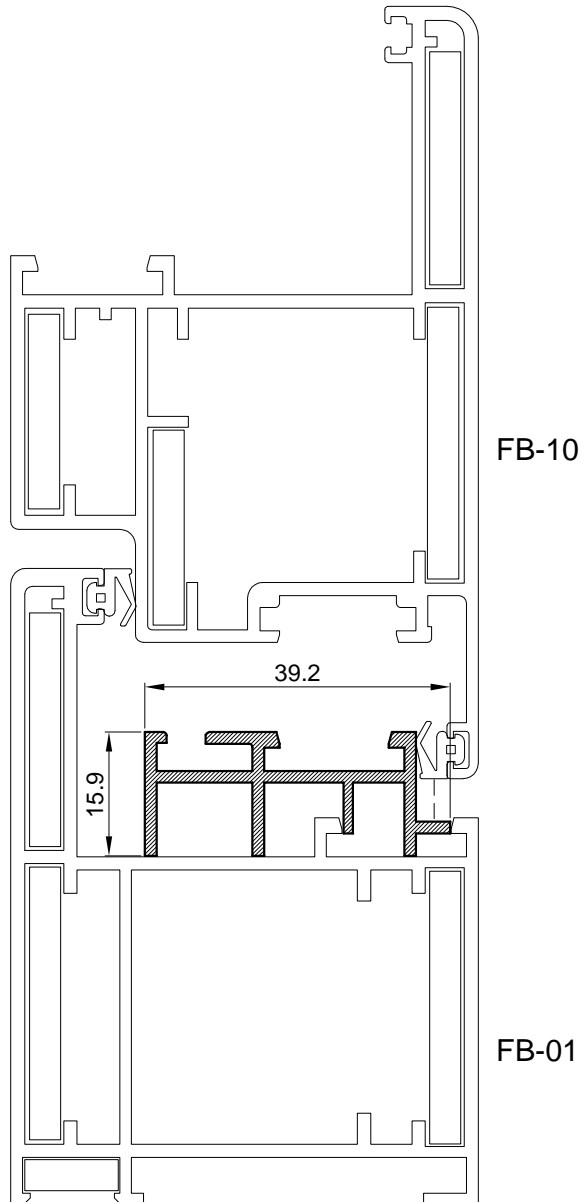


Profil prečke		
Art.-Br.	FB-20	
Težina	kg/m	1.994
Opseg	mm	404
Moment inercije	I_x (cm ⁴)	48.2
	I_y (cm ⁴)	29.3
	W_x (cm ⁴)	9.18
	W_y (cm ⁴)	7.69
Dužina isporuke	mm	6500

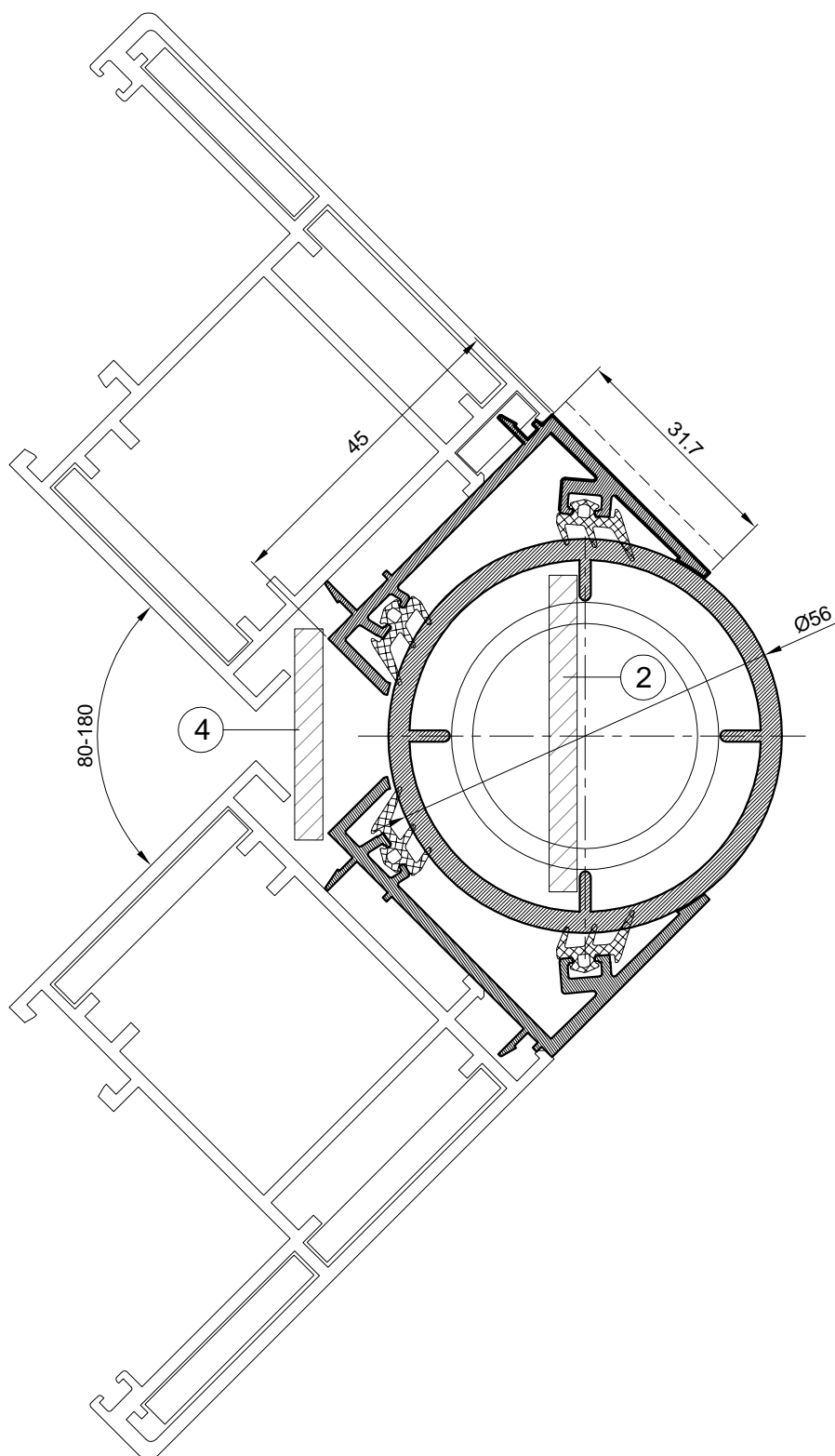
Čelični profili	
1	50x4
4	30x4
5	25x4
6	20x4



Profil kombatute		
Art.-Br.	FB-30	
Težina	kg/m	1.114
Opseg	mm	258
Moment inercije	I_x (cm ⁴)	11.73
	I_y (cm ⁴)	13.81
	W_x (cm ⁴)	3.75
	W_y (cm ⁴)	4.4
Dužina isporuke	mm	6500



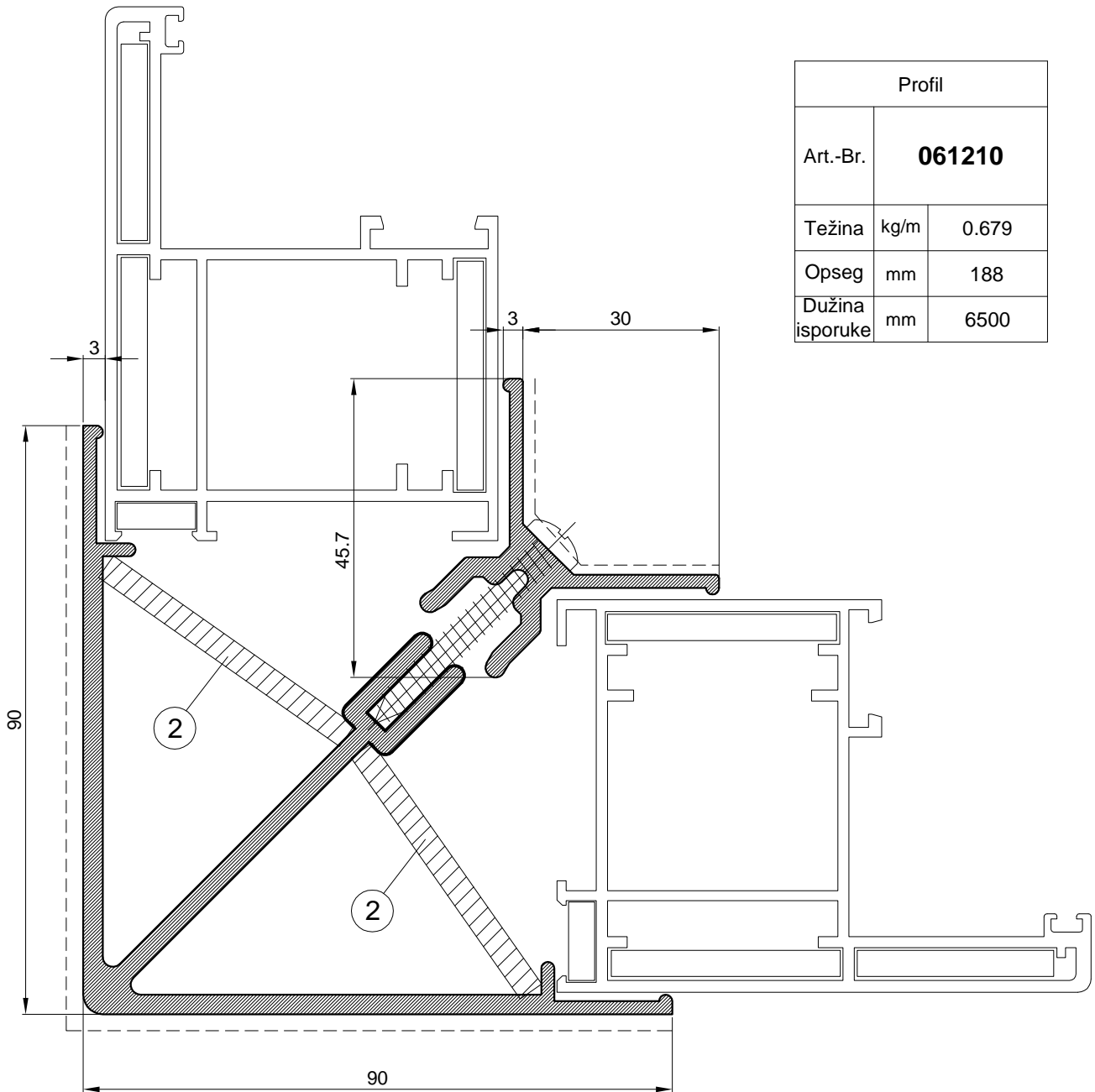
Profil umetak		
Art.-Br.	FB-50	
Težina	kg/m	0.404
Opseg	mm	202
Moment inercije	I _x (cm ⁴)	0.26
	I _y (cm ⁴)	2.22
	W _x (cm ⁴)	0.28
	W _y (cm ⁴)	1.05
Dužina isporuke	mm	6500



Profil		
Art.-Br.	M45-752	
Težina	kg/m	0.510
Opseg	mm	239
Dužina isporuke	mm	6500

Profil		
Art.-Br.	F-0352/A	
Težina	kg/m	1.444
Opseg	mm	176
Dužina isporuke	mm	6500

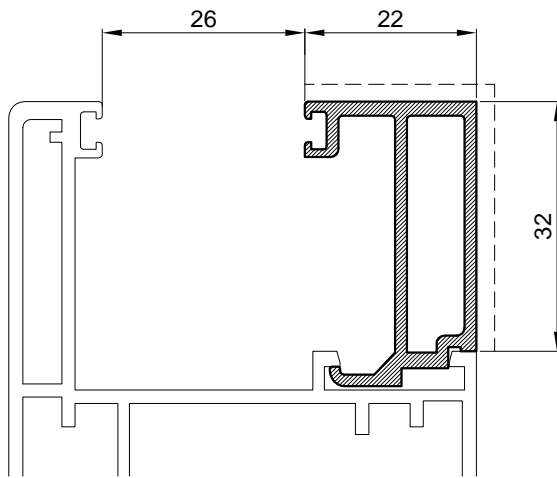
Čelični profili	
2	45x4
4	30x4



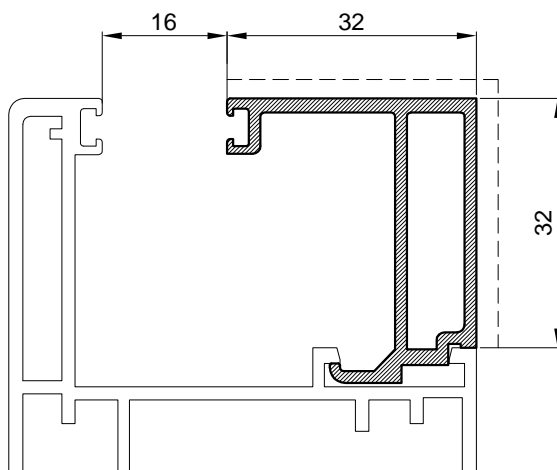
Profil		
Art.-Br.	061210	
Težina	kg/m	0.679
Opseg	mm	188
Dužina isporuke	mm	6500

Profil		
Art.-Br.	061211	
Težina	kg/m	2.170
Opseg	mm	556
Dužina isporuke	mm	6500

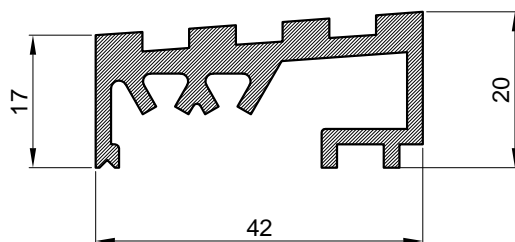
Čelični profili	
2	45x4



Lajsna za staklo		
Art.-Br.	FB-40	
Težina	kg/m	0.487
Opseg	mm	152
Dužina isporuke	mm	6500



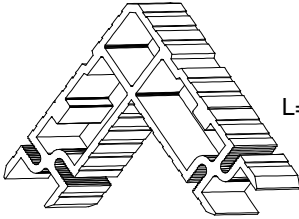
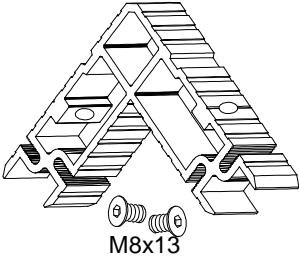
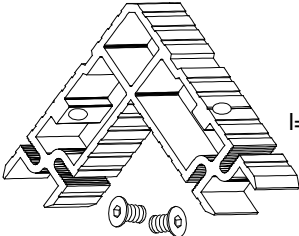
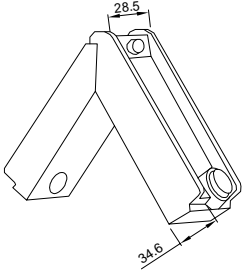
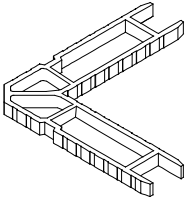
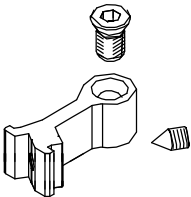
Lajsna za staklo		
Art.-Br.	FB-41	
Težina	kg/m	0.535
Opseg	mm	172
Dužina isporuke	mm	6500

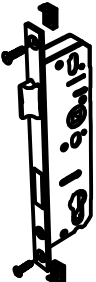
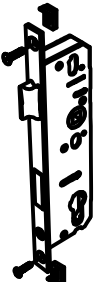
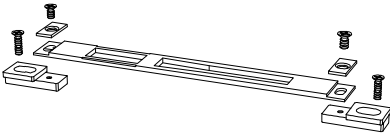
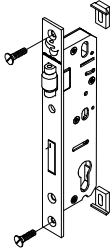
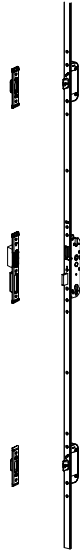



Lajsna za staklo		
Art.-Br.	060353	
Težina	kg/m	0.825
Opseg	mm	225
Dužina isporuke	mm	6500

