

nissal
NEWMET



ALD 9100 SYSTEM

ALD 9100 // 2016

tehnički opis

technical description

A prateći materijal

accessories

B pregled profila

structural elements overview

C profili

profiles

D detalji

details

tehnički opis

technical description

ALD 9100

Sistem ALD 9100 predstavlja konstrukciju aluminijumskih profila sa termo prekidom koji čine poliamidne trake širine 34 mm i sa enterijerskom oblogom od profila izrađenih od punog tvrdog drveta.

Svoju široku primenu je obezbedio zahvaljujući svojim tehničkim i termičkim karakteristikama.

Sa koeficijentom prolaza toplote, za ram $U_f=1,6 \text{ W/m}^2\text{K}$ i za prozor $U_w=1.2 \text{ W/m}^2\text{K}$, (sa ispunom od troslojnog termoizolacionog stakla sa koeficijentom prolaza toplote $U_g= 0.7 \text{ W/m}^2\text{K}$), ovaj sistem spada u sam vrh ponude termoizolovanih konstruktivnih sistema, što je doprinelo njegovoj primeni na svim objektima gde su pored ostalih mehaničkih i drugih karakteristika dominantan uslov bila i termička svojstva aluminijumskog sistema.

MOGUĆNOST PRIMENE:

- Ovaj sistem aluminijumskih profila sa termičkim prekidom, okovom u sistemu „EURONUT“ 12/18-9. I EPDM dihtung zaptivkama najnovije generacije, omogućava izradu:
 - bilo kog tipa prozora;
 - balkonskih vrata;
 - kliznih I sklapajućih vrata sa jednim ili više krila;
 - portala i drugih fasadnih pregrada.

Aluminijumski profili su sa ravnim ivicama, modernog dizajna.

System ALD 9100 TopTherm is system with thermal bridge accomplished through implementation of 34 mm wide polyamide bars and with interior cladding crafted from full hardwood.

System found wide utilization due to its technical and thermal characteristic.

With a thermal conductivity coefficient for frame $U_f=1,6 \text{ W/m}^2\text{K}$, for window $U_w=1.2 \text{ W/m}^2\text{K}$, (along with a three-layer thermo insulated glass with a thermal conductivity coefficient $U_g= 0.7 \text{ W/m}^2\text{K}$) this system is ranked amongst the best on the market, which contributed to its appliance to the projects where besides mechanical and other characteristics dominant requirement was thermal characteristics of the system.

IMPLEMENTATION POSSIBILITIES:

This system of aluminum profiles, with thermal bridge, with <<Euro-groove>> fittings 12/18-9 and E.P.D.M. gaskets, is ready to manage any of the following type of construction:

- any type of window;
- balcony doors;
- slide and fold doors (with one or more sashes);
- portals, and other facade partitions.

Aluminum profiles are with flat edges and modern design.

ALD 9100

TEHNIČKI OPIS SISTEMA:

- Presovani aluminijumski profili od legure AlMgSi0,5 maksimalne prekidne čvrstoće F22 (stanje 91).
- Debljina profila i tolerancije: prema standardu JUS. C.C3.220, odnosno DIN 1748/4
- Poliamidne trake: debljine 34 mm proizvedene od visokokvalitetnog atestiranog poliamida PA66 GF 25.
- Debljina ispune/stakla: Različite, od 23 do 48 mm u zavisnosti od vrste upotrebljenih kit lajsni.
- Termo ispuna prostora (komora) ovičenih poliamidnim trakama i prostora oko termo stakla vrši se penastim termoizolacionim materijalom.
- Centralna guma je od dvokomponentnog E.P.D.M.-a. Kompaktni deo profila vezuje se za aluminijumski profil, a mikroporozni služi kao termo ispuna.

GLAVNE KARAKTERISTIKE:

Aluminijumski profili ovog sistema poseduju termički prekid sa tri komore koje se formiraju bilo odgovarajućim EPDM zaptivkama bilo poliamidnim trakama, koji obezbeđuju koeficijent prolaza toplote kroz ram $U_f=1,6$ W/m²K i koeficijent prolaska toplote za prozor dimenzija 1230 x 1480 mm $U_w=1,2$ W/m²K uz staklo sa koeficijentom $U_g=0,7$ W/m²K.

Zvučna izolacija sklopa aluminijumskih profila sa EPDM zaptivkama je 34 dB, dok se zvučna izolacija kompletne pozicije definiše u zavisnosti od izbora odgovarajućeg stakla, odnosno ispune.

Spajanje ramova na uglovima moguće je na dva načina: pomoću komada ugaone uloške od presovanog aluminijumskog profila fiksirane utiskivanjem i ekspanzirajućim lepkom, ili uz pomoć dvodelne ugaone uloške koja spaja profile razupiranjem.

TECHNICAL CHARACTERISTICS OF THE SYSTEM:

- Pressed aluminum profiles from the AlMgSi0.5 alloy, with ultimate tensile strength F22 (state 91).
- Thickness of the profile and tolerance: according to JUS. C.C3.220, or DIN 1748/4
- Polyamide bars 34 mm wide, made of a high quality attested polyamide PA66 GF 25
- Thickness of the filling/glass: vary, from 23 – 48 mm depending on glazing bad used.
- Thermo filling of chambers among polyamide bars and around glass is done with foamy thermo insulating material.
- Central gasket is made of two components where compact part is attached to an Al. profile and micro porous part is used as thermo filling.

MAIN CHARACTERISTICS OF THE SYSTEM:

Aluminum profiles of this system are with thermal break with 3 chambers, formed either by implementation of proper E.P.D.M. gaskets, or with polyamide bars, with a resulting thermal coefficient for frame $U_f=1,6$ W/m²K, for window 1230 x 1480 $U_w=1.2$ W/m²K along with a glass with a thermal conductivity coefficient $U_g= 0.7$ W/m²K.

Soundproofing of the system of aluminum profiles along with E.P.D.M. gaskets is 34 dB, while the definitive soundproofing is defined with a choice of appropriate glass or other replenishment.

Coupling of frames on corners is possible either with a piece of corner joint from pressed Al. profile embedded and glued, or with a split corner joint which connects profiles by means of strut.

ALD 9100

POVRŠINSKA OBRADA:

Zaštita i završna obrada površine aluminijumskih profila vrši se bilo postupkom anodne oksidacije – eloksaže, bilo postupkom elektrostatičkog bojenja – lakiranjem.

NISSAL NEWMET vrši završnu obradu svojih profila uzpuno poštovanje evropskih standarda (*QUALANOD* za eloksažu i *QUALICOAT* za plastifikaciju).

Eloksaža u *NISSAL NEWMET*-u obavlja se sa potpuno obnovljenom i modernizovanom opremom kapaciteta 24.000A.

Eloksaža se vrši prema *EUROCOLOR* ton karti, počevši od prirodne boje aluminijuma, preko svetle bronzе, srednje bronzе i tamne bronzе do crne i zlatne.

Anodni sloj je debljine 20 mikrona. Boja eloksaže može biti različita počev od prirodne boje aluminijuma, preko svetle bronzе, do žute i crne. Sloj poliesterskog praha ima debljinu od 60 do 80 mikrona na glavnim, vidljivim delovima profila. Sve boje *RAL* ton karte su dostupne.

SURFACE PROTECTION:

Surface protection is carried out whether with process of anodizing or with process of powder coating.

Both processes are carried out in compliance with strict European standards of "QUALANOD" for anodizing and "QUALICOAT" for powder coating.

Anodizing at NISSAL NEWMET is carried out, with a completely reconstructed and modernized equipment of 24.000A capacity.

Anodizing is carried out according to EUROCOLOR hue card starting with natural color of aluminum, through light bronze, medium bronze and dark bronze, to black and gold.

The thickness of anodic layer is 20 microns, which is necessary for outdoor application of aluminum profiles in civil engineering.

Polyester powder coating layer is 60 – 80 microns thick on the main, visible parts of the profiles.

All colors from RAL hue card are available.

ALD 9100

DRVENI PROFILI:

Služe kao enterijerska obloga termoizolovanih aluminijumskih profila.

Drveni profile su ravnih ivica, čistih formi i u izgledu pozicije dominira jedan profil kao ram stakla. Kit lajsna je „utopljena“ u dimenziju vidnog rama i kod otvarajućeg krila montira se zajedno sa oblogom.

Vezivanje drvenih za aluminijumske profile izvodi se preko poliamidnih elemenata. Ova veza omogućava nezavisno formiranje ramova od aluminijuma i drveta. Specijalno oblikovani EPDM profili izoluju drvene od aluminijumskih profila.

Drveni profili se proizvode od probranog prvoklasnog drveta

(hrast, parena bukva, jasen, trešnja, mahagoni)

Širina drvenih profila je 16 do 18 mm.

Bojenje drveta sa ili bez predhodnog toniranja vrši se poliuretanskim lakom u tri sloja u komori za lakiranje.

KVALITET:

Kvalitet svih NISSAL NEWMET-ovih proizvoda je garantovan striktno propisanim proizvodnim procedurama – od presovanja aluminijumskih profila i poštovanja odgovarajućih dimenzija i tolerancija u skladu sa JUS C.C3.220, odnosno DIN 1748/4, preko procesa eloksiranja ili plastificiranja aluminijumskih profila u skladu sa evropskim QUALICOAT i QUALANOD standardima, pa do nabavke i ugradnje svih pratećih materijala (spojnica, EPDM zaptivki itd.) i okova od renomiranih evropskih proizvođača.

Kompletan proces, odnosno svaki segment, proizvodnje se pažljivo i detaljno prati i kontroliše, a kvalitet kompletnog procesa potvrđen je i znakom kvaliteta po standardu ISO 9001.

Bulevar Svetog Cara Konstantina bb
18 000 Niš, Srbija
tel: ++381 18 502 504
tel: ++381 18 502 333
fax: ++381 18 502 503

<http://www.nissal.rs>

Proizvodjač zadržava pravo vršenja
konstruktivnih izmena bez prethodne najave.

WOODEN PROFILES:

Are used as an interior covers of the thermo-insulated Al. profiles.

Profiles are with flat edges, clean form and with one dominant profile posing as glass frame. Glazing bead is sunk within visible frame and on sash it is mounted along with the wooden cover.

Bonding of aluminum with wooden profiles is done through polyamide elements, while a specially designed EPDM profile provides thermal barrier among these profiles.

Wooden profiles are exclusively produced from first class hard wood

(oak, steamed beech, ash, cherry tree, mahogany).

Width of wooden profiles vary from 16 -18 mm

Painting of these profiles is done with polyurethane lacquer in 3 layers, with or without previous toning in a varnishing chamber.

QUALITY:

All NISSAL NEWMET's products have a quality which is guaranteed through strictly determined procedures – from aluminum profiles extrusion in accordance with JUS C.C3.220 and DIN 1748/4 standard, through the process of anodization and electrostatic powder coating in accordance with European "QUALANOD" and "QUALICOAT" standards, to supply of all accessories (corner joints, EPDM gaskets, fittings, etc.) from prominent European suppliers.

Complete process and every segment of production is carefully and in detail supervised and controlled, and the quality of complete process is validated with the sign of quality standard ISO 9001.

Svetog Cara Konstantina bb Blvd
18 000 Niš, Serbia
tel: ++381 18 502 504
tel: ++381 18 502 333
fax: ++381 18 502 503

<http://www.nissal.rs>

NISSAL NEWMETa.d. holds a right of making
structural changes without prior nouncement.

segment A

prateći materijal







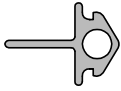
accessories

ALD 9100
TopTherm

A

1





oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
9100 CG		centralna guma / central gasket <i>materijal/material: EPDM</i>	11 12 13 14 15 31 41	$\frac{m'}{x}$
2100 G2		prednja zaptivka štoka i krila / front sash - frame gasket <i>materijal/material: EPDM</i>	11 12 13 14 15 31 41	$\frac{m'}{x}$
GP 1L		prednji naslon za staklo / front glass support <i>materijal/material: EPDM</i>	11 12 13 14 15 21 31	$\frac{m'}{x}$
2100 G4		oslonac za drveni profil štoka / wooden profile support <i>materijal/material: EPDM</i>	11 13 15 32 41	$\frac{m'}{x}$
2100 G5		unutrašnja zaptivka krila i štoka / rear sash - frame gasket <i>materijal/material: EPDM</i>	9100 D5	$\frac{m'}{x}$
2100 G6		unutrašnji oslonac drvenog profila krila / rear sash wooden profile gasket <i>materijal/material: EPDM</i>	9100 D5	$\frac{m'}{x}$
2100 G7		zaptivka izmedju štoka i zida / frame and wall gasket <i>materijal/material: EPDM</i>	11 12 13 14 15	$\frac{m'}{x}$

