WDS 8 SERIES

Profile System Manual

WDS 8 SERIES

Application 1. WDS PVC Profile systems product range
Edition 4 of August 01, 2017

WDS 8 SERIES

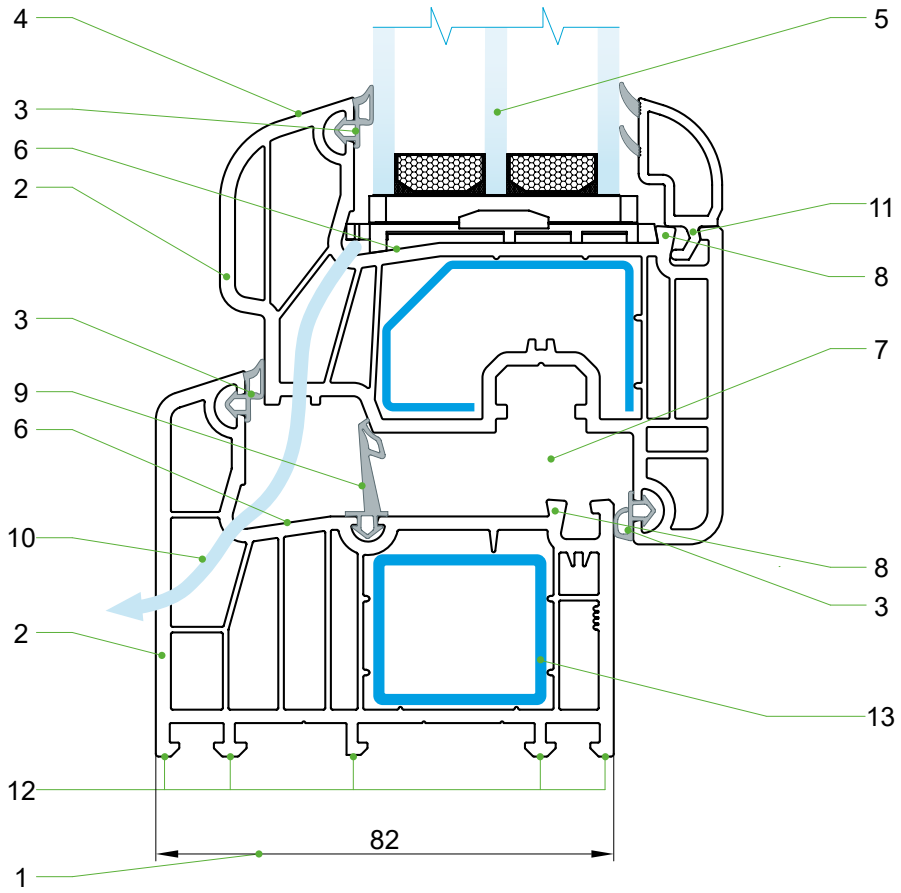
Profile System

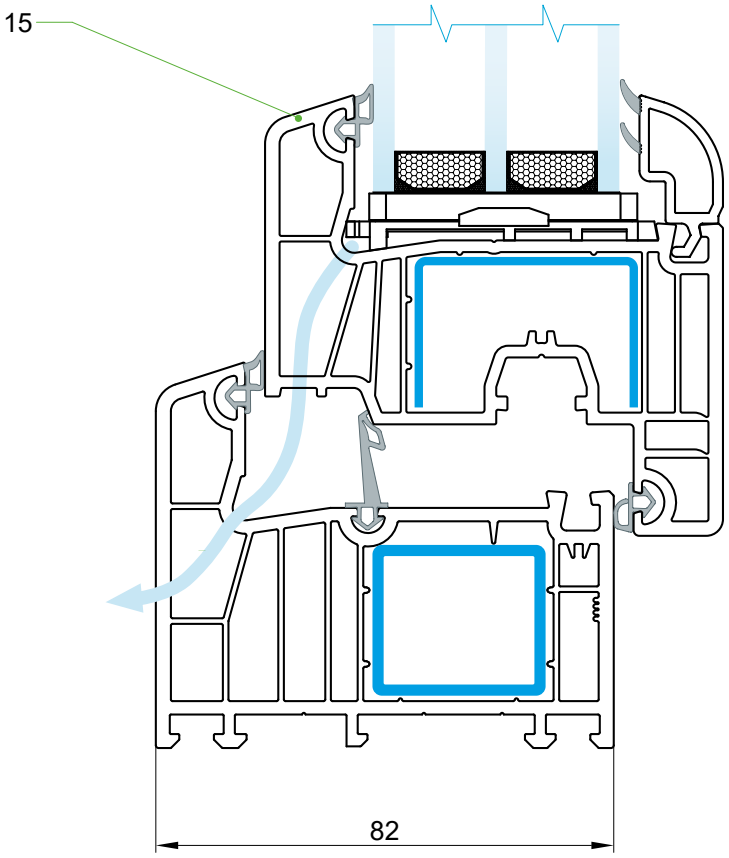
1

VOLUME

1. WDS 8 SERIES PROFILE SYSTEM

1.1 WDS 8 SERIES Profile System Specification



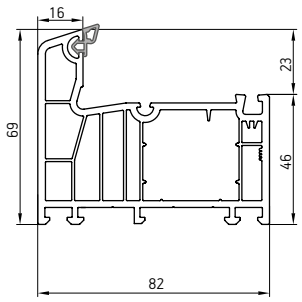


1. Mounting depth is 82 mm.
2. According to DSTU B V. 2.7-130:2007 outer walls thickness corresponds to class B.
3. Two-component TPV seal of grey color that provides optimal sealing, water resistance, high sound insulation, and long service life.
4. Distinctive design of overlapping sash provides additional protection against moisture penetration.
5. The system is designed to install 44-mm insulated glass unit to improve the noise and heat insulation.
6. Smooth glazing rebate in the frame, mullion, sash with sloping part of 8° for better water drainage and easy cleaning.
7. 12/20-13 fitting system enables using antiburglar fittings for greater security.
8. Glazing rebate fringe for installing glazing bead or fitting stripe also serves as a barrier to water in tilt position of the sash.
9. Central seal contour provides additional moisture, noise, and heat insulation.
10. Properly designed system of condensate drain.
11. Glazing bead leg configuration provides a quick and easy installation of glazing bead into the frame with firm fixation.
12. In order to install additional profiles, multipurpose mounting system was designed so that it meets all consumer requirements. This system allows connecting the frame with auxiliary profiles easily and tightly.
13. Closed reinforcing profile in the frame and mullion improves the statics of the structure.
14. Wide range of additional profiles: connecting profiles, expanding profiles.
15. Classic design of sash

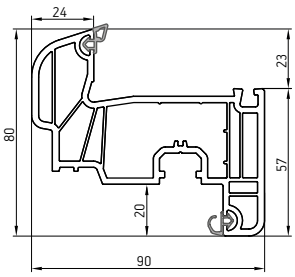
1.2 Profiles Types and Their Components

Essential profiles

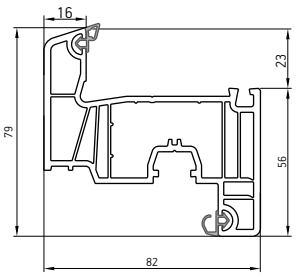
046 6-chamber frame



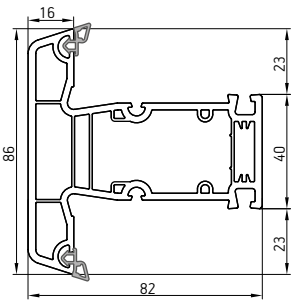
047 6-chamber sash



080 6-chamber sash classic

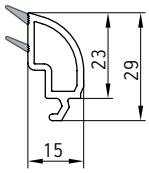


048 4-chamber mullion



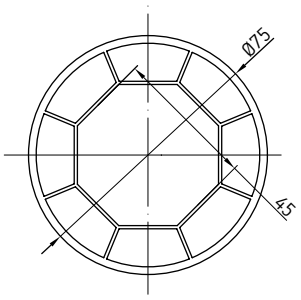
Glazing beads

049 Glazing bead

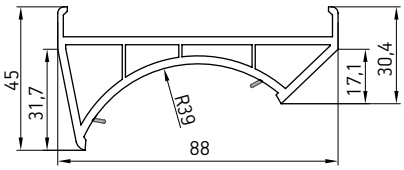


Additional profiles

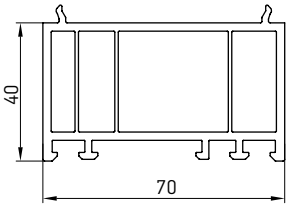
051 Pipe



052 Pipe adaptor



043 Frame extention



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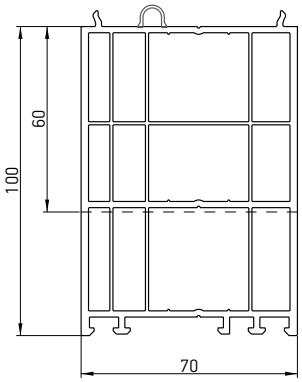
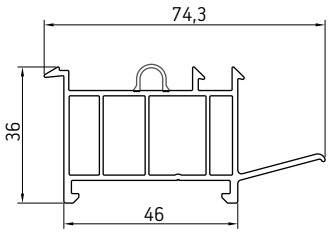
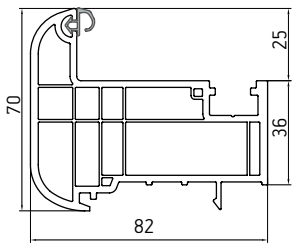


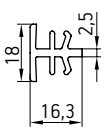
077 Fixed frame



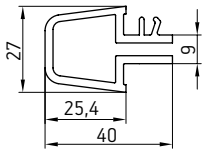
068 Stulp



024 Frame H-connector



035 I-connector



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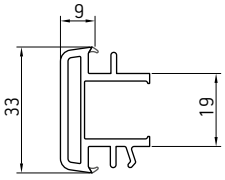
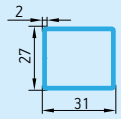
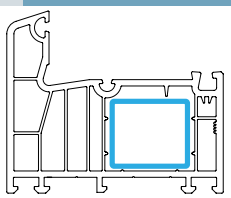


Reinforcement

R000019



046 6-chamber frame



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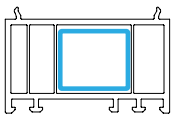

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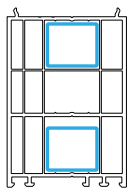

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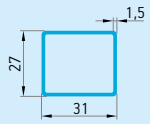

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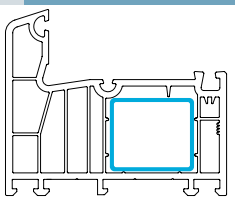

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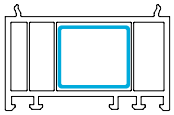

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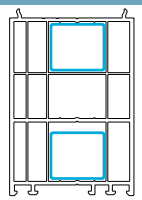

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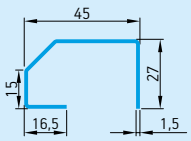

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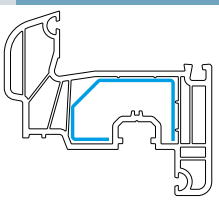

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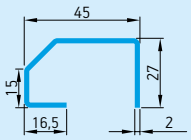

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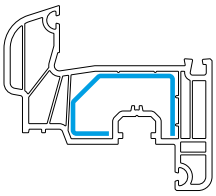

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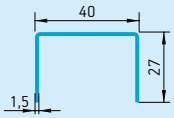
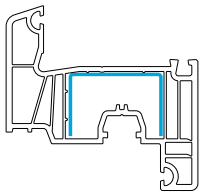


080 6-chamber sash classic



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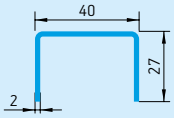
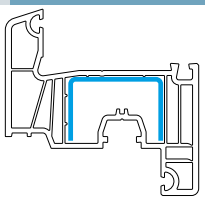


080 6-chamber sash classic



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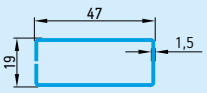
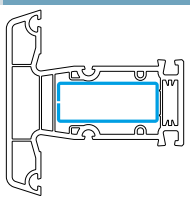


048 4-chamber mullion



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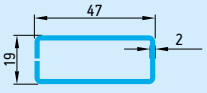

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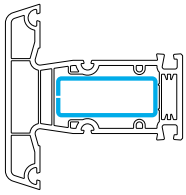

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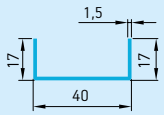

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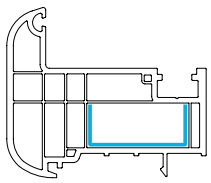

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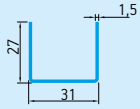

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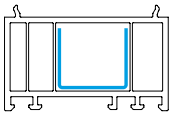

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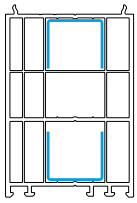

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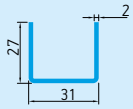

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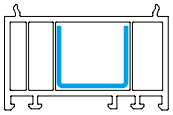

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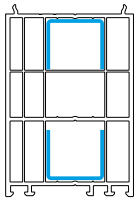

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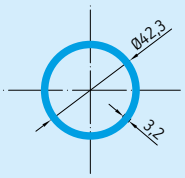
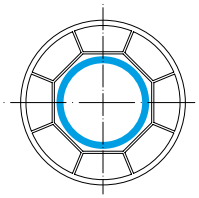


051 Pipe



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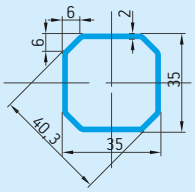

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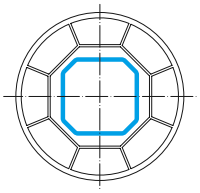

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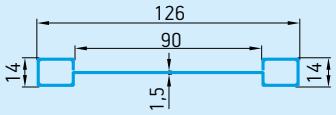

035 I-connector

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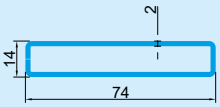

076 I-connector

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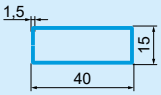
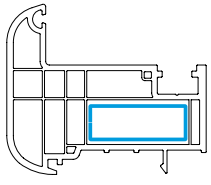


068 Stulp



1.2.2 Additional Components

Mechanical mullion connector	Folded insert	Transportation insert
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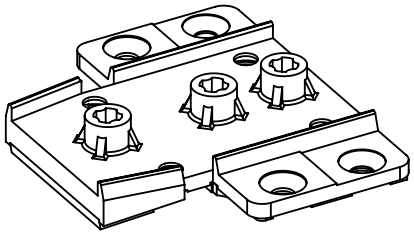
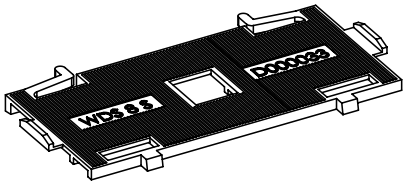




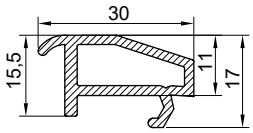
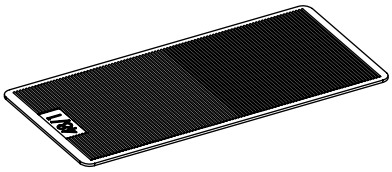
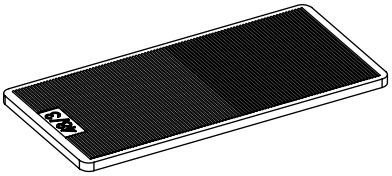
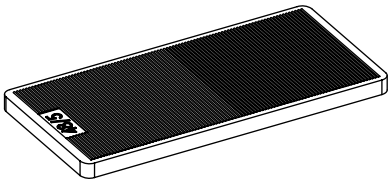


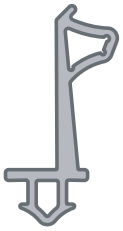
Plate insert 1 mm	Plate insert 3 mm	Plate insert 5 mm
D000035	D000036	D000037



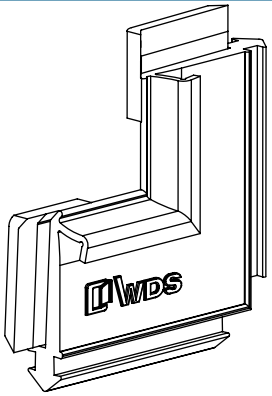




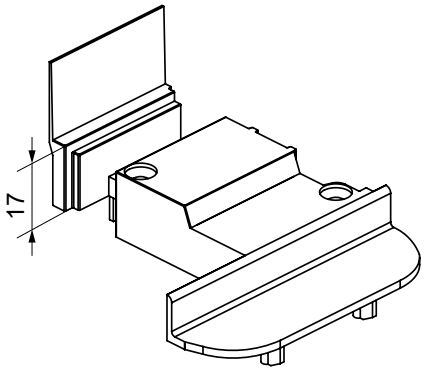
G401001	Middle gasket grey	G501001	Frame gasket grey	G601001	Sash gasket grey
G402001	Middle gasket black	G502001	Frame gasket black	G602001	Sash gasket black
G403001	Middle gasket beige	G503001	Frame gasket beige	G603001	Sash gasket beige



D000054	Middle gasket corner connector grey
D000055	Middle gasket corner connector beige
D000056	Middle gasket corner connector black

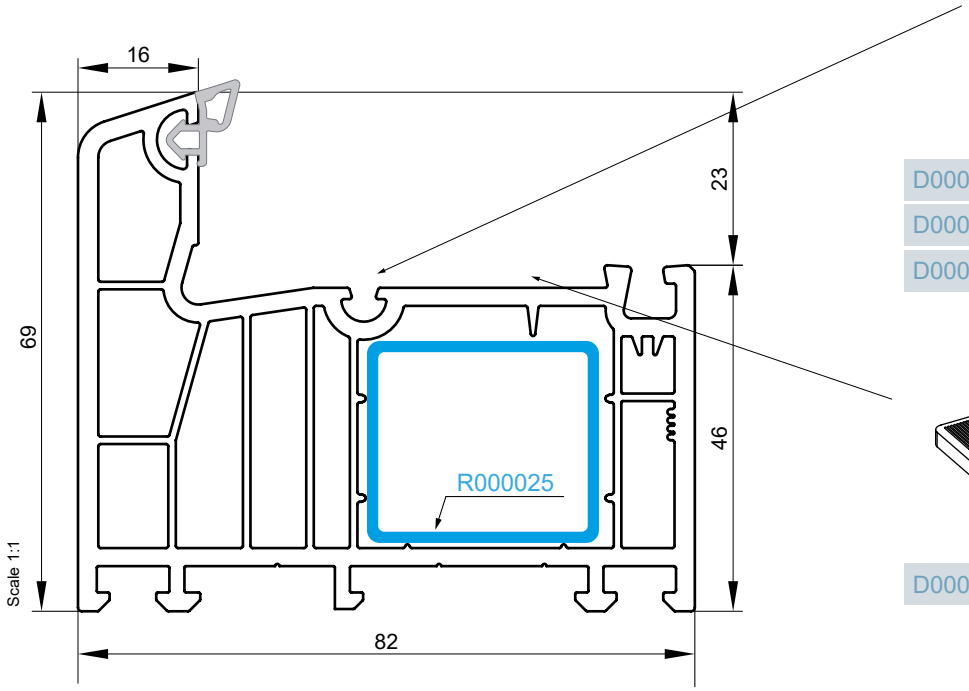


D000061	Overhung cover white
D000062	Overhung cover beige

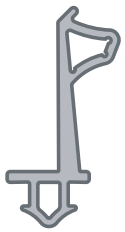


1.2.3 Profiles and Depending Components

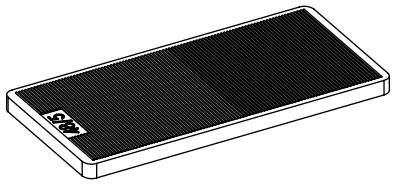
Frame Item no.046



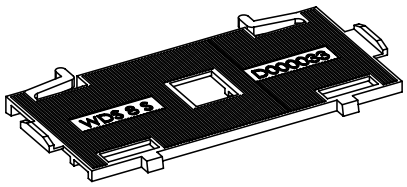
G401001	Middle gasket grey
G402001	Middle gasket black
G403001	Middle gasket beige



D000035	Plate insert 1 mm
D000036	Plate insert 3 mm
D000037	Plate insert 5 mm



D000033	Folded insert

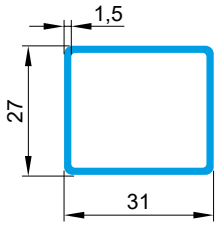


Frame	J_x = 346 964 (mm⁴) J_y = 846860 (mm⁴)

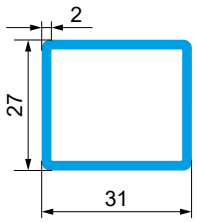
Structure color	Lamination options
White	both sided lamination outer lamination internal lamination
Beige	both sided lamination

*

R000025	J_x (1,5 mm) = 1,8 (cm⁴) J_y (1,5 mm) = 2,23 (cm⁴)

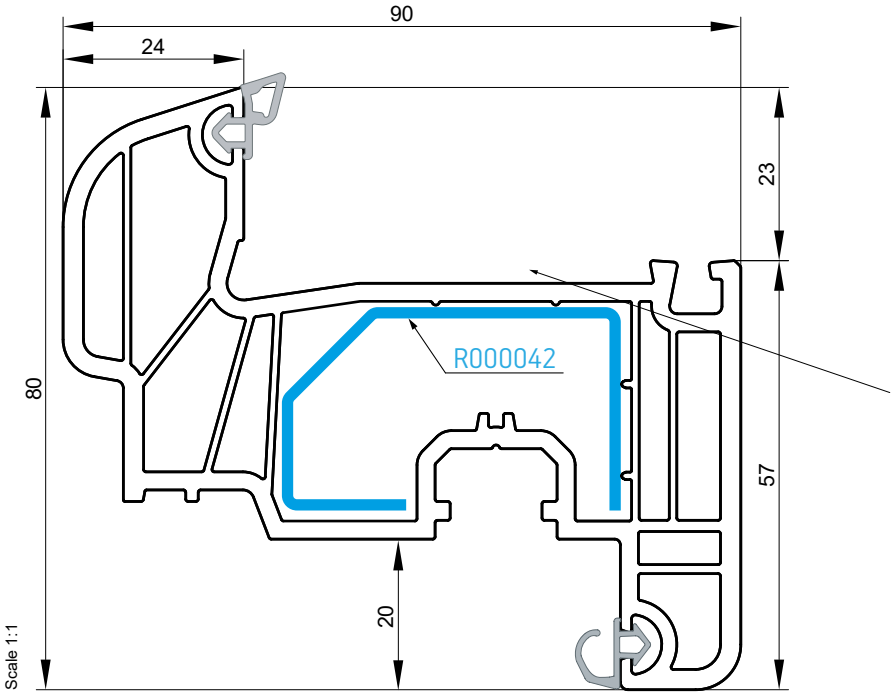


R000019	J_x (2 mm) = 2,26 (cm⁴) J_y (2 mm) = 2,81 (cm⁴)

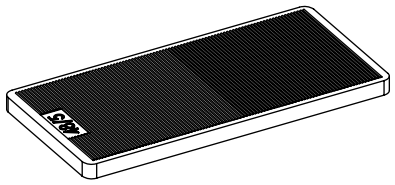


* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

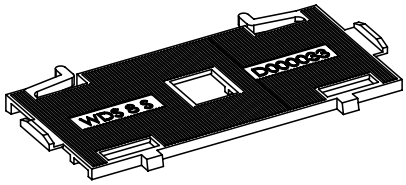
Sash Item no.047



D000035	Plate insert 1 mm
D000036	Plate insert 3 mm
D000037	Plate insert 5 mm



D000033	Folded insert

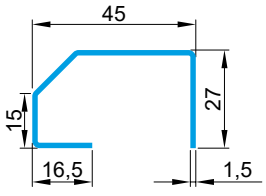


Sash	J_x = 396 247 (mm⁴) J_y = 1 032 679 (mm⁴)

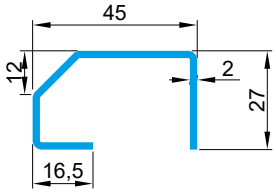
Structure color	Lamination options
White	both sided lamination outer lamination internal lamination
Beige	both sided lamination

*

R000042	J_x (1,5 mm) = 1,54 (cm⁴) J_y (1,5 mm) = 4,50 (cm⁴)

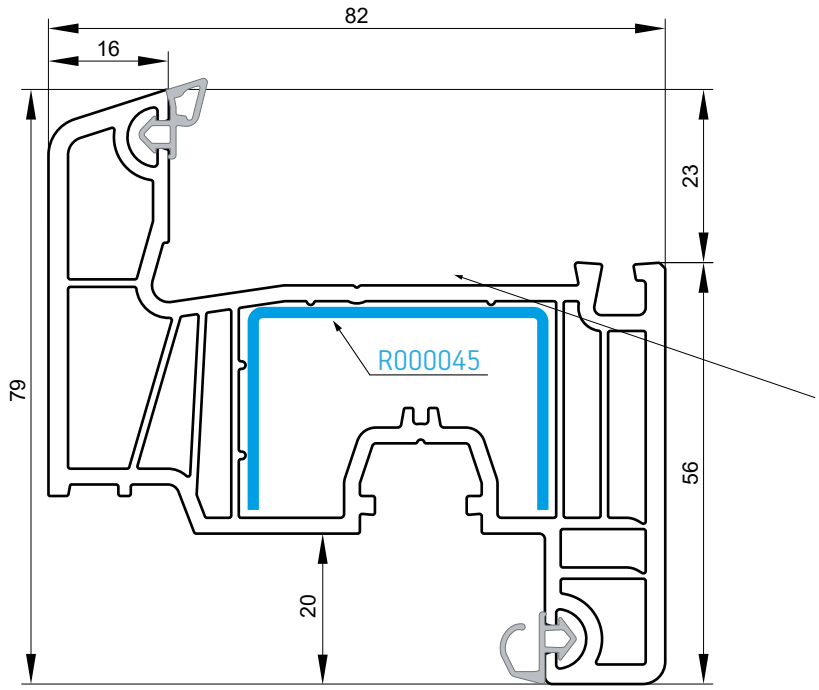


R000043	J_x (2 mm) = 1,95 (cm⁴) J_y (2 mm) = 5,76 (cm⁴)