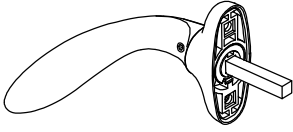
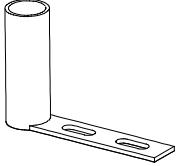
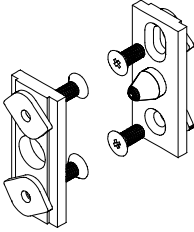
CODE	Izgled-presjek	Opis	Materijal	Nap.
111.003.01 02 03		- Dvodijelna šarka-vani <i>EURO ŽLIJEB</i> - Stara oznaka EV-110 - Boje: 01- bijela; 02 - siva;03 - crna		
111.004.01 02 03		- Trodjelna šarka-vani <i>EURO ŽLIJEB</i> - Stara oznaka EV-130 - Boje: 01- bijela; 02 - siva;03 - crna		
114.001.01 02 03		- Dvodijelna šarka- <i>EURO ŽLIJEB</i> - Stara oznaka 2006.00.305-s 310-b 313-c		
113.003.01 02 03		- Dvodijelna šarka- <i>EURO ŽLIJEB</i> - Stara oznaka: VENUS - Boje: 01- bijela; 02 - siva;03 - crna		
113.006.01 02 03		- Dvodijelna šarka OSNO 60 - Stara oznaka: Osno 60 - Boje: 01- bijela; 02 - siva;03 - crna	Al. Čelik	
113.002.01 02 03		- Dvodijelna šarka OSNO 68 - Stara oznaka: Osno 68 - Boje: 01- bijela; 02 - siva;03 - crna	Al. Čelik	

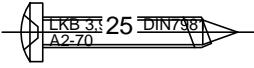
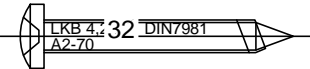
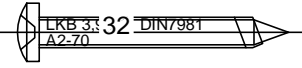
CODE	Izgled-presjek	Opis	Materijal	Nap.
113.001.01 02 03		- Dvodijelna šarka OSNO 94 - Stara oznaka: Osno 94 - Boje: 01- bijela; 02 - siva;03 - crna	Al. Čelik	
113.008.01 02 03		- Dvodijelna šarka OSNO 60 - Stara oznaka: Max3D 60 - Boje: 01- bijela; 02 - siva;03 - crna	Al. Čelik	
113.009.01 02 03		- Dvodijelna šarka OSNO 70 - Stara oznaka: Max3D 68 - Boje: 01- bijela; 02 - siva;03 - crna	Al. Čelik	
113.011.01 02 03		- Dvodijelna šarka OSNO 96 - Stara oznaka: Max3D 94 - Boje: 01- bijela; 02 - siva;03 - crna	Al. Čelik	
730.001		- Kutna spojnica za komoru 1.7x4.7 - Stara oznaka: G112	Inox	
730.009		- Kutna spojnica prozora -za komoru 29x35.5 - Stara oznaka: 4004 ,2001	Zamak #3	


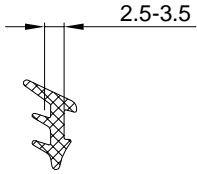
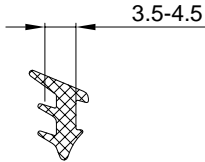
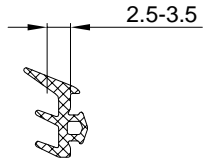
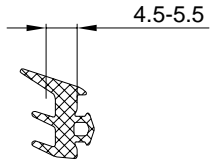

CODE	Izgled-presjek	Opis	Materijal	Nap.
710.059	 <p>L=28,5mm</p>	- Kutna spojnica za komoru 29x35,5 - Stara oznaka K-0795	Al.	
710.072	 <p>L=28,5mm</p> <p>M8x13</p>	- Kutna spojnica za komoru 29x35,5 - Stara oznaka K-0795	Al.	
710.099	 <p>l=28,5mm</p> <p>M8x13</p>	- Kutna spojnica za komoru 29x35.5-nesimetrična	Al.	
731.002		- Kutna spojnica za komoru 29x35.5 - Stara oznaka: 1007	Zamak #3	
710.110	 <p>L=7 mm</p>	- Kutna spojnica za komoru 7.7x25.1 - Stara oznaka: 061015/7	Al.	
710.066	 <p>M8x13 M6x10</p>	- Veznik (L=14.7mm) - Stara oznaka E-200	Al.	

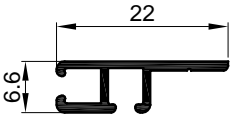
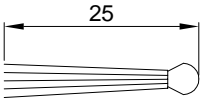
CODE	Izgled-presjek	Opis	Materijal	Nap.
124.016		<ul style="list-style-type: none"> - Brava 25 mm sa jezičkom - Stara oznaka: 3020.00 	Inox Čelik	
124.001		<ul style="list-style-type: none"> - Brava 35 mm sa jezičkom - Stara oznaka: 3022.00 	Inox Čelik	
124.003		<ul style="list-style-type: none"> -Prihvatnik jezička brave (šild) - Stara oznaka: 3016.00 	Prokrom Čelik	
124.010		<ul style="list-style-type: none"> - Brava 35 mm sa valjkom - Stara oznaka: 3032 	Inox Čelik	
126.001		<ul style="list-style-type: none"> -Sigurnosna brava 35 mm <u>sa jezičkom</u> (ISEO) -Ključanje u tri točke -Prihvatnik za bravu-šild -Stara oznaka brave: 785111352 -Stara oznaka šilda: 6862/1 	Inox Čelik	
126.002		<ul style="list-style-type: none"> -Sigurnosna brava 35 mm <u>sa valjkom</u> (ISEO) -Ključanje u tri točke -Prihvatnik za bravu-šild -Stara oznaka brave: 785211352 -Stara oznaka šilda: 6862/1 	Inox Čelik	

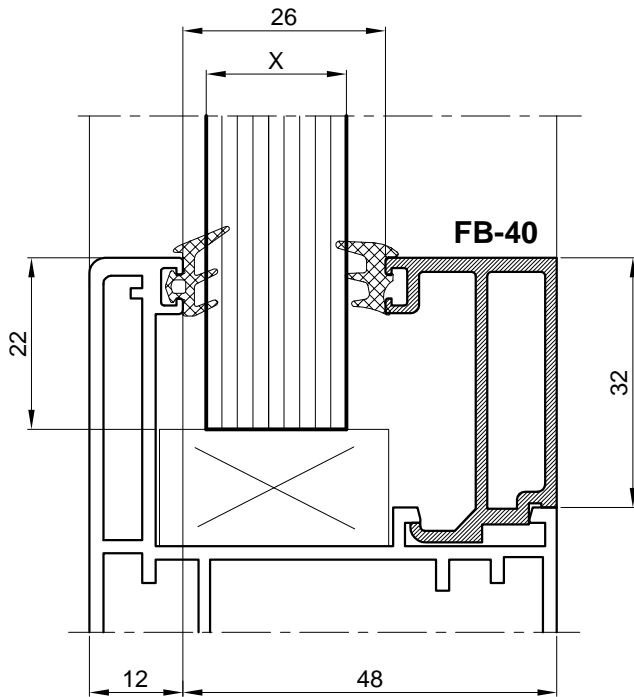
CODE	Izgled-presjek	Opis	Materijal	Nap.
125.001		-Prijvatnik jezička brave (šild) - Stara oznaka: 6862/25	Prokrom Čelik	
126.026		-Elektroprijvatnik- <i>električna brava</i> - Stara oznaka:5661830 (ISEO)		
123.001.01 02 03		- Štitnik cilindra za bravu (par) - Stara oznaka: 149.805 - Boje: 01- bijela; 02 - siva;03 - crna	PVC	
124.004.01 02 03		- Štitnik cilindra za bravu (par) - Stara oznaka: 1016.00 - Boje: 01- bijela; 02 - siva;03 - crna	Zn Čelik	
124.002		- Uložak za bravu 31/61 - Stara oznaka: 5057.00.520	Čelik	
103.001.01 02 03		- Ručke za vrata (par) - Stara oznaka: 890 - Boje: 01- bijela; 02 - siva;03 - crna	AlSi Zamak	

CODE	Izgled-presjek	Opis	Materijal	Nap.
104.001.01 02 03		<ul style="list-style-type: none"> - Ručke za vrata (par) - Stara oznaka: 1032.00 - Boje: 01- bijela; 02 - siva;03 - crna 	AISi Zamak	
521.059		<ul style="list-style-type: none"> - Nosač za profil F-0352/A - Stara oznaka: HS-38 	Al	
141.007		<ul style="list-style-type: none"> - Protuprovalni osigurač vrata - Stara oznaka: OV-01 		

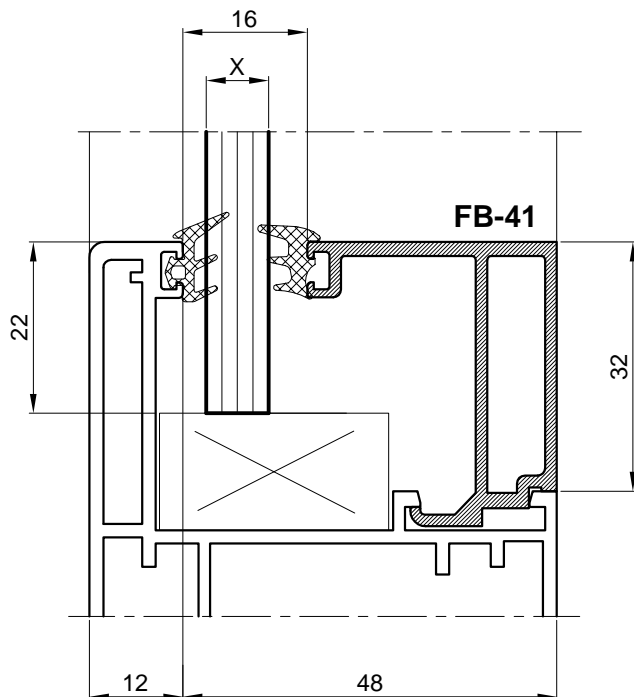
CODE	Izgled-presjek	Opis	Materijal	Nap.
XXX		- 3.9 x 25 DIN 7981		
XXX		- 4.2 x 32 DIN 7982		
XXX		- 3.9 x 32 DIN 7982		

CODE	Izgled-presjek	Opis	Materijal	Nap.
321.001		- Brtva u krilu - Stara oznaka - (321.001)	EPDM	61
311.001		- Brtva prema staklu /unutarnja/ - Stara oznaka - (921)	EPDM	71
311.002		-Brtva prema staklu /unutarnja/ - Stara oznaka - (918)	EPDM	71
321.002		- Brtva prema staklu /vanjska/ - Stara oznaka - (321.002)	EPDM	61
321.003		- Brtva prema staklu /vanjska/ - Stara oznaka - (Z113)	EPDM	61
311.007 311.008 311.009 311.010		-Brtva prema staklu /unutarnja/ - Stare oznake 311.007 nove oznake UP-6 UP-7 UP-8	311.007 311.008 311.009 311.010 EPDM	71

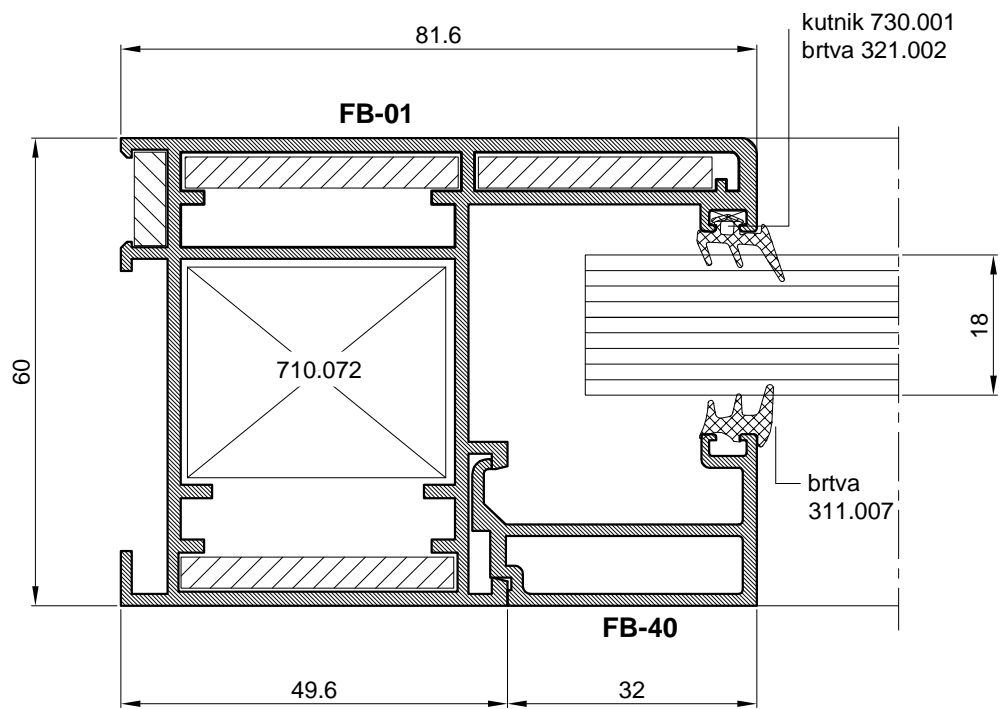
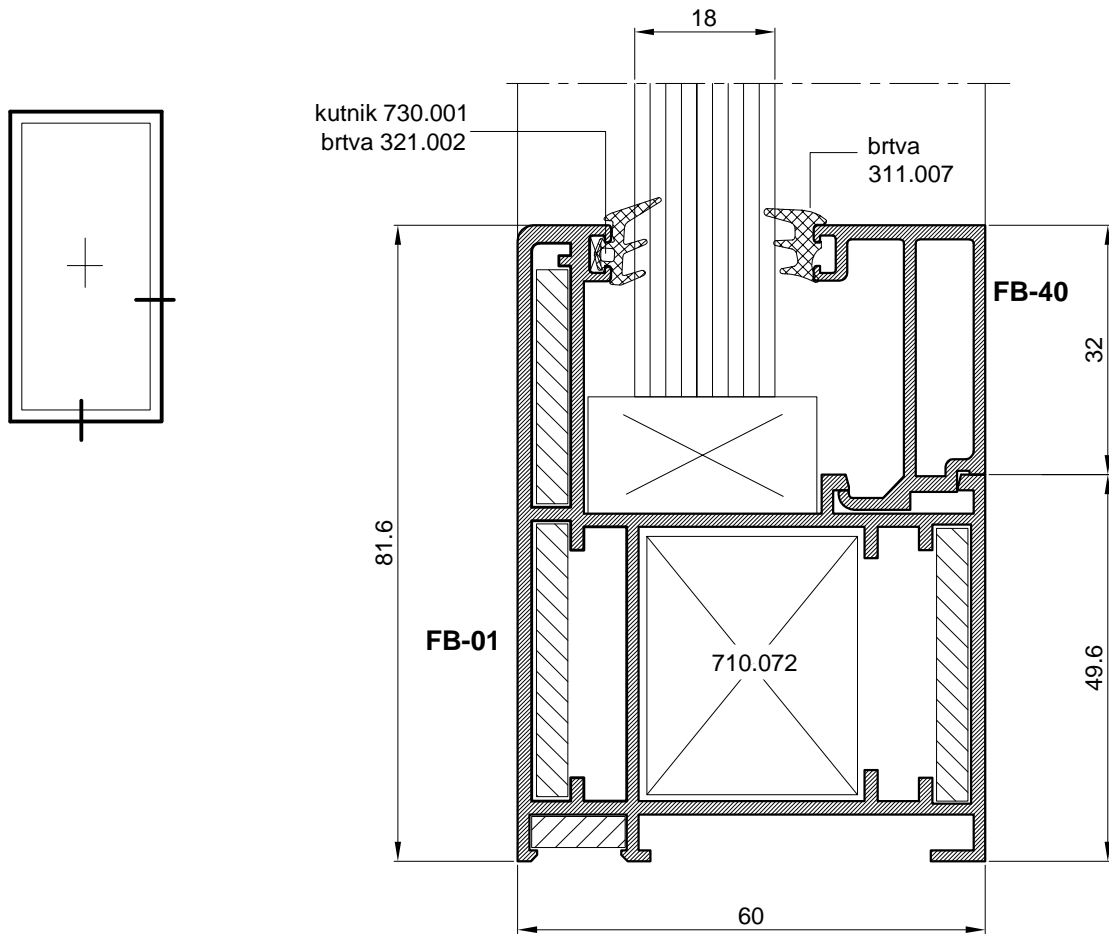
CODE	Izgled-presjek	Opis	Materijal	Nap.
521.001		- Držáč četkaste brtve L=2500 mm - Stara oznaka Z 801	Al.	
347.001		- Četkasta brtva L=2500 mm - Stara oznaka Z 802		