ALD 9100
TopTherm

A

2



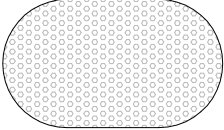
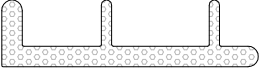
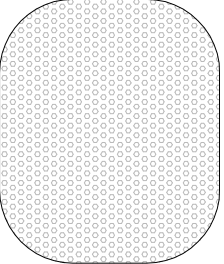
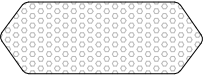
oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
2100 G8		zadnji naslon za staklo / rear glass support <i>materijal/material: EPDM</i>	KL KL 1 KL 2	$\frac{m'}{x}$
2100 G9		zaptivka srednje dopune / central rabbet gasket <i>materijal/material: EPDM</i>	41	$\frac{m'}{x}$

ALD 9100
TopTherm

A

3




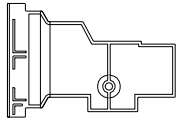

oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
PROFIL 1		termo ispuna / thermo filling <i>materijal/material:</i> <i>polietilen / polyethylene</i>		$\frac{\text{kom/pcs}}{x}$
PROFIL 2		termo ispuna / thermo filling <i>materijal/material:</i> <i>polietilen / polyethylene</i>		$\frac{\text{kom/pcs}}{x}$
PROFIL 3		termo ispuna / thermo filling <i>materijal/material:</i> <i>polietilen / polyethylene</i>		$\frac{\text{kom/pcs}}{x}$
PROFIL 1.1		termo ispuna / thermo filling <i>materijal/material:</i> <i>polietilen / polyethylene</i>		$\frac{\text{kom/pcs}}{x}$

ALD 9100
TopTherm

A

4



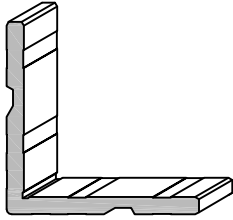
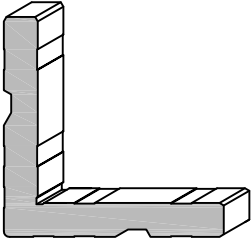
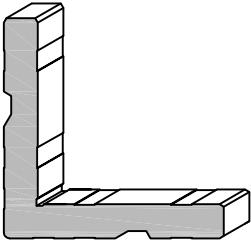
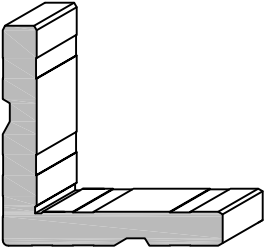
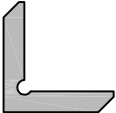
oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
9100 P1		nosač kajle / bottom glass support <i>materijal/material:</i> <i>poliamid / polyamide</i>	Za sva krila i štokove For all sashes & frames	$\frac{\text{kom/pcs}}{x}$
9100 P2		zatvarač srednje dopune / central rabbet cap <i>materijal/material:</i> <i>poliamid / polyamide</i>	41	$\frac{\text{kom/pcs}}{x}$
9100 P3		razupirač / distnacer <i>materijal/material:</i> <i>poliamid / polyamide</i>	Za sve štokove For all frames	$\frac{\text{kom/pcs}}{x}$

ALD 9100
TopTherm

A

5



oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
S 6 - 8		spojnica (M 4862) / extruded corner joint (M 4862) L=8.0 mm <i>materijal/material:</i> aluminijum/ aluminum	21	$\frac{\text{kom/pcs}}{20}$
S 11 - 8		spojnica (M 4861) / extruded corner joint (M 4861) L=8.0 mm <i>materijal/material:</i> aluminijum/ aluminum	11 12 13 14 15	$\frac{\text{kom/pcs}}{20}$
S 11 - 12		spojnica (M 4861) / extruded corner joint (M 4861) L=12.3 mm <i>materijal/material:</i> aluminijum/ aluminum	11 12 13 14 15	$\frac{\text{kom/pcs}}{20}$
S 11 - 35		spojnica (M 4861) / extruded corner joint (M 4861) L=35.3 mm <i>materijal/material:</i> aluminijum/ aluminum	21	$\frac{\text{kom/pcs}}{20}$
U 1.1		uglic / corner alignment <i>materijal/material:</i> čelik / steel	11 12 13 14 15 21	$\frac{\text{kom/pcs}}{80}$

ALD 9100
TopTherm

A

6



oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
S 15 - 8		ugaona spojnica (M - 5224) / extruded corner joint (M - 5224) L=8.4 mm <i>materijal/material:</i> aluminijum/aluminum	11 21	$\frac{\text{kom/pcs}}{20}$
S 15 - 35		ugaona spojnica (M - 5224) / extruded corner joint (M - 5224) L=35.7 mm <i>materijal/material:</i> aluminijum/aluminum	11 21	$\frac{\text{kom/pcs}}{20}$
S 20 - 8		ugaona spojnica (M - 5225) / extruded corner joint (M - 5225) L= 8.4 mm <i>materijal/material:</i> aluminijum/aluminum	13 14	$\frac{\text{kom/pcs}}{20}$
S 20 - 12		ugaona spojnica (M - 5225) / extruded corner joint (M - 5225) L= 12.7 mm <i>materijal/material:</i> aluminijum/aluminum	13 14	$\frac{\text{kom/pcs}}{20}$

ALD 9100
TopTherm

A

7



oznaka code	izgled design	opis description	veza sa connected to	jed. mere / pakovanje unit / pack
S 40 -8		ugaona spojnica (M 4954) / extruded corner joint (M 4954) L=8.0 mm <i>materijal/material: aluminijum/aluminum</i>	91 15	$\frac{\text{kom/pcs}}{20}$
S 40 - 12		ugaona spojnica (M 4954) / extruded corner joint (M 4954) L=12.3 mm <i>materijal/material: aluminijum/aluminum</i>	91 15	$\frac{\text{kom/pcs}}{20}$

segment B

pregled profila

structural elements
overview

ALD 9100
TopTherm

B

1



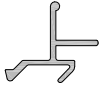
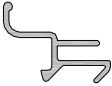

oznaka code	izgled design 1:4	opis description	G Kg/m	$\frac{I_x}{I_y}$ cm ⁴	Pakovanje sadrži šipke od 6 m Package contains 6 m bars	strana page
91 11		štok frame	1.462		$\frac{\text{kom/pcs}}{1}$	C1
91 16		štok frame	1.442		$\frac{\text{kom/pcs}}{1}$	C1
91 13		štok frame	1.965		$\frac{\text{kom/pcs}}{1}$	C2
91 15		štok frame	1.930		$\frac{\text{kom/pcs}}{1}$	C2
91 21		Krilo Sash	1.703		$\frac{\text{kom/pcs}}{1}$	C4
91 31		"T" profile "T" profile	1.710		$\frac{\text{kom/pcs}}{1}$	C5
91 41		srednja dopuna central rabbet	1.798		$\frac{\text{kom/pcs}}{1}$	C5
2100 KL	 (1:2)	kit lajsna glazing bead	0.224		$\frac{\text{kom/pcs}}{6}$	C6

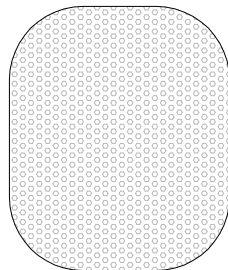
ALD 9100
TopTherm

B

2

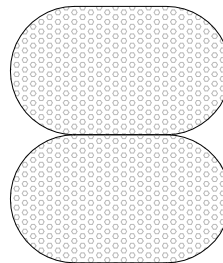


oznaka code	izgled design 1:4	opis description	G Kg/m	lx / ly cm ⁴	Pakovanje sadrži šipke od 6 m Package contains 6 m bars	strana page
2100 KL1	 (1:2)	kit lajsna glazing bead	0.218		$\frac{\text{kom/pcs}}{6}$	C6
2100 KL2	 (1:2)	kit lajsna glazing bead	0.268		$\frac{\text{kom/pcs}}{6}$	C6
2100 NO	 (1:2)	nosilac lajsnice glazing bead draught stop	0.196		$\frac{\text{kom/pcs}}{6}$	C6



PROFIL 3

ILI



2 x PROFIL 1

segment C

profili

profiles

ALD 9100
TopTherm

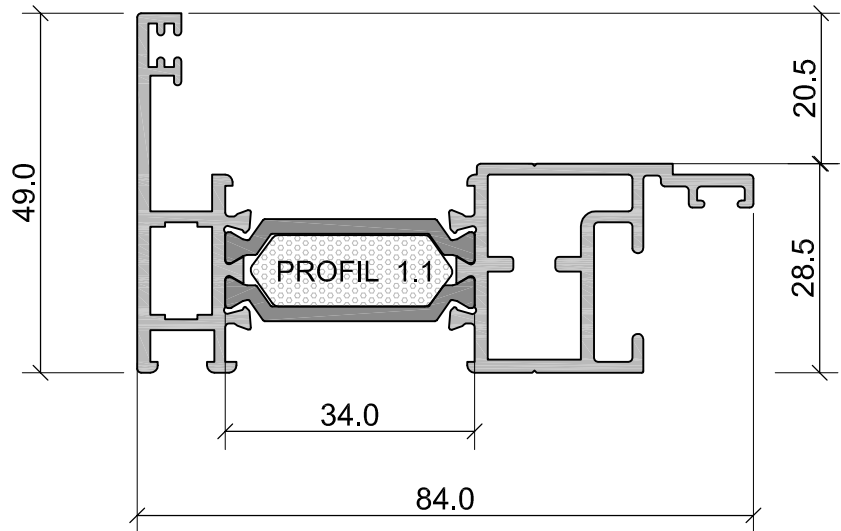
C

1



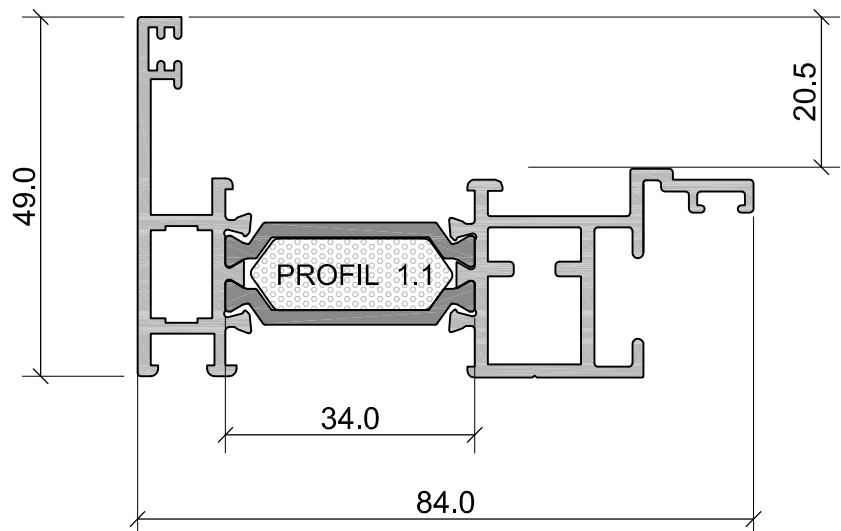
91 11*

Štok / Frame
1.462 Kg/m'



91 16*

Štok / Frame
1.442 Kg/m'



----- vidna površina/ visible surface
———— povremeno vidna površina/occasionally surface

* isporučuju se po posebnoj narudžbini
* on demand

ALD 9100
TopTherm

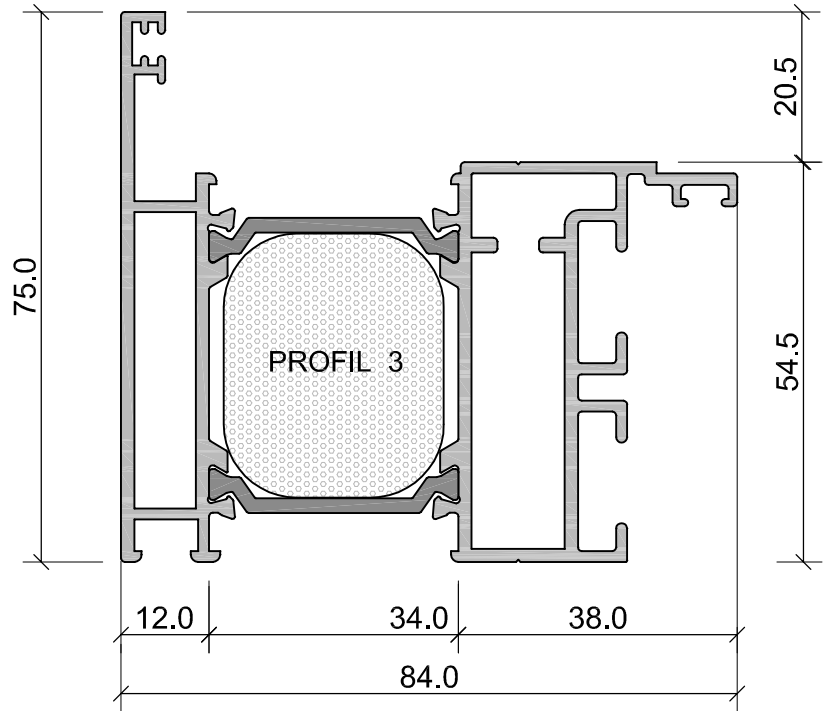
C

2



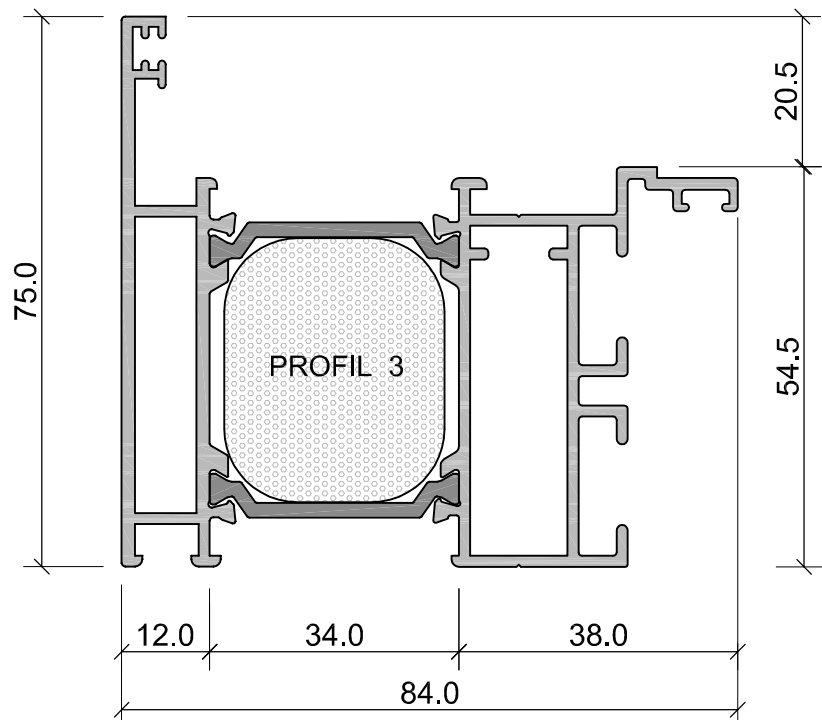
91 13*

Štok / Frame
1.965 Kg/m'