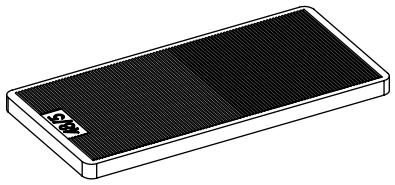
* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

Sash Item no.080

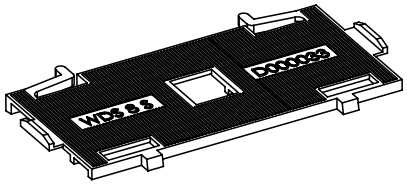


Scale 1:1

D000035	Plate insert 1 mm
D000036	Plate insert 3 mm
D000037	Plate insert 5 mm



D000033	Folded insert

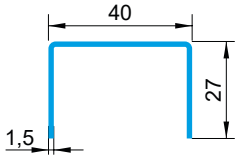


Sash	J_x = 396 247 (mm⁴) J_y = 1 032 679 (mm⁴)

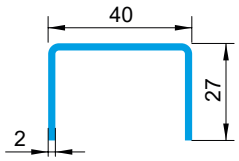
Structure color	Lamination options
White	both sided lamination outer lamination internal lamination
Beige	both sided lamination

*

R000045	J_x (1,5 mm) = (cm⁴) J_y (1,5 mm) = (cm⁴)



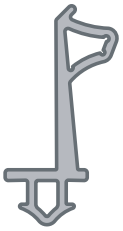
R000046	

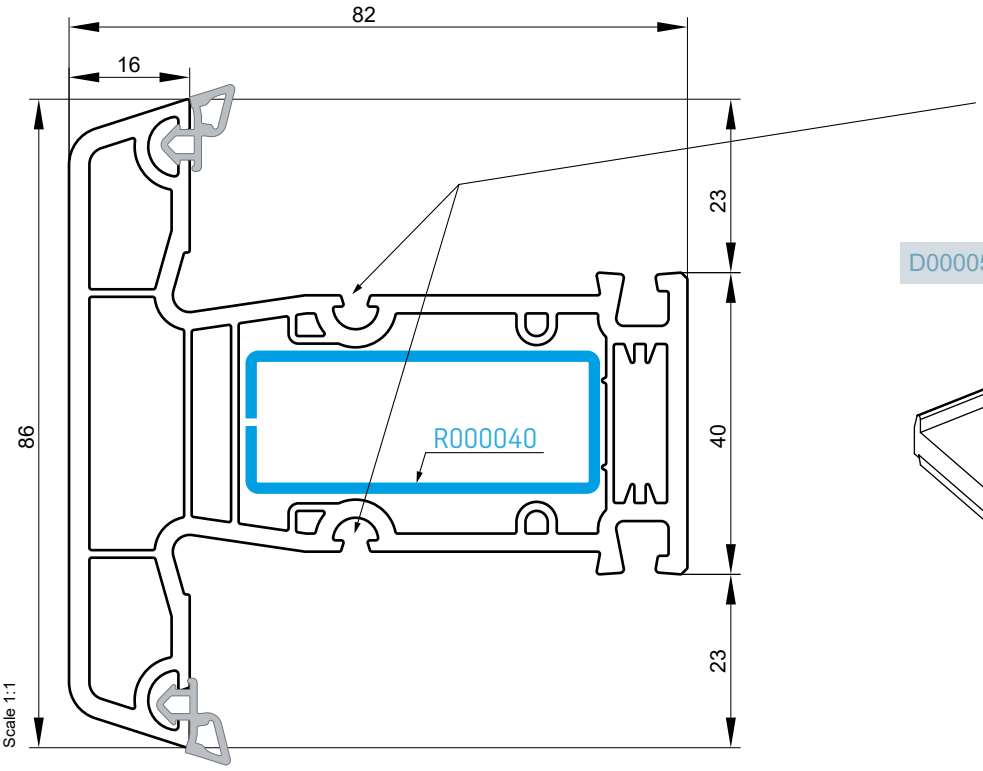


* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

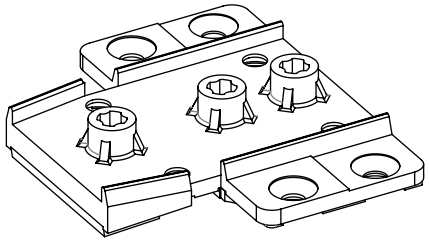
Mullion Item no.048

G401001	Middle gasket grey
G402001	Middle gasket black
G403001	Middle gasket beige





D000052	Mechanical mullion connector

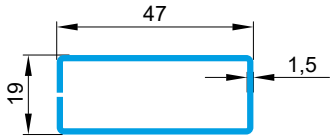


Mullion	J_x = 426 179 (mm⁴) J_y = 866 646 (mm⁴)

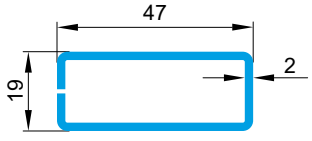
Structure color	Lamination options
White	both sided lamination outer lamination internal lamination
Beige	both sided lamination

*

R000040	J_x (1,5 mm) = 1,54 (cm⁴) J_y (1,5 mm) = 4,50 (cm⁴)

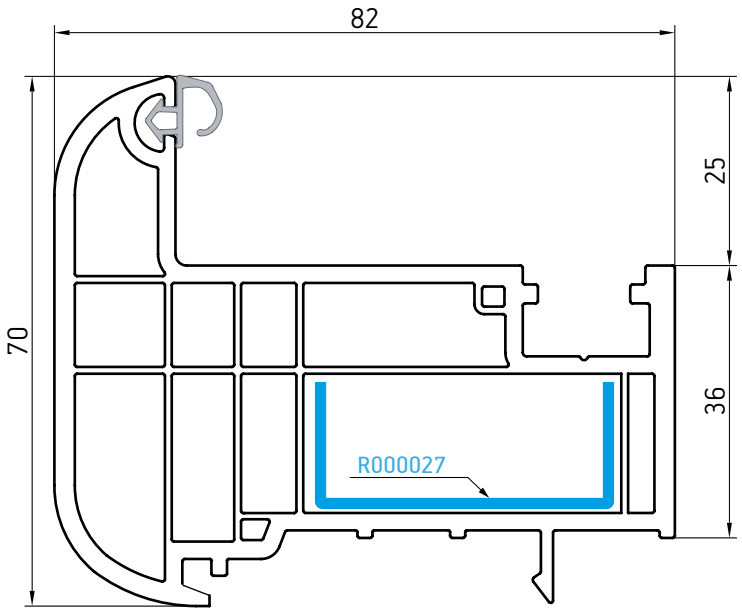


R000041	J_x (2 mm) = 1,95 (cm⁴) J_y (2 mm) = 5,76 (cm⁴)

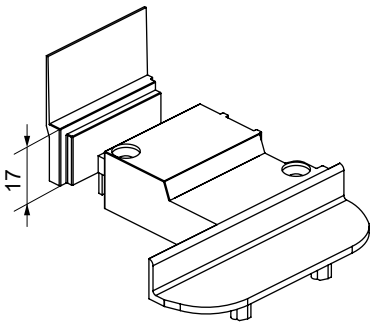


* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

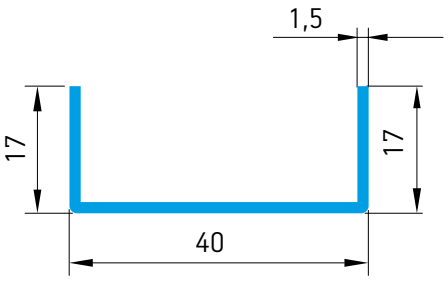
Stulp Item no.068



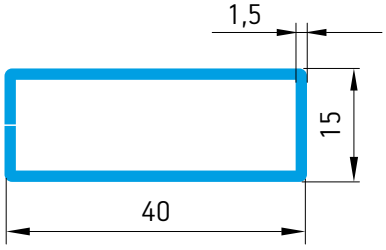
D000061	Overhung cover white
D000062	Overhung cover beige



R000027	J_x (1,5 mm) = 2,46 (cm⁴) J_y (1,5 mm) = 0,28 (cm⁴)



R000044	J_x (1,5 mm) = (cm⁴) J_y (1,5 mm) = (cm⁴)

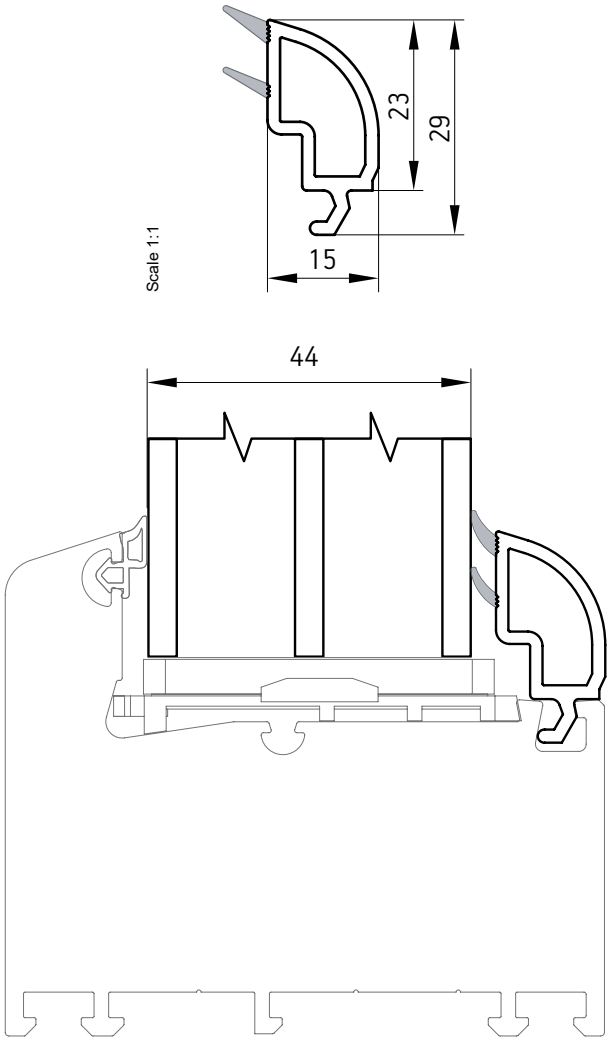


Structure color	Lamination options
White	both sided lamination outer lamination internal lamination
Beige	both sided lamination

*

* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

Glazing bead (for 44 mm insulated glass unit) Item no.049

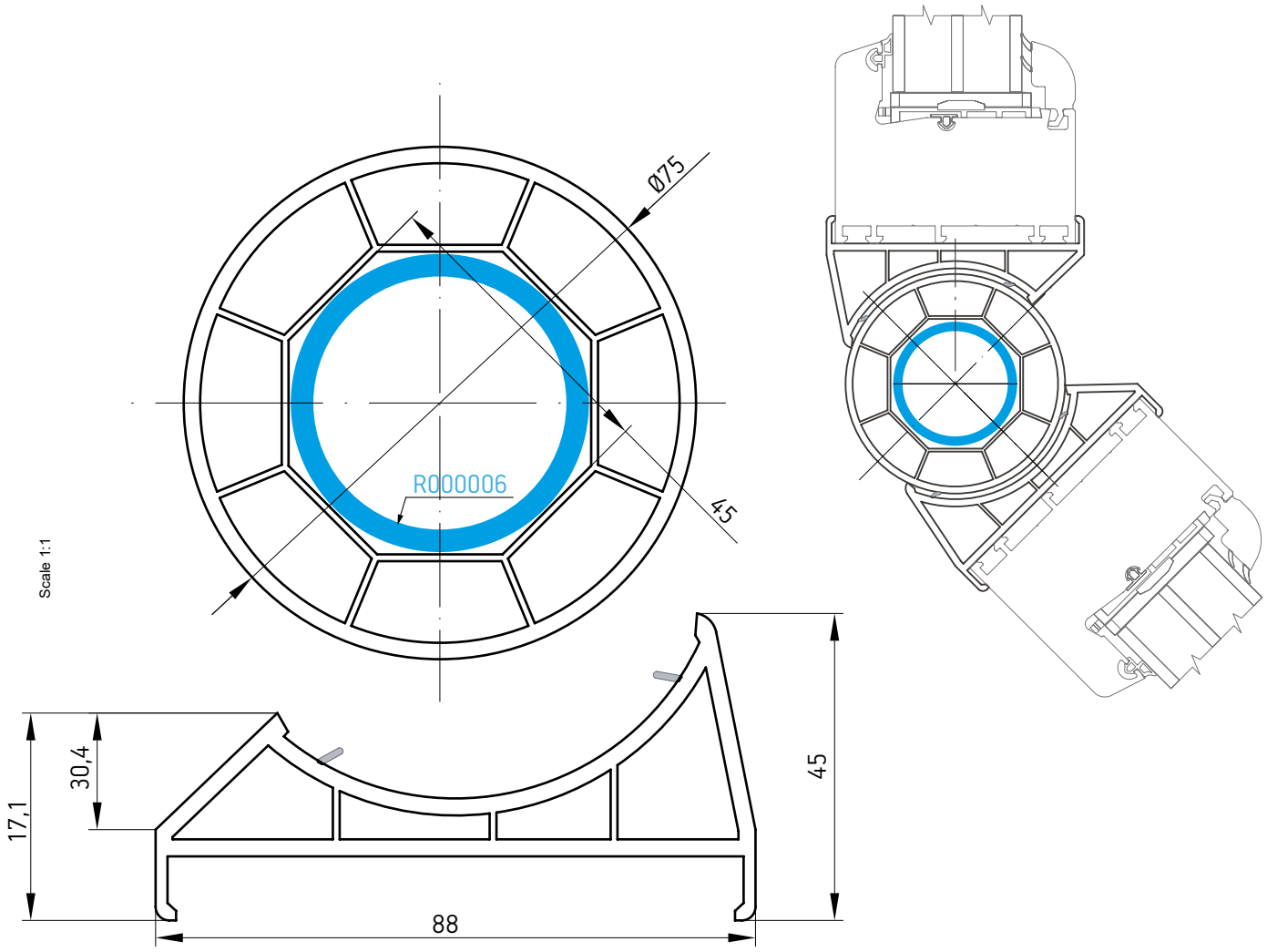


Structure color	Lamination options
White	outer lamination
Beige	outer lamination

*

* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

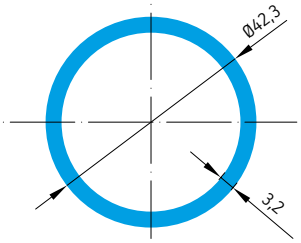
Pipe and pipe adaptor Item no.051, 052



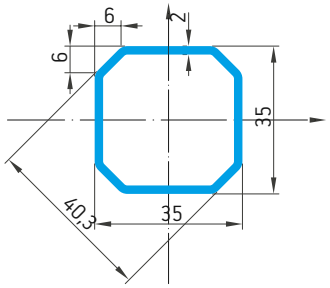
Structure color	Lamination options	
Profile types	Pipe	Pipe adaptor
White	both sided lamination outer lamination	both sided lamination outer lamination internal lamination

*

R000006 J_x (3,2 mm) = 7,56 (cm⁴)
J_y (3,2 mm) = 7,56 (cm⁴)

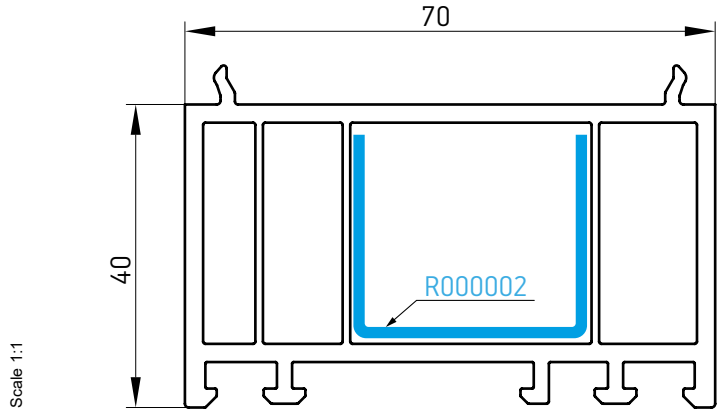


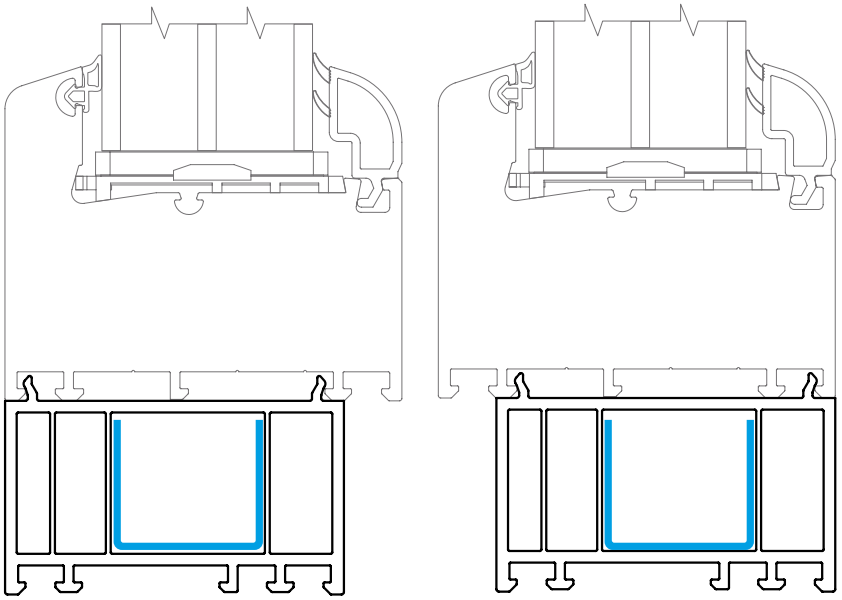
R000047 J_x (2 mm) = 3,84 (cm⁴)
J_y (2 mm) = 3,85 (cm⁴)



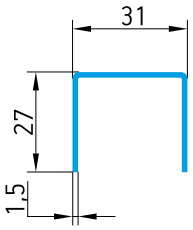
* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

Frame extention Item no.043

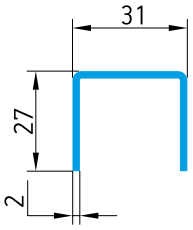




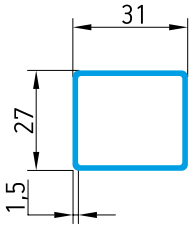
R000002 — J_x (1,5 mm) = 0,93 (cm⁴), J_y (1,5 mm) = 2,00 (cm⁴)



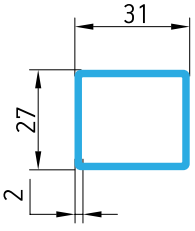
R000030 — J_x (2 mm) = 1,2 (cm⁴), J_y (2 mm) = 2,54 (cm⁴)



R000025 — J_x (1,5 mm) = 1,8 (cm⁴), J_y (1,5 mm) = 2,23 (cm⁴)



R000019 — J_x (2 mm) = 2,26 (cm⁴), J_y (2 mm) = 2,81 (cm⁴)



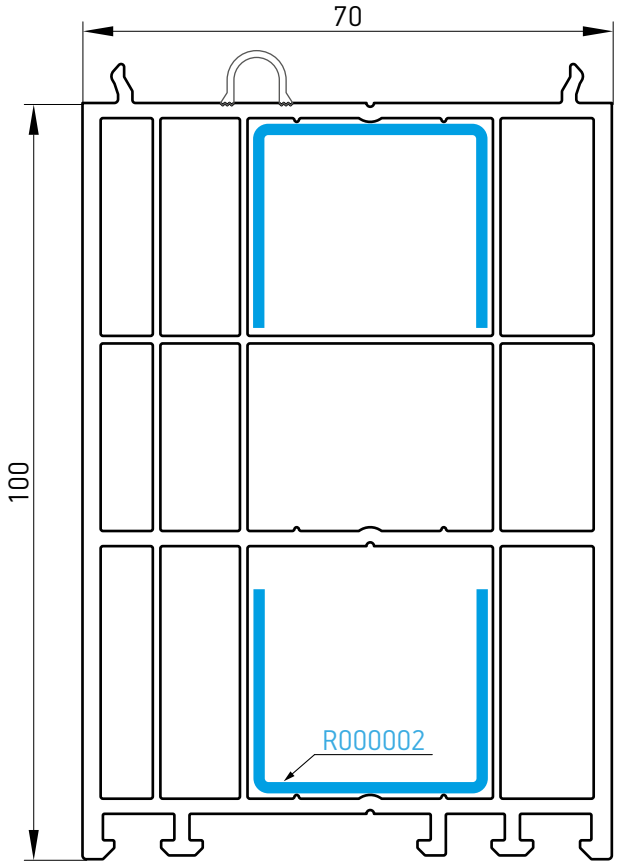
Structure color	Lamination options
White	both sided lamination outer lamination

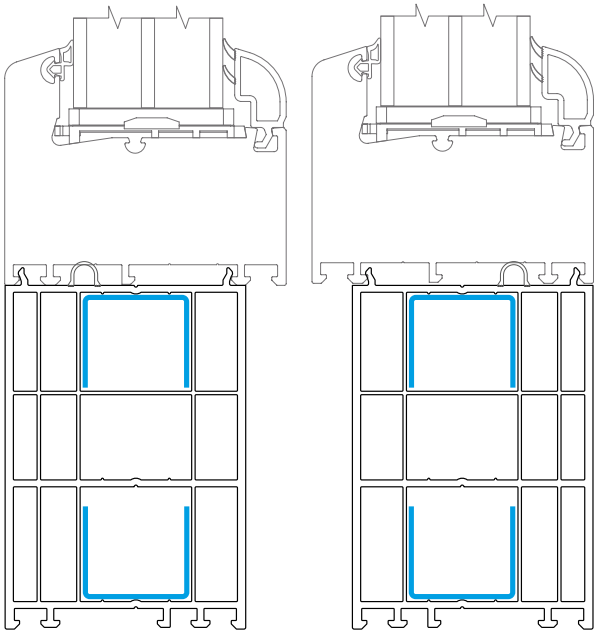
*

* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

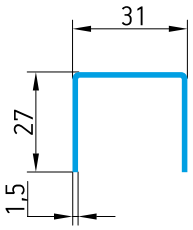
Frame extention Item no.070

Scale 1:1

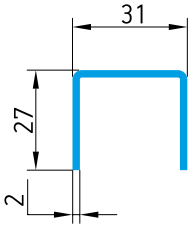




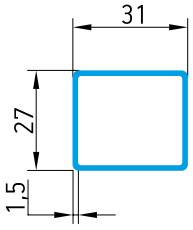
R000002 — J_x (1,5 mm) = 0,93 (cm⁴), J_y (1,5 mm) = 2,00 (cm⁴)



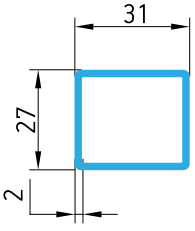
R000030 — J_x (2 mm) = 1,2 (cm⁴), J_y (2 mm) = 2,54 (cm⁴)



R000025 — J_x (1,5 mm) = 1,8 (cm⁴), J_y (1,5 mm) = 2,23 (cm⁴)



R000019 — J_x (2 mm) = 2,26 (cm⁴), J_y (2 mm) = 2,81 (cm⁴)

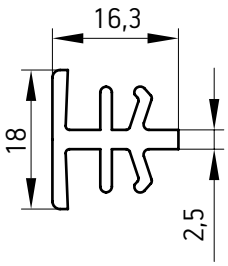


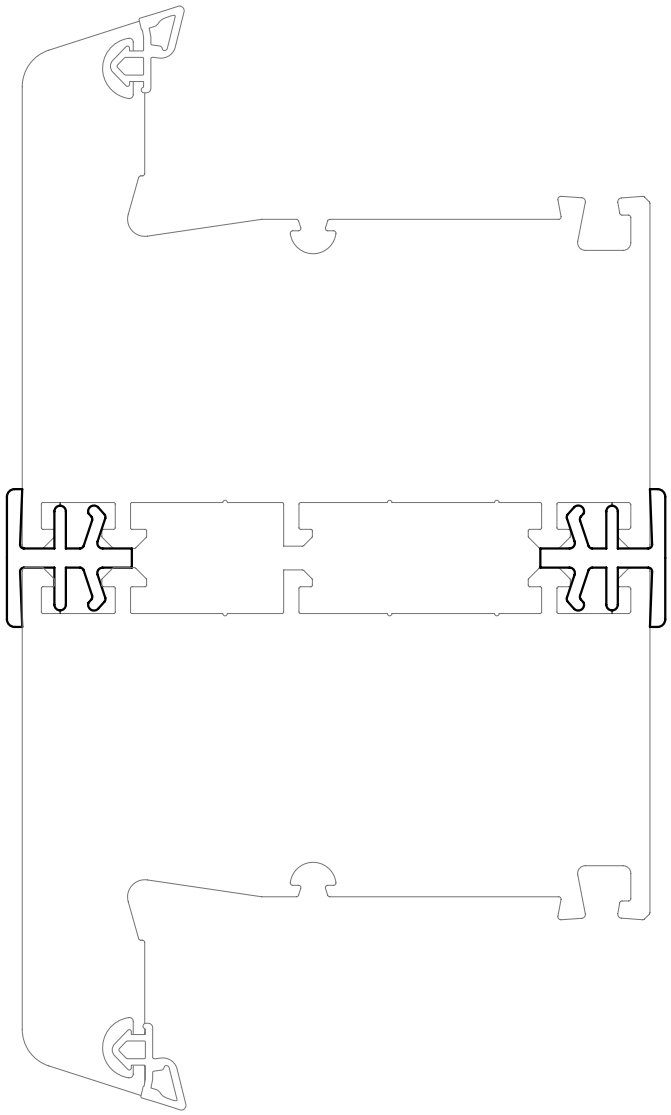
Structure color	Lamination options
White	both sided lamination outer lamination