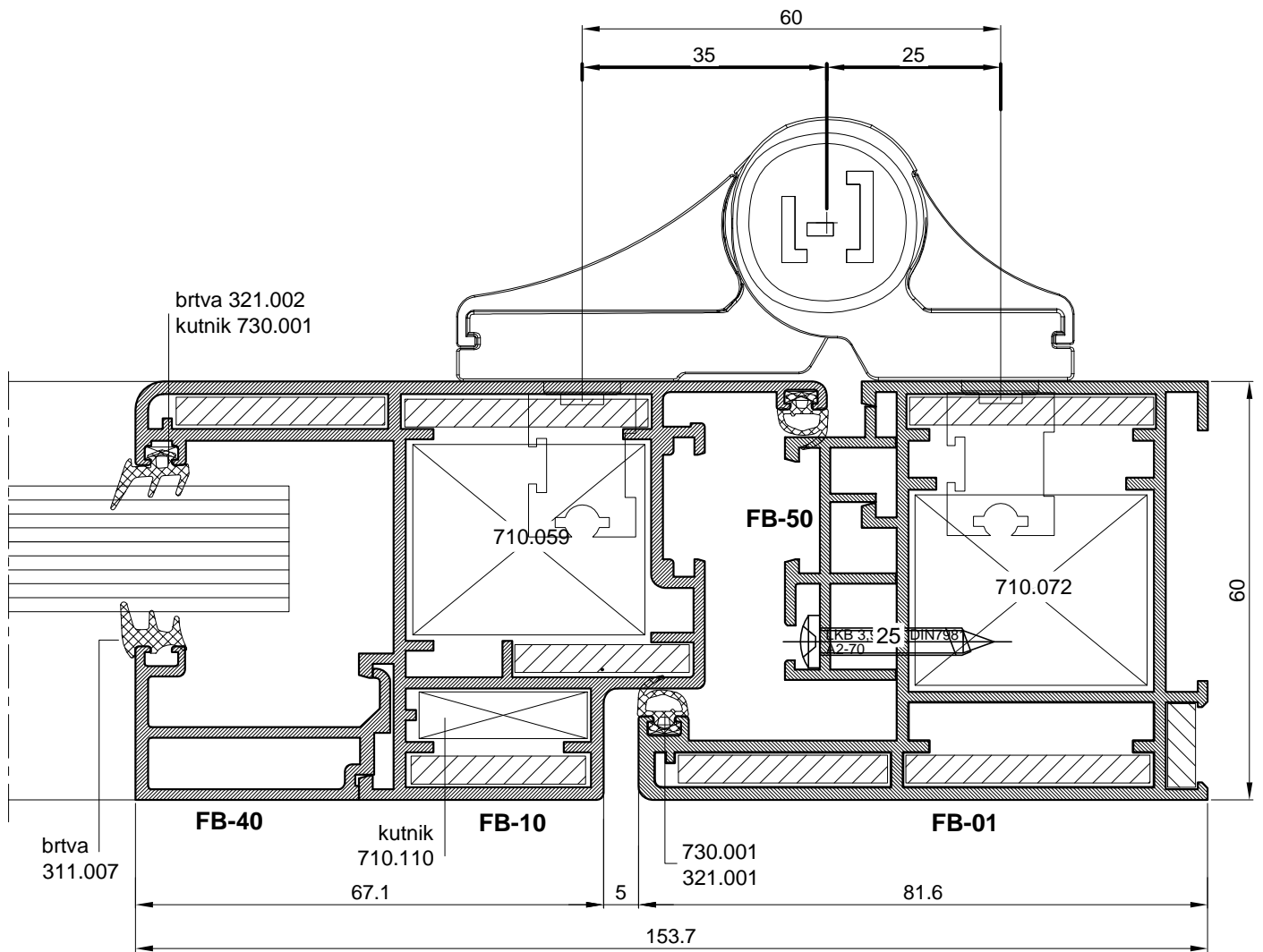
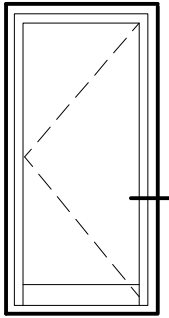


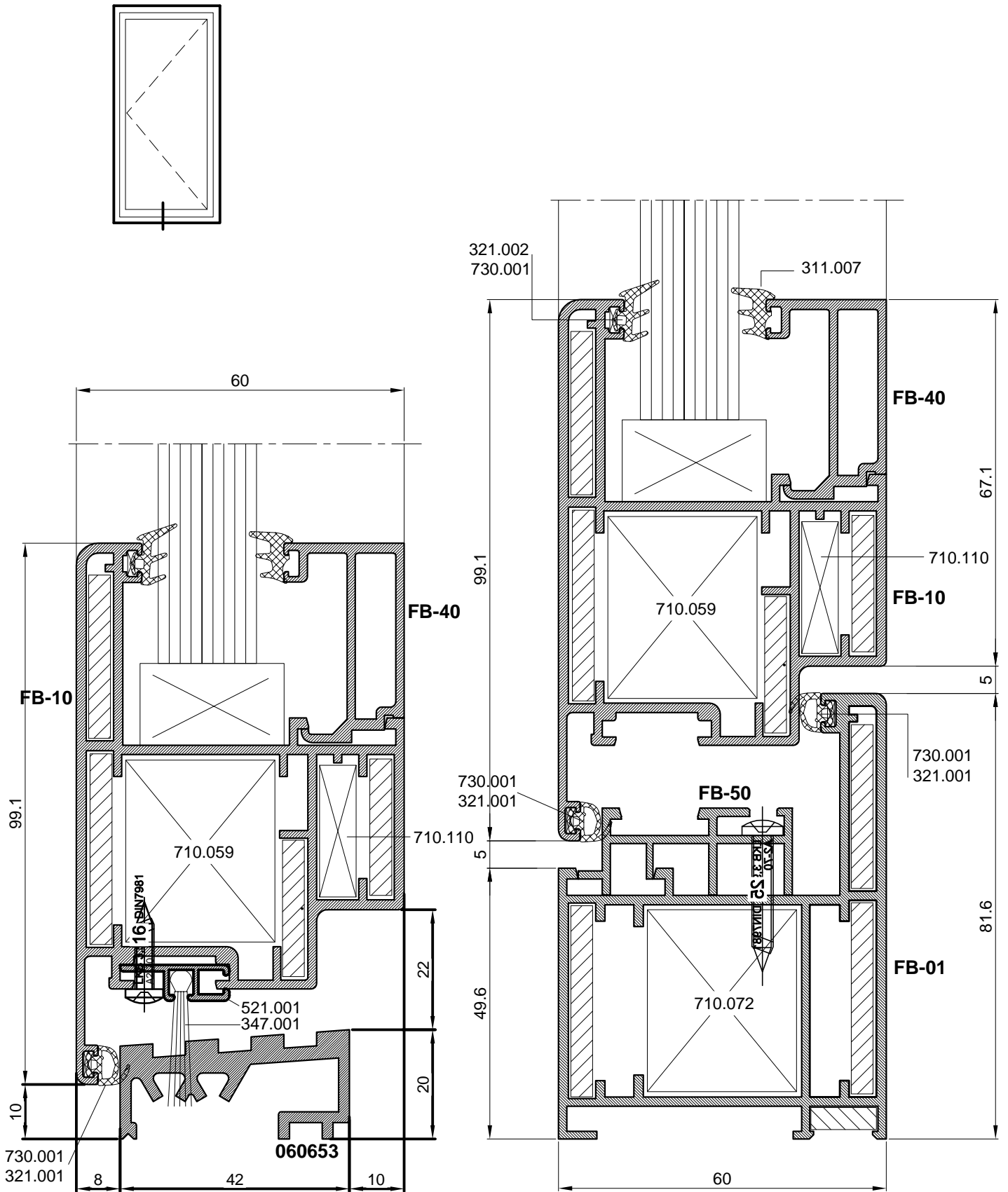
Veličina ispune za lajsnu FB-40		
Ispuna X /mm/	Vanjska brtva	Unutarnja brtva
13-14	Z113	UP8
15-16	Z113	UP6
17-18	321.002	UP5
19-21	321.002	921

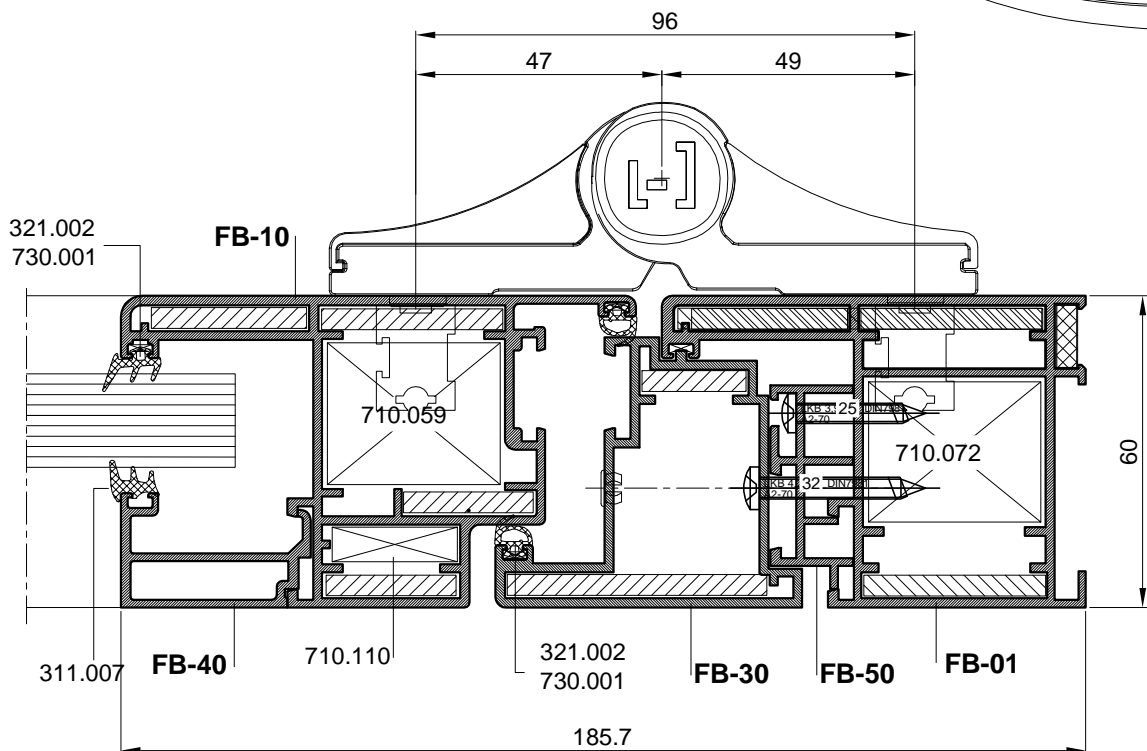
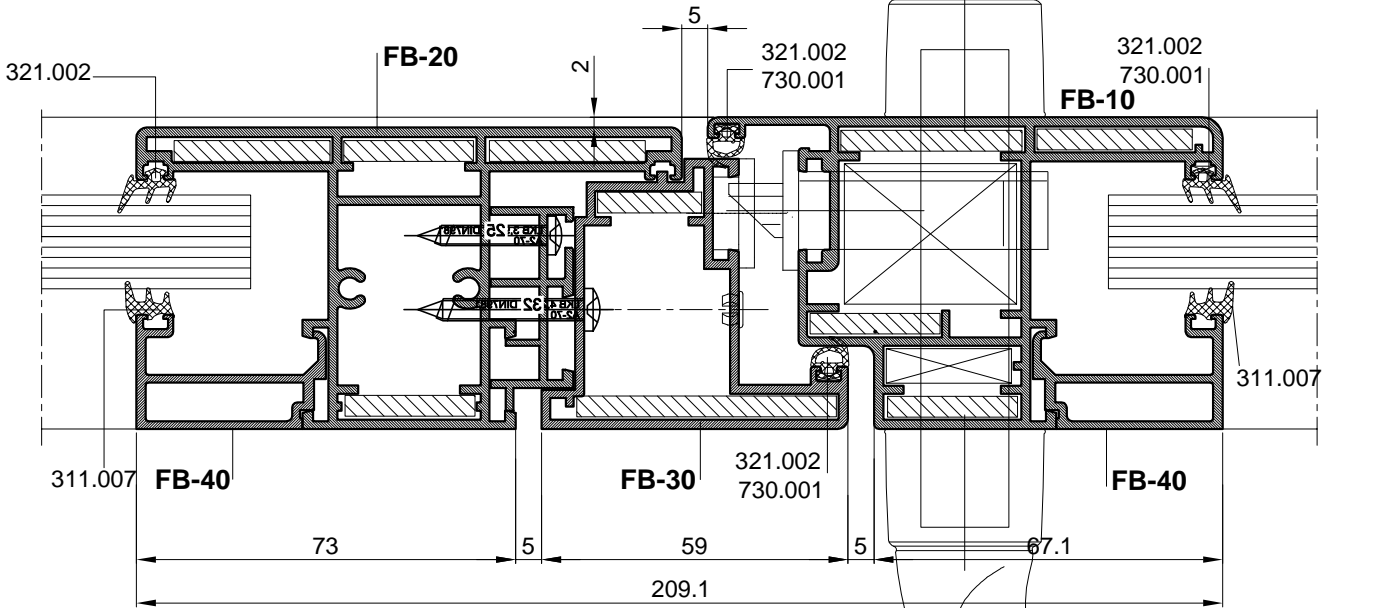
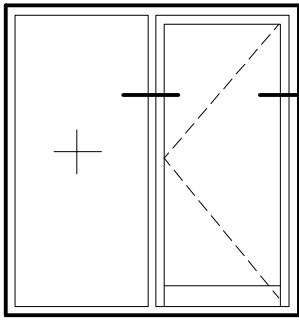


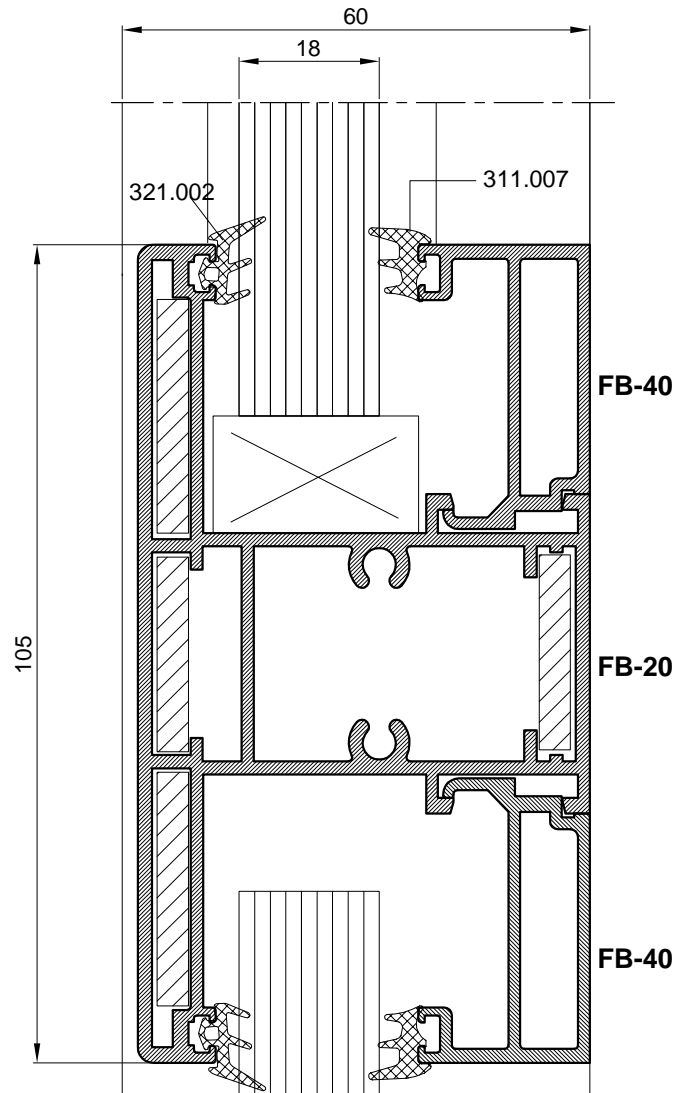
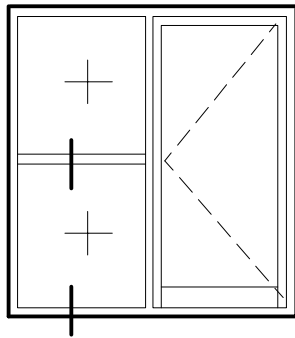
Veličina ispune za lajsnu FB-41		
Ispuna X /mm/	Vanjska brtva	Unutarnja brtva
6-7	Z113	UP5
8-10	Z113	921
10-12	321.002	921