91 15

Štok / Frame
1.930 Kg/m'



----- vidna površina/ visible surface
—— povremeno vidna površina/occasionally surface

* isporučuju se po posebnoj narudžbini
* on demand

ALD 9100
TopTherm

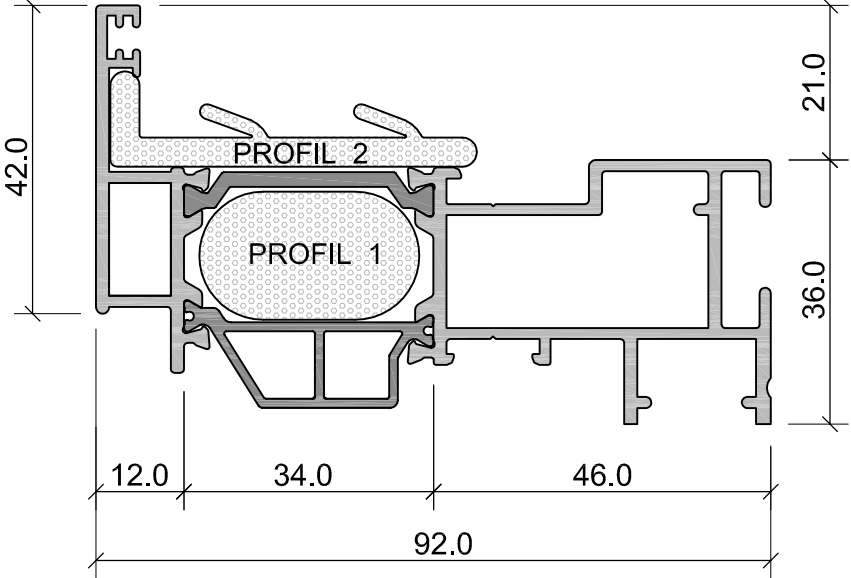
C

3



91 21

Krilo / Sash
1.703 Kg/m'



----- vidna površina/ visible surface
———— povremeno vidna površina/occasionally surface

* isporučuju se po posebnoj narudžbini
* on demand

ALD 9100
TopTherm

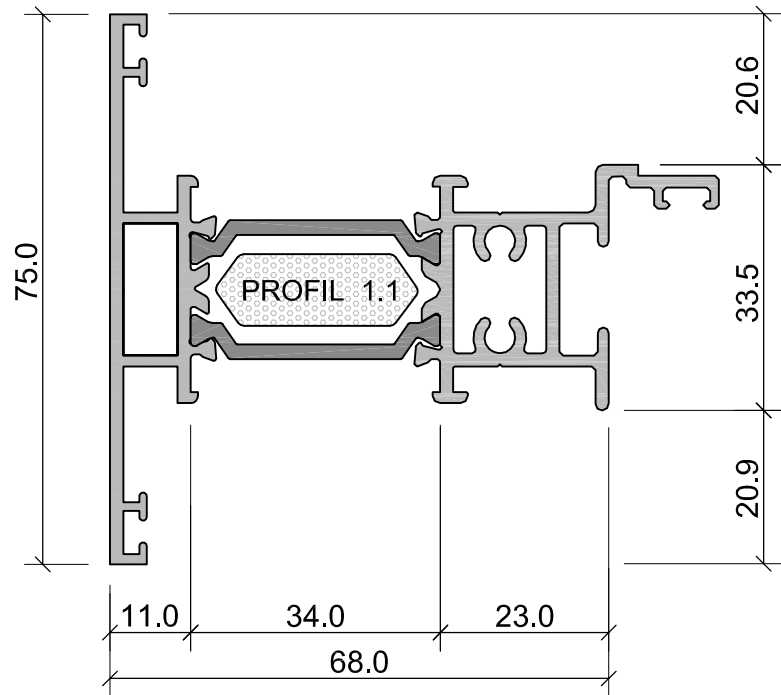
C

4



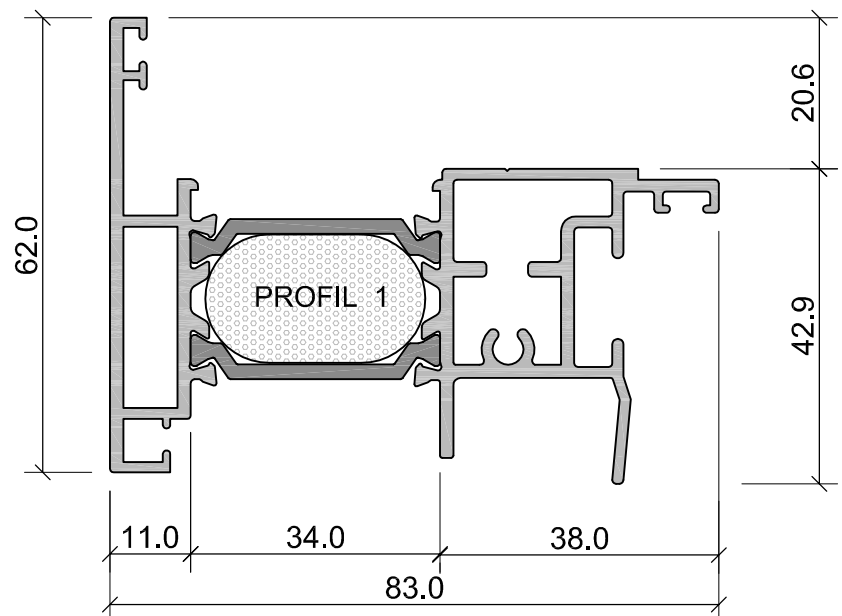
91 31

"T" profil / "T" profile
1.710 Kg/m'



91 41

Srednja dopuna /
Central rabbet
1.798 Kg/m'



----- vidna površina/ visible surface
—— povremeno vidna površina/occasionally surface

* isporučuju se po posebnoj narudžbini
* on demand

ALD 9100
TopTherm

C

5

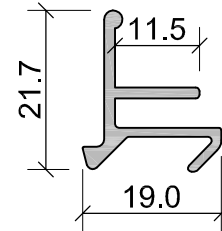


2100 KL

(M 4857)

Kit lajsna / Glazing bead

0.224 Kg/m'

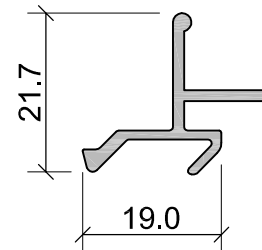


2100 KL1

(M 5050)

Kit lajsna / Glazing bead

0.218 Kg/m'

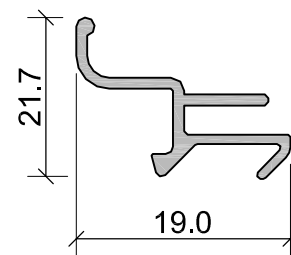


2100 KL2*

(M 5662)

Kit lajsna / Glazing bead

0.268 Kg/m'

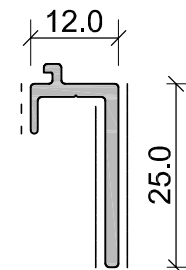


2100 NO

(M 4868)

Nosač okapnice /
Drain profile support

0.196 Kg/m'



----- vidna površina/ visible surface
—— povremeno vidna površina/occasionally surface

* isporučuju se po posebnoj narudžbini
* on demand

ALD 9100
TopTherm

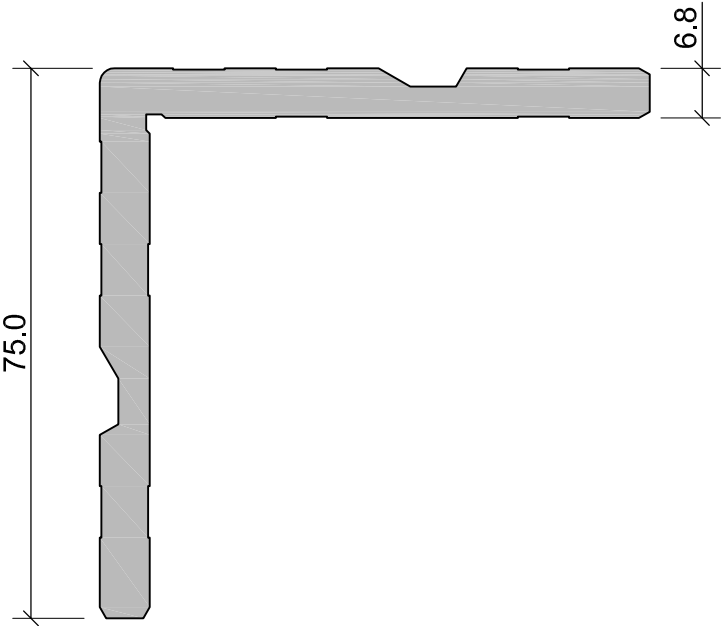
C

6



S 6

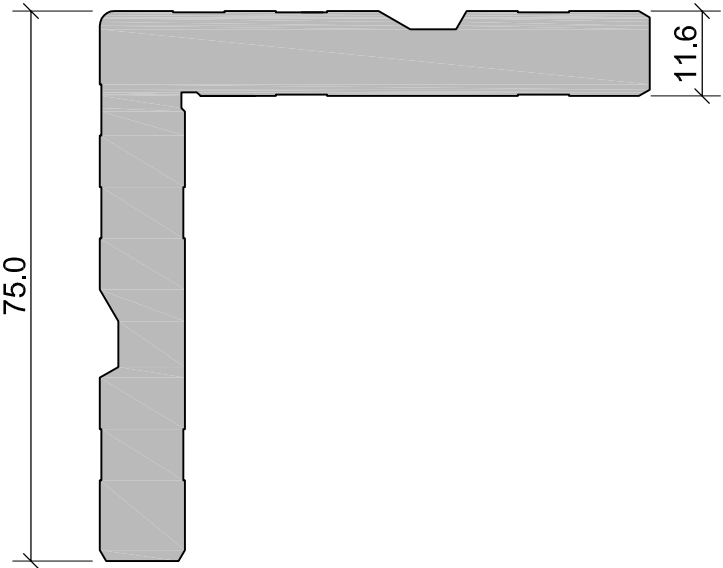
(M 4862)
Spojnica / Corner joint alingment
2.453 Kg/m'



S 6 - 8

S 11

(M 4861)
Uložka / Corner joint alingment
4.159 Kg/m'