*

* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

H-connector Item no.024



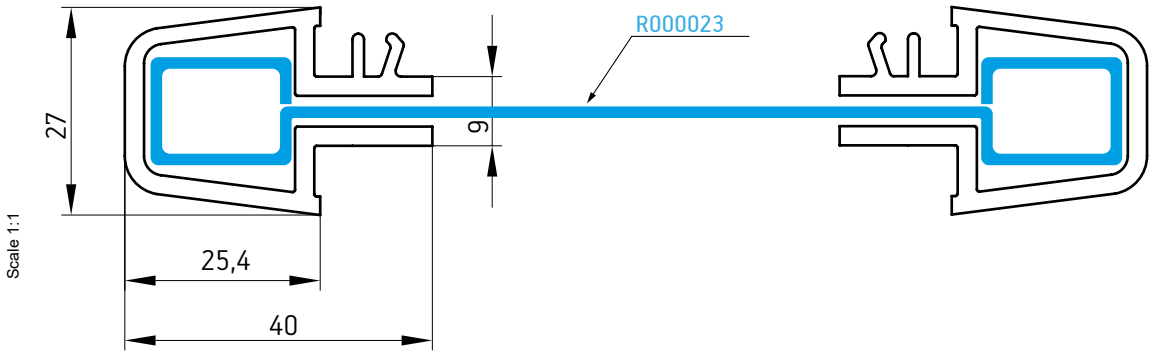


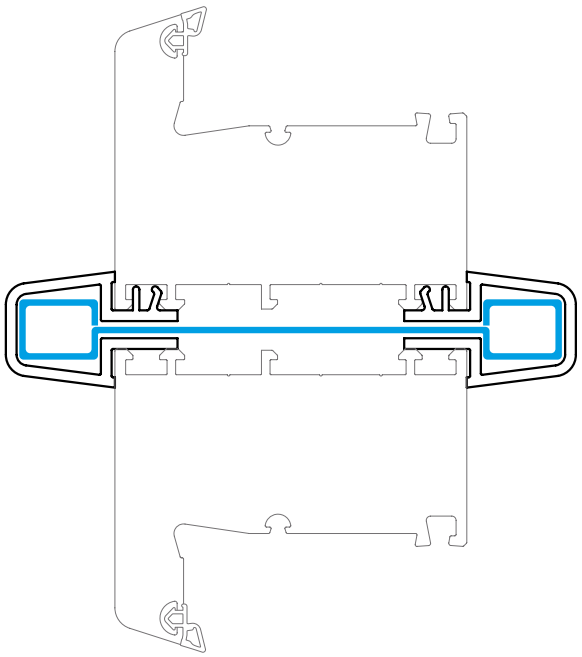
Structure color	Lamination options
White	outer lamination

*

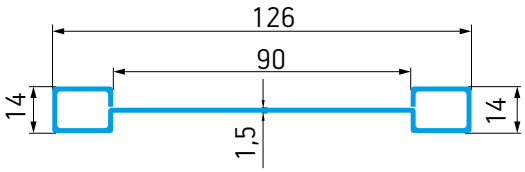
* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

I-connector Item no.035





R000023	Jx (1,5mm) = 60,43 (cm⁴) Jy (1,5mm) = 0,49 (cm⁴)

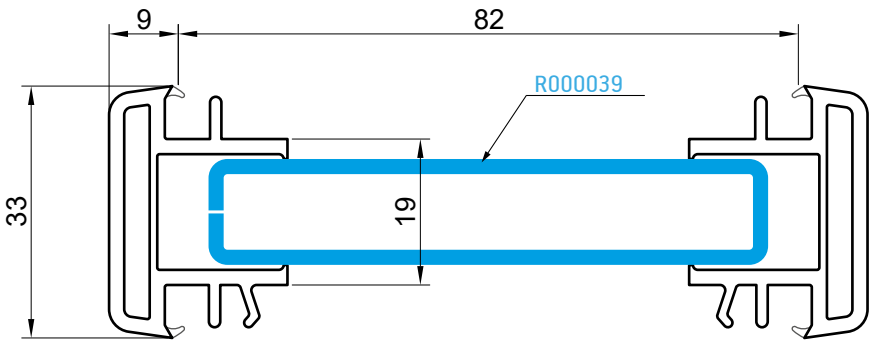


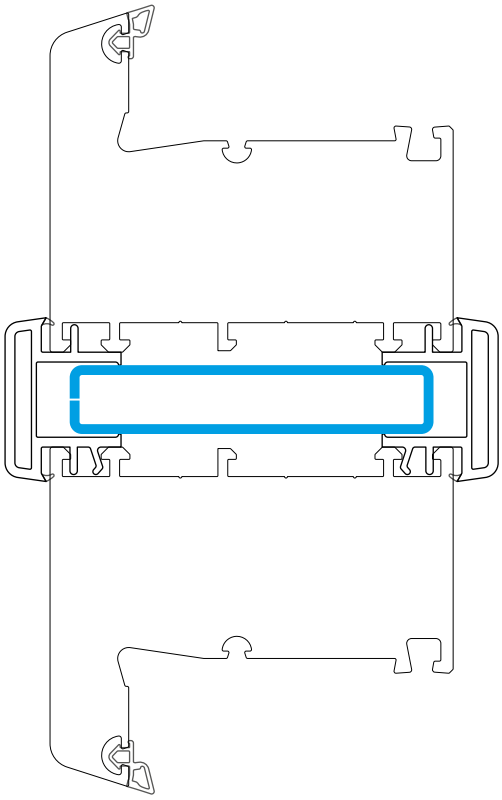
Structure color	Lamination options
White	outer lamination

*

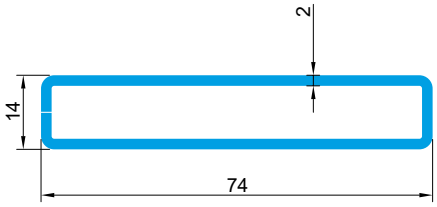
* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

I-connector Item no.076





R000039	Jx (2mm) = 1,08 (cm⁴) Jy (2mm) = 17,95 (cm⁴)

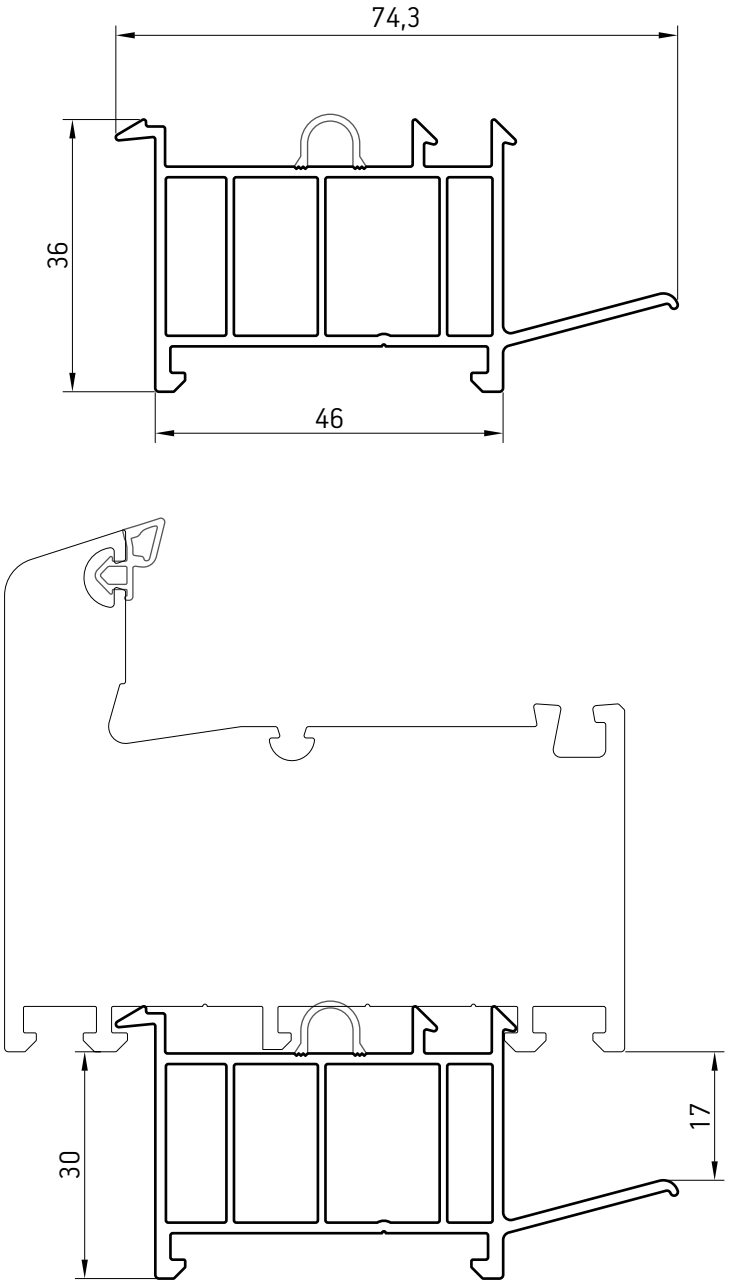


Structure color	Lamination options
White	outer lamination

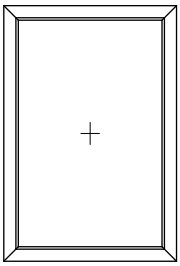
*

* More information on the coding of white and laminated profiles can be found in volume 4 (page 4.3)
Changes are possible in case of special orders

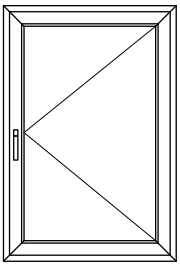
Fixed frame Item no.077



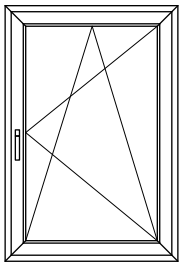
1.3 Product Types Made of WDS 8 SERIES Profile System



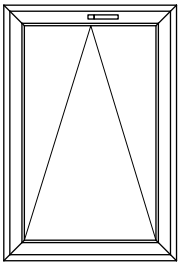
Fixed window
in the frame



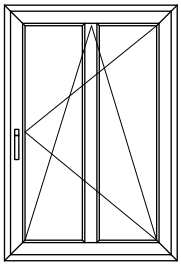
Turn window



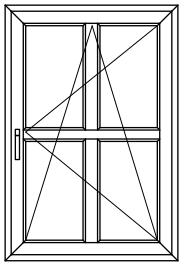
Tilt and turn window



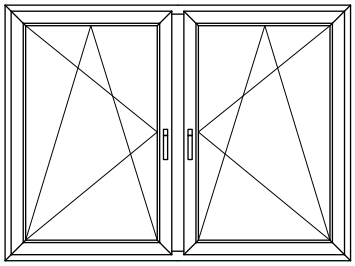
Bottom hung window



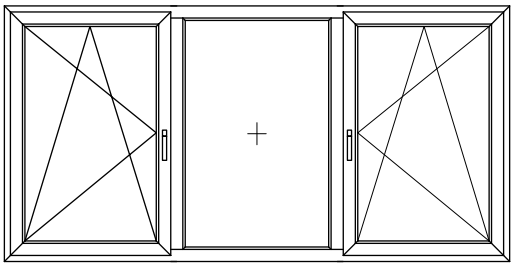
Tilt and turn window
with mullion



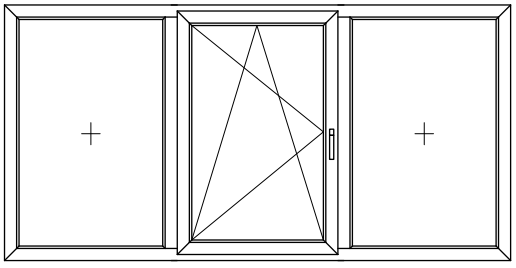
Tilt and turn window
with mullion



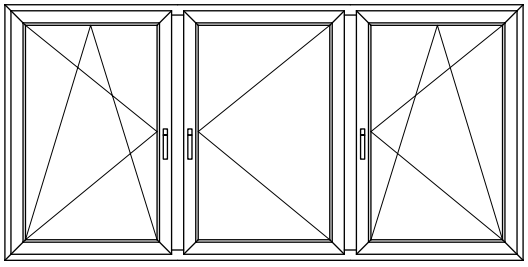
Double-sashed window
Tilt and Turn - Tilt and Turn



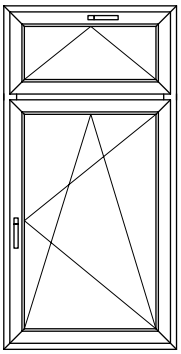
Three-part window Tilt and Turn - fixed element
in the frame - Tilt and Turn



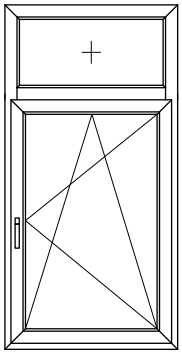
Three-part window
fixed element - Tilt and Turn - fixed element



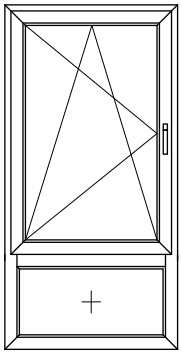
Three-part window Tilt and Turn - Turn - Tilt and Turn



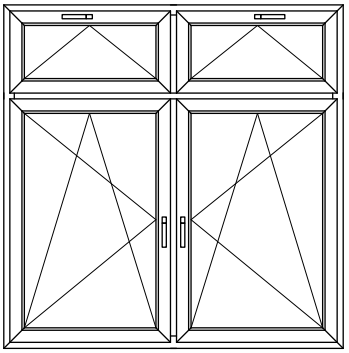
Tilt and Turn window with transom light



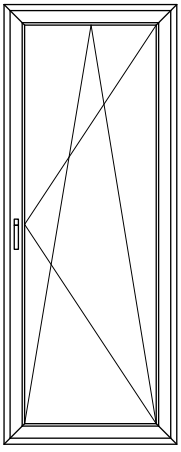
Tilt and Turn window with fixed transom light



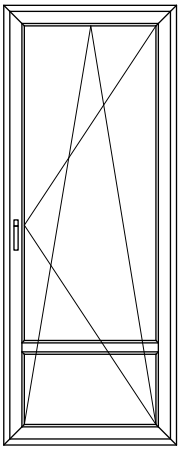
Tilt and Turn window with fixed element



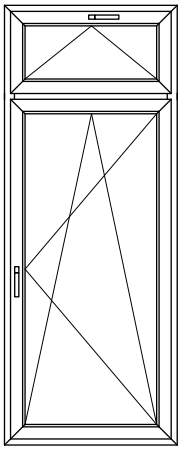
Double-sashed window Tilt and Turn – Tilt and Turn with tilt transom light



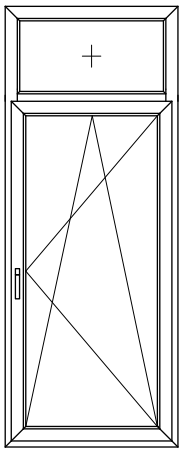
Balcony door



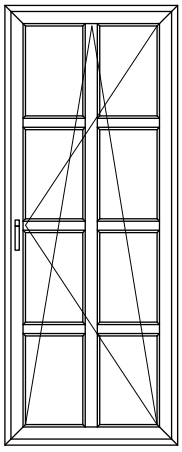
Balcony door with mullion



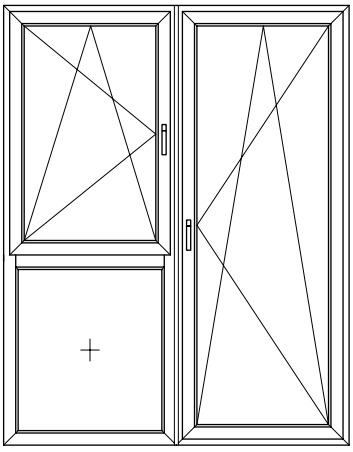
Balcony door with tilt transom light



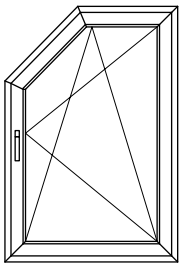
Balcony door with fixed transom light



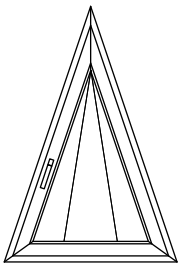
Balcony door with mullion



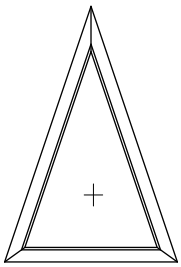
Balcony door with Tilt and Turn window and fixed element



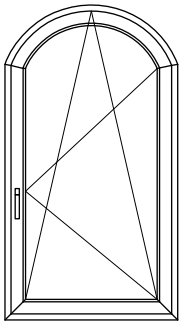
Tilt and turn window with oblique



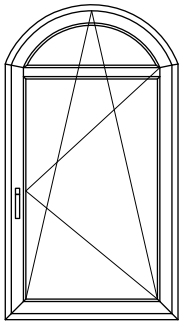
Bottom hung triangular window



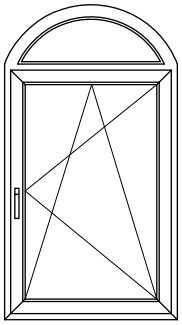
Fixed triangular window



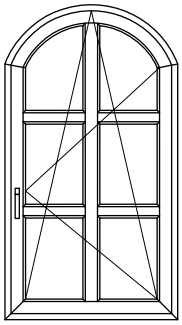
Tilt and Turn window with camber arch



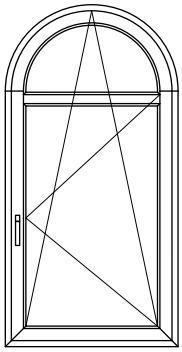
Window with camber arch and til and turn elements



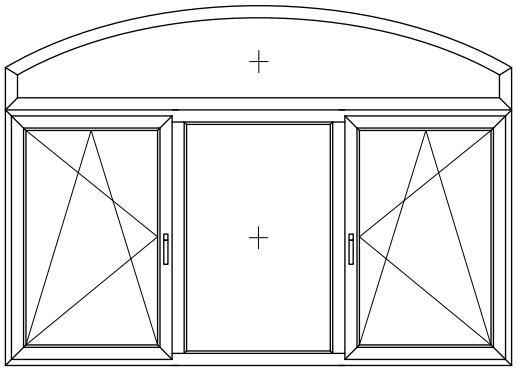
Fixed porthole Porthole in the frame with fixed and bottom hung elements



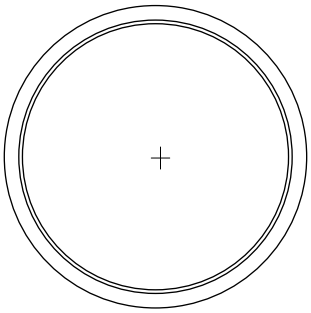
Tilt and Turn window with camber arch and mullion



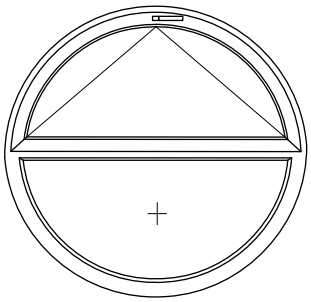
Tilt and Turn window with camber arch, mullion, and transom light



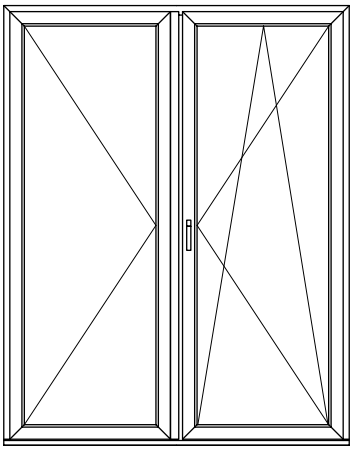
Tilt and turn window with camber arch and mullions



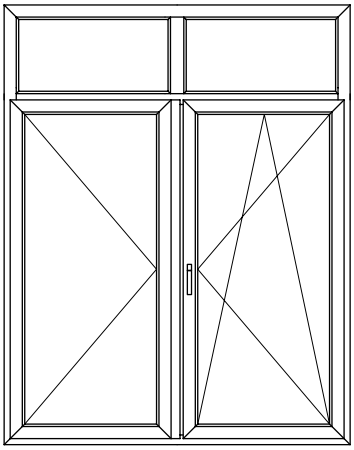
Fixed arch window



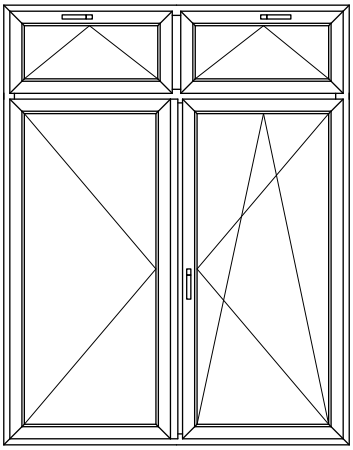
Tilt and Turn window with semicircular arch



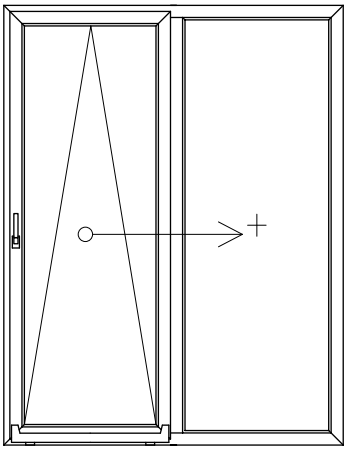
Double-sashed stulp door
Turn – Tilt and Turn



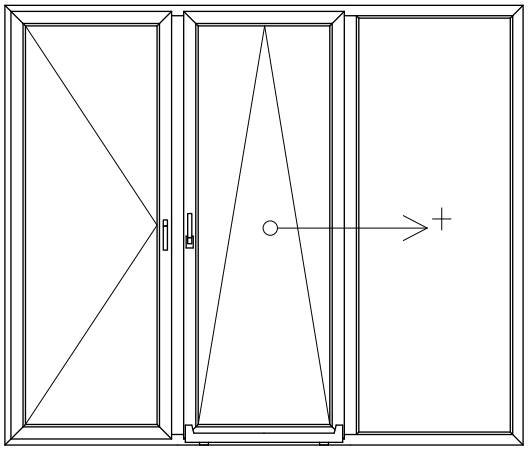
Double-sashed stulp door Turn – Tilt
and Turn with fixed transom light



Double-sashed stulp door Turn – Tilt
and Turn with tilt transom light



One-sash tilt-moving door
with fixed element



One-sash parallel-moving
door with fixed element

WDS 8 SERIES

Profile System Gasket

2

VOLUME

2. WDS 8 SERIES PROFILE SYSTEM GASKET

2.1 General Information about the Gasket

For manufacturing of windows and other structures of WDS 8 SERIES Profile System, we use gaskets with a special composition, which refers to TPE-V class.

TPE-V is thermoplastic elastomer, which consists of ethylene-propylene monomers mixture, diene monomer enriched and marked with D symbol (EPDM), and polyolefin thermoplastic polypropylene (PP). Fully cured EPDM particles homogeneously incorporate into polypropylene (PP) phase, which provides these materials with unique flexibility combined with advantages of thermoplastics manufacturing.

An important advantage of PP/EPDM based TPE-V gaskets is their resistance to the ozone impact and weather conditions. If properly used, service life of such gaskets is comparable to the service life of the entire window.

Frost resistance is important feature for PP/EPDM gaskets used in plastic windows on Ukrainian market. PP/EPDM operating temperature range extends from -30°C to +100°C.

PP/EPDM does not absorb the water and is soft and pliable material, due to its physical and mechanical properties, it is perfectly suitable for extrusion of gasketing profiles, particularly for window gaskets.

PP/EPDM based TPE-V gaskets are well welded on standard machines with welding mirrors at 230-250°C. Thermoplastic features during welding provide high weld strength. This ensures a reliable gasket at the corners of window structures. During the tests performed on off-the-shelf windows, the windows proved to be compliant with all regulatory requirements for heat and noise protection, and air permeability.

WDS 8 SERIES Profile System uses 4 types of gaskets:

– ***Frame gasket*** – two-component TPV PP/EPDM;

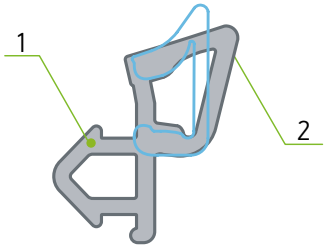
– ***Sash gasket*** – two-component TPV PP/EPDM;

– ***Glazing bead gasket*** – co-extruded soft PVC;

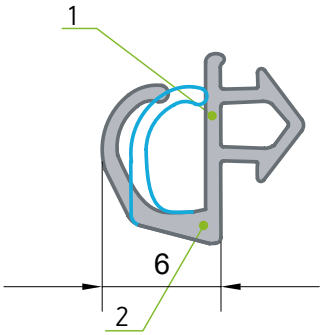
– ***Middle gasket*** – two-component TPV PP/EPDM;

Two-component TPE-V gasket consists of two parts: soft thermoplastic elastomer No.1 and hard thermoplastic elastomer No.2.

Frame gasket



Sash gasket

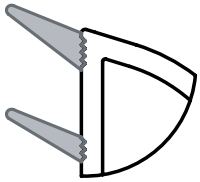


Interior, spacer No.1: a semihard thermoplastic elastomer, easy in processing, ensures reliable fixing in the profile, eliminates the possibility of longitudinal movement in the profile during recycling.

External, soft part No.2: soft thermoplastic elastomer, provides rubber properties to the material: elasticity, softness, flexibility, low residual deformation.

This part of the seal is functional and provides structure sealing due to its unique softness and constructive design of the seal.

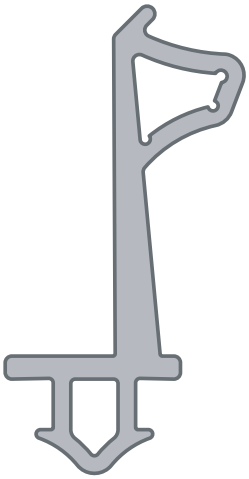
Glazing bead gasket



Coextruded seal in glazing beads – is a mixture based on plasticized dioctyl phthalate (DOP) PVC and nitrile rubber that makes seals flexible and enables to use them in temperature range from -30°C to +100°C. This technology allows improving the sealing of IGU joints and PVC profile joints as well as fixing insulated glass units in the frame.