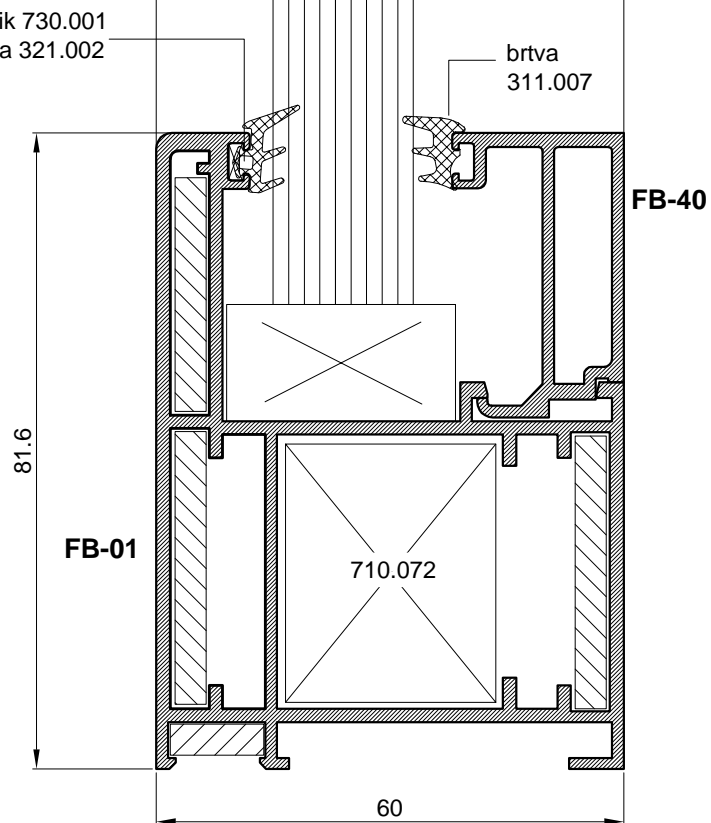




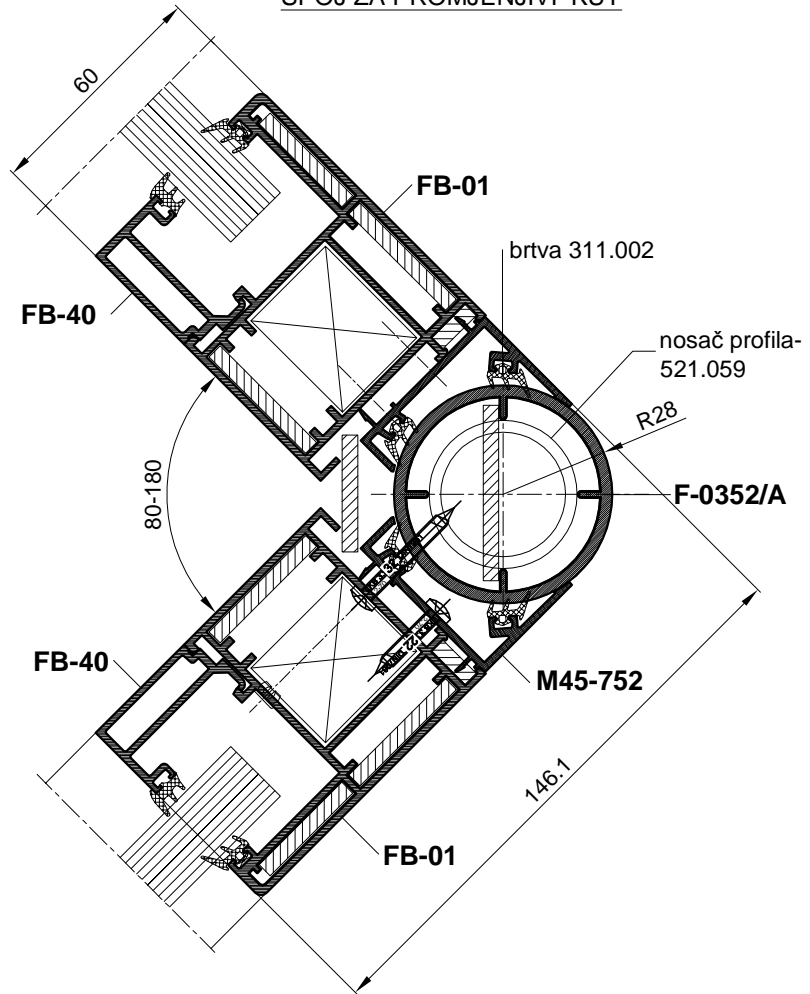
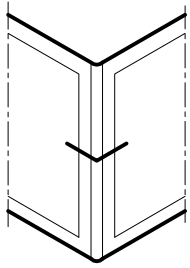


kutnik 730.001
brtva 321.002

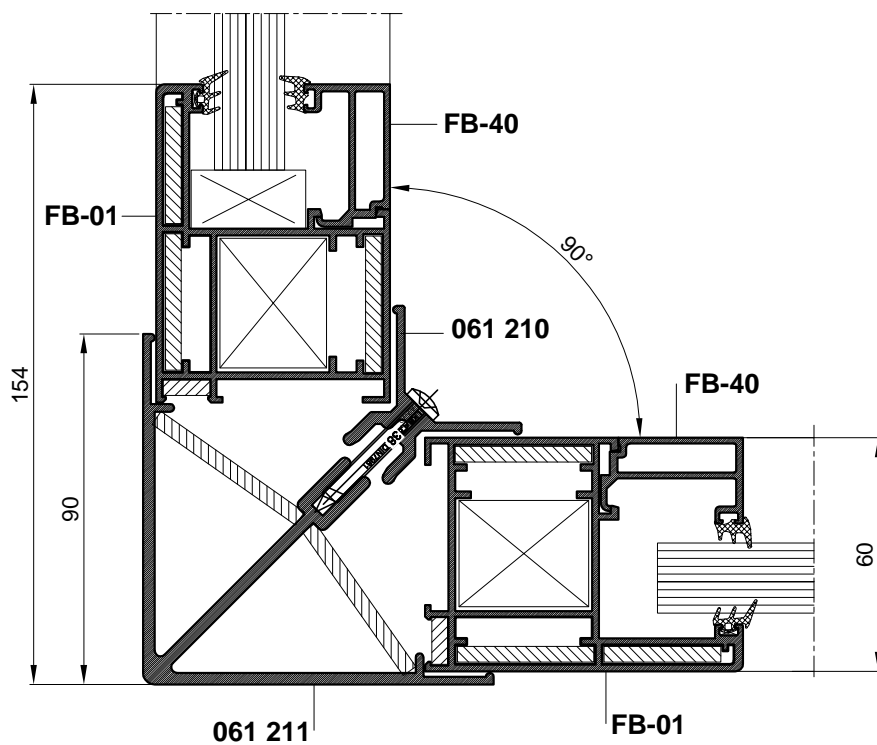
brtva
311.007

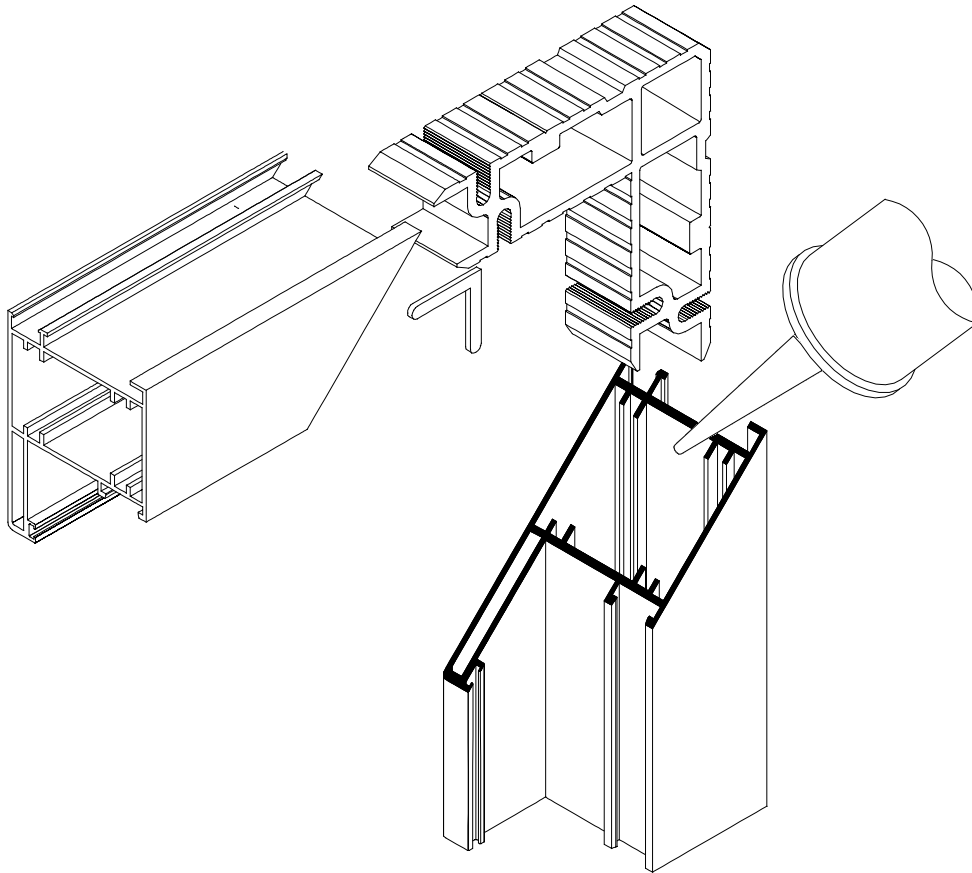


SPOJ ZA PROMJENJIVI KUT



SPOJ ZA KUT 90°



LIJEPLJENJE KUTNIH SPOJEVA

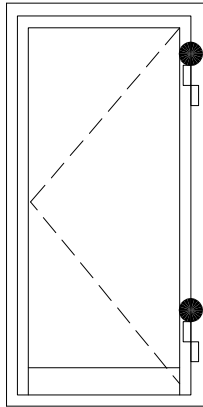
POSTUPAK SPAJANJA PROFILA:

1. Površine koje se spajaju-rezove očistiti i odmastiti prikladnim sredstvom /npr.Sika Remover 208; Wurth-kat.br.:892 130 30/.
2. Premazati površine koje se spajaju ljepilom za metal /npr. Sika Force 7851; Wurth-kat.br.:892 130 010/.
3. Ljepilo za metal ušpricati u komoru za kutnik - po opsegu komore
4. Profile s kutnikom izravnati i spojiti
5. Dio ljepila koji iscuri između rezova očistiti sredstvom za čišćenje i odmašćivanje /npr.Sika Remover 208; Wurth-kat.br.:892 130 30/.

NAPOMENA:

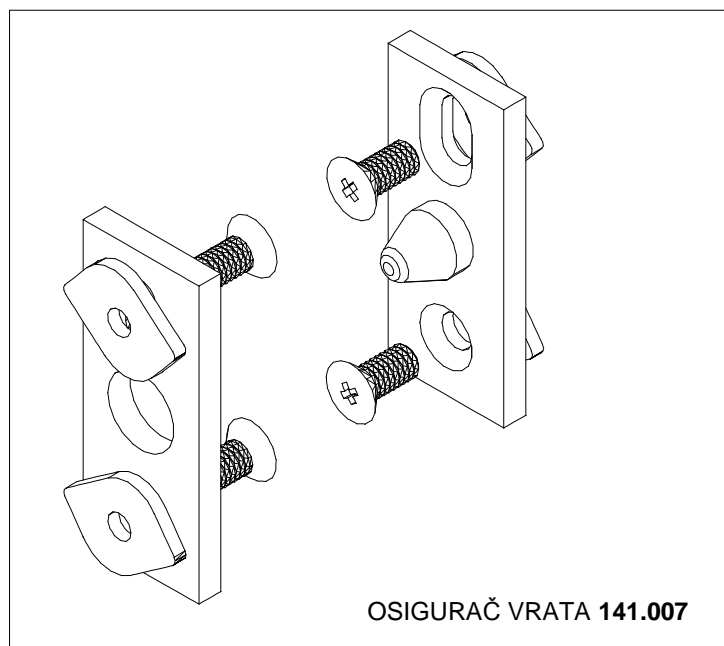
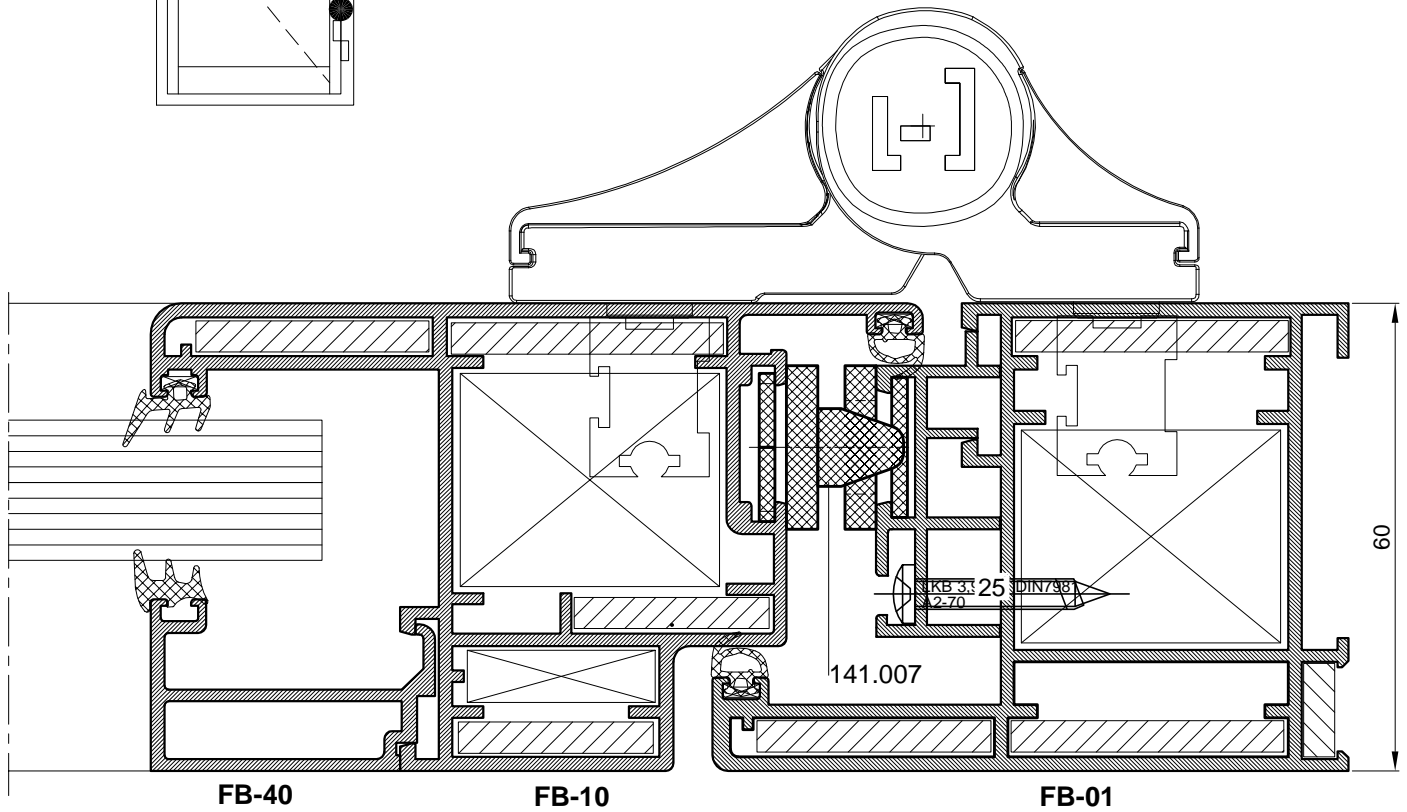
Ovaj postupak spajanja profila primjenjiv je za sve Feal-ove kutnike i njima odgovarajuće komore.