S 11 - 8

S 11 - 12

S 11 - 35

ALD 9100
TopTherm

C

7



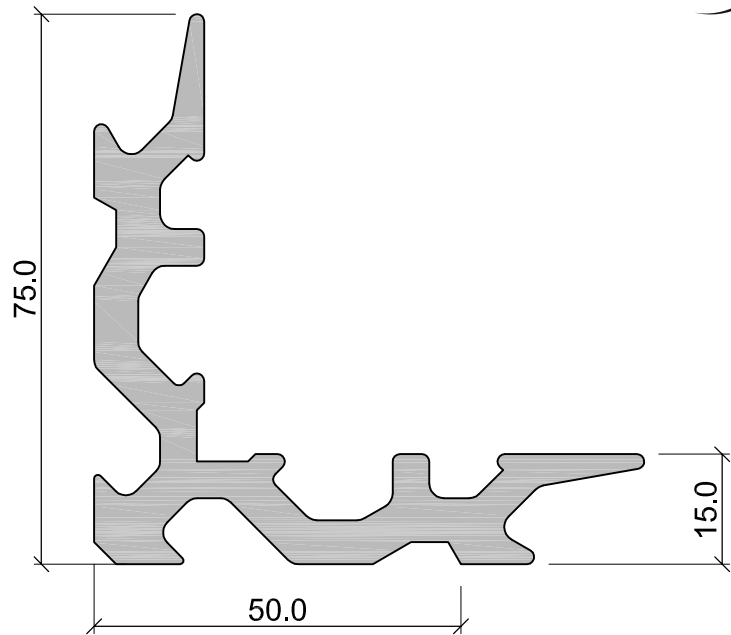
M 5224

Uložka / Corner joint

2.689 Kg/m'

S 15 - 8

S 15 - 35



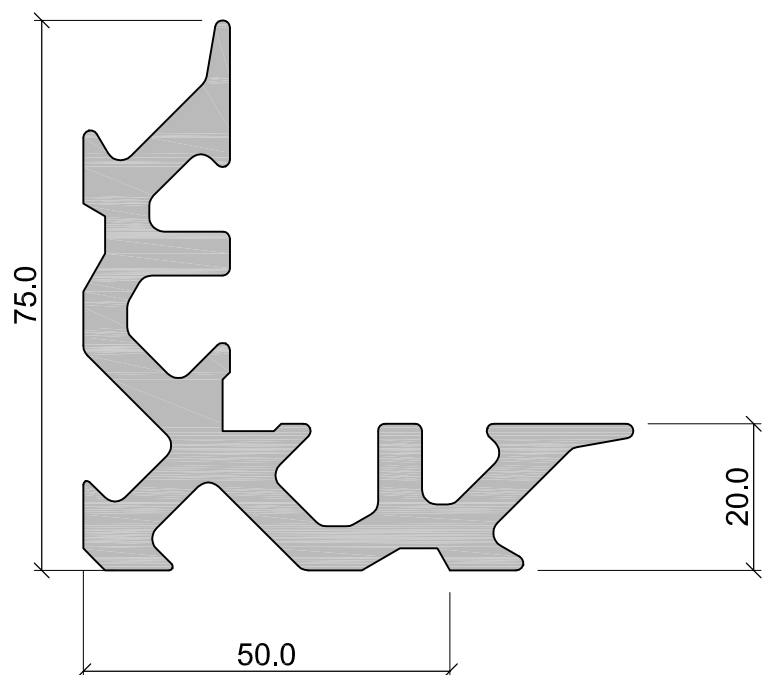
M 5225

Uložka / Corner joint

3.342 Kg/m'

S 20 - 8

S 20 - 12



ALD 9100
TopTherm

C

8



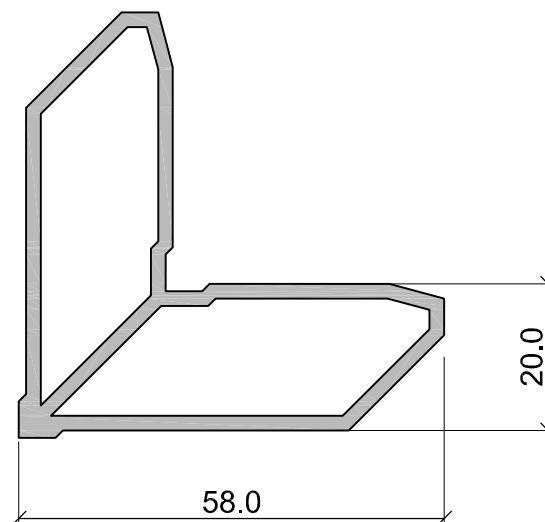
ŠP 1501

Dopuna uloške / Complement corner joint

1.250 Kg/m'

S 20 - 8

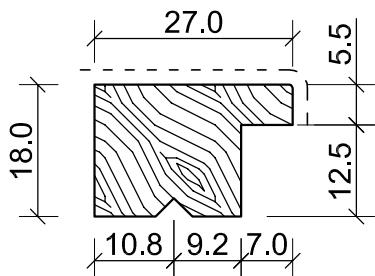
S 20 - 12



ALD 9100
TopTherm

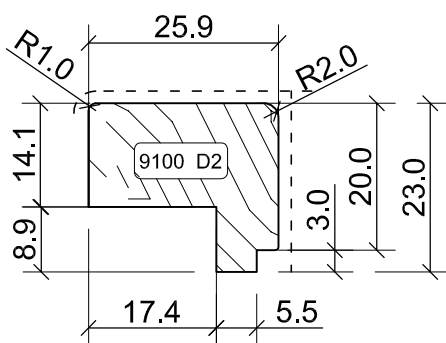
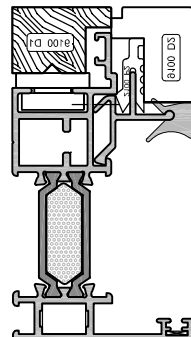
C

9



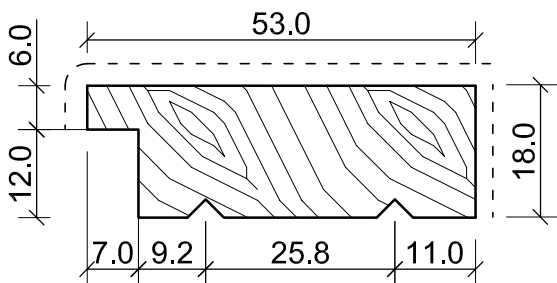
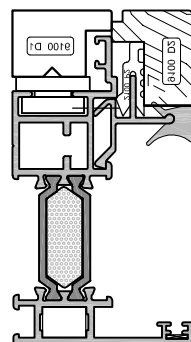
9100 D1

DRVENI PROFILI
WOODEN PROFILES



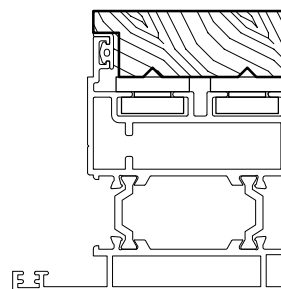
9100 D2

DRVENI PROFILI
WOODEN PROFILES



9100 D3

DRVENI PROFILI
WOODEN PROFILES

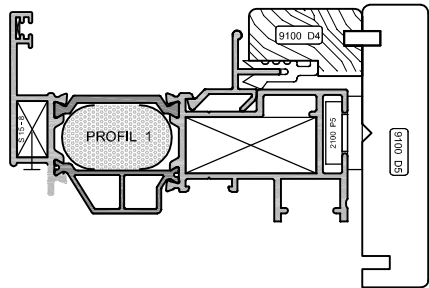
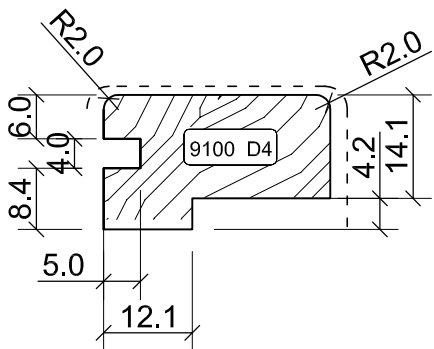


----- vidna površina /visible surface

ALD 9100
TopTherm

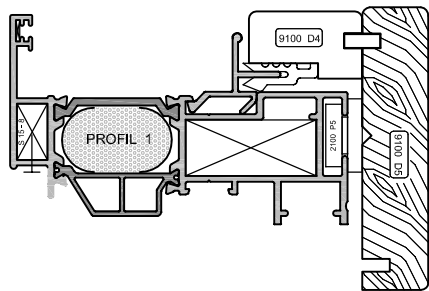
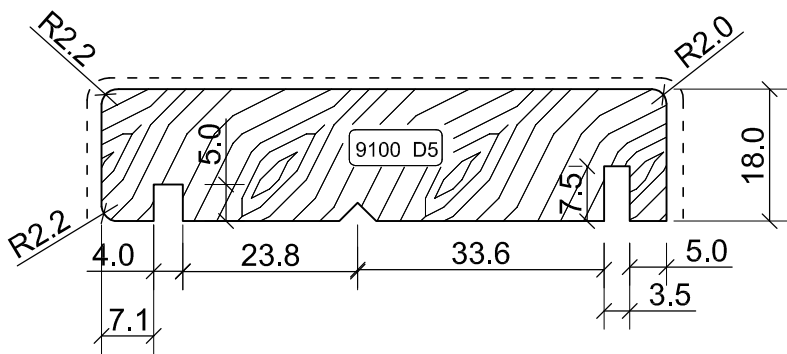
C

10



9100 D4

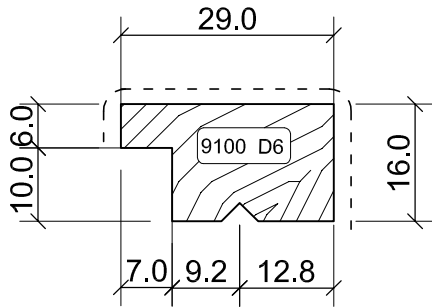
DRVENI PROFILI
WOODEN PROFILES



9100 D5

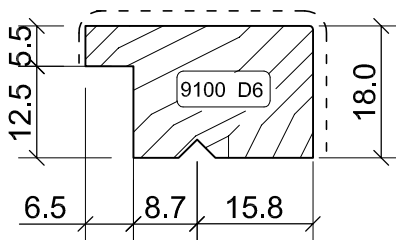
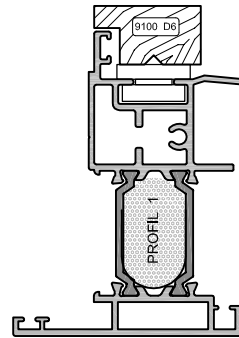
DRVENI PROFILI
WOODEN PROFILES

----- vidna površina /visible surface



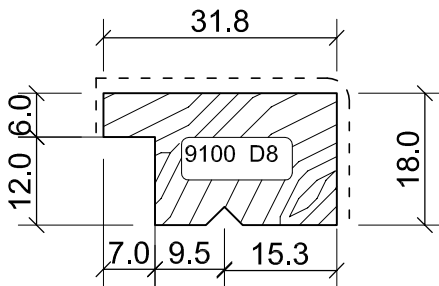
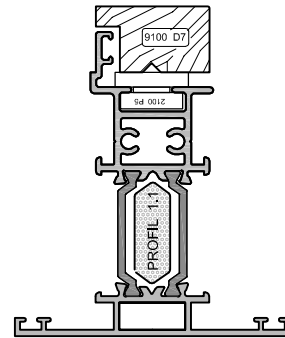
9100 D6

DRVENI PROFILI
WOODEN PROFILES



9100 D7

DRVENI PROFILI
WOODEN PROFILES



9100 D8

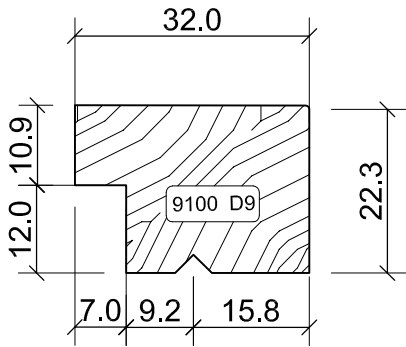
DRVENI PROFILI
WOODEN PROFILES

----- vidna površina /visible surface

ALD 9100
TopTherm

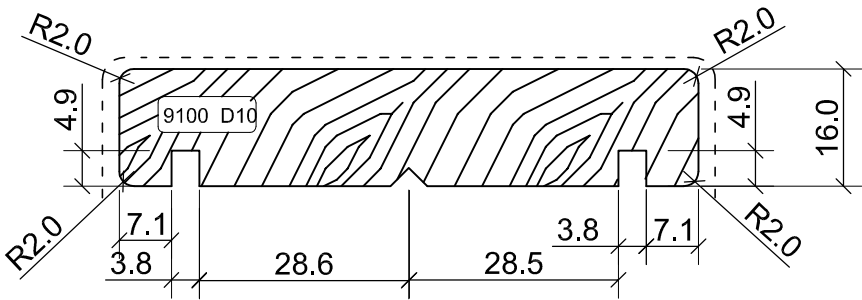
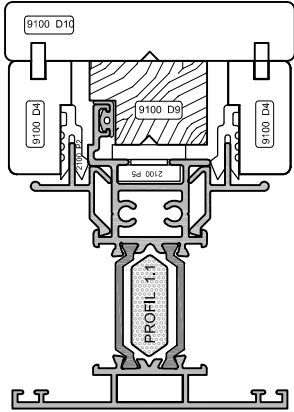
C