This technology fully eliminates the seal shrinkage on glazing bead while cutting it during assembly and operation of windows.

Middle gasket



Middle gasket is:

- Thermal protection
- Sound insulation
- Tightness
- Reliability in wind loads
- Protection of fittings
- High quality TPV material

WDS 8 SERIES

Profile System reprocessing

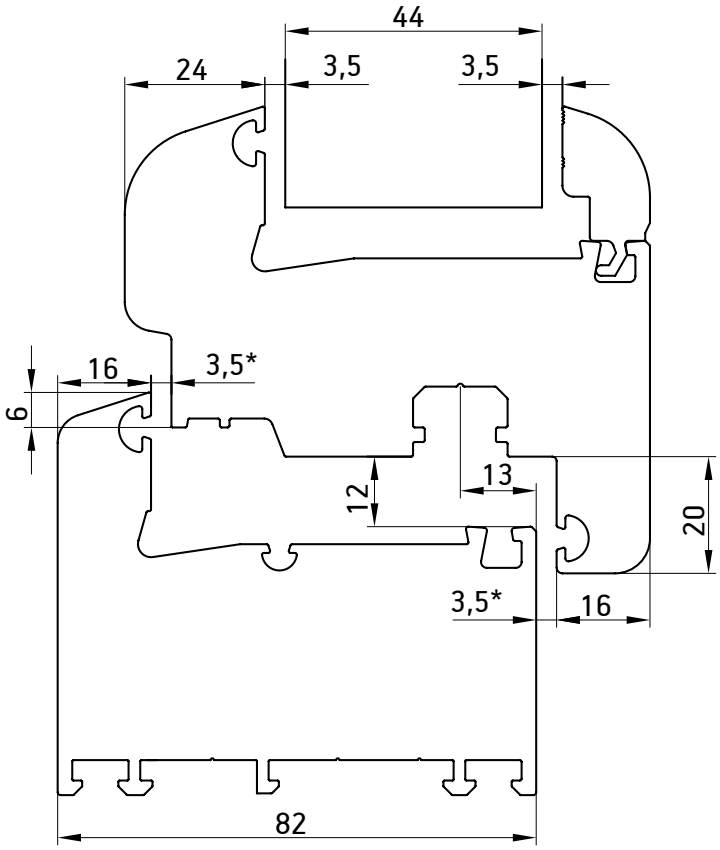
3

VOLUME

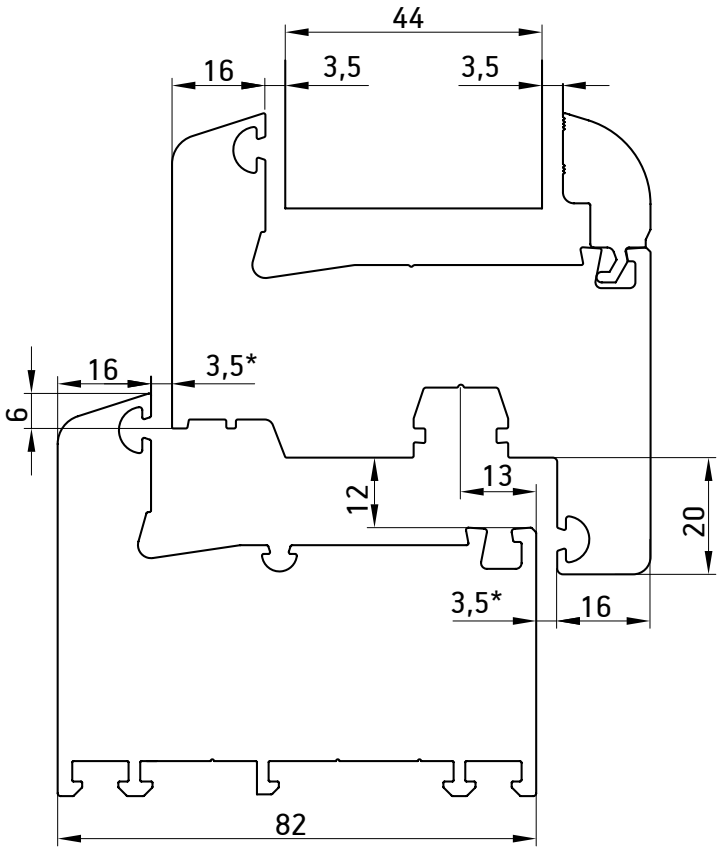
3. WDS 8 SERIES PROFILE SYSTEM REPROCESSING

3.1 Profile connection

Frame 046 and Sash 047 connection



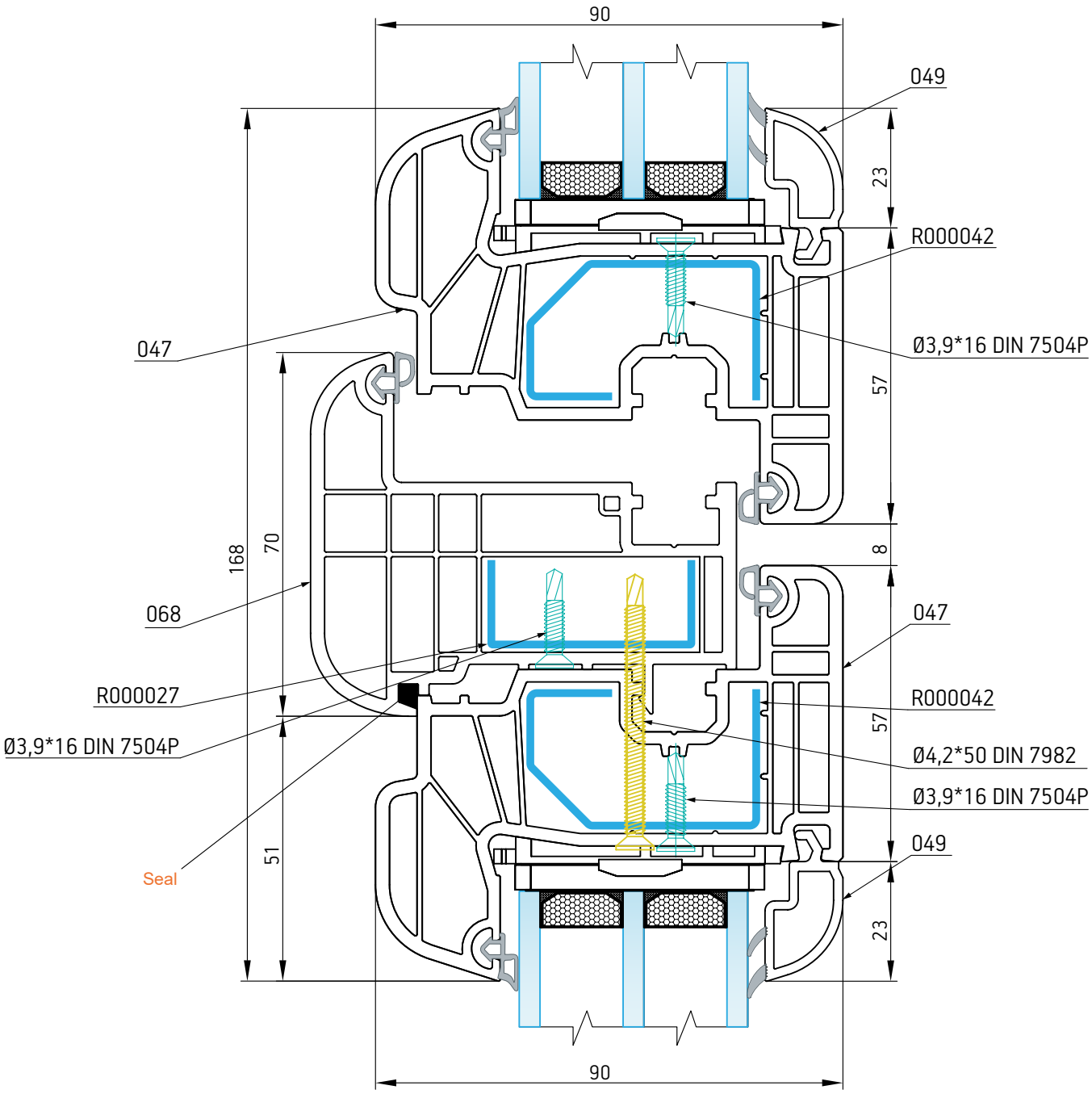
Frame 046 and Sash 080 connection

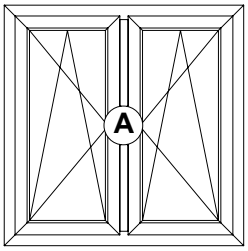


* This size of the ledge at the time of window manufacturing can be greater than 3.5 mm + 1 mm (it normalizes in 2-3 weeks of product use).

3.2 Window structures sections

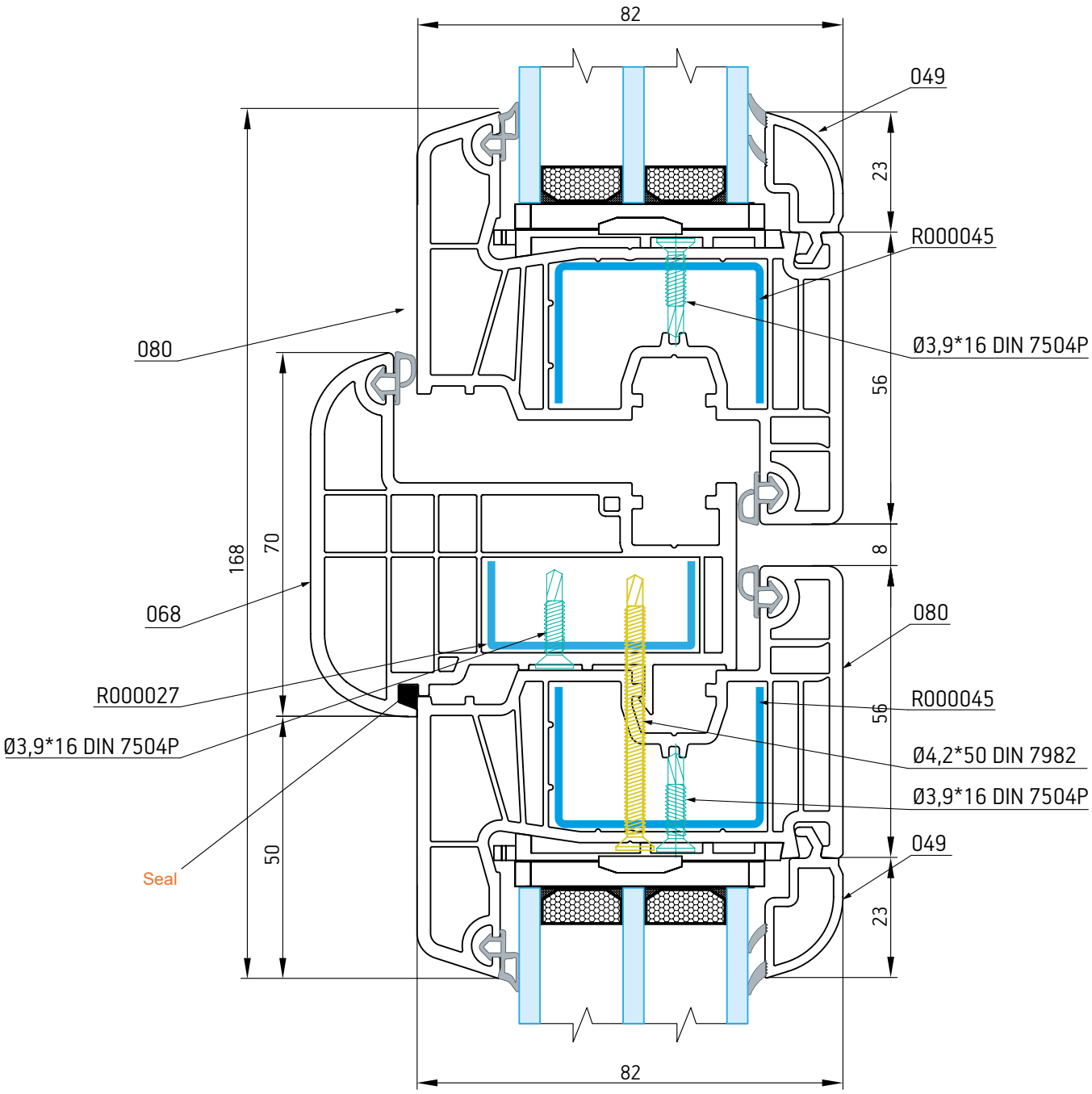
Sash - Stulp - Sash // 047-068-047

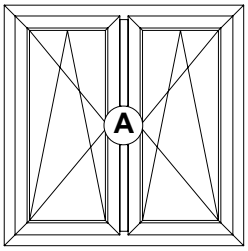




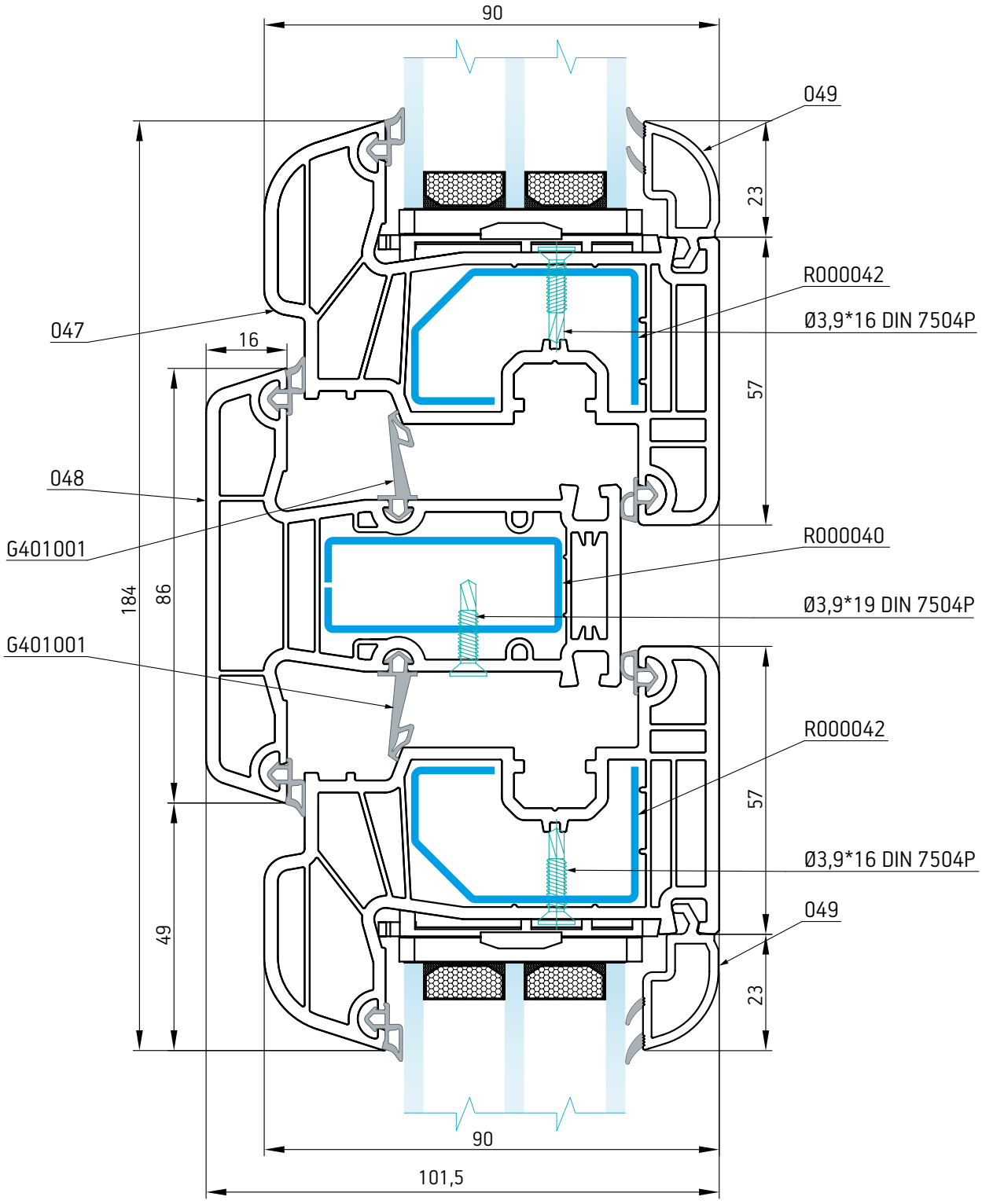
3.2 Window structures sections

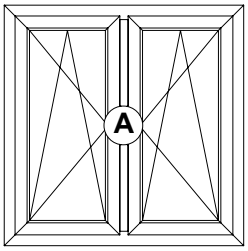
Sash - Stulp - Sash // 080-068-080



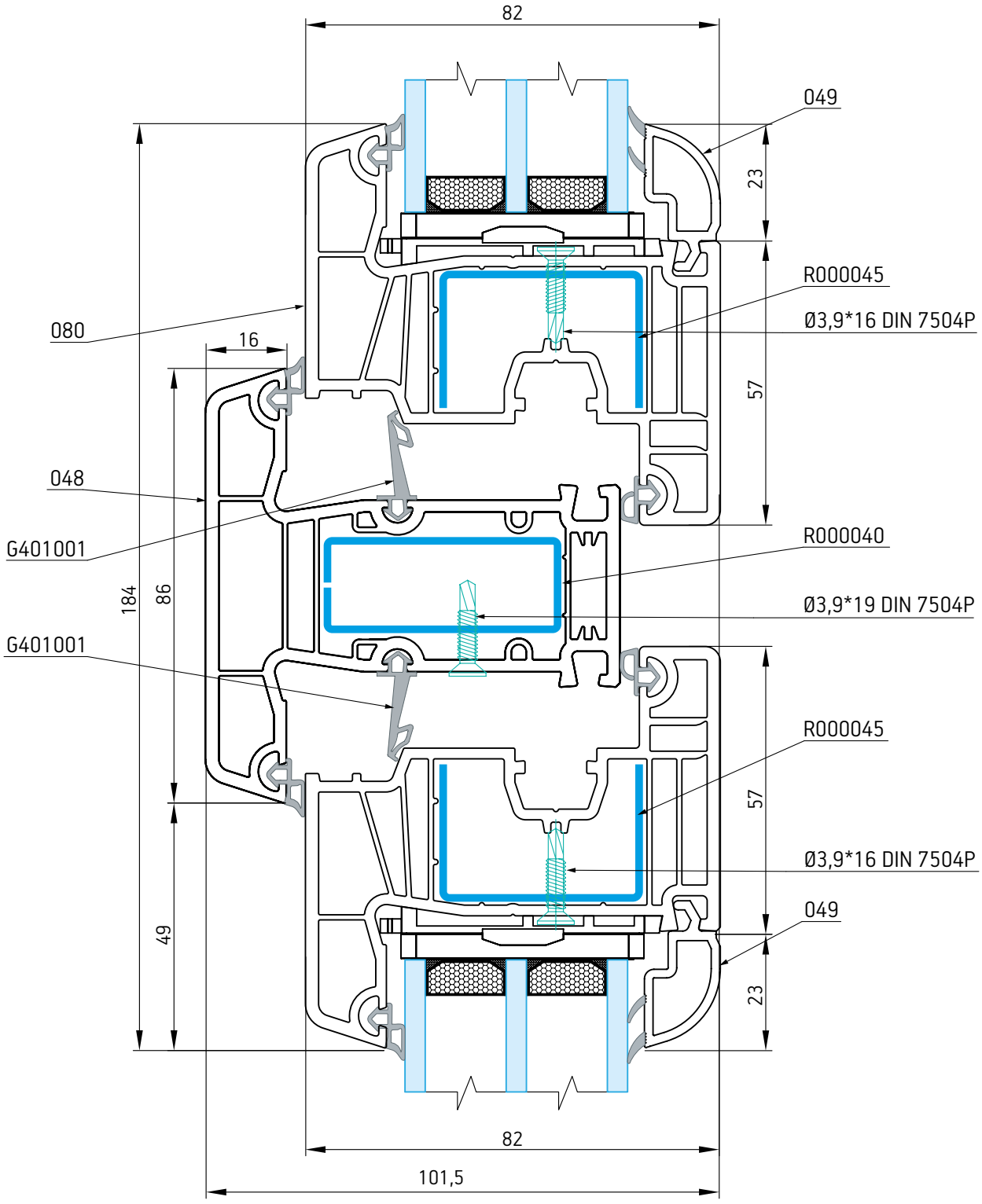


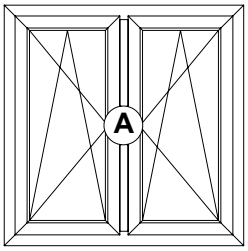
Sash - Mullion - Sash // 047-048-047



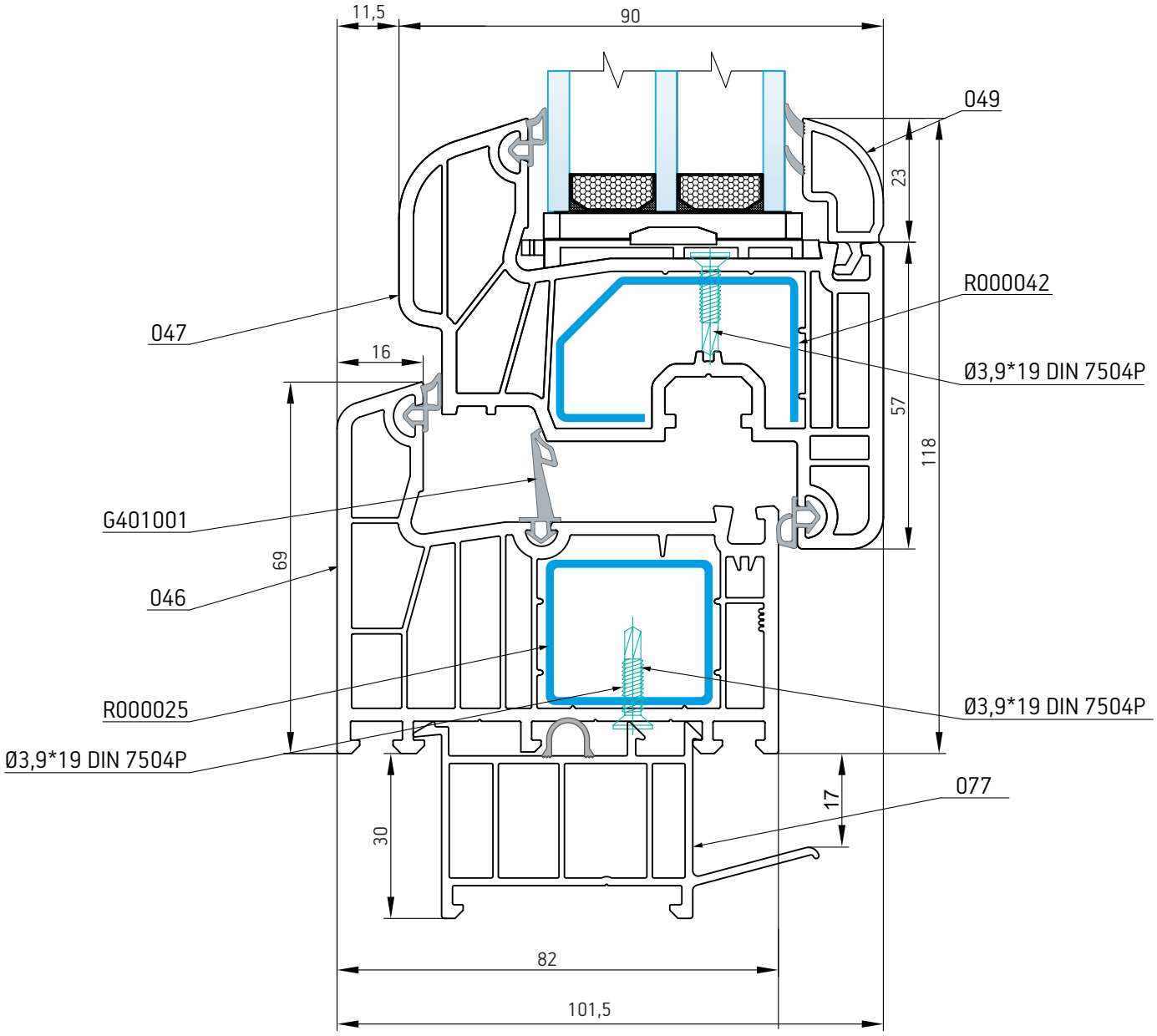


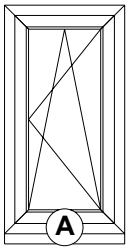
Sash - Mullion - Sash // 080-048-080



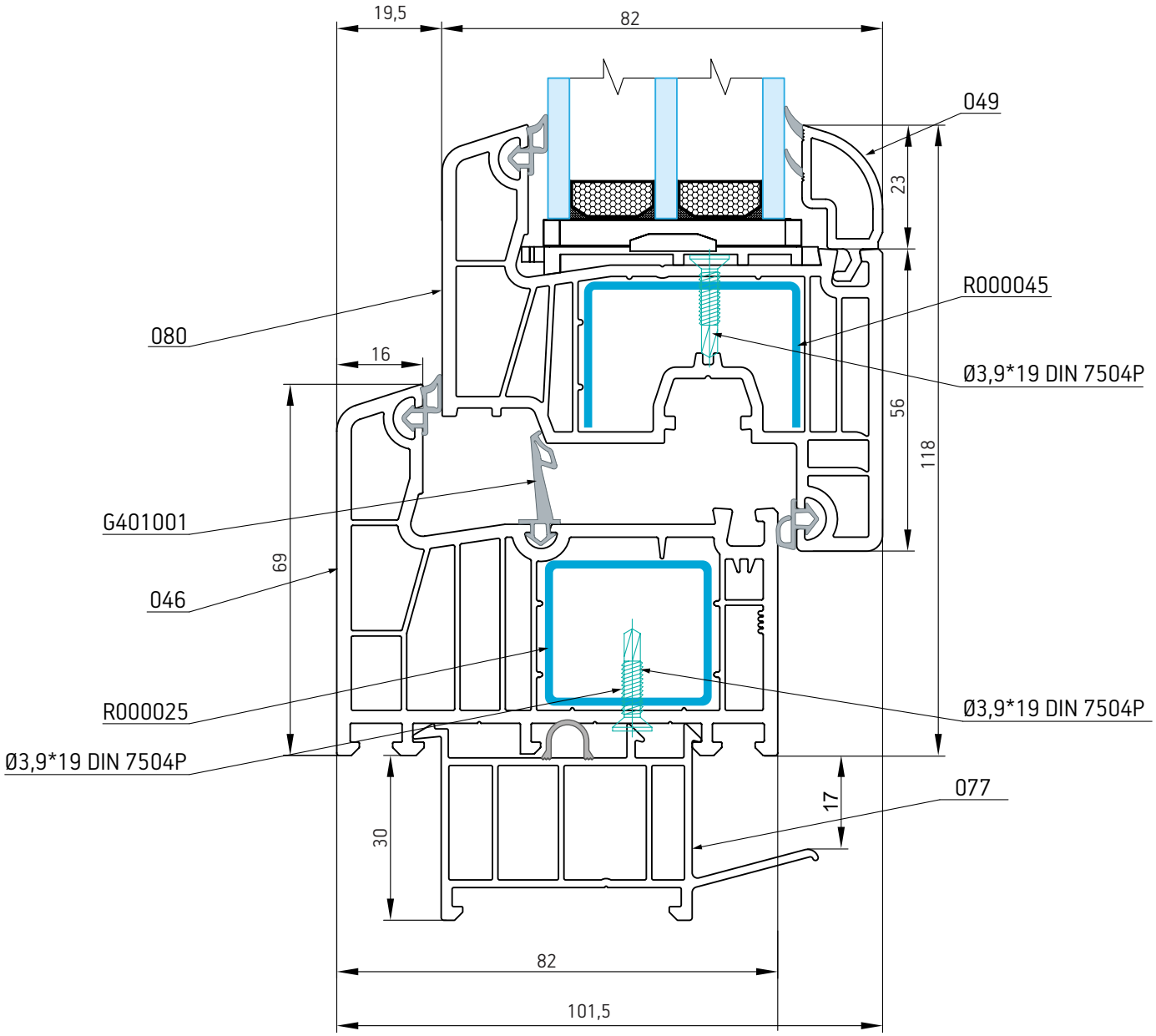


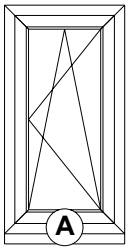
Sash - Frame - Fixed frame // 047-046-077