Lijepljenjem rezova i kutnika ljepilima za metal osigurava se potrebna zrako- i vodonepropusnosti spoja kao i dodatna mehanička čvrstoća spoja.



OSIGURAČ VRATA - 141.007

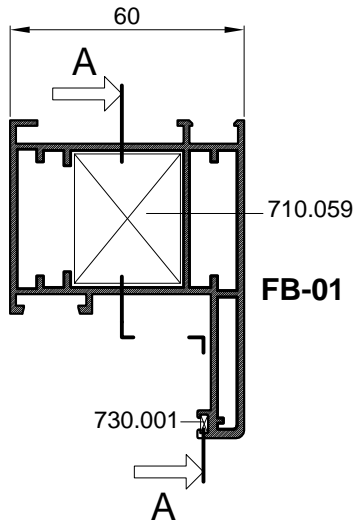
- sprječava prisilno izbacivanje vrata iz ležišta
- ugrađuje se na mjestu iznad baglana



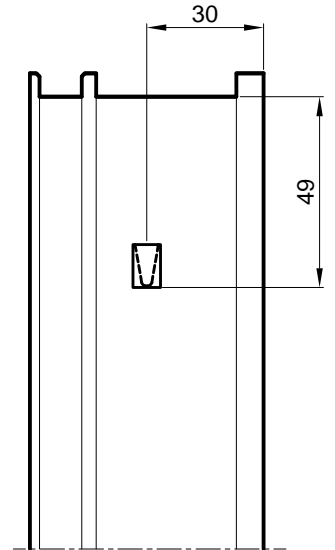
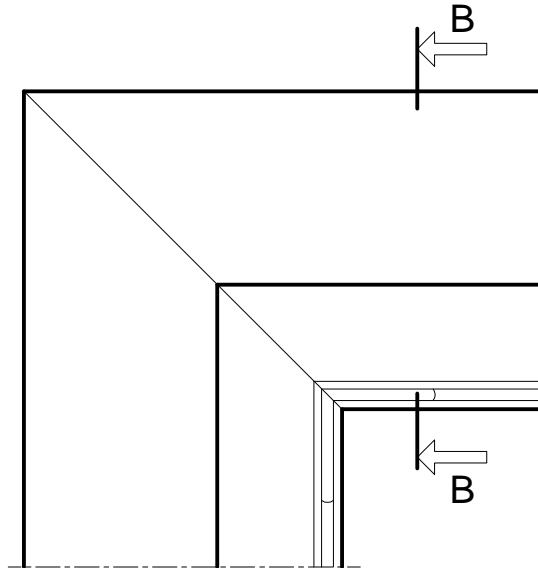
OSIGURAČ VRATA 141.007

SPAJANJE PROFIL FB-01 KUTNICIMA 710.059 I 730.001

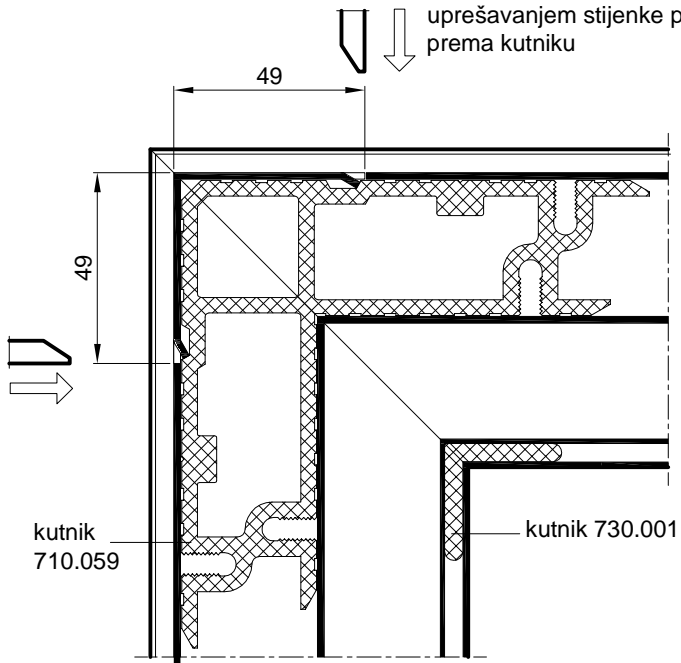
- RUČNO UPREŠAVANJE /škarama /
- STROJNO UPREŠAVANJE



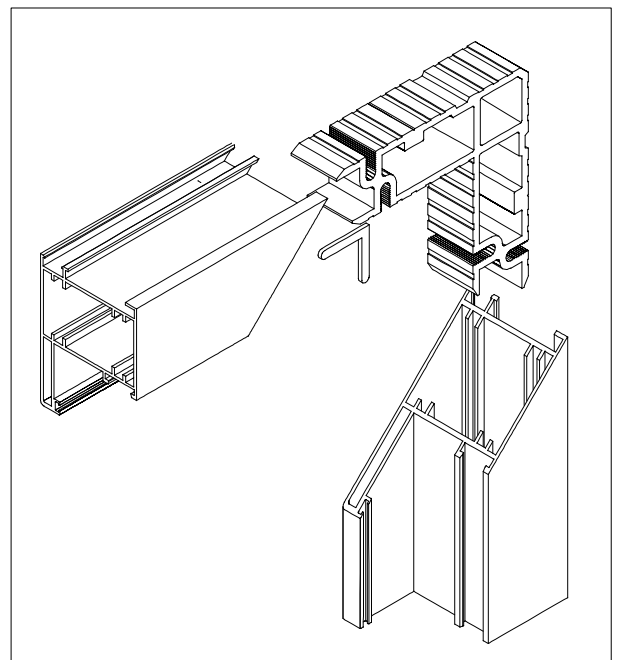
PRESJEK B-B



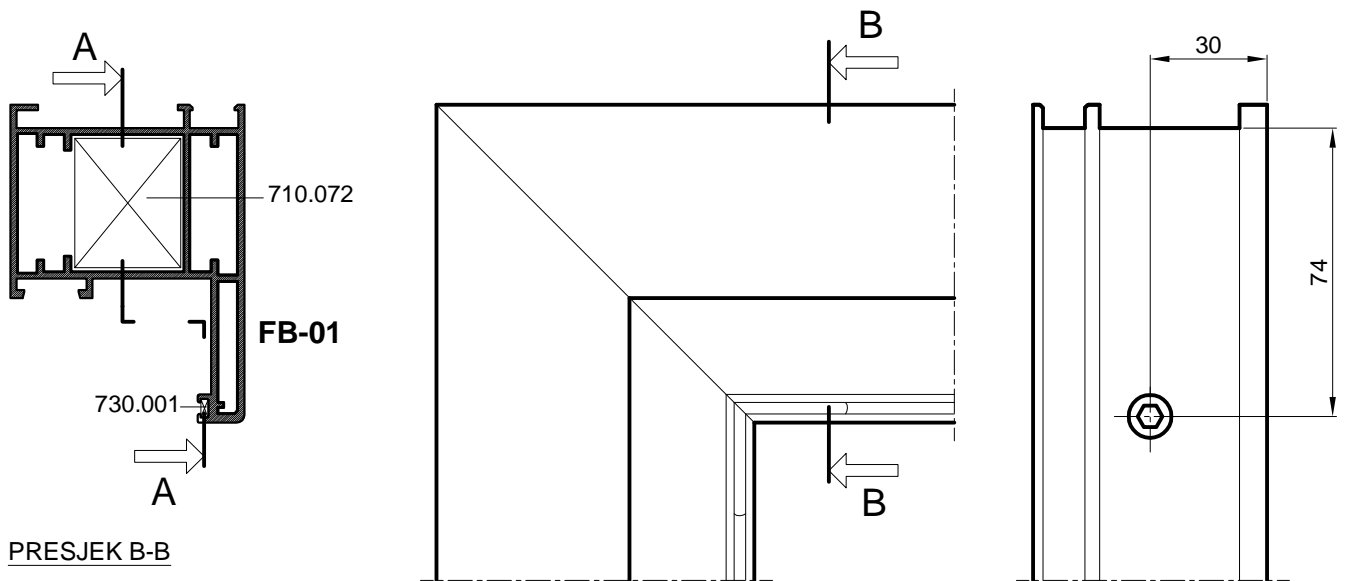
Spajanje kutnikom 710.059
uprešavanjem stijenke profila
prema kutniku



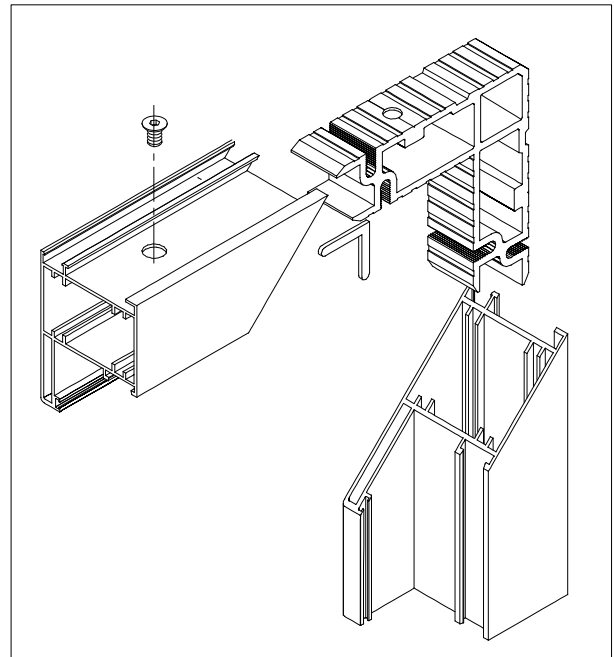
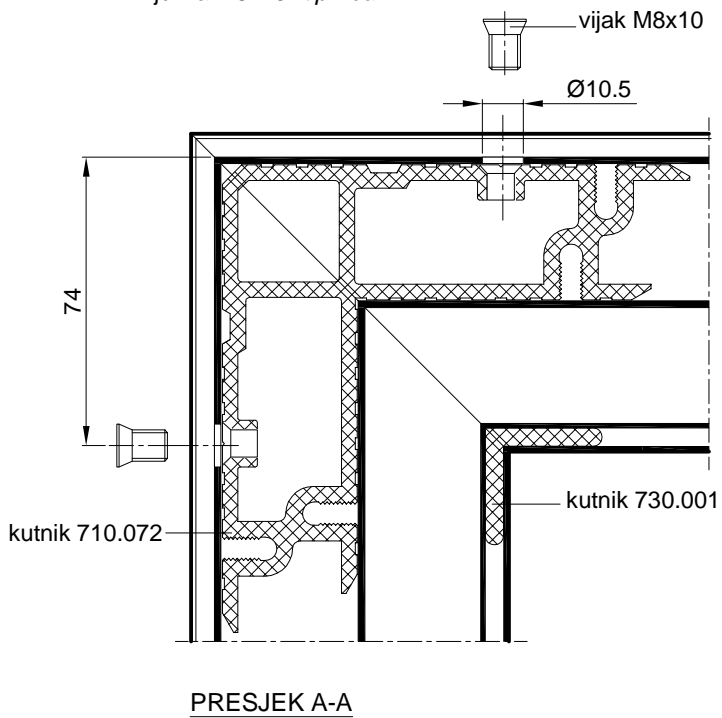
PRESJEK A-A



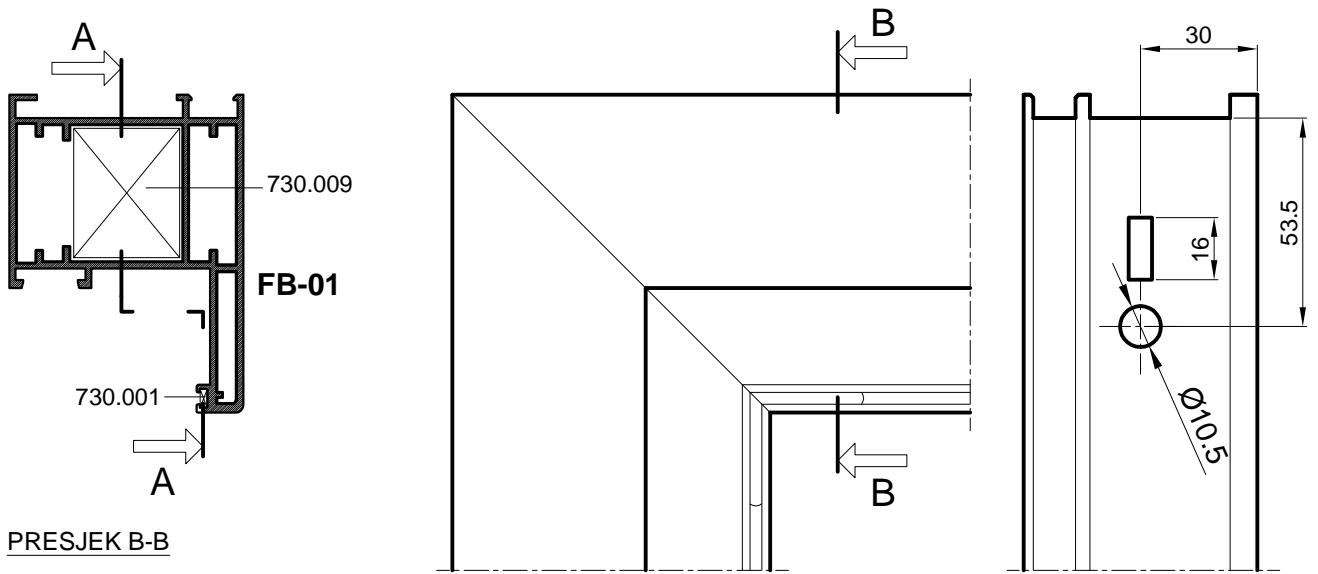
SPAJANJE PROFIL FB-01 KUTNICIMA 710.072 I 730.001



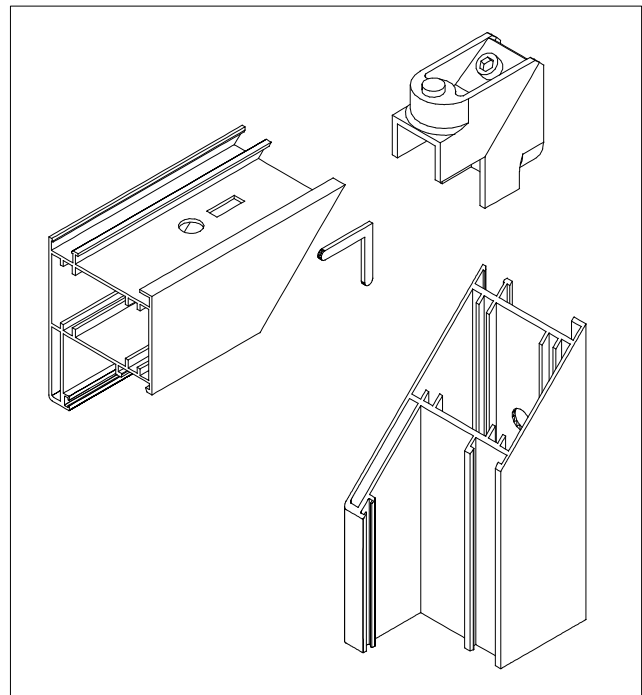
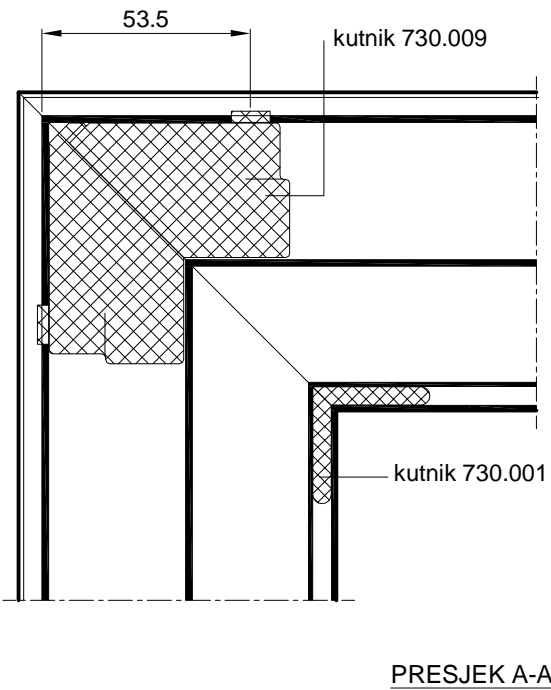
Spajanje kutnikom 710.072
vijcima M8x13 -tip Feal