12



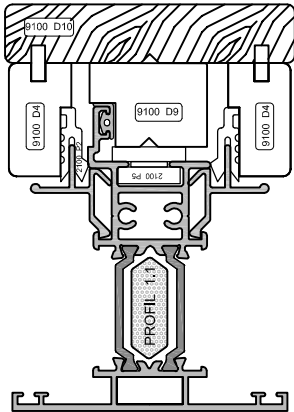
9100 D9

DRVENI PROFILI
WOODEN PROFILES



9100 D10

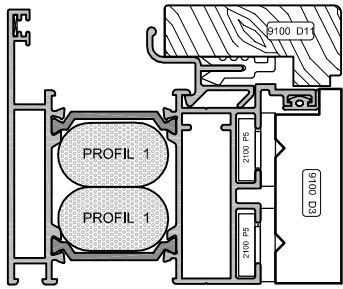
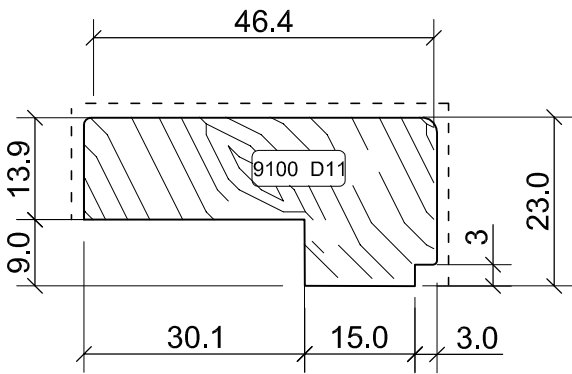
DRVENI PROFILI
WOODEN PROFILES



ALD 9100
TopTherm

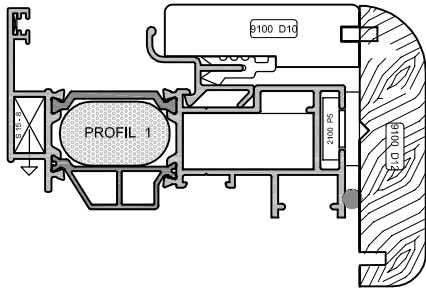
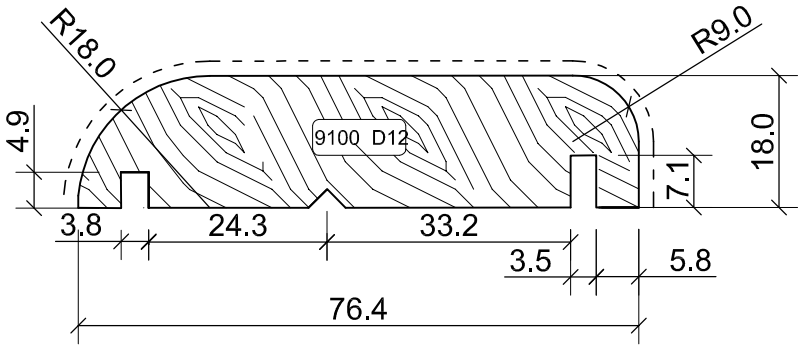
C

13



9100 D11

DRVENI PROFILI
WOODEN PROFILES



9100 D12

DRVENI PROFILI
WOODEN PROFILES

segment D

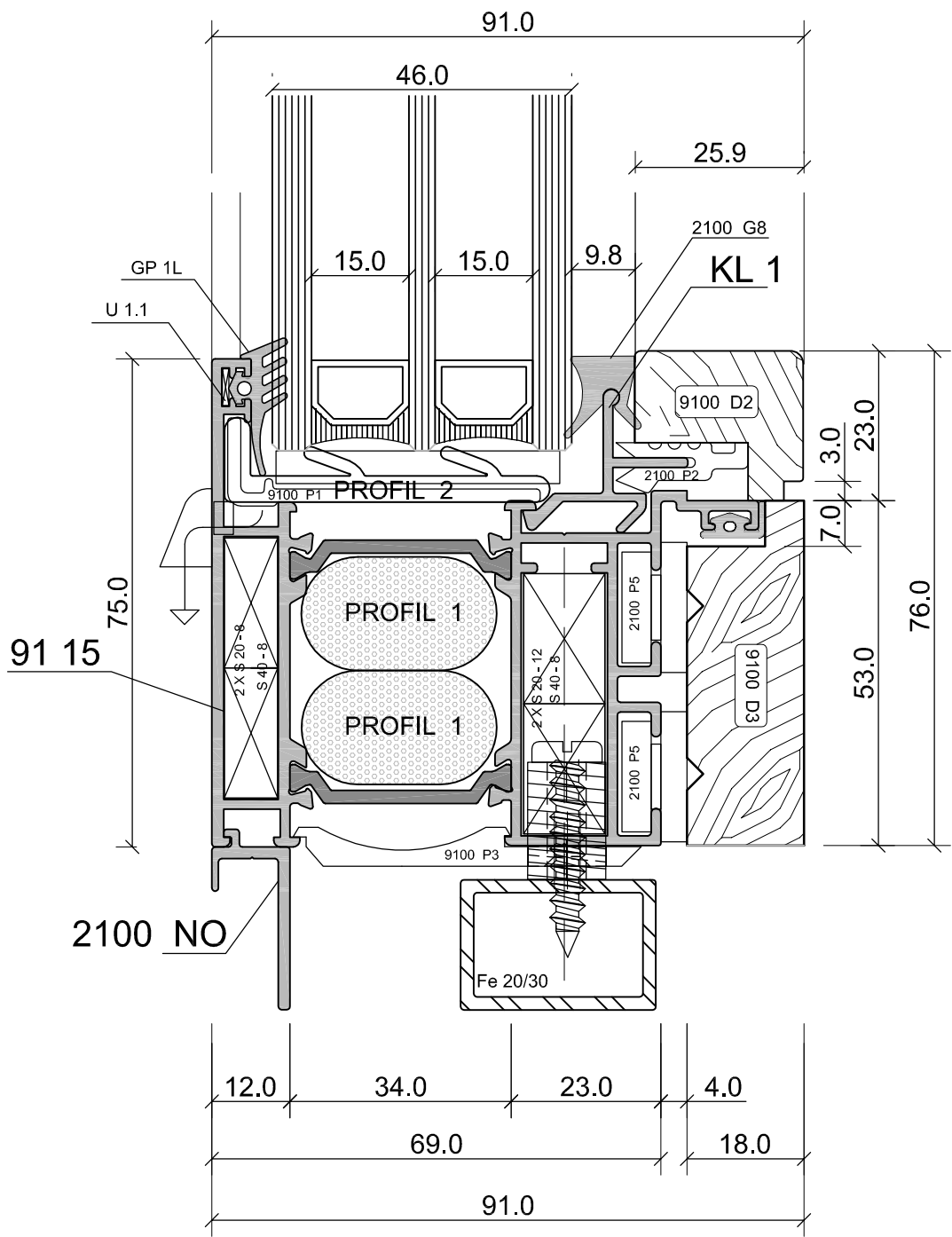
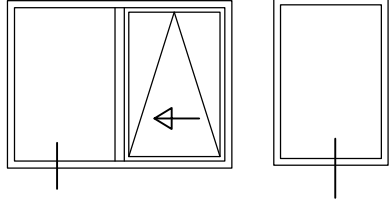
detalji

technical details

ALD 9100
TopTherm

D

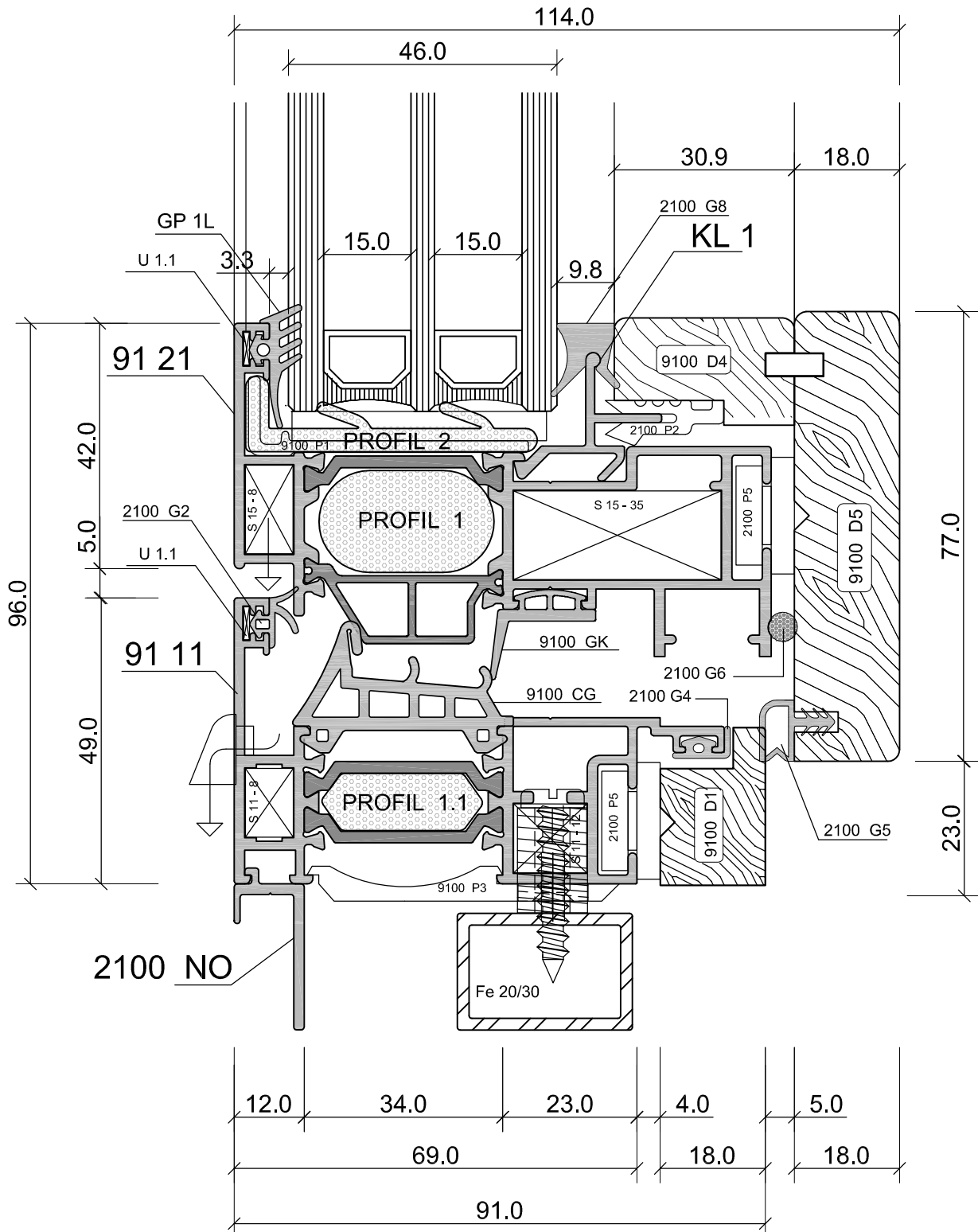
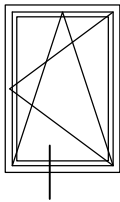
2



ALD 9100
TopTherm

D

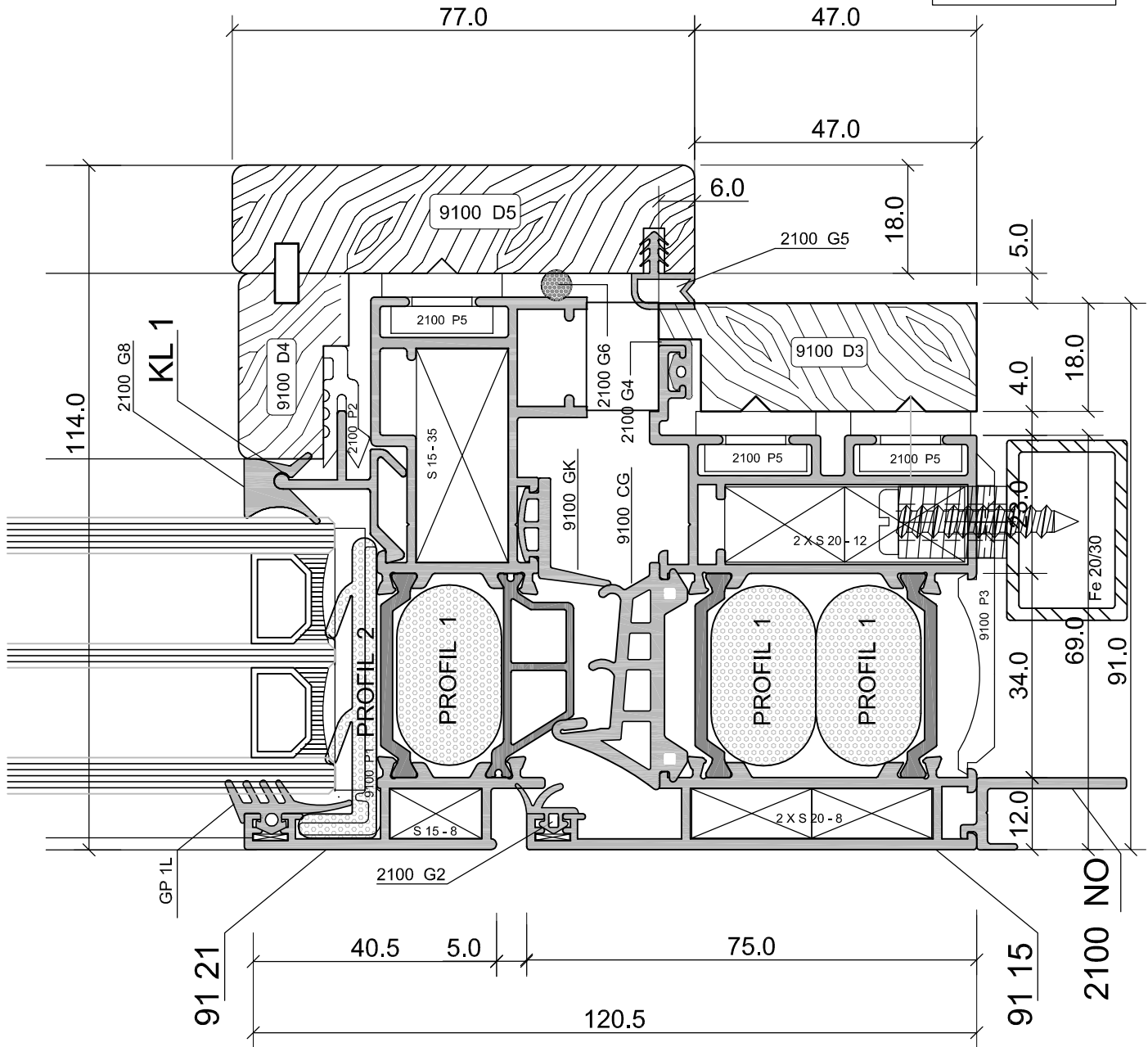
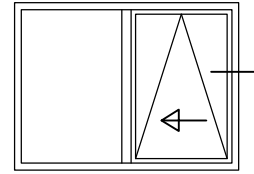
3