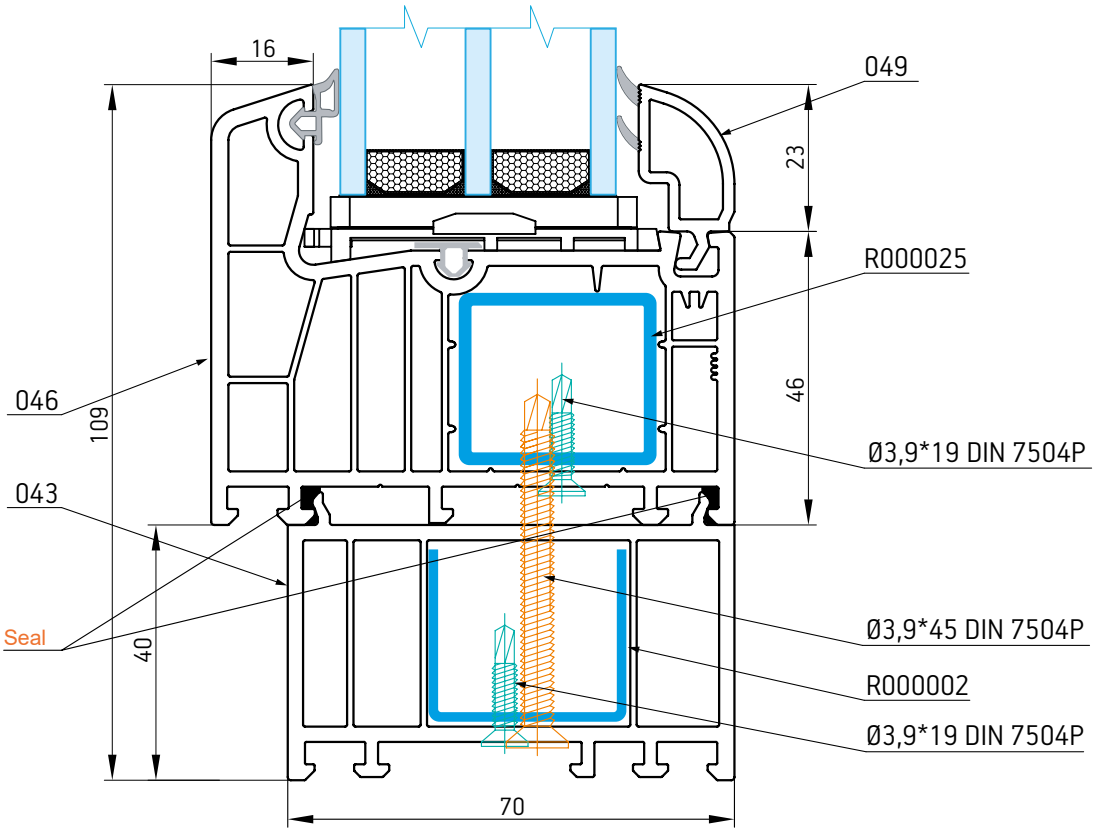


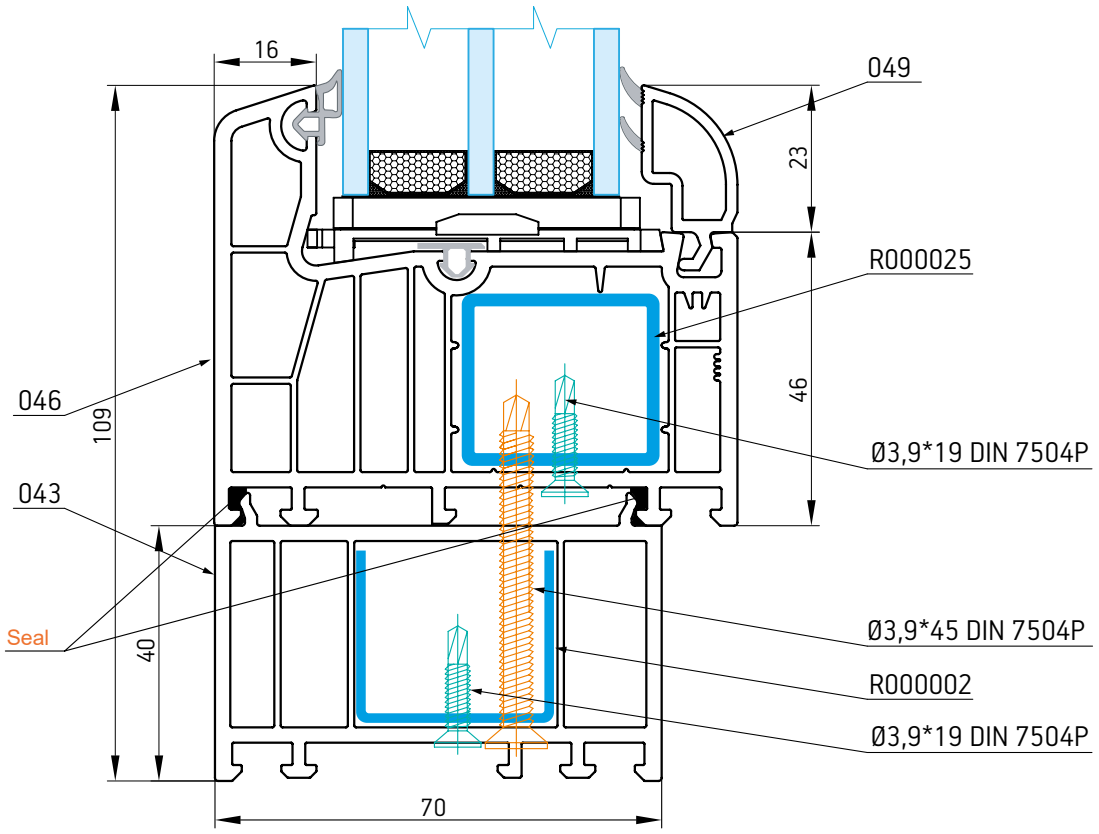
Sash - Frame - Fixed frame // 080-046-077

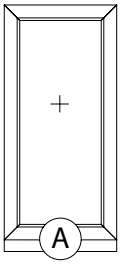




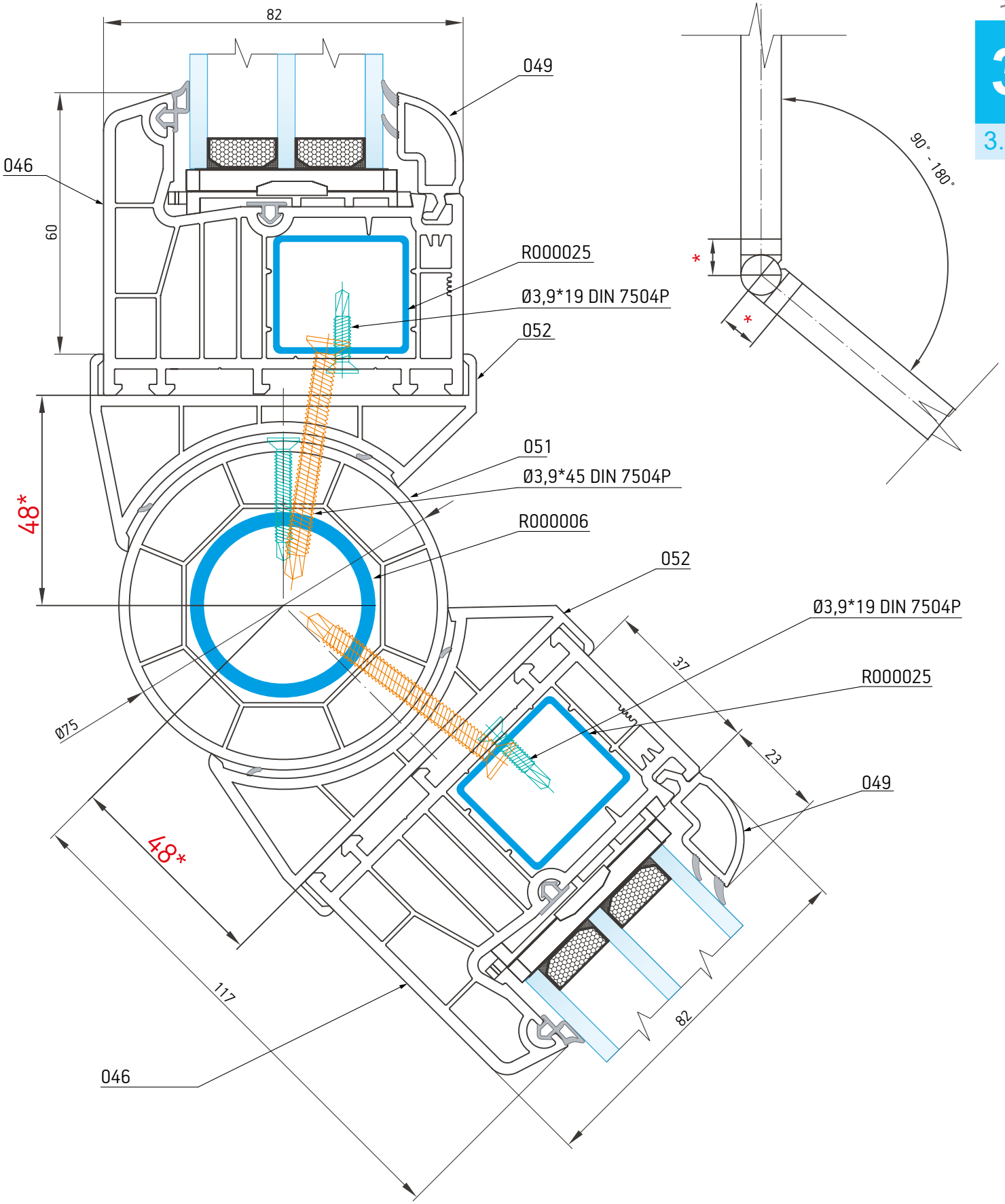
Frame - Frame extention // 046-043



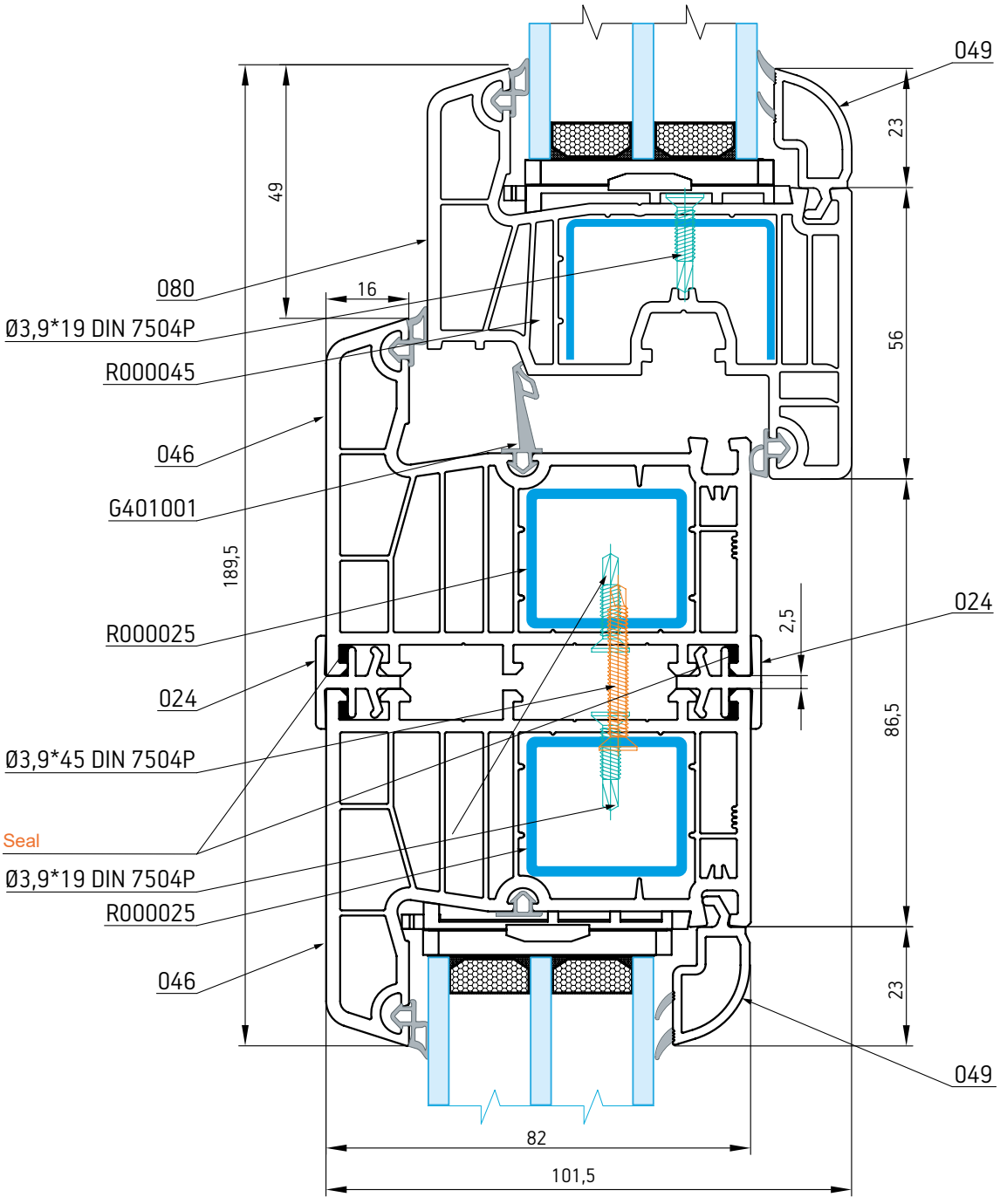


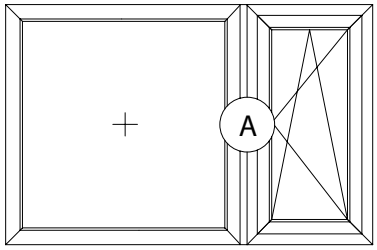


Frame – Pipe adaptor – Pipe – Pipe adaptor – Frame // 046-052-051-052-046

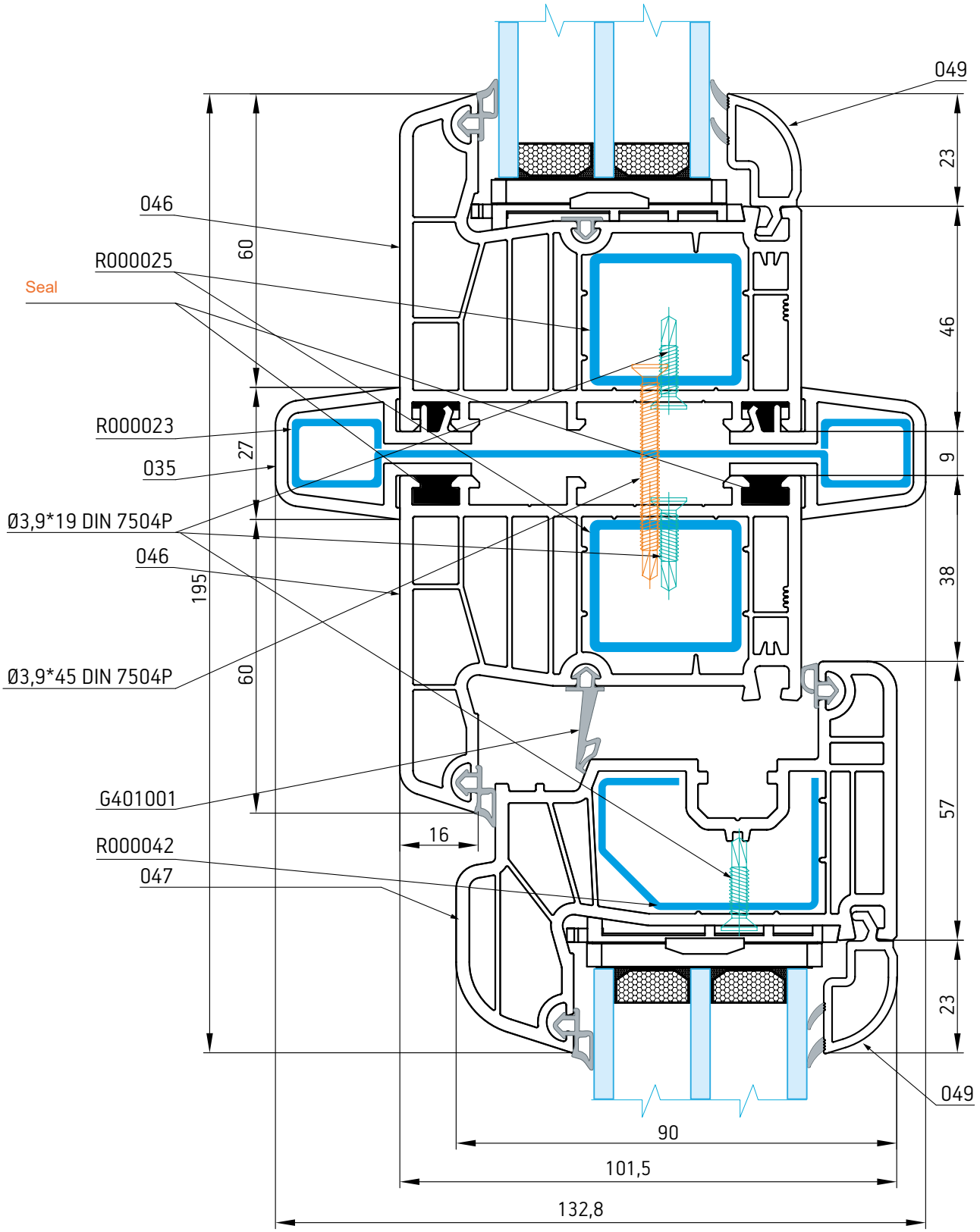


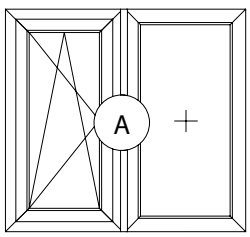
Sash - Frame - H-connector - Frame // 080-046-024-046



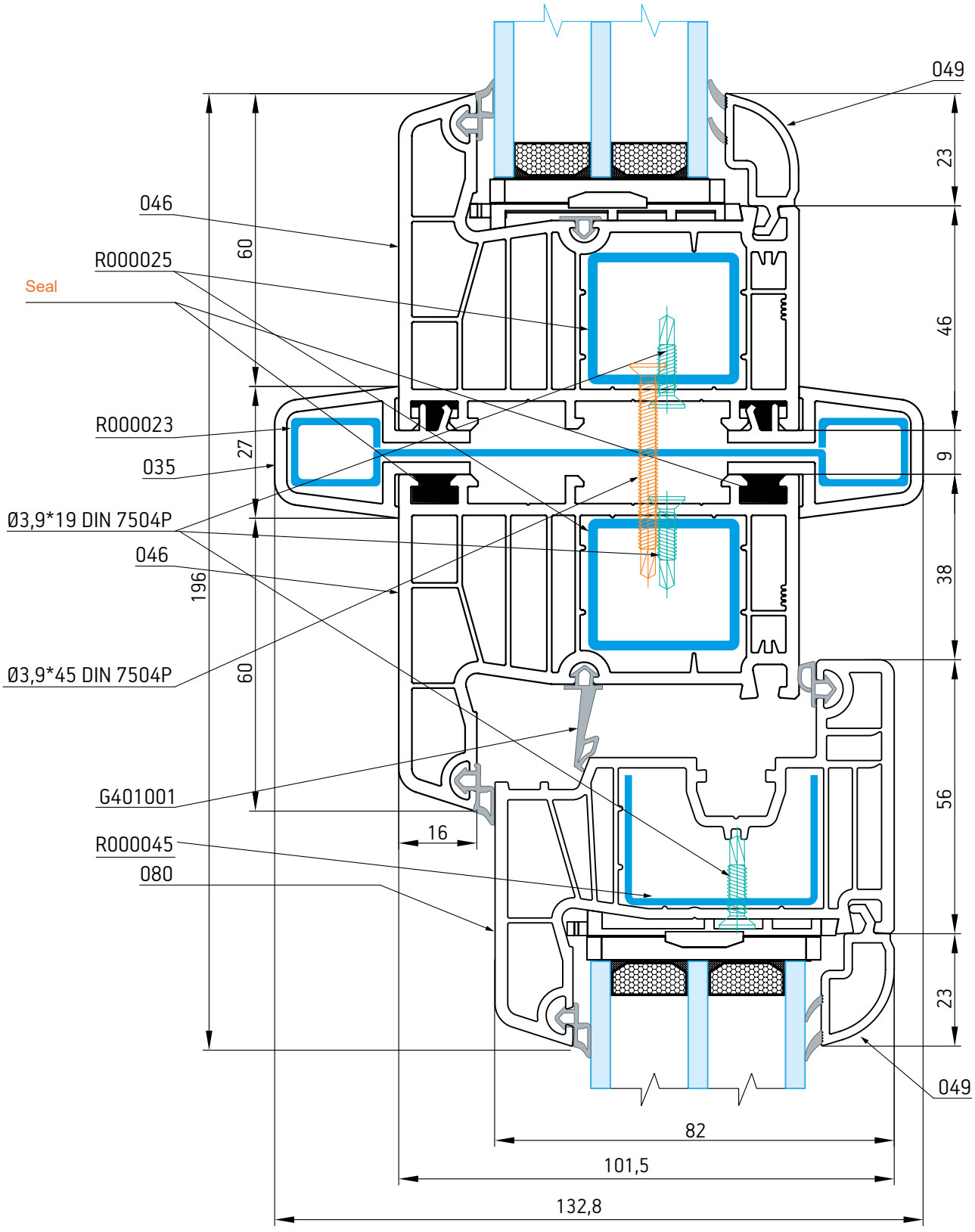


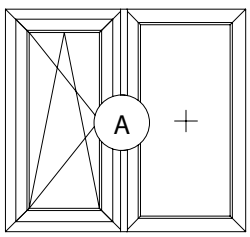
Frame - I-connector - Frame - Sash // 046-035-046-047