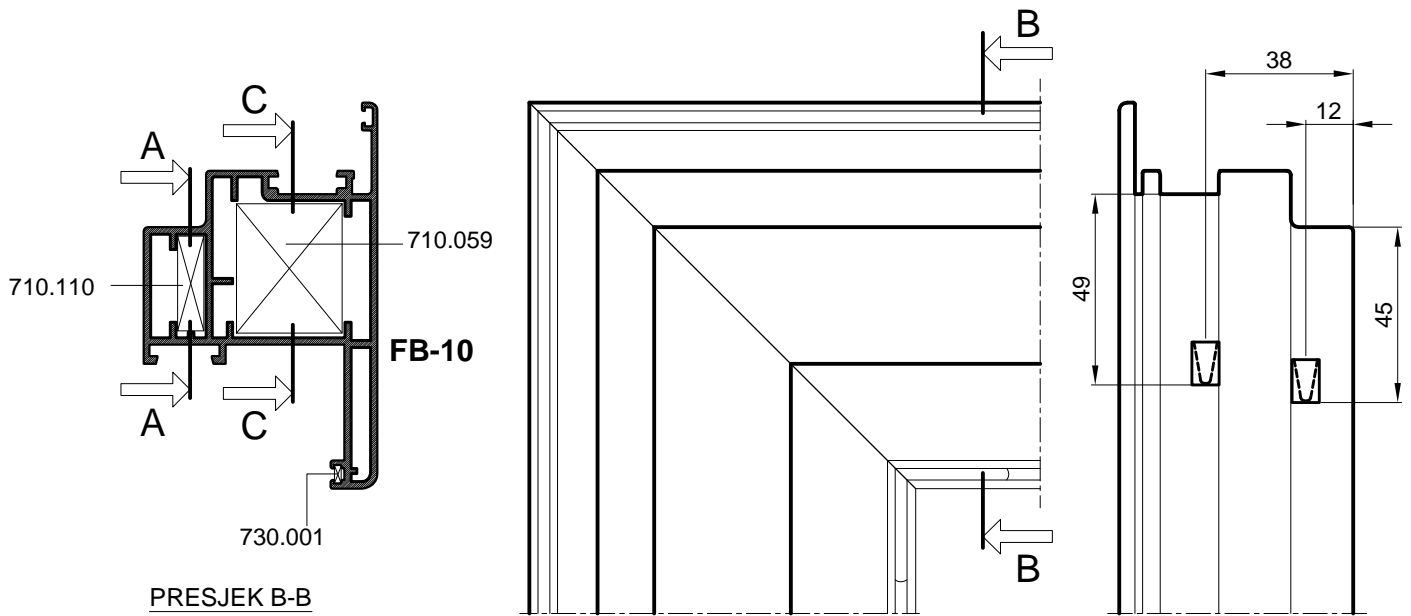
SPAJANJE PROFIL FB-01 KUTNICIMA 730.009 I 730.001



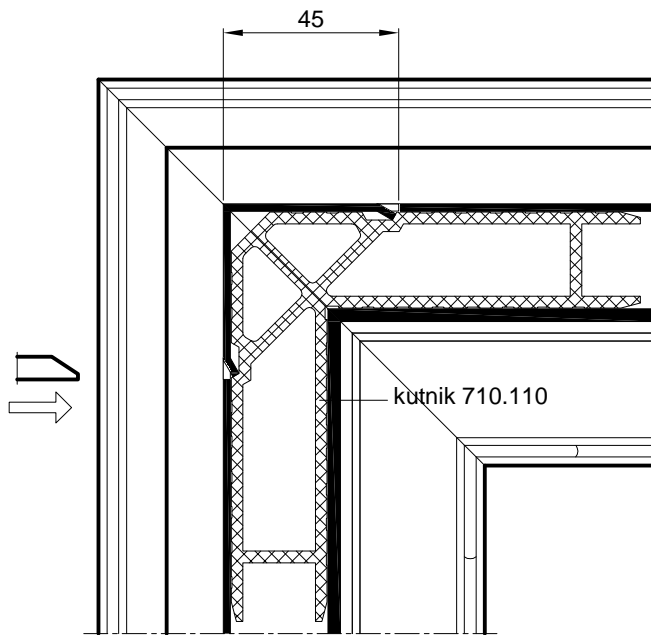
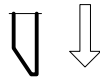
Spajanje kutnikom 730.009 s predobradom štanca



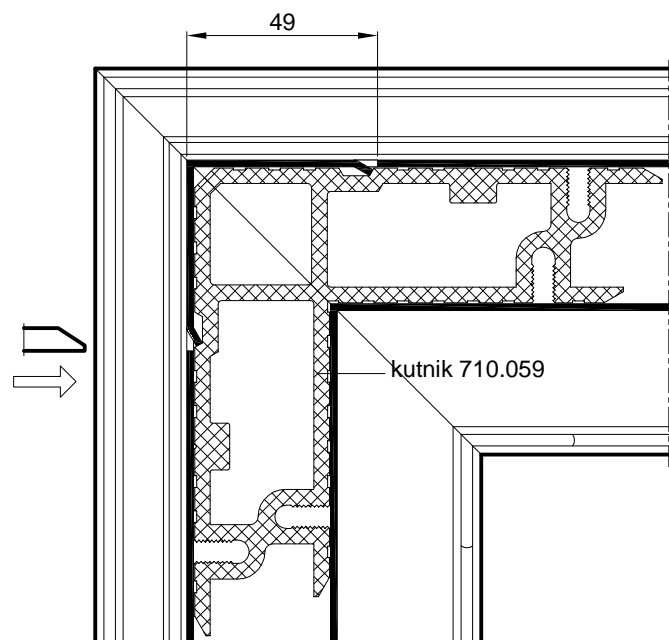
SPAJANJE PROFIL FB-10 KUTNICIMA 710.059, 710.110 I 730.001



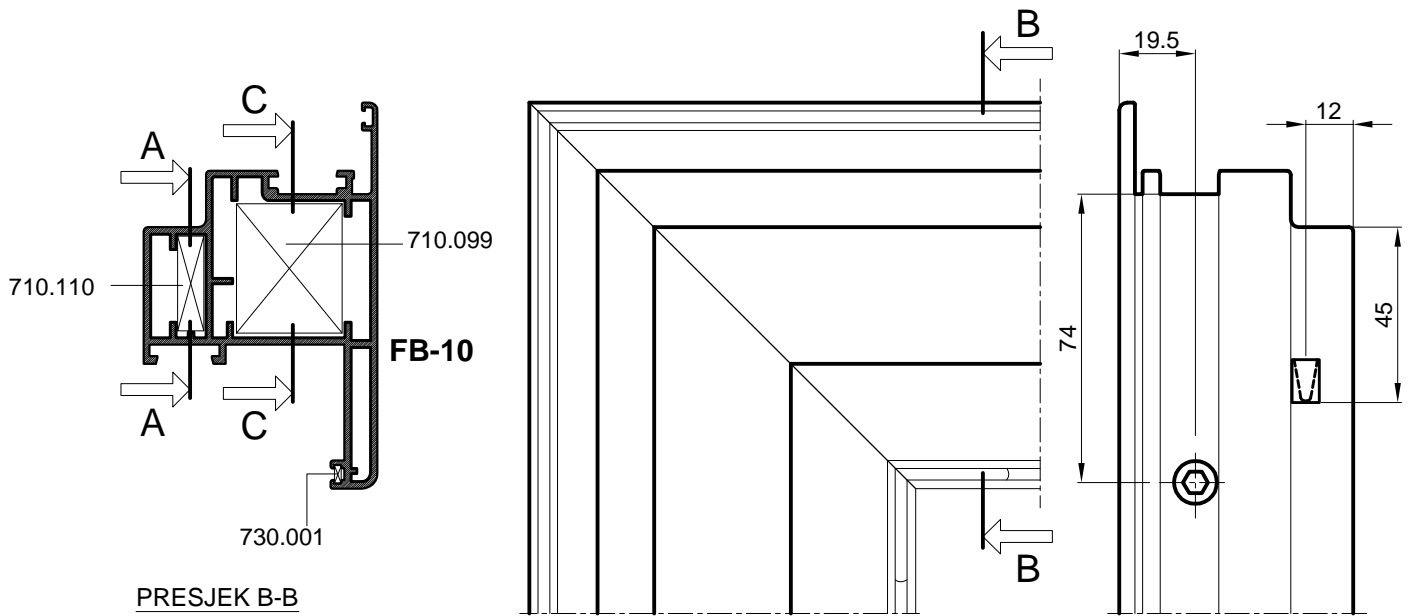
Spajanje kutnikom 710.110
uprešavanjem stijenke profila
prema kutniku



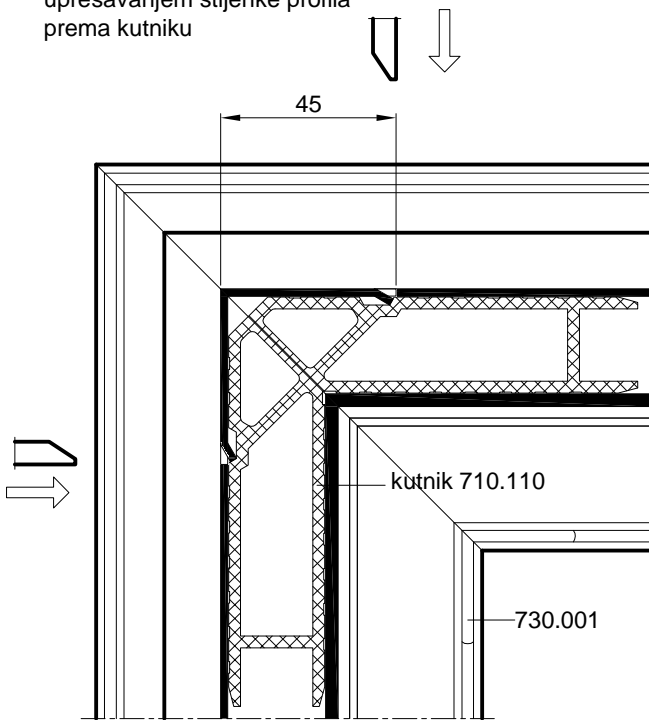
Spajanje kutnikom 710.059
uprešavanjem stijenke profila
prema kutniku



SPAJANJE PROFIL FB-10 KUTNICIMA 710.099, 710.110 I 730.001

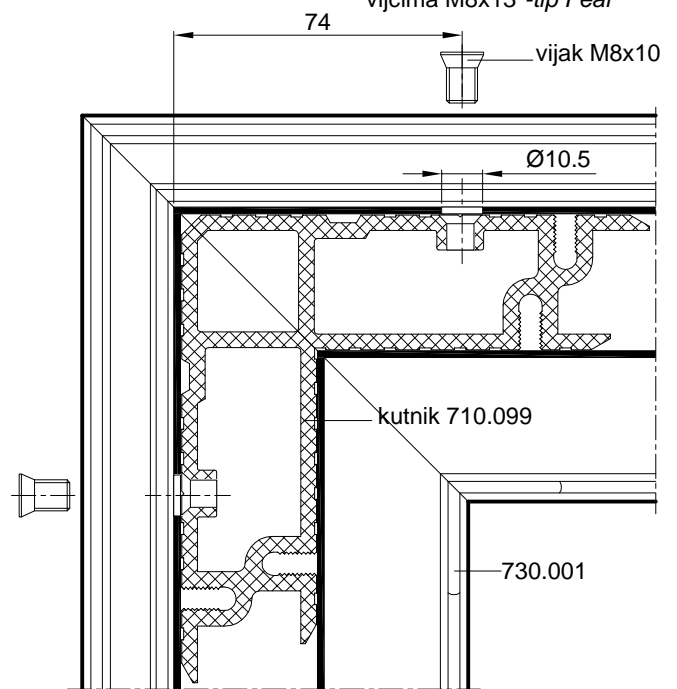


Spajanje kutnikom 710.110
uprešavanjem stijenke profila
prema kutniku

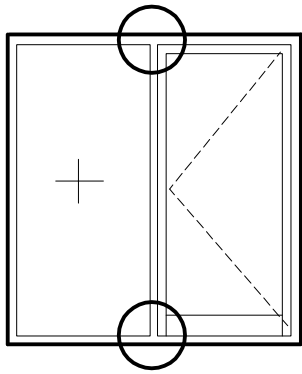


PRESJEK A-A

Spajanje kutnikom 710.099
vijcima M8x13 -tip Feal



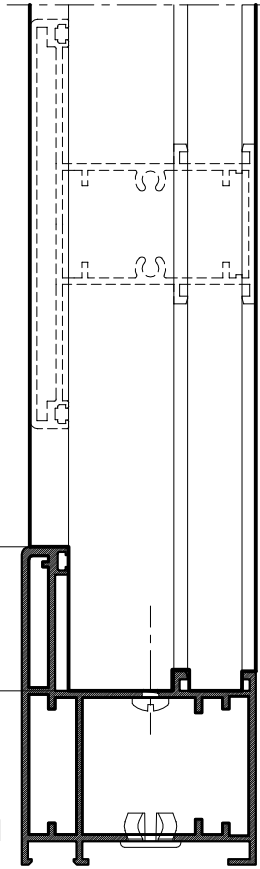
PRESJEK C-C



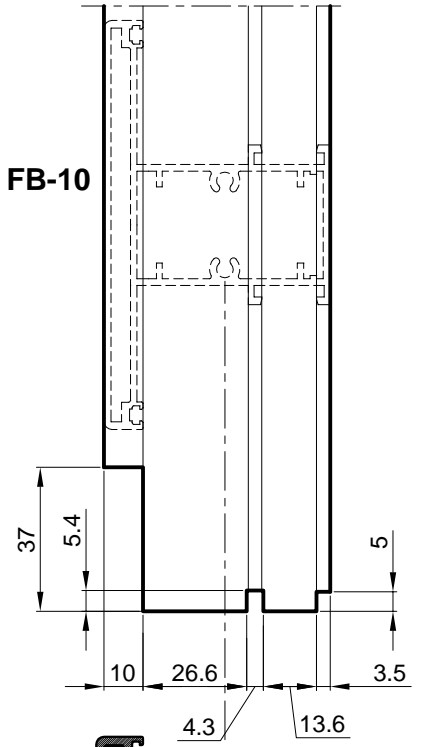
Mjera pilanja prečke Lpr: Hpr=So+74

So

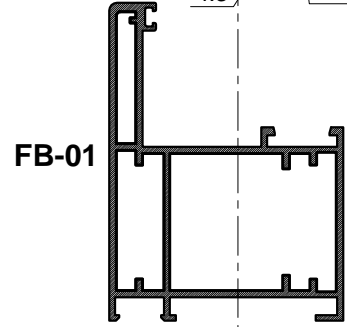
FB-01



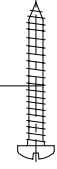
FB-10



FB-01



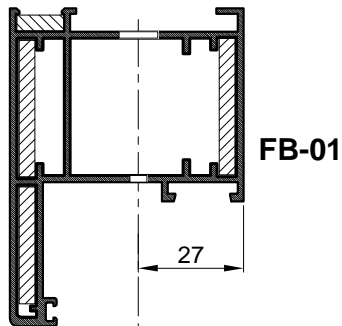
vijak 4.8x32
/DIN 7982/



čep-masko

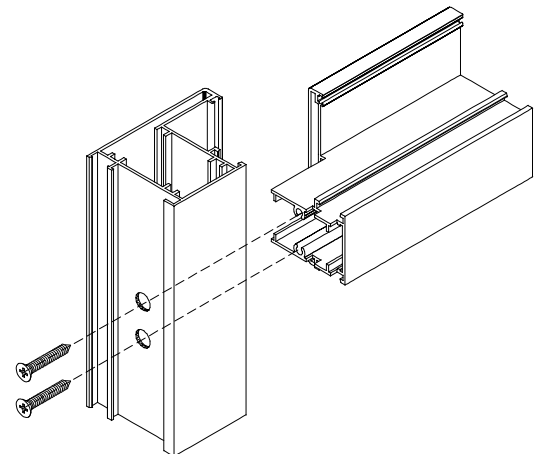
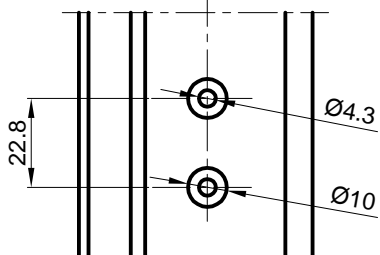