ALD 9100
TopTherm

D

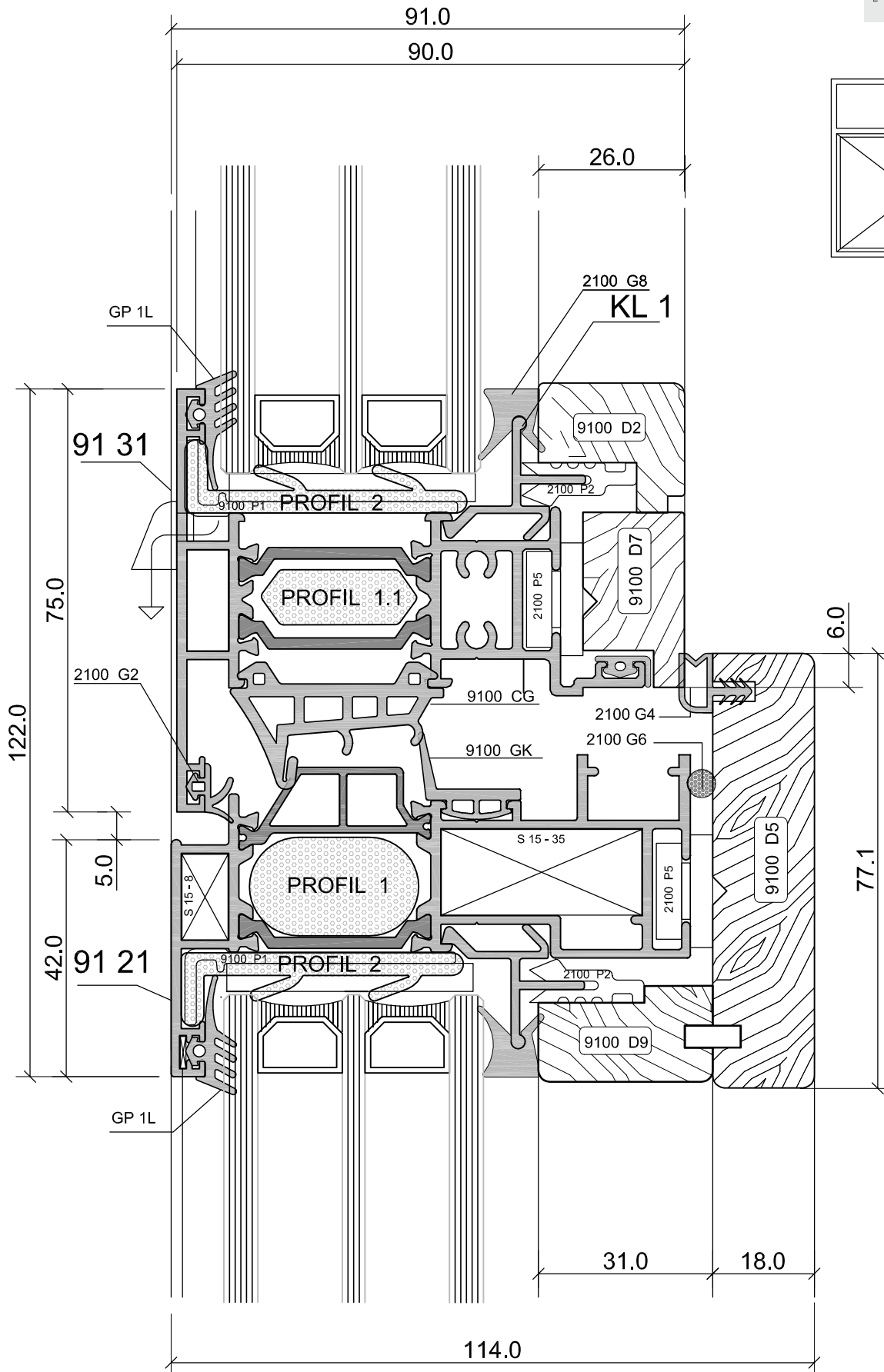
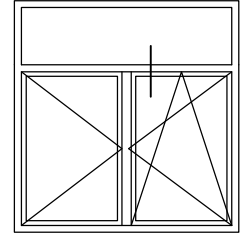
5