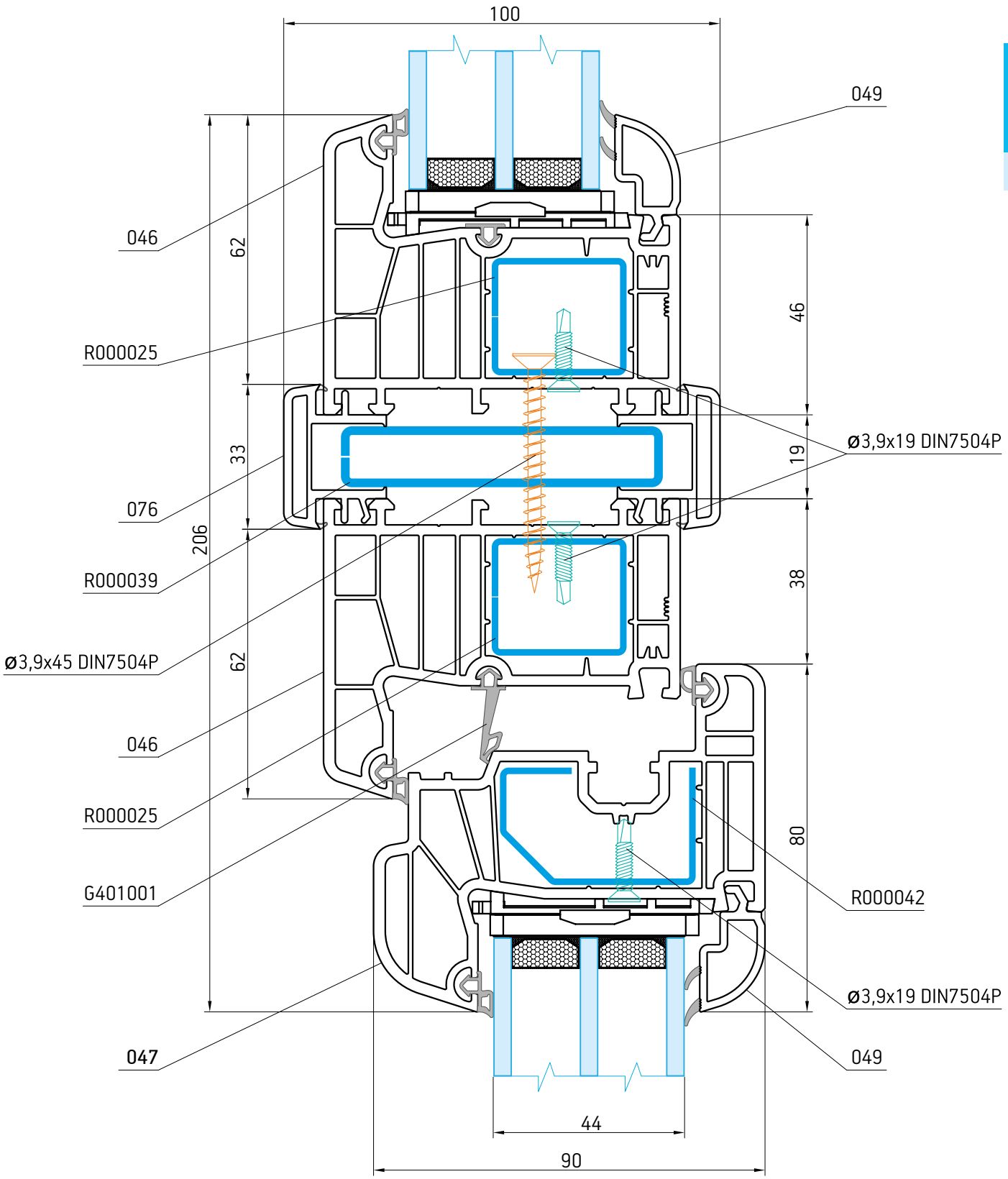


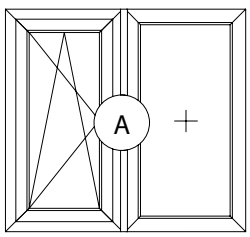
Frame - I-connector - Frame - Sash // 046-035-046-080



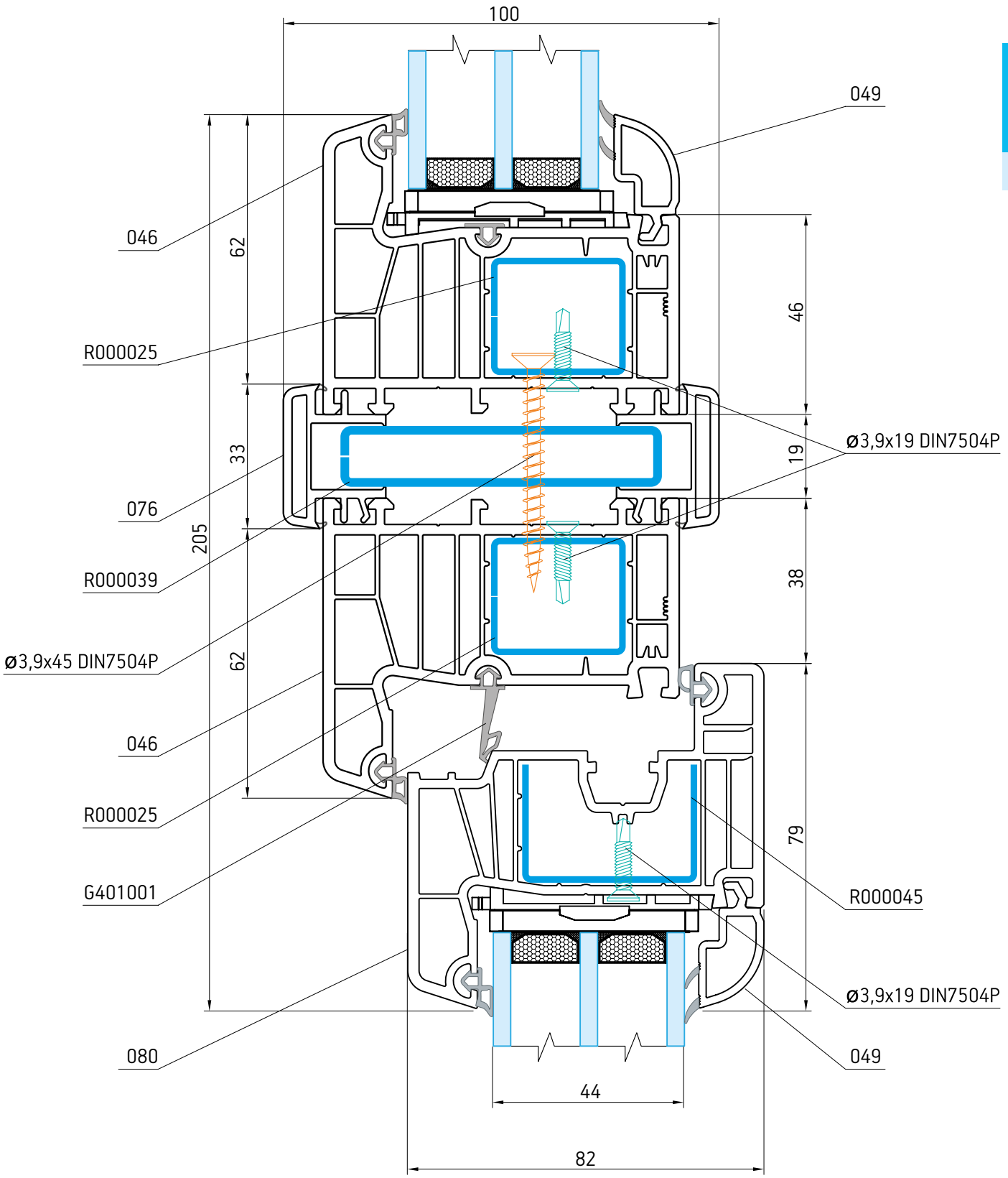


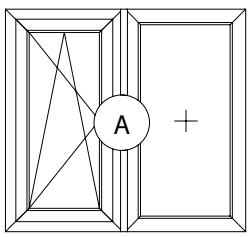
Frame - I-connector - Frame - Sash // 046-076-046-047





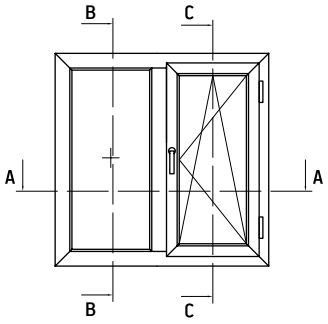
Frame - I-connector - Frame - Sash // 046-076-046-080



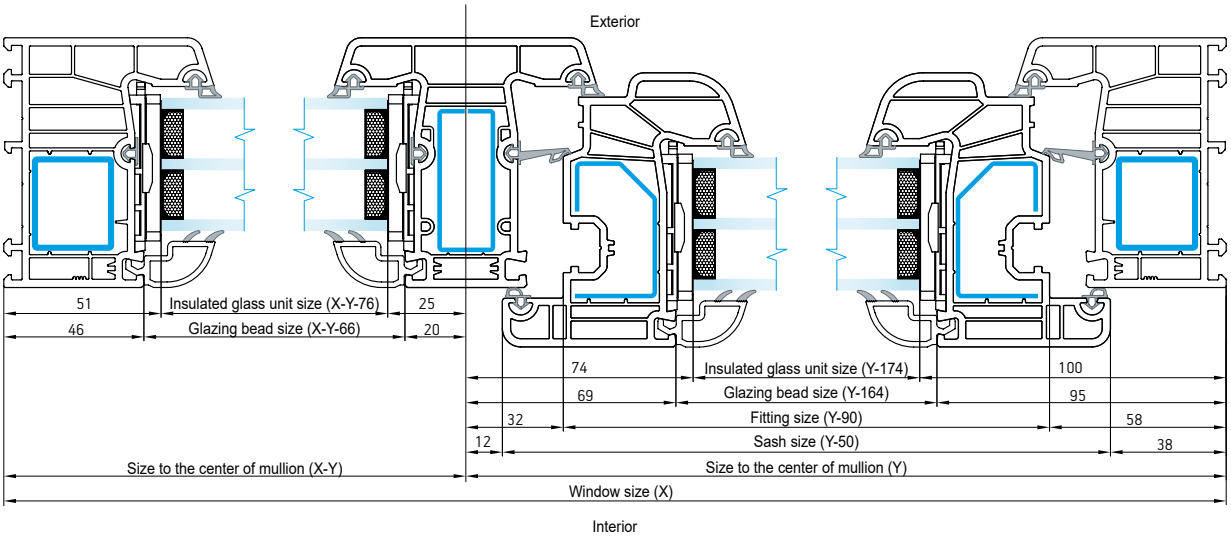


3.3 Method of Performance Indicators Calculating

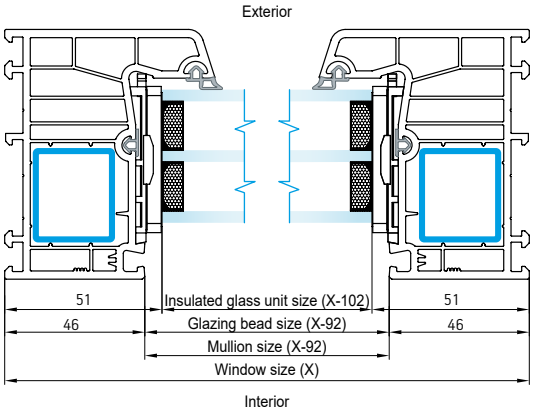
Frame - Mullion - Sash - Sash - Frame



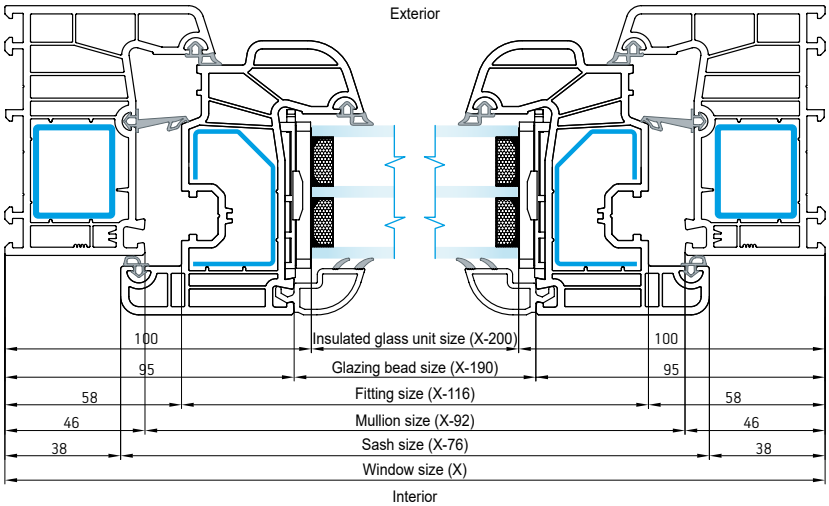
A-A



B-B

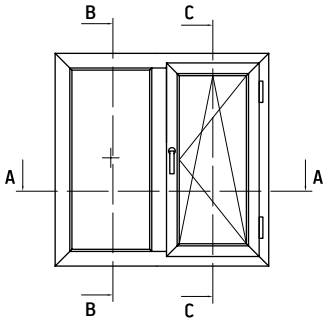


C-C

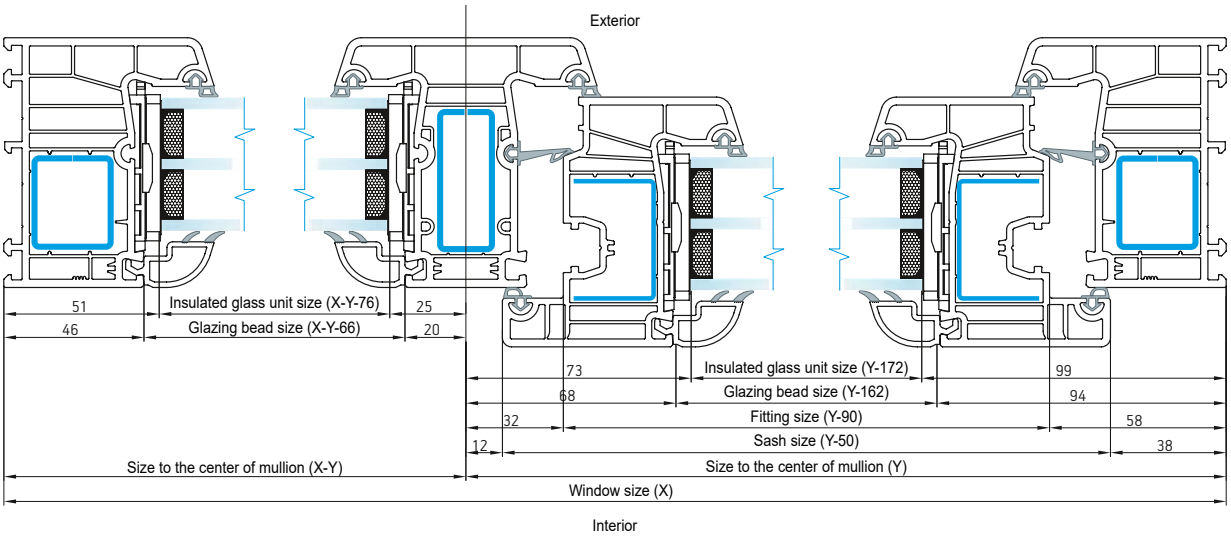


3.3 Method of Performance Indicators Calculating

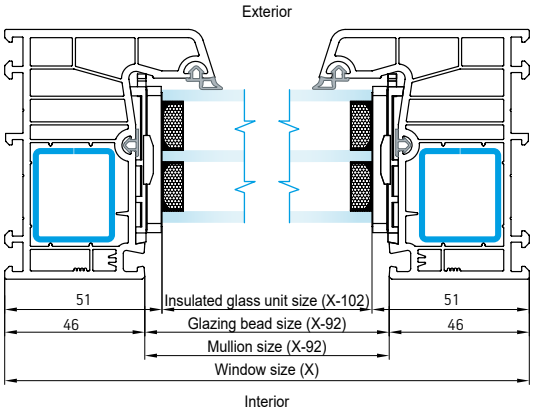
Frame - Mullion - Sash - Sash - Frame



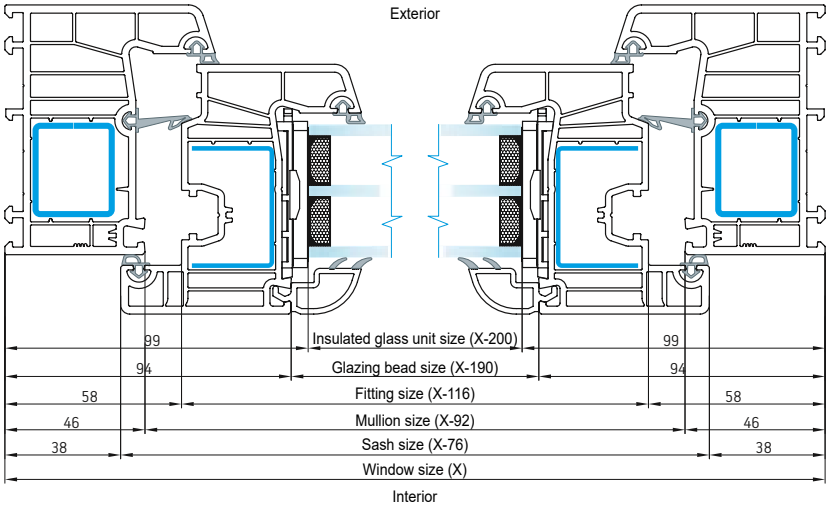
A-A



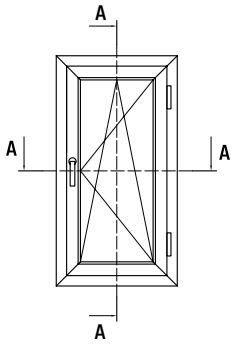
B-B



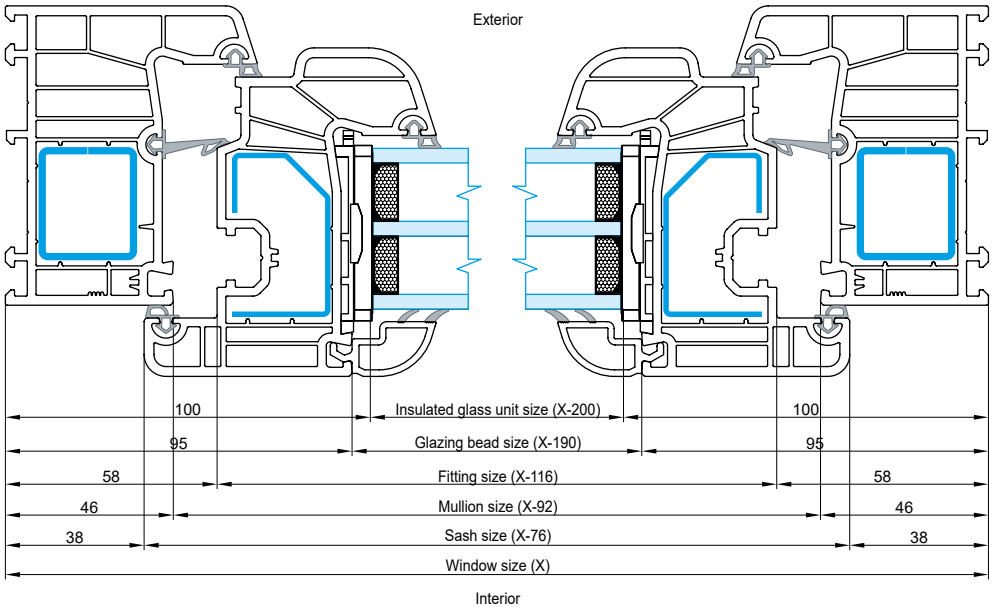
C-C

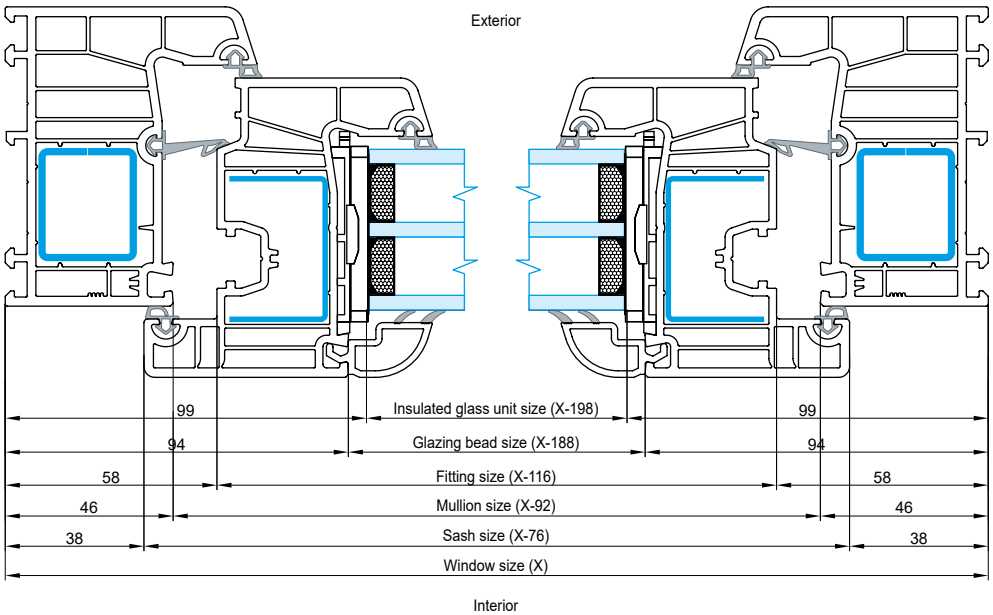


Frame - Sash - Sash - Frame

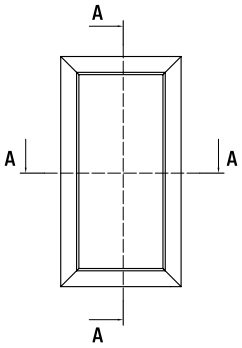


A-A

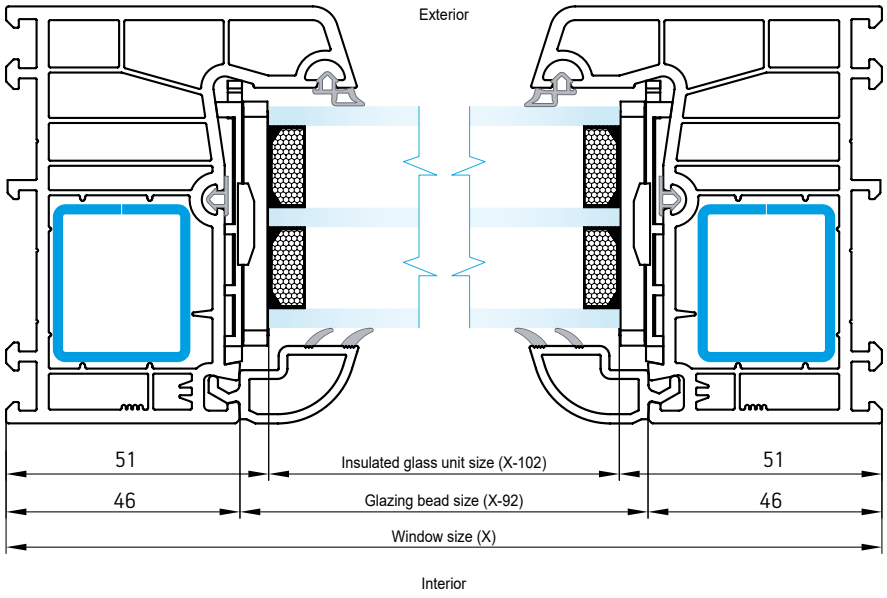




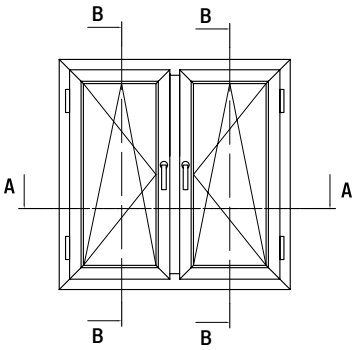
Frame - Frame



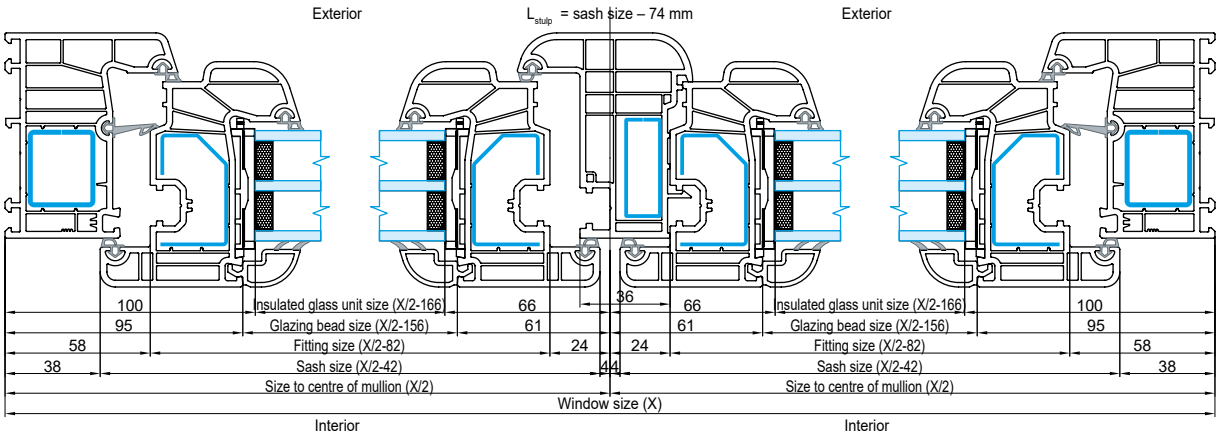
A-A



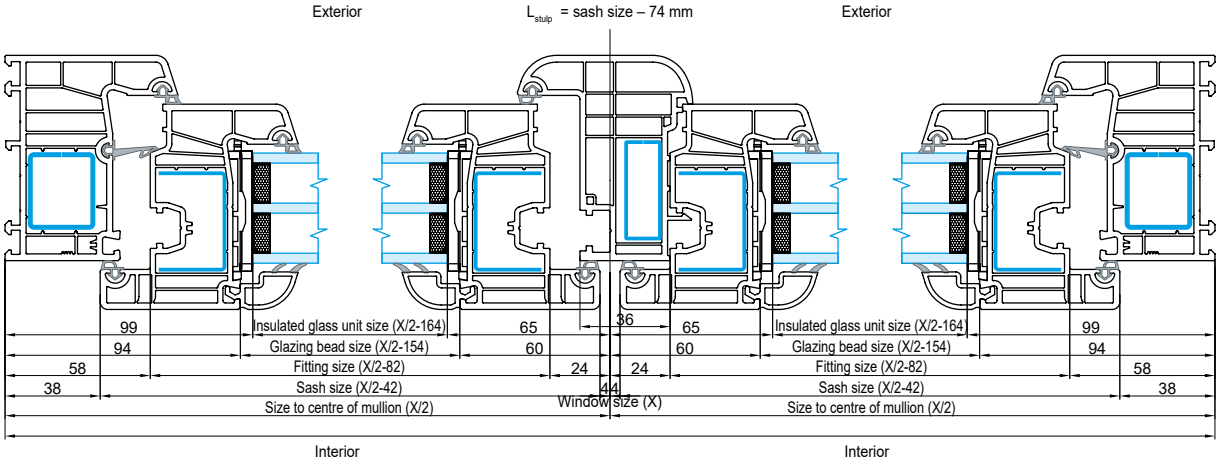
Frame - Sash - Sash - Stulp - Sash - Sash - Frame