OBRADA

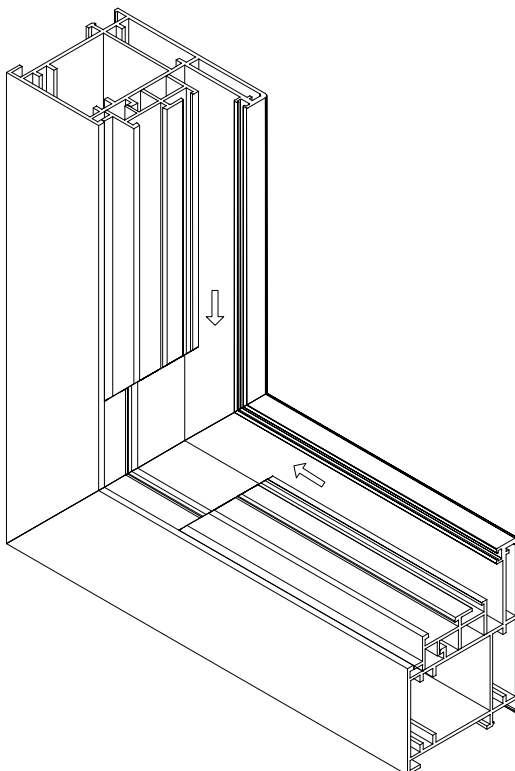
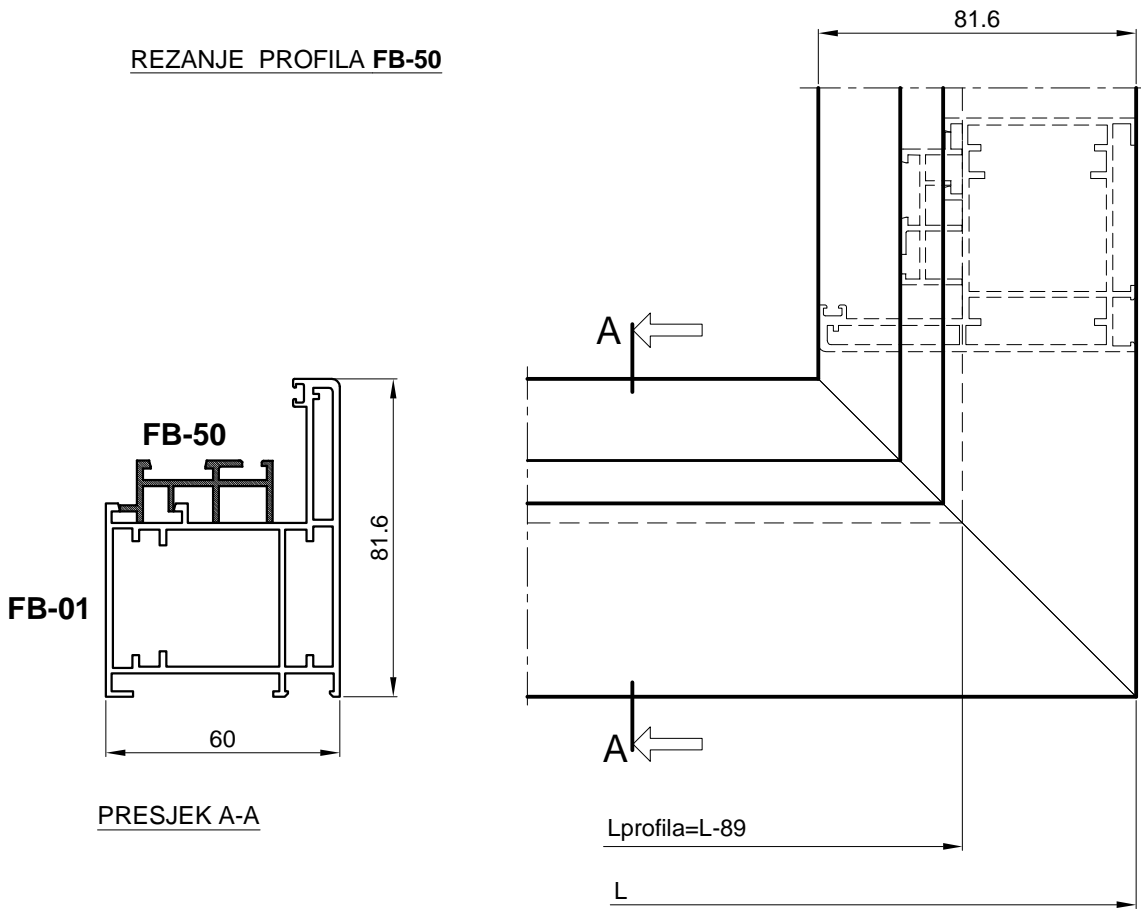


FB-01

27

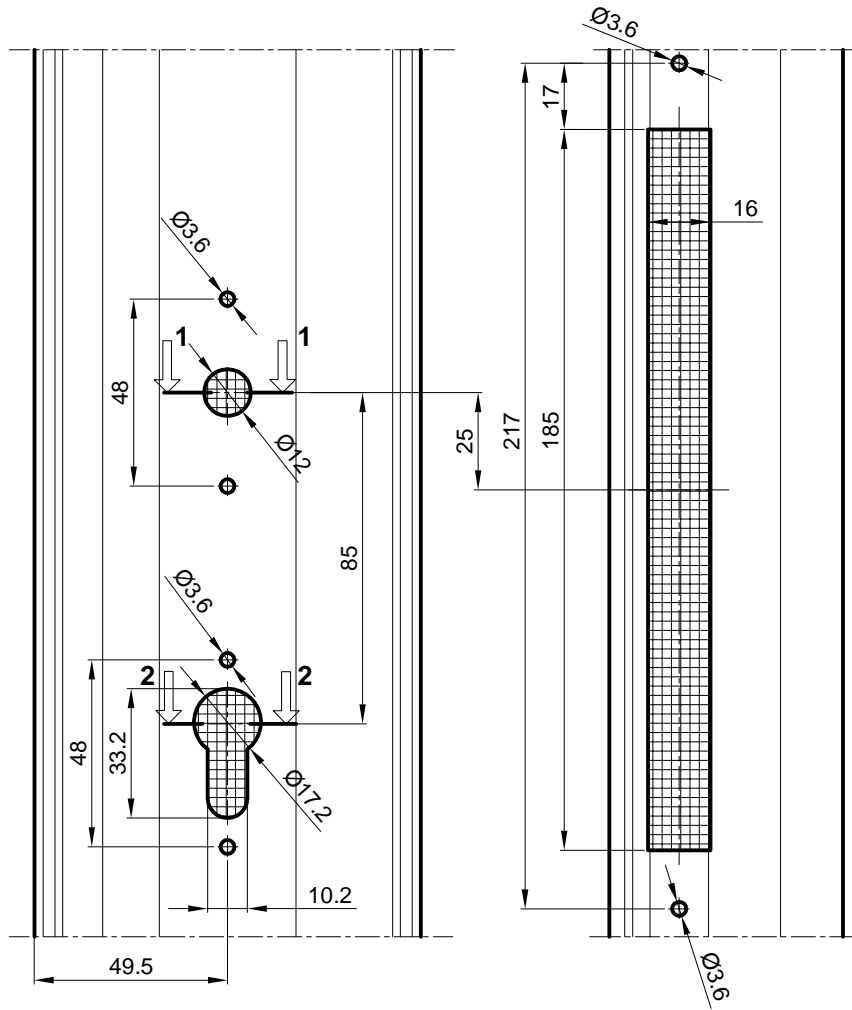


REZANJE PROFILA **FB-50**

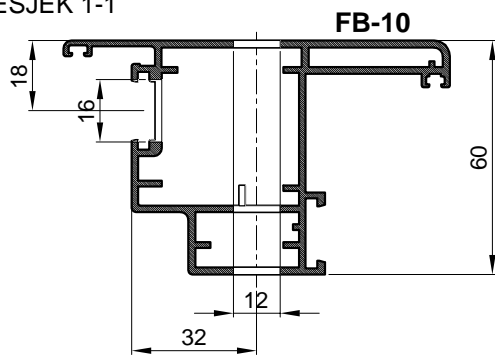


- Pisanje profila **FB-50** pod 45°
- Mjera pisanja Lprofil=L-89
Hprofil=H-89

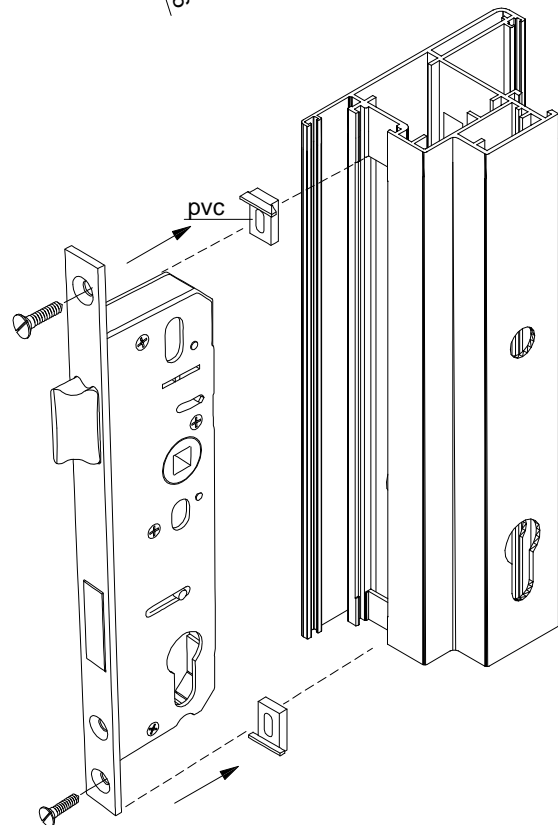
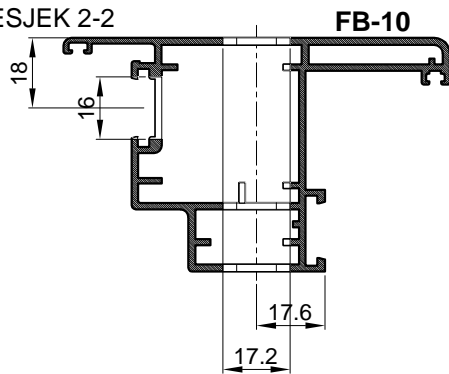
OBRADA PROFILA KRILA VRATA FB-10- ZA BRAVU 124.001 I RUČKU 104.001(stublina)



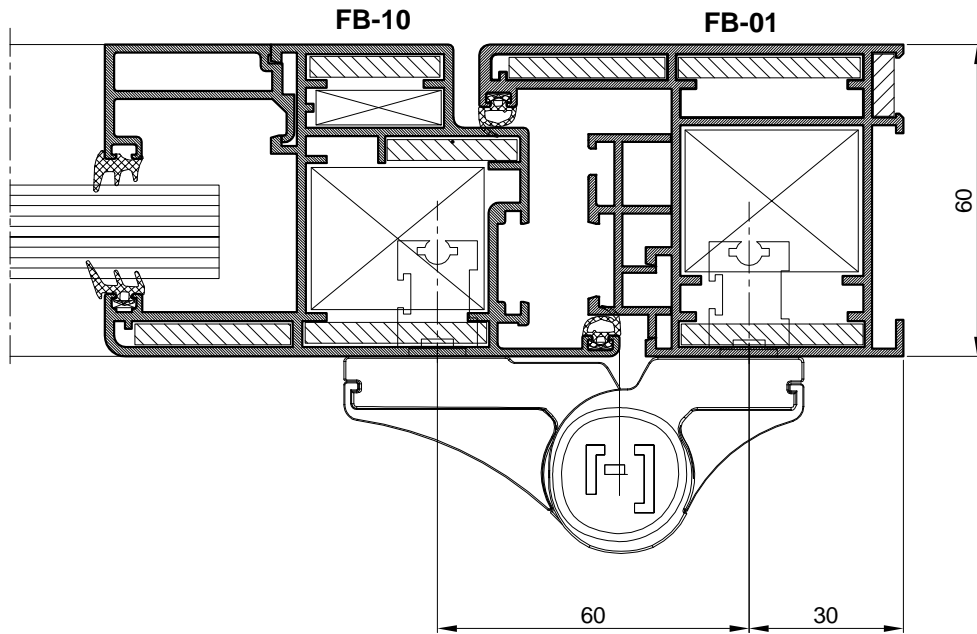
PRESJEK 1-1



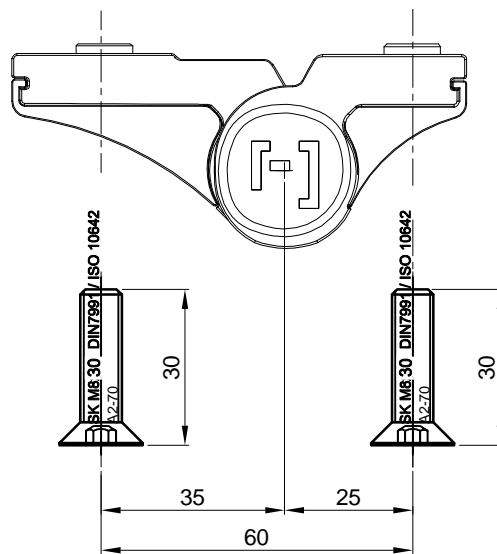
PRESJEK 2-2



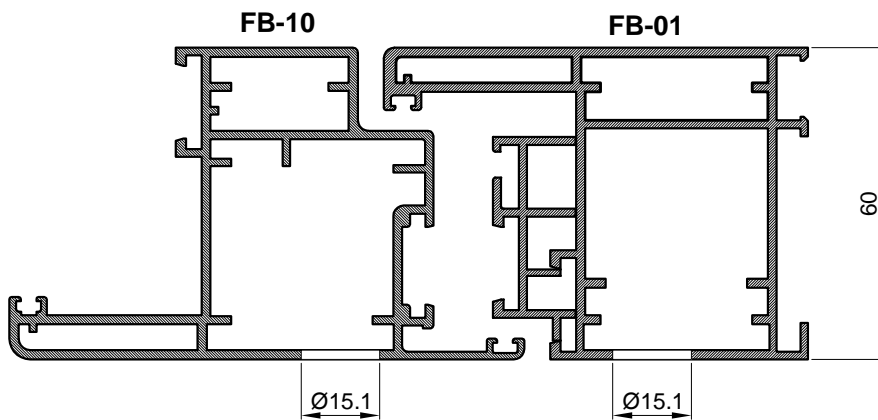
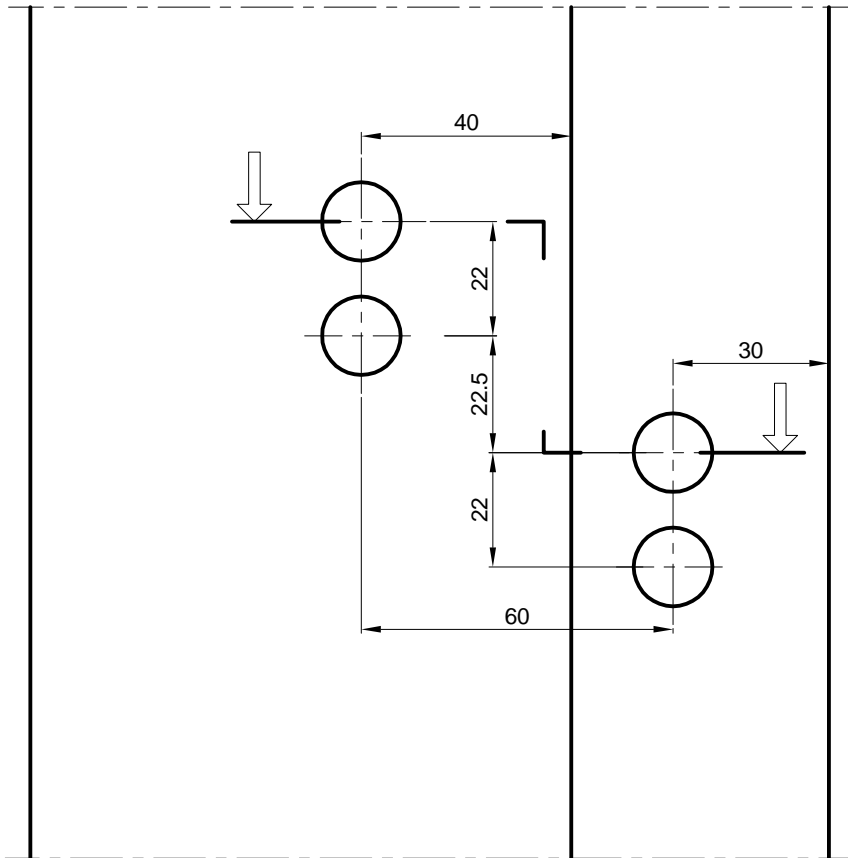
SET USADNIH BAGLAMA- OSNO 60 mm