ALD 9100
TopTherm

D

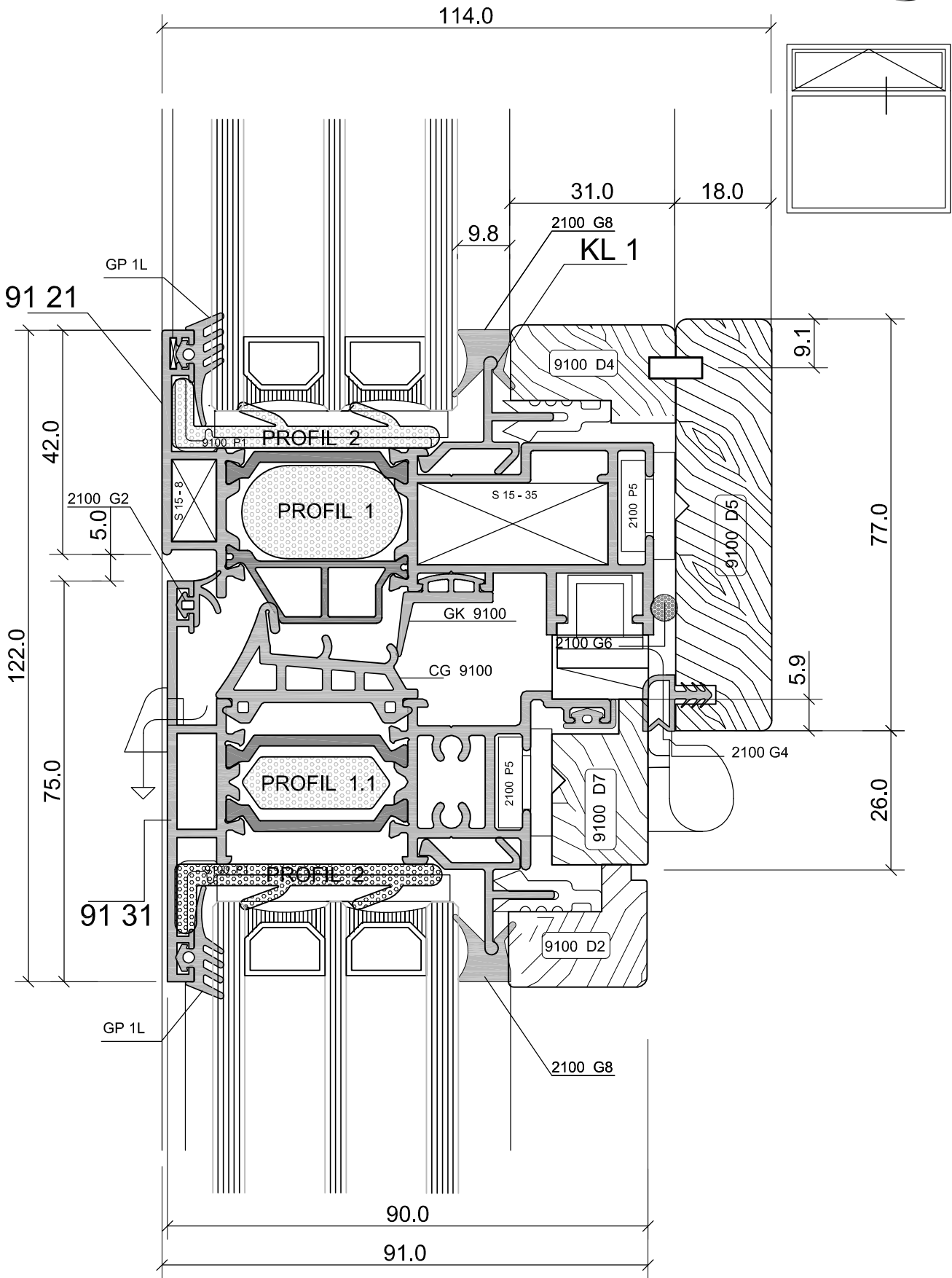
8



ALD 9100
TopTherm

D

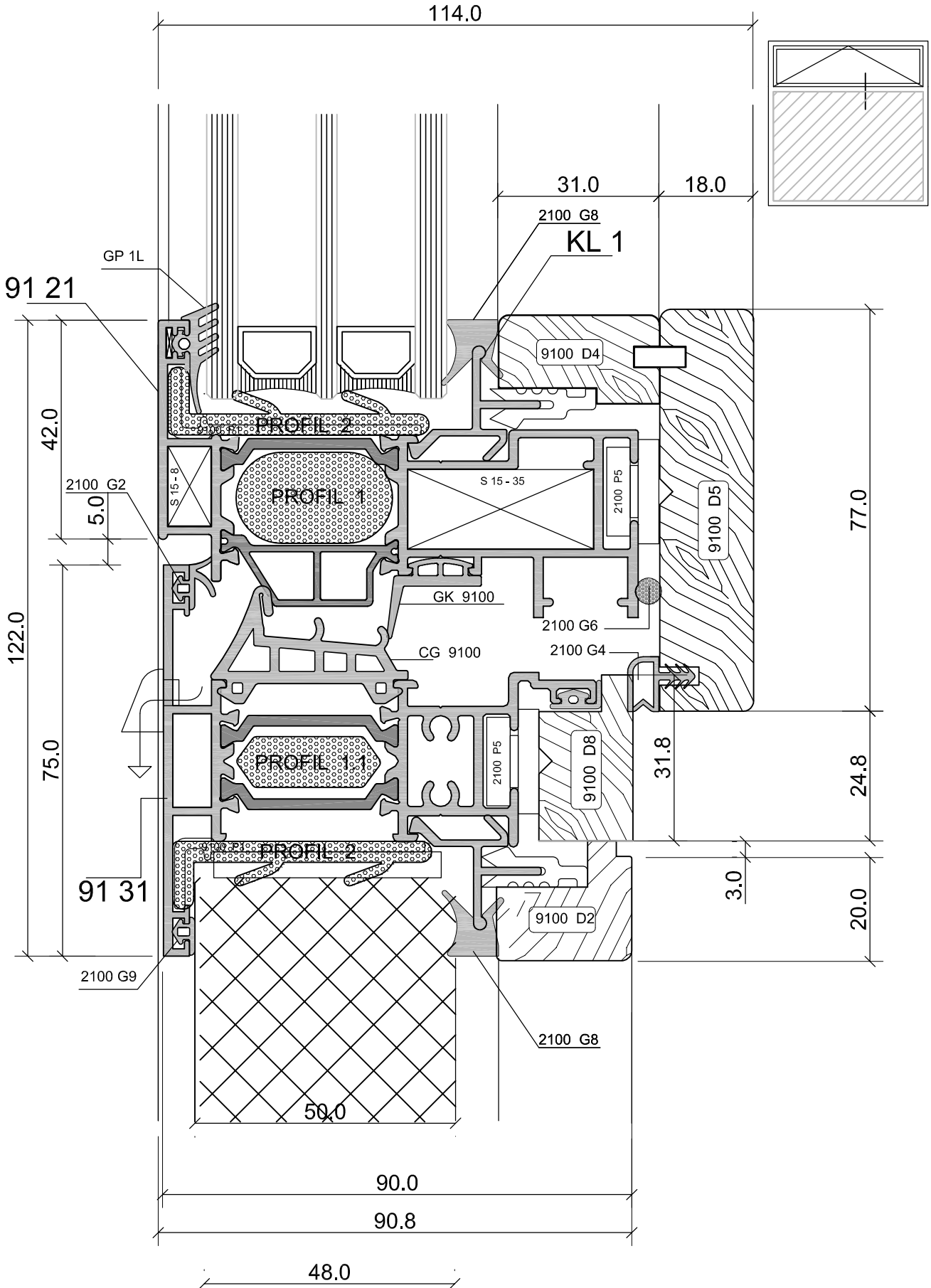
9



ALD 9100
TopTherm

D

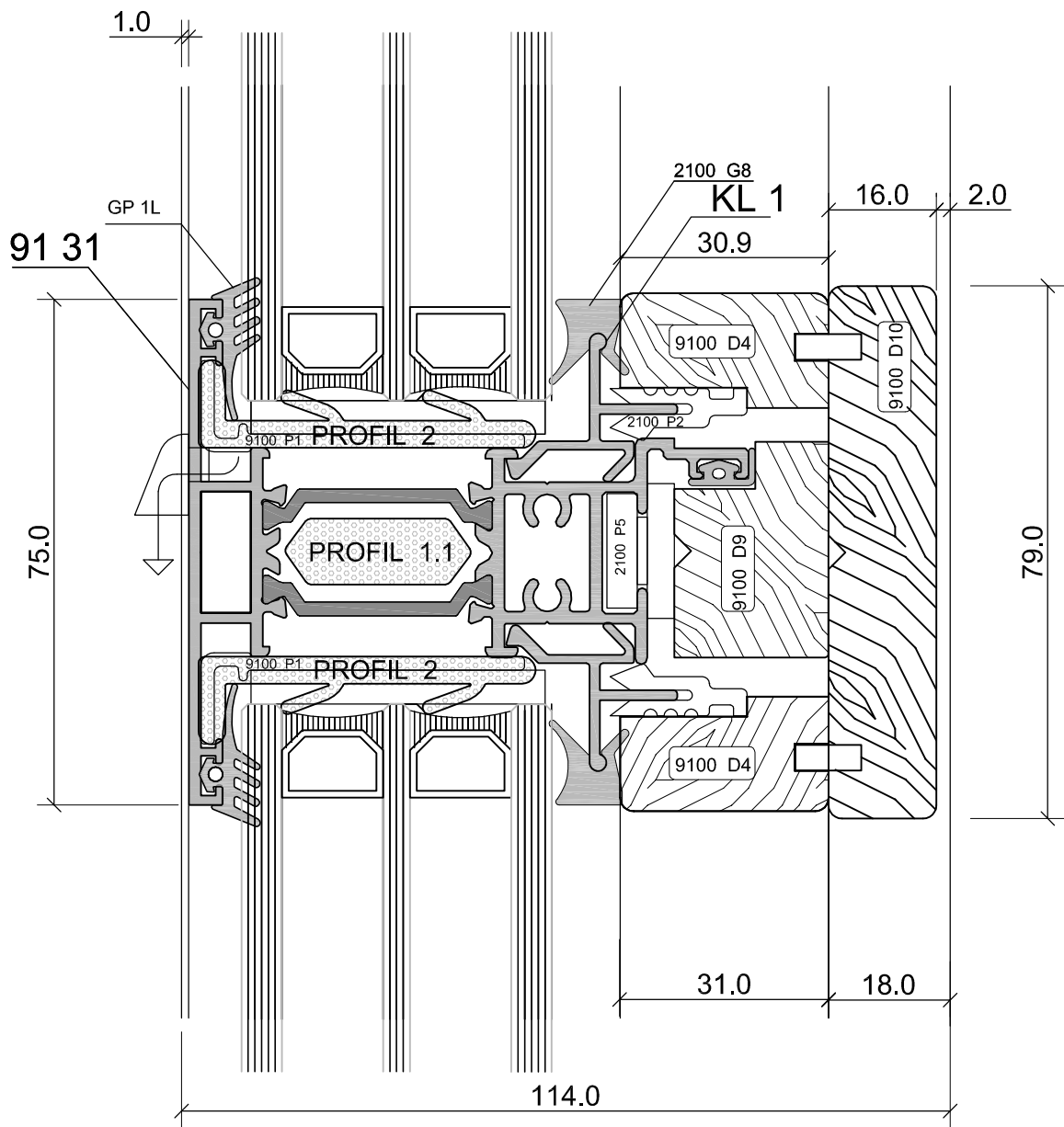
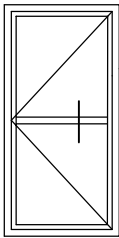
10



ALD 9100
TopTherm

D

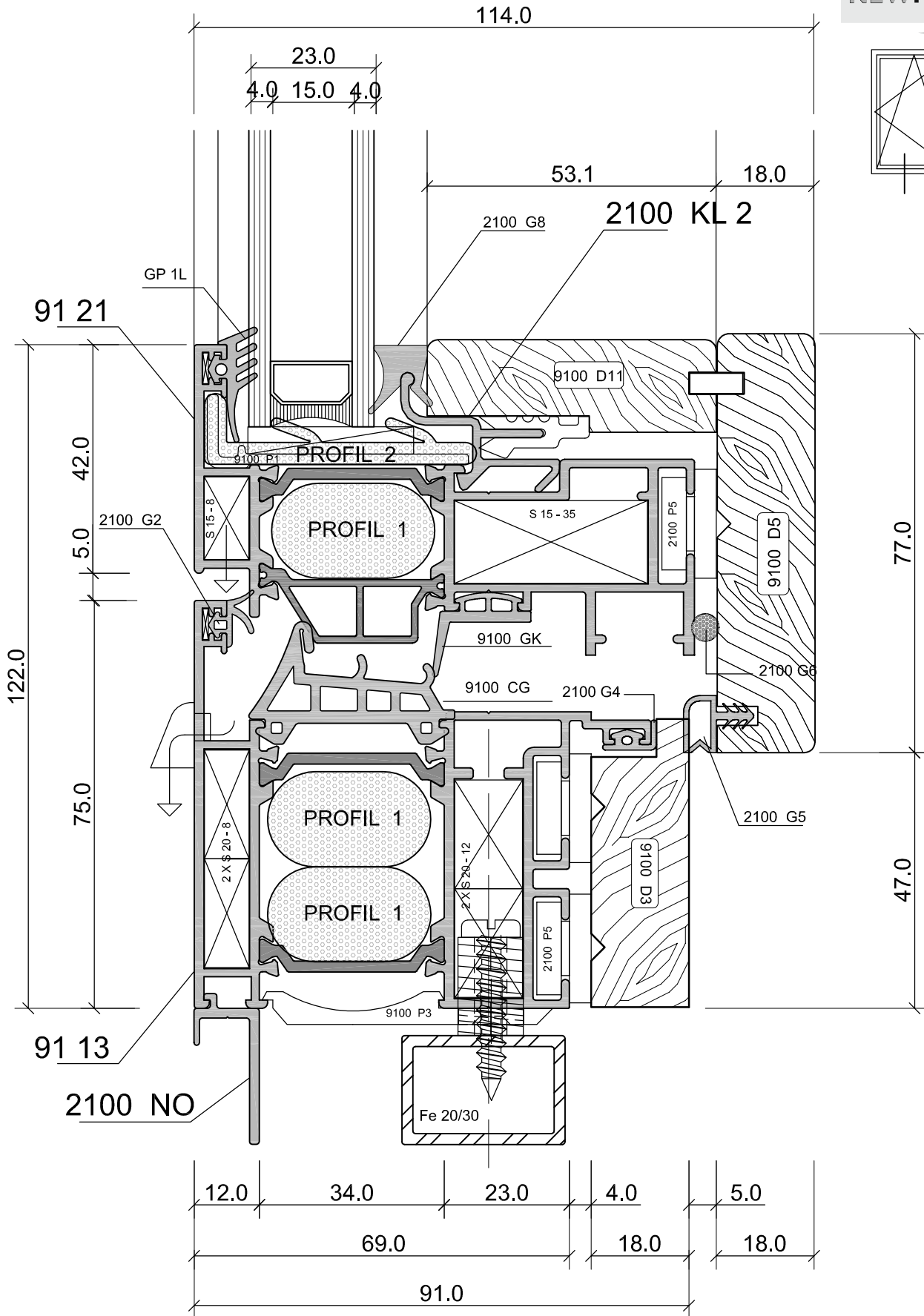
11



ALD 9100
TopTherm

D

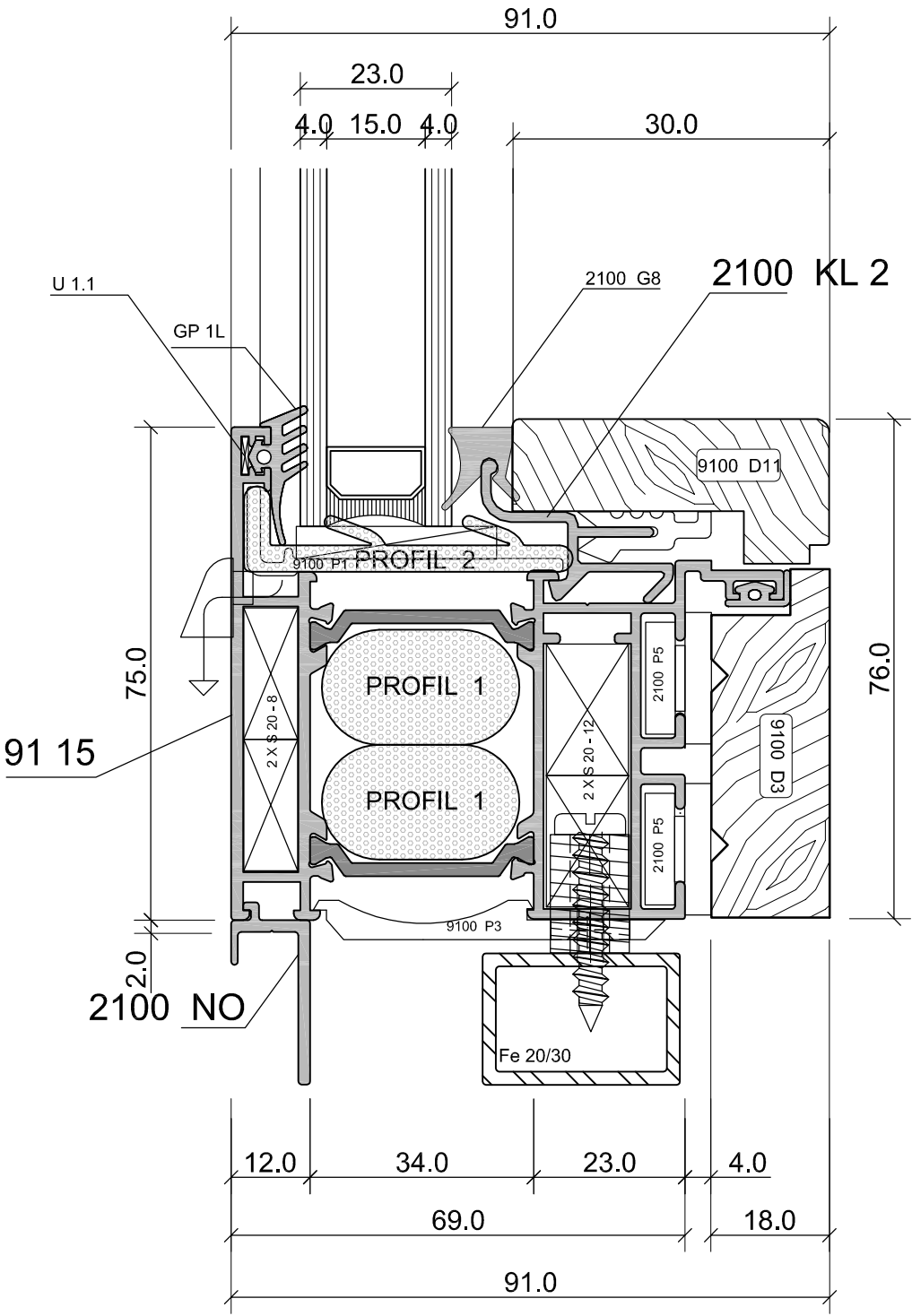
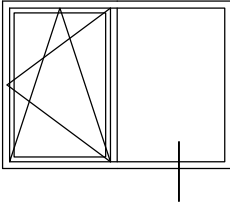
12