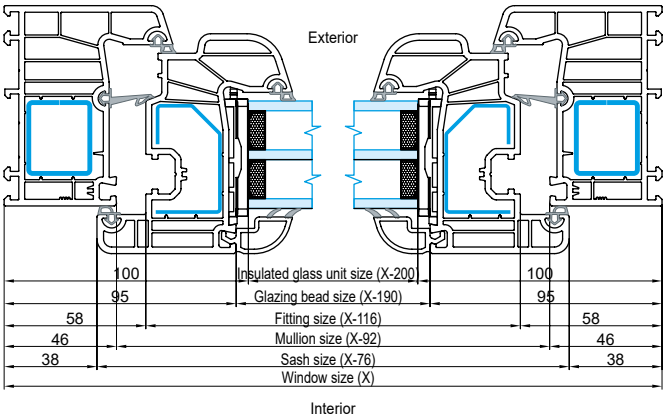
A-A



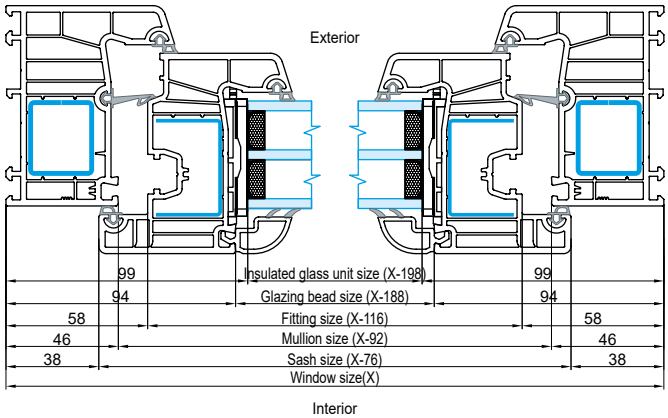
A-A



B-B

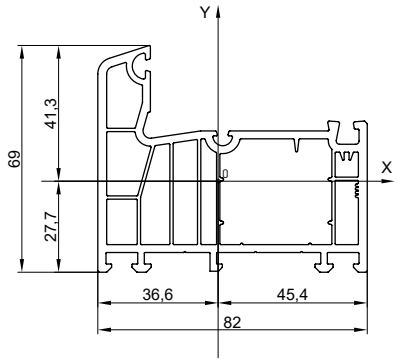


B-B



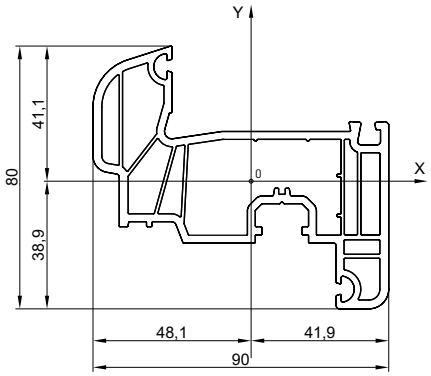
3.4 Resistance moment. Inertia moment

Frame // 046



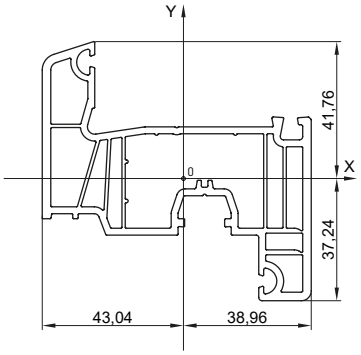
Inertia moment:	J_x = 346 964 (mm⁴) J_y = 846 860 (mm⁴)	Resistance moment:	W_x = 8 401 (cm⁴) W_y = 18 653 (cm⁴)

Sash // 047



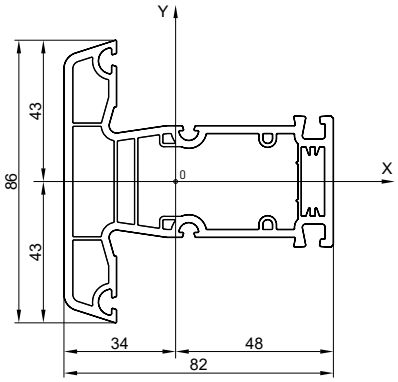
Inertia moment:	J_x = 396 247 (mm⁴) J_y = 1 032 679 (mm⁴)	Resistance moment:	W_x = 9 641 (cm⁴) W_y = 21 381 (cm⁴)

Sash // 080

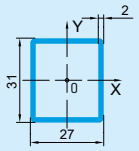
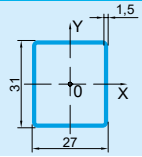
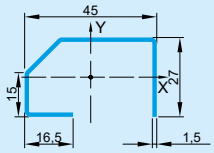
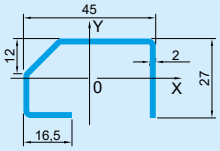
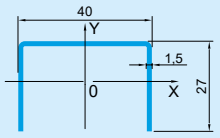
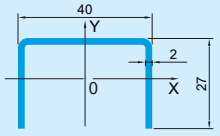
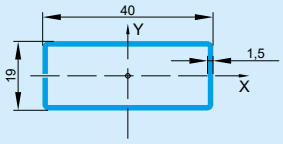
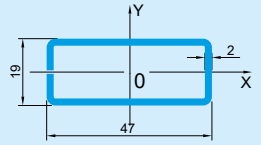
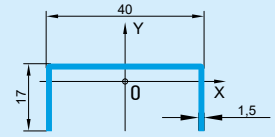


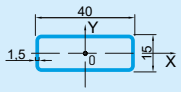
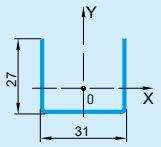
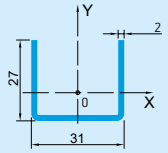
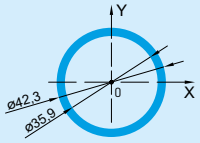
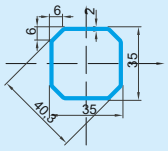
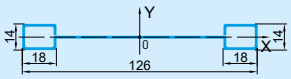
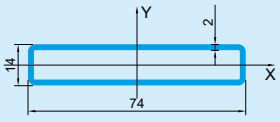
Inertia moment:	J_x = 352 803 (mm⁴) J_y = 848 361 (mm⁴)	Resistance moment:	W_x = 8 197 (cm⁴) W_y = 20 315 (cm⁴)

Mullion // 048

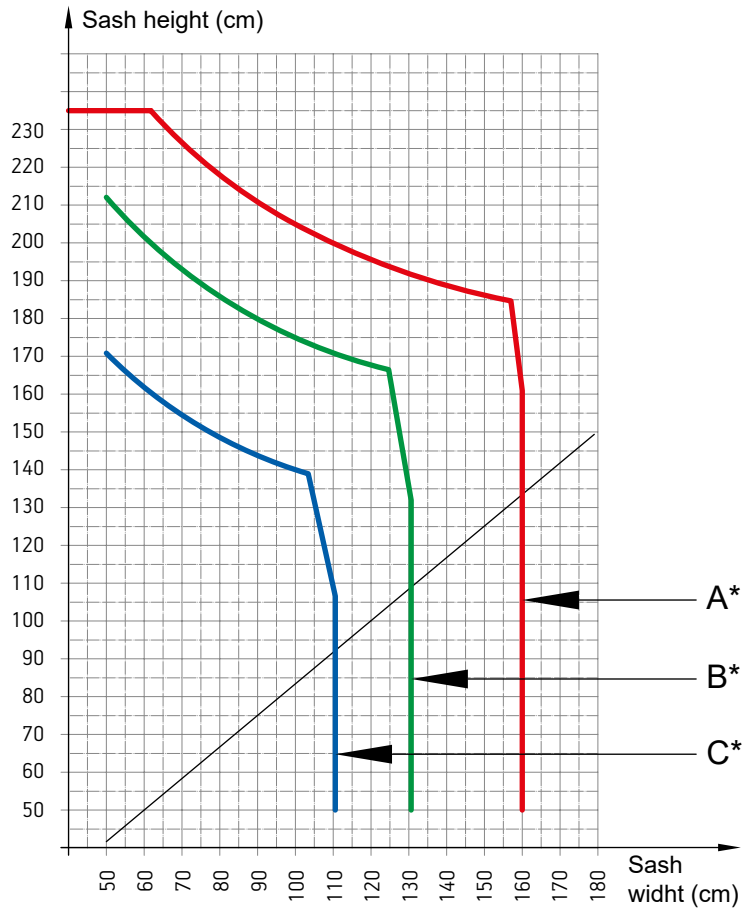


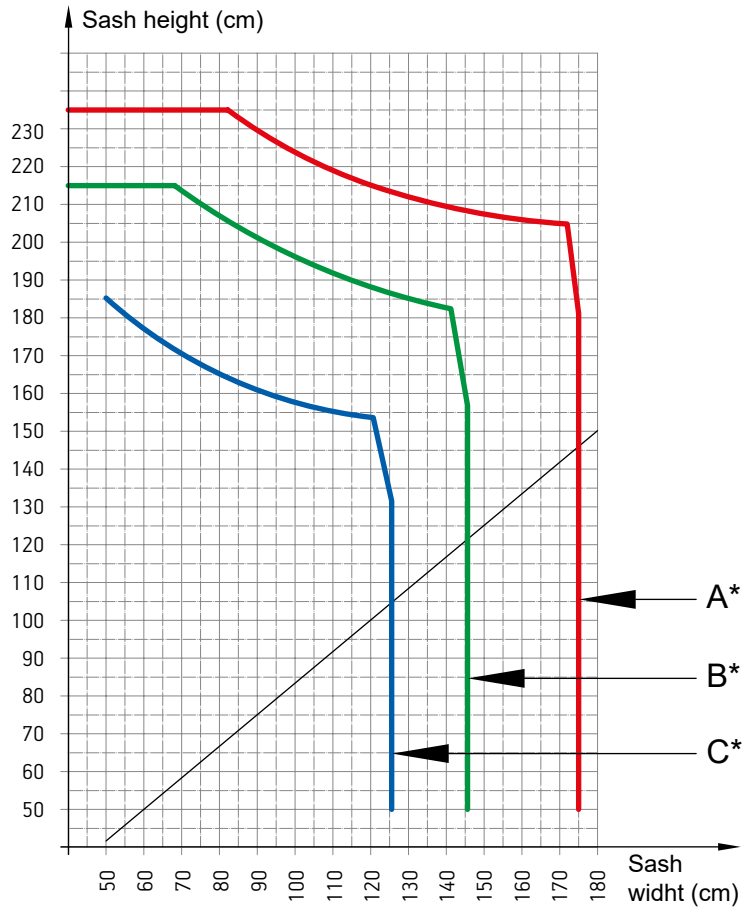
Inertia moment:	J_x = 426 179 (mm⁴) J_y = 866 646 (mm⁴)	Resistance moment:	W_x = 9 911 (cm⁴) W_y = 18 055 (cm⁴)

Reinforcing profile	Inertia moment, cm⁴	Weight, l.m., kg	Application	
R000019 	J_x(2,0mm)=2,81 J_y(2,0mm)=2,26	m(2,0mm)=1,66	Frame Frame extention	046 043
R000025 	J_x(1,5mm)=2,23 J_y(1,5mm)=1,8	m(1,5mm)=1,27	Frame Frame extention	046 043
R000042 	J_x(1,5mm)=1,54 J_y(1,5mm)=4,50	m(1,5mm)=1,22	Sash	047
R000043 	J_x(2,0mm)=1,95 J_y(2,0mm)=5,76	m(2,0mm)=1,59	Sash	047
R000045 	J_x(1,5mm)= 1,02 J_y(1,5mm)= 3,57	m(1,5mm)= 1,06	Sash	080
R000046 	J_x(1,5mm)= 1,31 J_y(1,5mm)= 4,55	m(2mm)= 1,39	Sash	080
R000040 	J_x(1,5mm)=1,16 J_y(1,5mm)=4,87	m(1,5mm)=1,45	Mullion	048
R000041 	J_x(2,0mm)=1,43 J_y(2,0mm)=6,12	m(2,0mm)=1,90	Mullion	048
R000027 	J_x(1,5mm)=2,46 J_y(1,5mm)=0,28	m(1,5mm)=0,83	Stulp	068

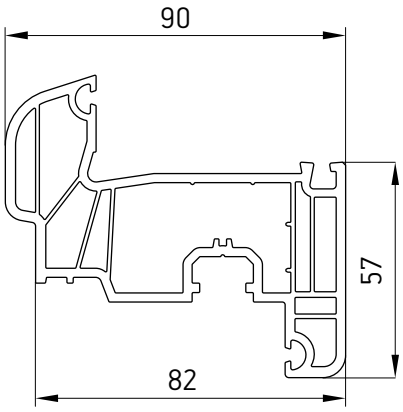
Reinforcing profile	Inertia moment, cm⁴	Weight, l.m., kg	Application	
R000044 	J_x(1,5mm)=0,57 J_y(1,5mm)=2,75	m(1,5mm)=1,19	Stulp	068
R000002 	J_x(1,5mm)=0,93 J_y(1,5mm)=2,00	m(1,5mm)=0,96	Frame extention	043
R000030 	J_x(2,0mm)=1,20 J_y(2,0mm)=2,54	m(2,0mm)=1,25	Frame extention	043
R000006 	J_x(3,2mm)=7,56 J_y(3,2mm)=7,56	m(3,2mm)=3,09	Pipe	051
R000047 	J_x(2mm)=3,84 J_y(2mm)=3,85	m(2mm)=1,85	Pipe	051
R000023 	J_x(1,5mm)=60,43 J_y(1,5mm)=0,49	m(1,5mm)=2,42	I-connector	035
R000039 	J_x(2,0mm)=1,08 J_y(2,0mm)=17,95	m(2,0mm)=1,25	I-connector	076

3.4.1 Sash size limitations. Tilt and turn sashes.

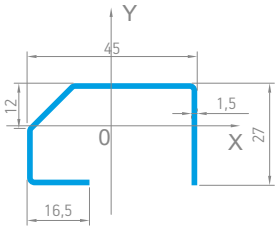




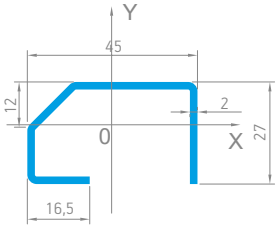
047	6-chamber sash



R000042	Jx (1,5mm) = 1,54 (cm⁴) Jy (1,5mm) = 4,50 (cm⁴)



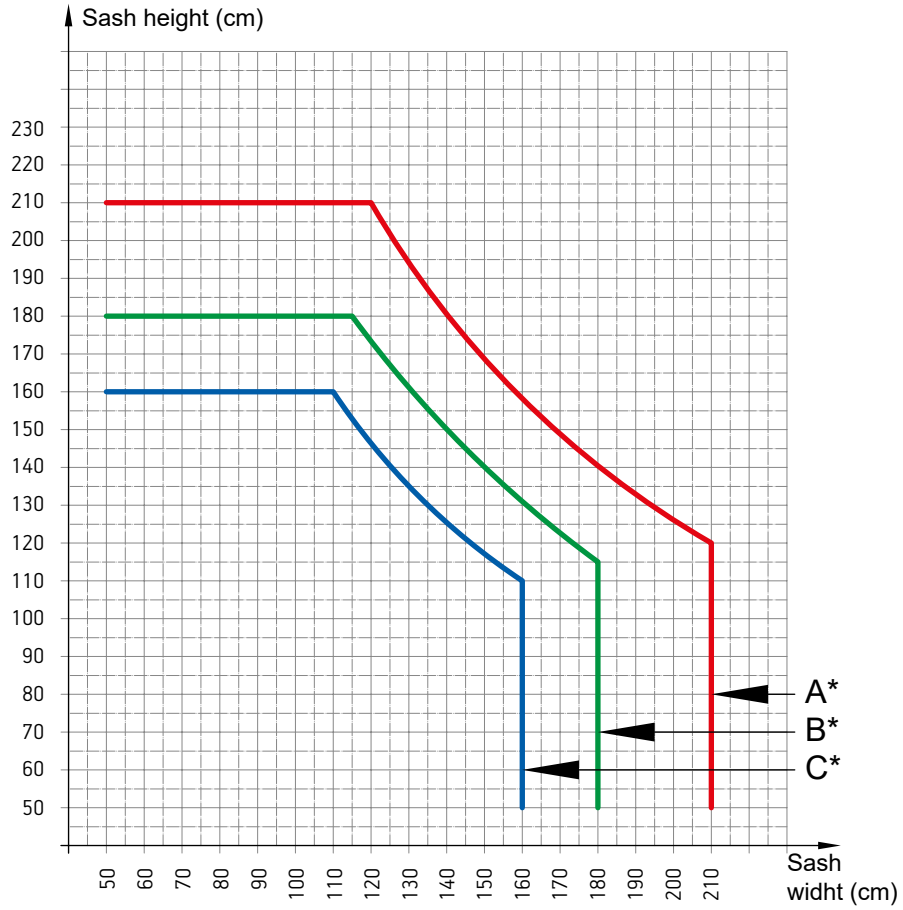
R000043	Jx (2mm) = 1,95 (cm⁴) Jy (2mm) = 5,76 (cm⁴)

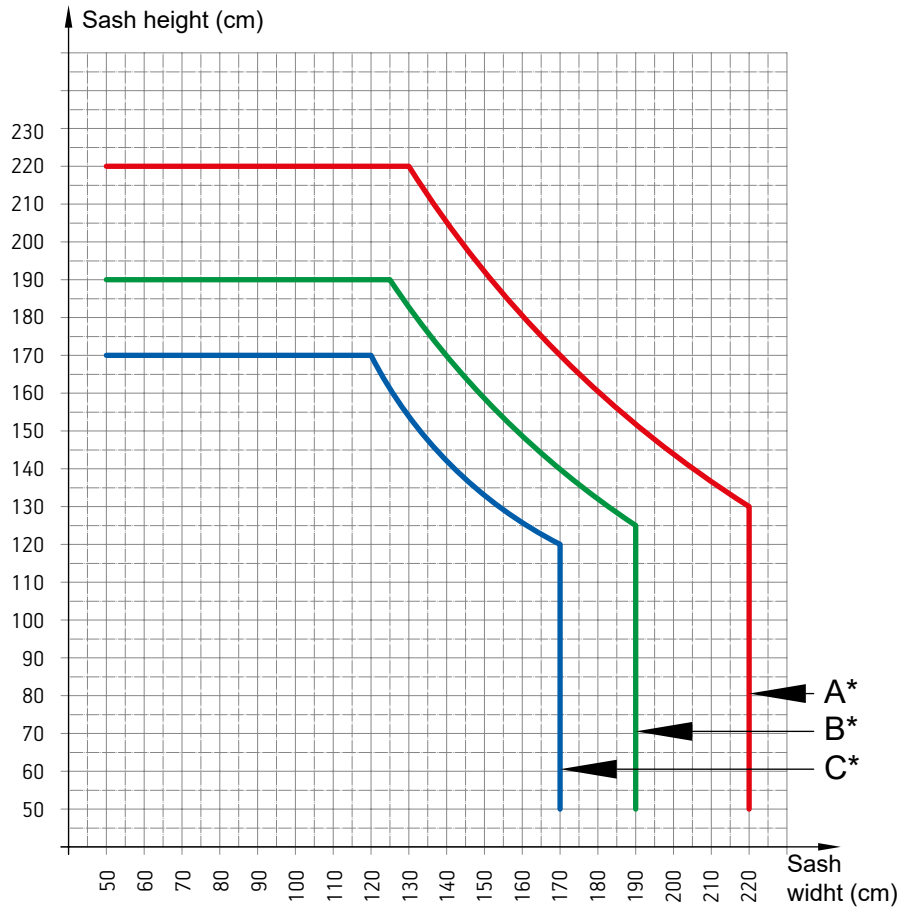


*Loads Groups:
A -0-8 m;
B -8-20 m;
C -20-100 m.

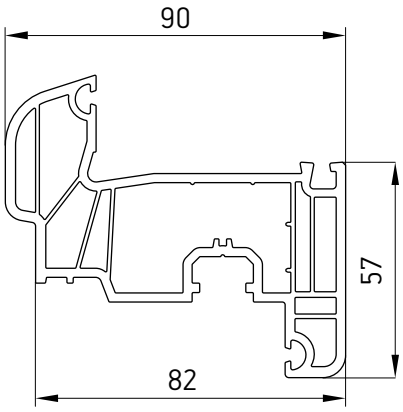
For profiles, painted in the mass, as well as for profiles with decorated surface, values should be taken 10% less than in the diagram

3.4.1 Sash size limitations. Transom light sashes.

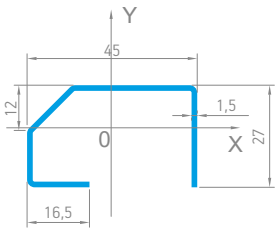




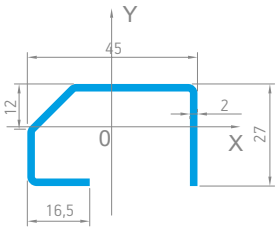
047	6-chamber sash



R000042	Jx (1,5mm) = 1,54 (cm⁴) Jy (1,5mm) = 4,50 (cm⁴)



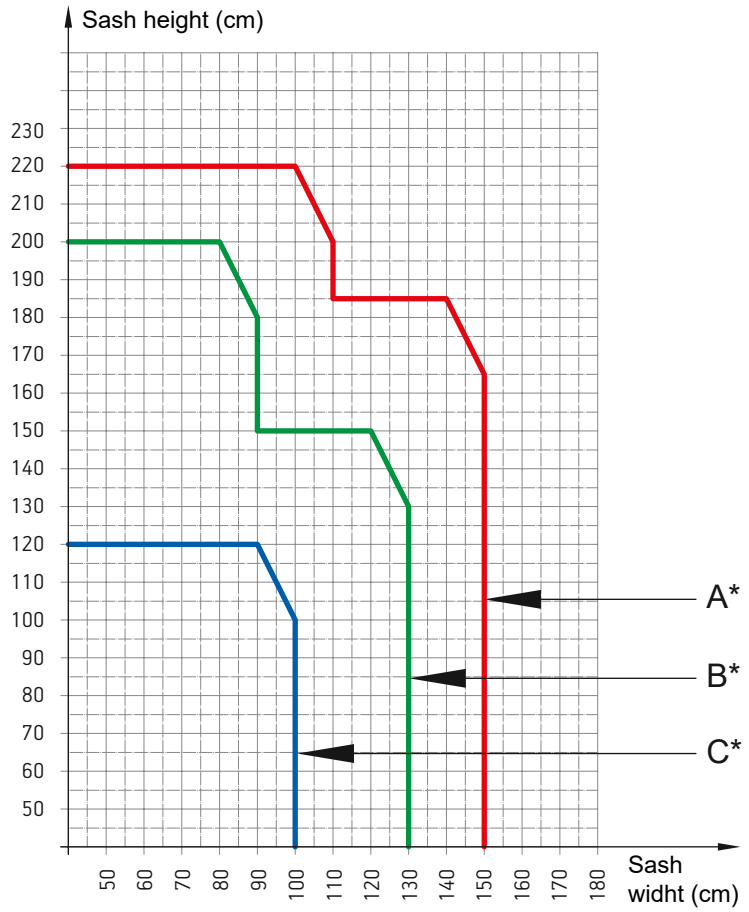
R000043	Jx (2mm) = 1,95 (cm⁴) Jy (2mm) = 5,76 (cm⁴)

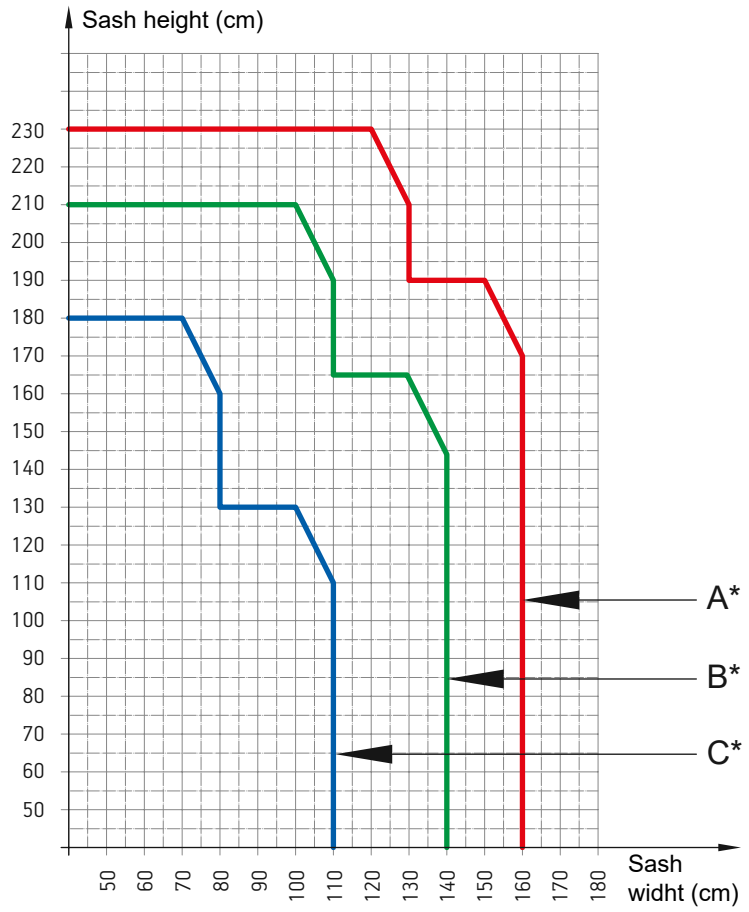


*Loads Groups:
A -0-8 m;
B -8-20 m;
C -20-100 m.