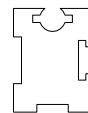
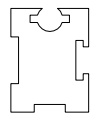
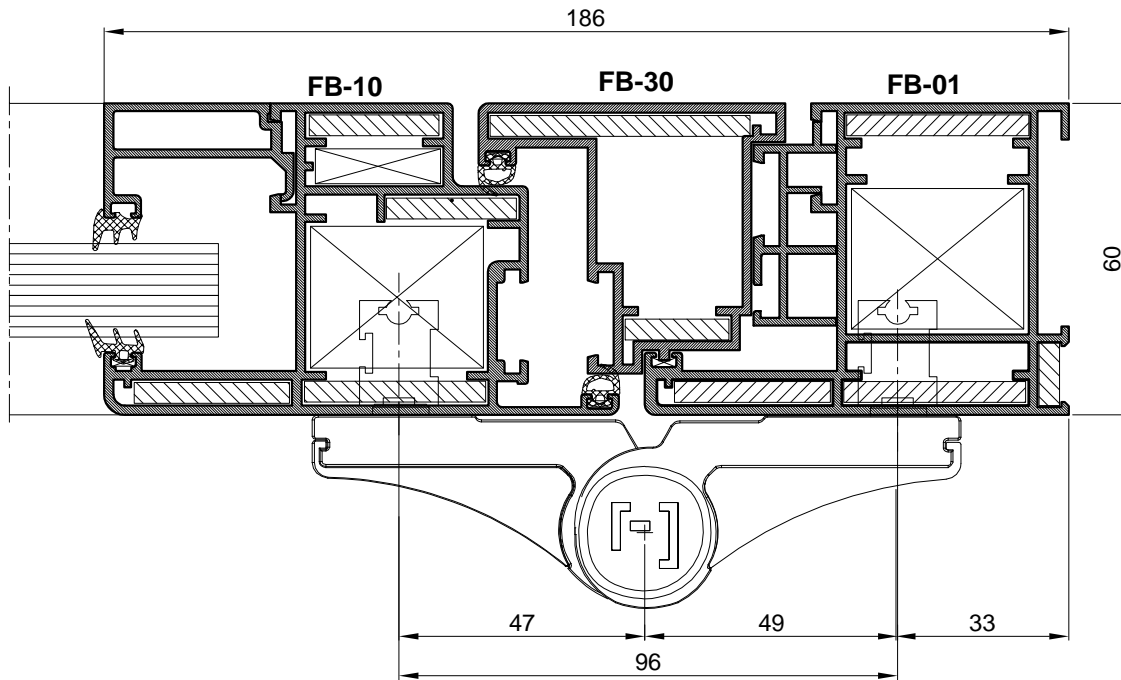
SET ZA TERMO 65



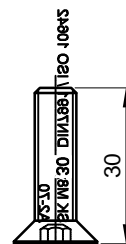
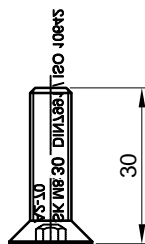
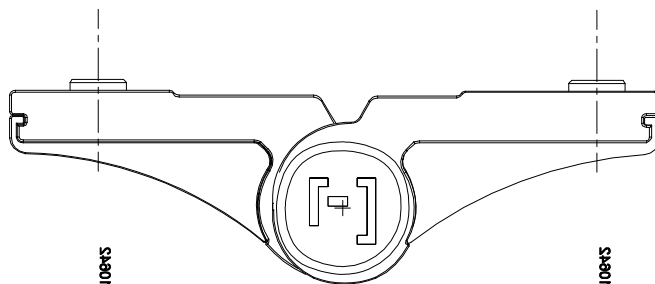
OBRADA ZA SET USADNIH BAGLAMA- OSNO 60 mm



SET USADNIH BAGLAMA- OSNO 96 mm

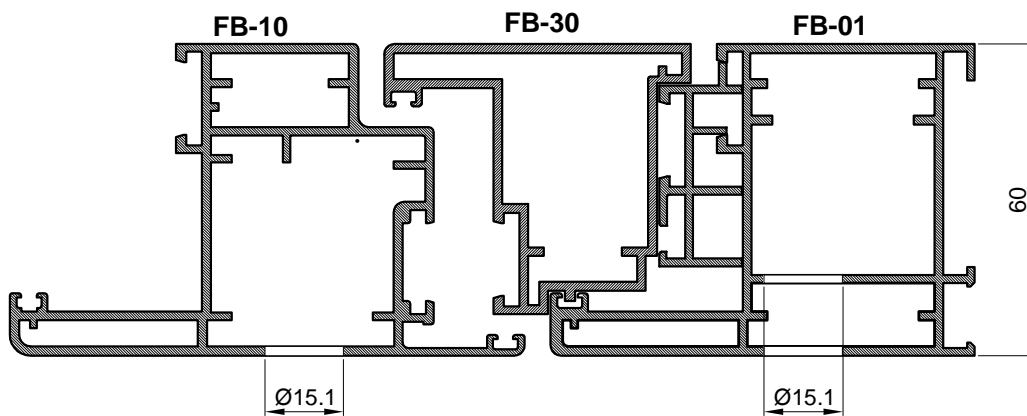
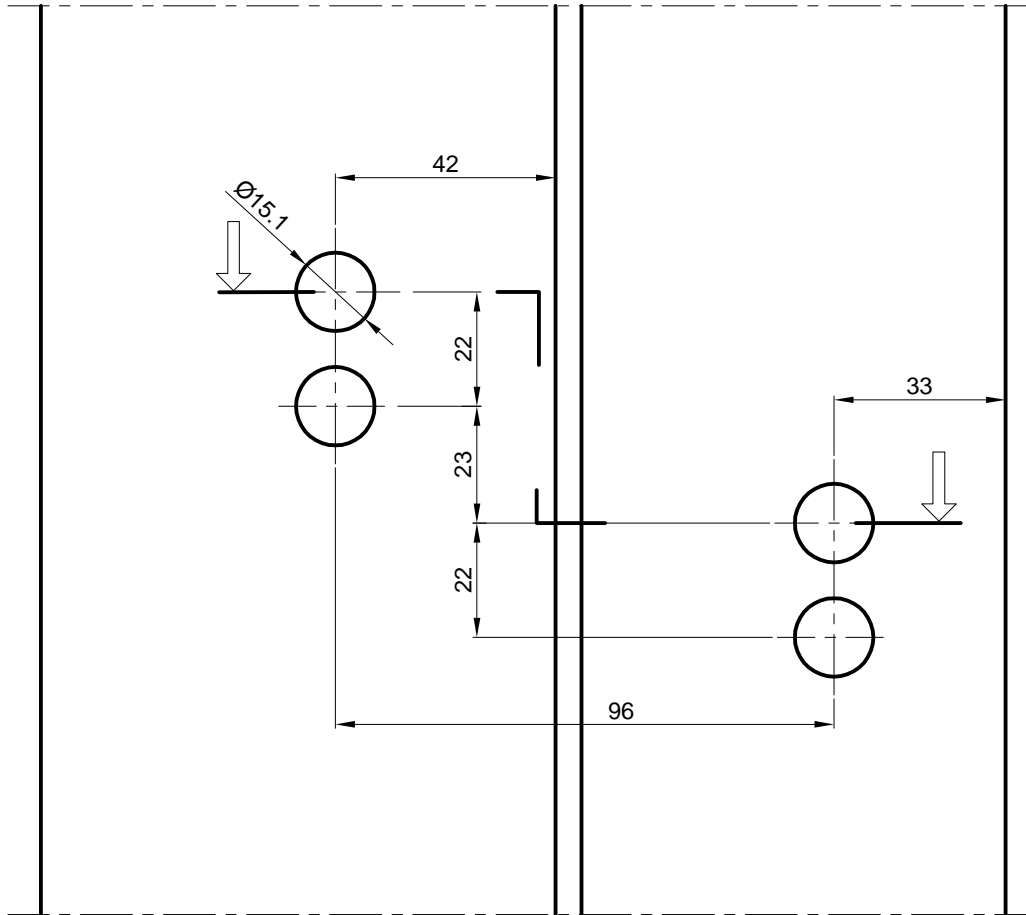


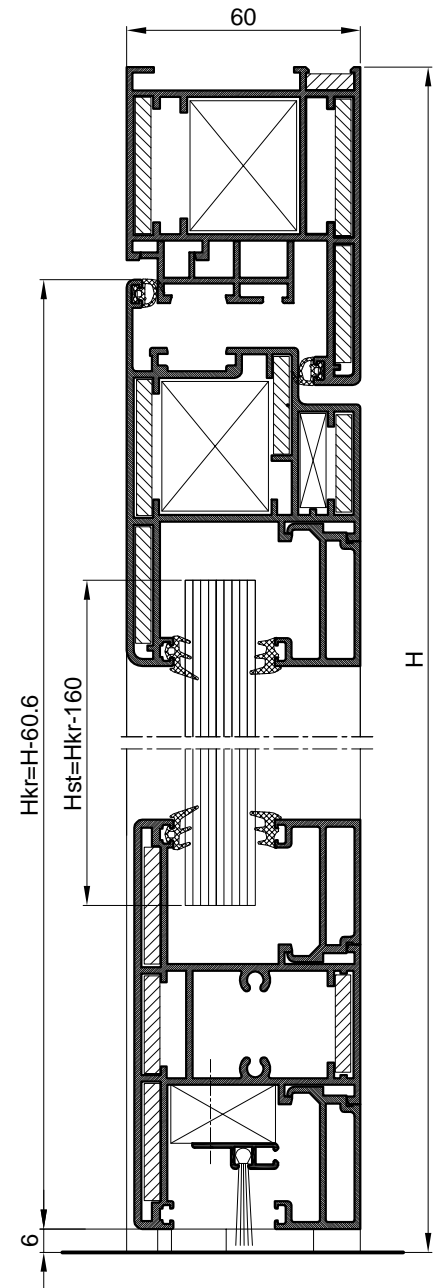
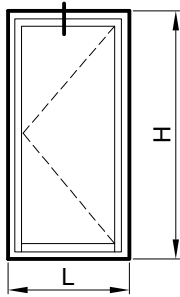
SET ZA TERMO 65



96

OBRADA ZA SET USADNIH BAGLAMA- OSNO 96 mm



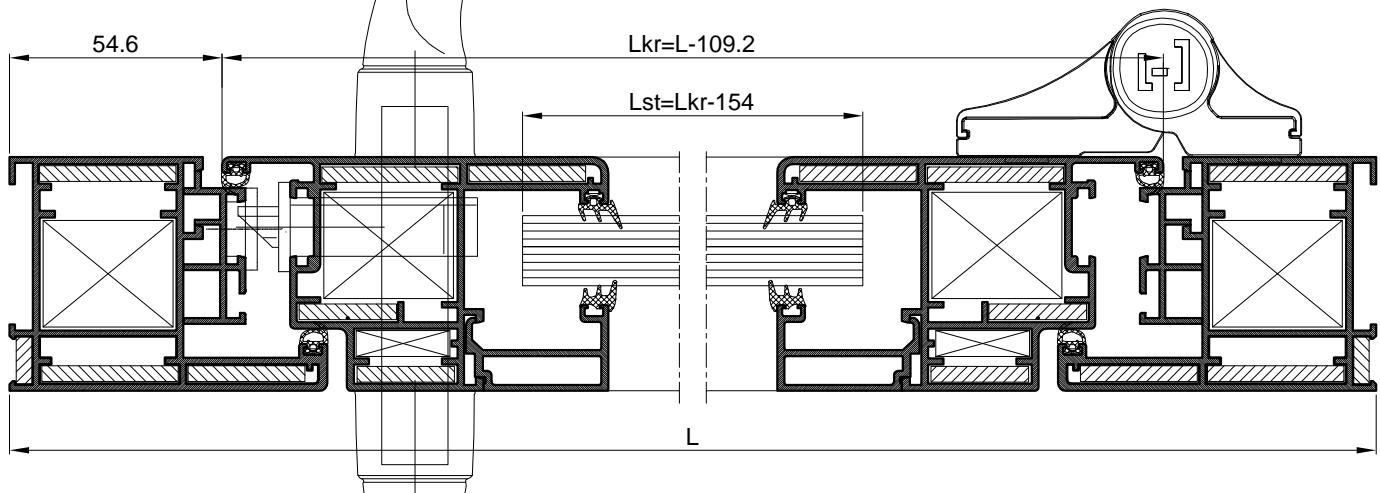


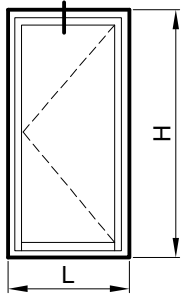
PROFILI		kom	mjera	pilanje
FB-01	vodoravnica okvira	1	L	45-45
FB-01	okomica okvira	2	H	45-90
FB-10	vodoravnica krila	1	Lkr=L-109.2	45-45
FB-20	vodoravnica krila	1	Lkr-124.2	90-90
FB-10	okomica krila	2	Hkr=H-60.6	45-90
FB-50	profil nastavak-vodoravni i okomiti pilati zajedno s profilom			45-45
FB-40	vodoravna letvica	2	Lkr-134.2	90-90
FB-40	okomita letvica	2	Hkr-204.1	90-90

OKOVI		kom	
710.072	kutnik okvira	2	
710.072	kutnik krila	2	
730.001	pomoćni kutnik okvira	2	
730.001	pomoćni kutnik krila	4	
710.110	pomoćni kutnik krila	2	
	usadna šarka 60 mm	2	
124.001	brava	1	
124.003	šild za vrata	1	
104.001.xx	ručka	par	
124.002	uložak za bravu	1	

BRTVE		kom	mjera
321.001	brtva na preklopu		2L+4H
321.002	brtva prema staklu vanjska		2L+2H
311.007	brtva prema staklu unutarnja		2L+2H
521.001/ 347.001	brtva i držač - prema podu		L

STAKLO		kom	mjera
18 mm		1	Lkr-154 x Hkr-160





PROFILI		kom	mjera	pilanje
FB-01	vodoravnica okvira	2	L	45-45
FB-01	okomica okvira	2	H	45-45
FB-10	vodoravnica krila	2	Lkr=L-109.2	45-45
FB-10	okomica krila	2	Hkr=H-109.2	45-45
FB-50	profil nastavak-vodoravni i okomiti pilati zajedno s profilom			45-45
FB-40	vodoravna letvica	2	Lkr-134.2	90-90
FB-40	okomita letvica	2	Hkr-198.2	90-90

OKOVI		kom	
710.072	kutnik okvira	4	
710.072	kutnik krila	4	
730.001	pomoćni kutnik okvira	4	
730.001	pomoćni kutnik krila	8	
710.110	pomoćni kutnik krila	4	
	usadna šarka 60 mm	2	
124.001	brava	1	
124.003	šild za vrata	1	
104.001.XX	ručka	par	
124.002	uložak za bravu	1	

BRTVE		kom	mjera
321.001	brtva na preklopu		4L+4H
321.002	brtva prema staklu		2L+2H
311.007	brtva prema staklu		2L+2H

STAKLO	kom	mjera
18 mm	1	Lkr-154 x Hkr-154