ALD 9100
TopTherm

D

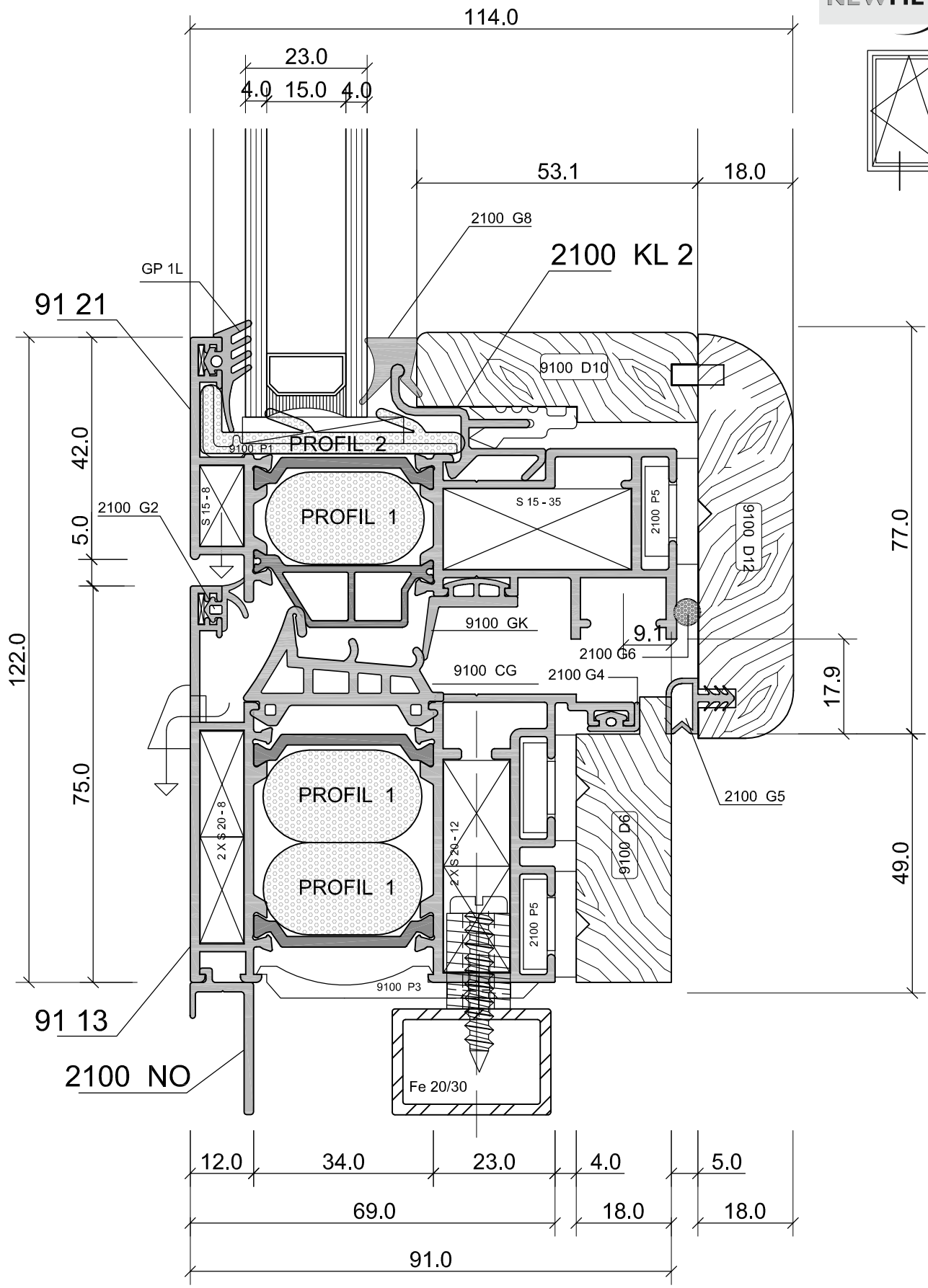
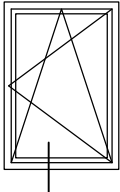
13



ALD 9100
TopTherm

D

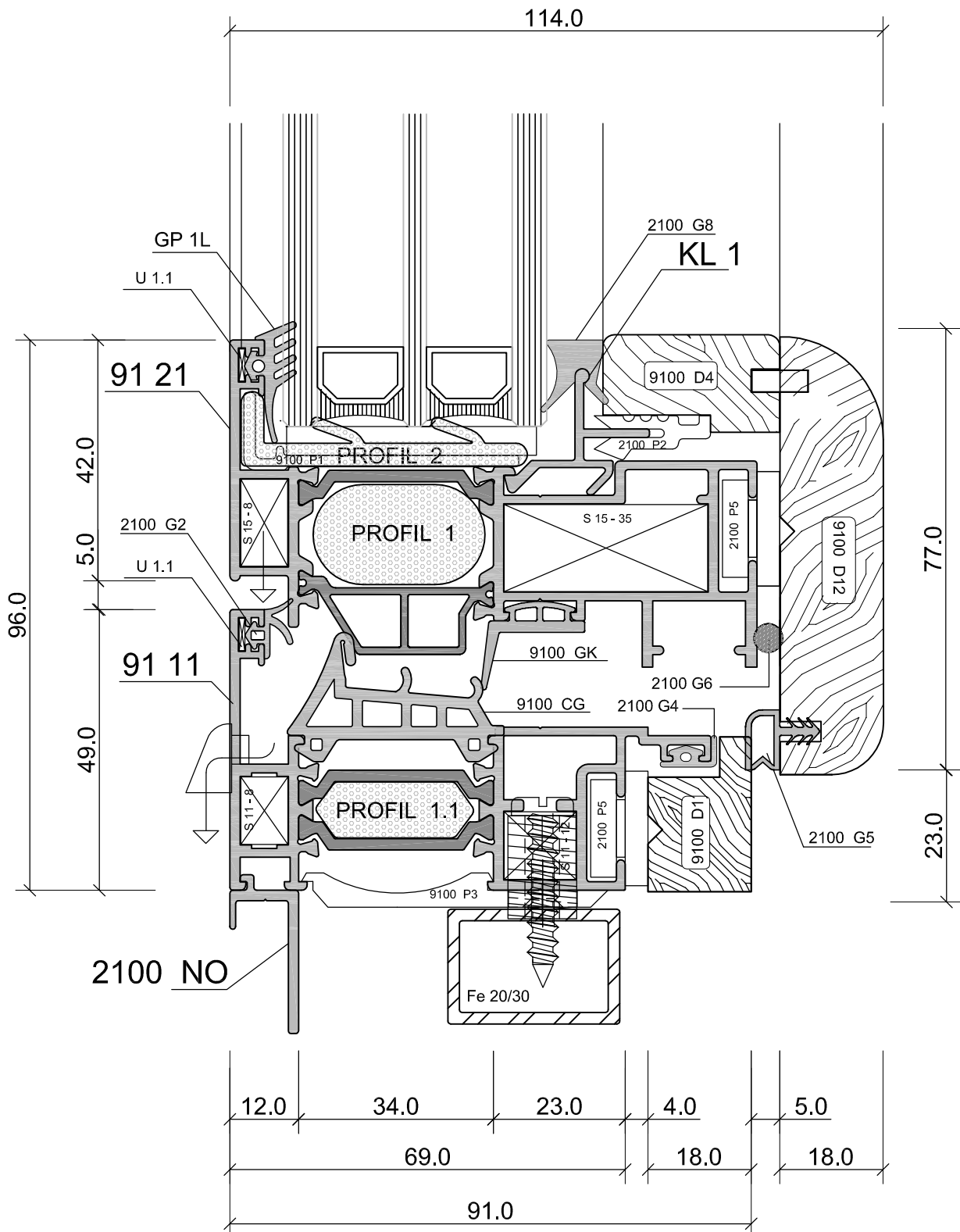
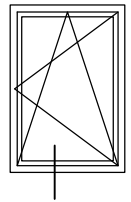
14



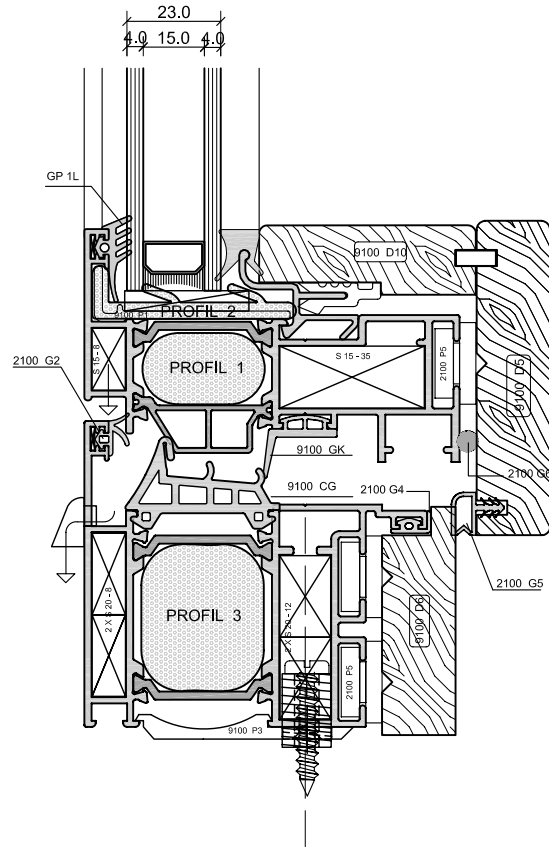
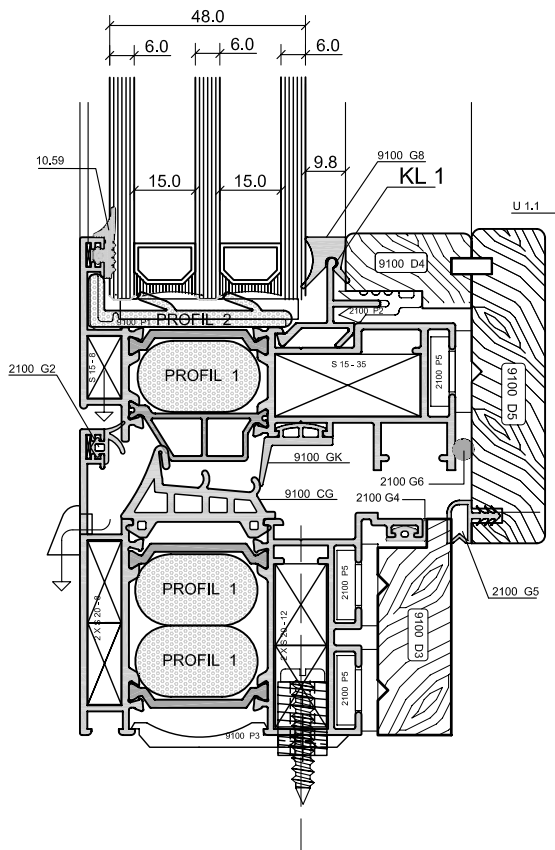
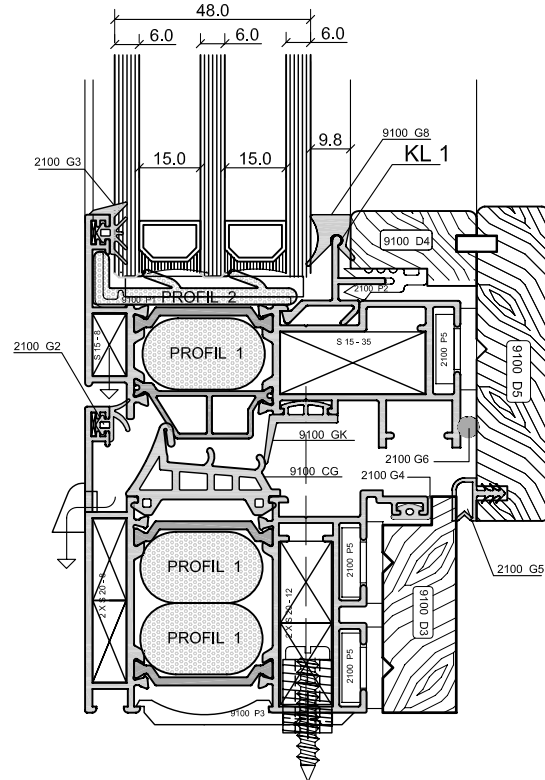
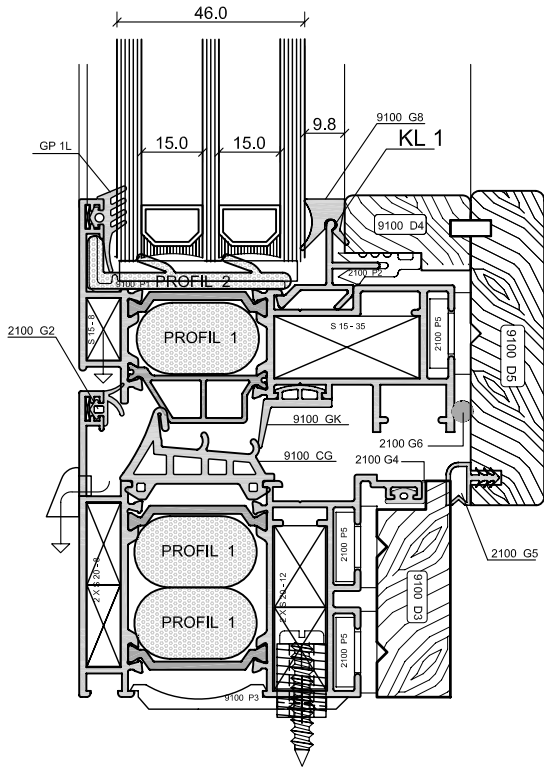
ALD 9100
TopTherm

D

15



ALD 9100 PREGLED
TopTherm ISPUNA



NISSAL-NEWMET d.o.o.
Bulevar Svetog Cara Konstantina bb
18110 Niš / SERBIA

Tel: +381 18 502 333
Tel: +381 18 502 504
Fax: +381 18 502 503

office@nissal.co.rs
WWW.NISSAL.CO.RS