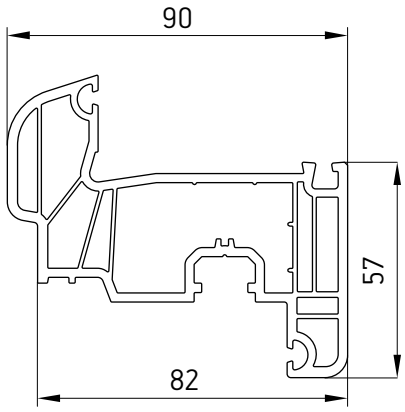
For profiles, painted in the mass, as well as for profiles with decorated surface, values should be taken 10% less than in the diagram

3.4.1 Sash size limitations. Transom light sashes.

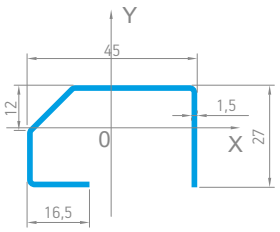




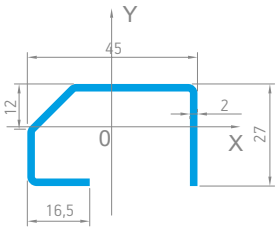
047	6-chamber sash



R000042	Jx (1,5mm) = 1,54 (cm⁴) Jy (1,5mm) = 4,50 (cm⁴)



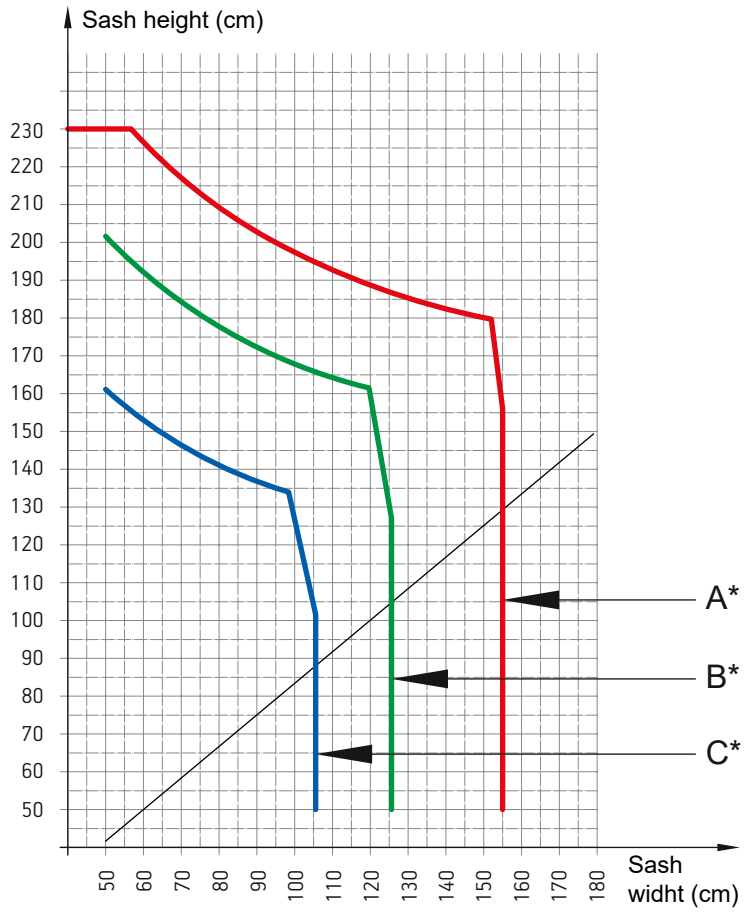
R000043	Jx (2mm) = 1,95 (cm⁴) Jy (2mm) = 5,76 (cm⁴)

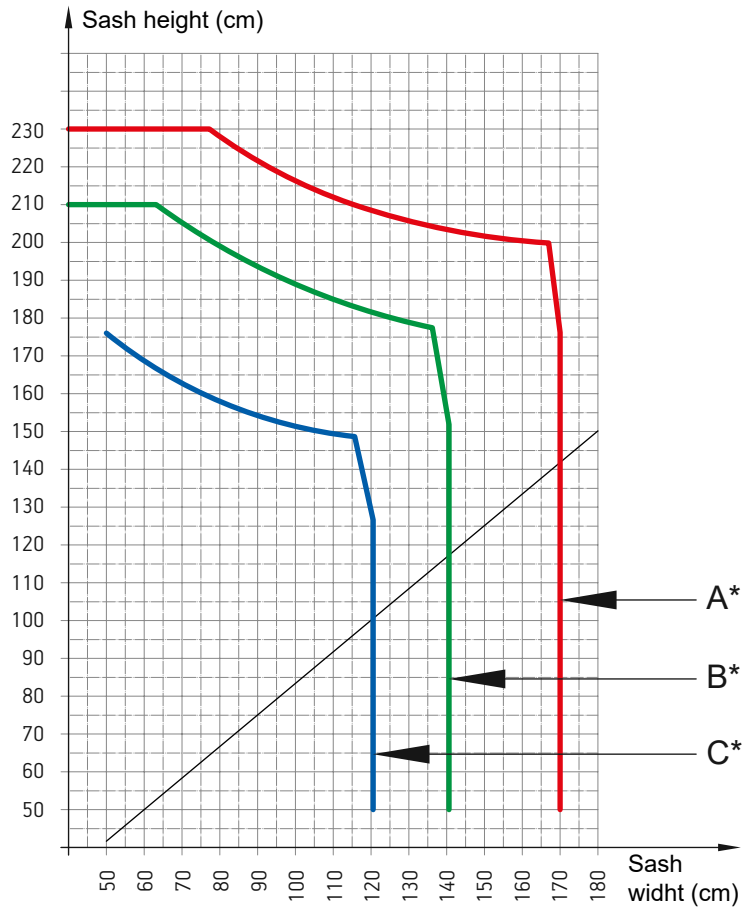


*Loads Groups:
A -0-8 m;
B -8-20 m;
C -20-100 m.

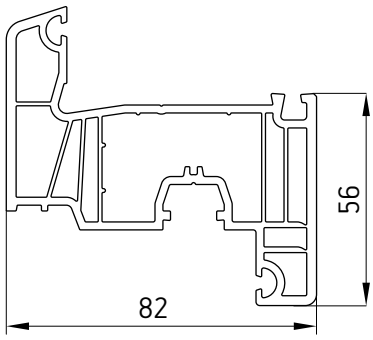
For profiles, painted in the mass, as well as for profiles with decorated surface, values should be taken 10% less than in the diagram

3.4.1 Sash size limitations. Tilt and turn sashes.

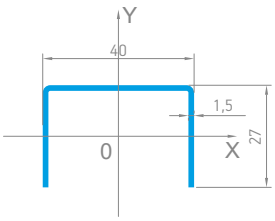




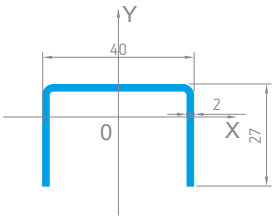
080	6-chamber sash



R000045	Jx (1,5mm) = 1,02 (cm⁴) Jy (1,5mm) = 3,57 (cm⁴)



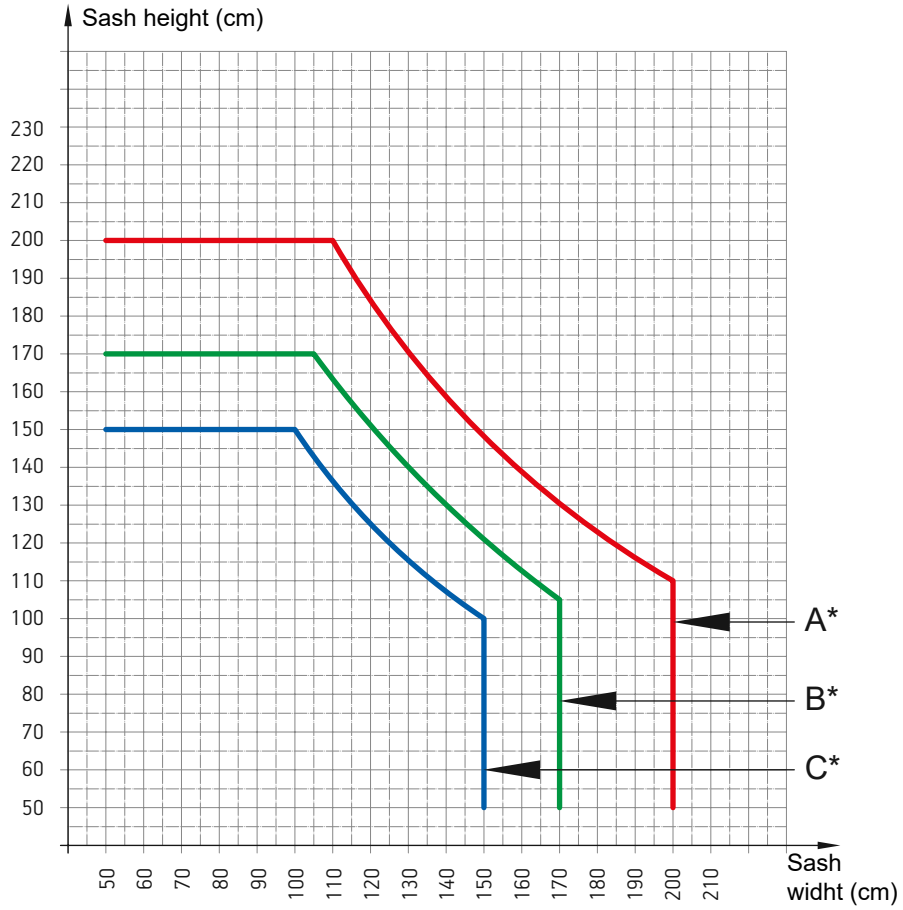
R000046	Jx (2mm) = 1,31 (cm⁴) Jy (2mm) = 4,55 (cm⁴)

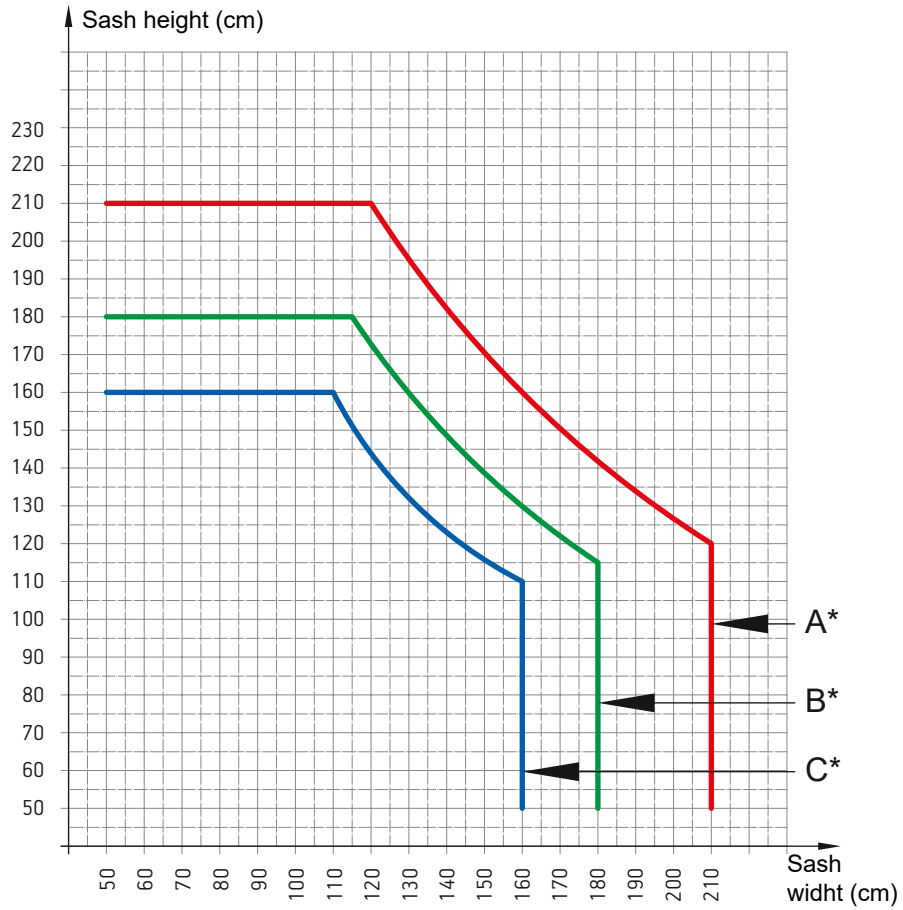


*Loads Groups:
A -0-8 m;
B -8-20 m;
C -20-100 m.

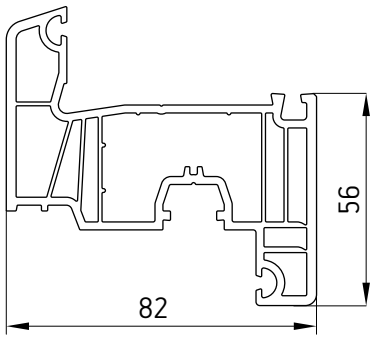
For profiles, painted in the mass, as well as for profiles with decorated surface, values should be taken 10% less than in the diagram

3.4.1 Sash size limitations. Transom light sashes.

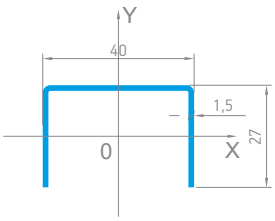




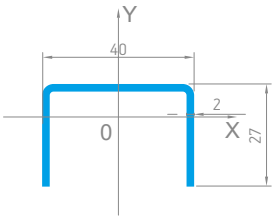
080	6-chamber sash



R000045	Jx (1,5mm) = 1,02 (cm⁴) Jy (1,5mm) = 3,57 (cm⁴)



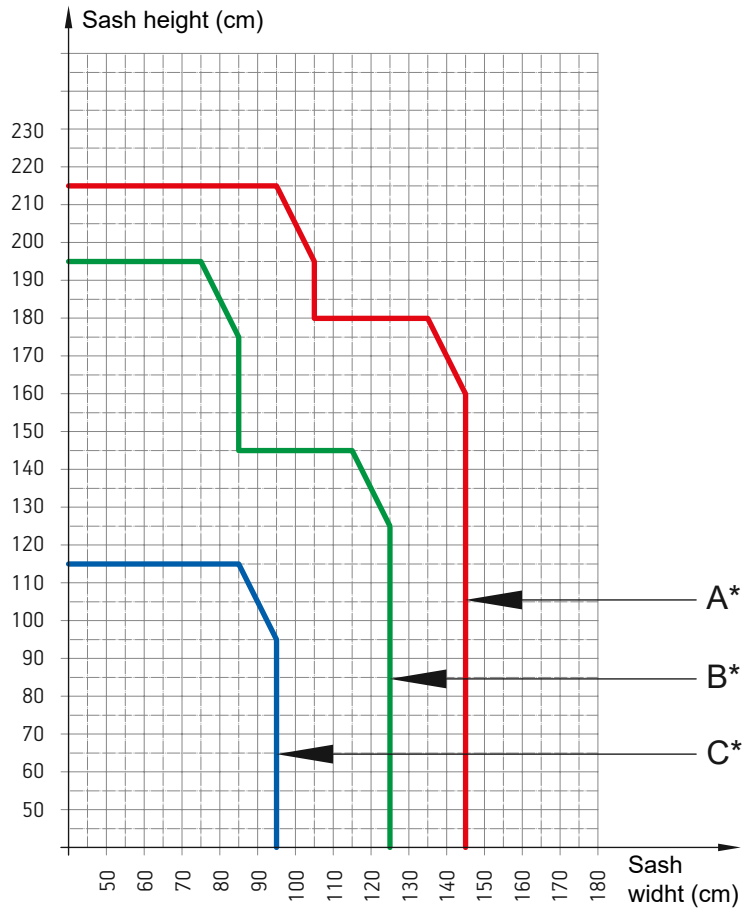
R000046	Jx (2mm) = 1,31 (cm⁴) Jy (2mm) = 4,55 (cm⁴)

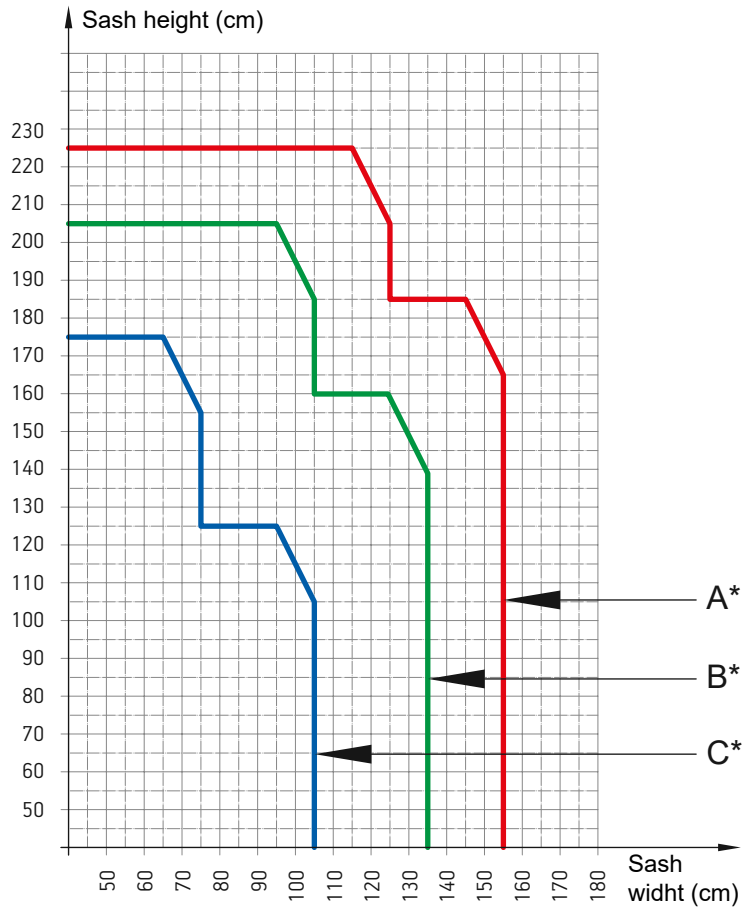


*Loads Groups:
A -0-8 m;
B -8-20 m;
C -20-100 m.

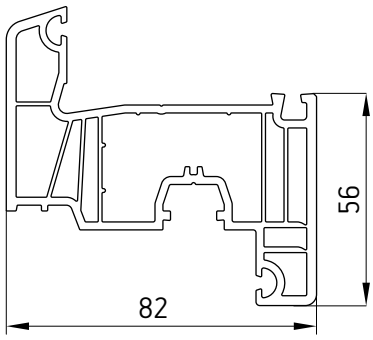
For profiles, painted in the mass, as well as for profiles with decorated surface, values should be taken 10% less than in the diagram

3.4.1 Sash size limitations. Tilt and turn sashes.

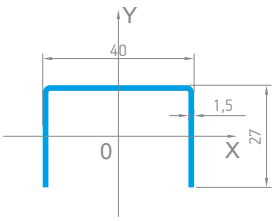




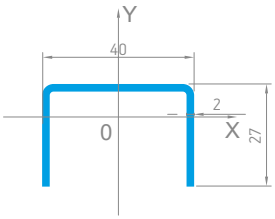
080	6-chamber sash



R000045	Jx (1,5mm) = 1,02 (cm⁴) Jy (1,5mm) = 3,57 (cm⁴)



R000046	Jx (2mm) = 1,31 (cm⁴) Jy (2mm) = 4,55 (cm⁴)

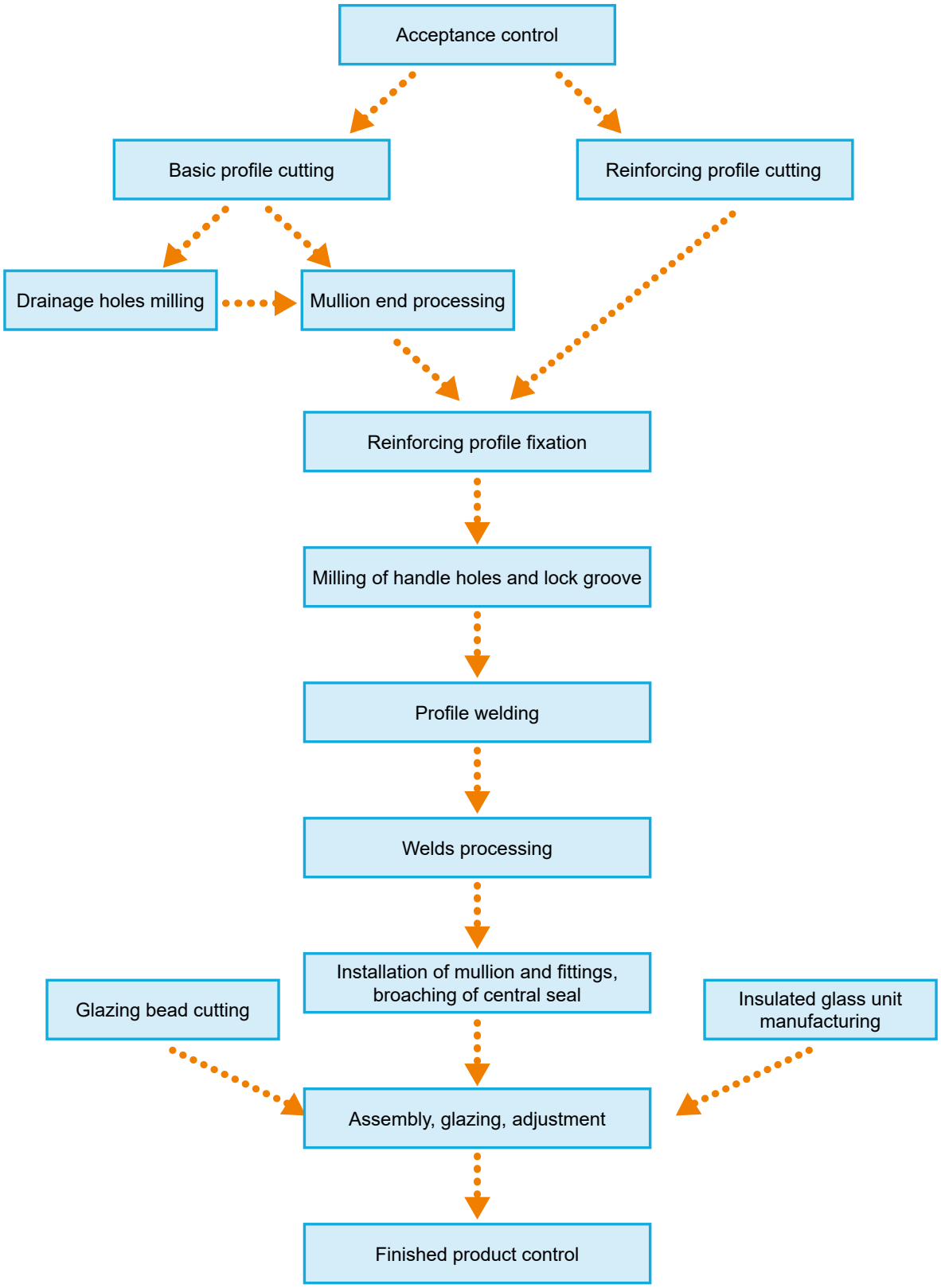


*Loads Groups:
A -0-8 m;
B -8-20 m;
C -20-100 m.

For profiles, painted in the mass, as well as for profiles with decorated surface, values should be taken 10% less than in the diagram

3.5 Windows manufacturing process

3.5.1 PVC products manufacturing flowchart



3.5.2 Requirements to Premises for Production of PVC Window and Door Units

- Premises area
- Ceiling height
- Premises temperature
- Ventilation system
- Lighting
- Electrical wiring
- Pneumatic pipelines
- Workplace equipment
- Assembly table workplace equipment

Premises area

Premises area depends on the type of selected production line and technology. Equipment location must be optimal for both work and evacuation in case of emergency situations.

Ceiling height

Not less than 3 meters.

Premises temperature

Not lower than 17°C. This parameter relates to the process of PVC profiles processing.

Ventilation system

Preferably with 3 air changes per hour during work shift (8 hours).

Lighting

General and above each workplace, especially near industrial machines, assembly tables.

Electrical wiring

Electric switchboard equipped with master-switch must be installed in the premises where equipment is located. It is advisable to make a split power supply for premises lighting and equipment power supply, equipping it with automatic circuit breakers. Virtually all fixed equipment needs supply voltage of 380 and 220 V / 50 Hz. Wiring at manufacturing premises must be held in ducting or corrugated pipe. Ground strip must be present in the shop. Each industrial machine must be equipped with grounding made with rigid wire connected to ground strip.

Pneumatic pipelines

The compressor must be located in separate premises. Pneumatic pipelines must be made with margin pressure 1.5 times higher than face value (i.e. about 15 atmospheres). Also, at compressor outlet, it is necessary to install the coarse filter (10 microns), fine filter (5 microns), moisture separator and gear (pressure must be set at 6-7 atmospheres). For ease of installation and operation, pipelines are made of reinforced PVC high pressure hose. It is not recommended to use steel pipes for pneumatic pipelines as sludge is formed inside them caused by the condensation that clogs air filters or falls into the pneumatic actuators of industrial machines, which has a bad effect on the service life of the equipment. To ensure uniform pressure on all parts of pipeline, it is recommended to ‘loop’ pneumatic pipeline.

It is recommended to perform the connection of hose segments with special connectors or T-bends that are made from PVC or bronze and have diameters required according to both mounting and holes section, depending on connection type. Pneumatic pipelines in premises should preferably be installed at a height of 600 mm or more from the floor in order to reduce condensation.

Industrial machine workplace equipment

- automatic circuit breaker for emergency power cutoff;
- air input (in the case of connecting additional pneumatic tool, the input must be equipped with pressure regulator and lubricator);
- soot blower for equipment cleaning;
- walkway on the floor of the working area.

Assembly table workplace equipment

- socket for connecting power tool;
- pneumatic control valve with pressure regulator and lubricator for connecting the pneumatic tool;
- premises must be equipped with fire shield with fire-extinguishing appliances, sand box, and first aid kit.

3.5.3 Preparation Area

The following operations are performed at this area.

Reinforcing profile cutting. Reinforcing profile is cut into blank parts according to order form, which are marked and stacked into special pyramid to allow free access to them. Metal profile (reinforcement) must be cut on specially designated saws or presses. Cutting speed must be set in the range of 0.4-0.5 m/s. Coolant must be used, if necessary.

Cutting of PVC profile blank parts is performed according to order form including welding margin of 5-6 mm (allowance for welding is a parameter which is dependent on the setting of the welding machine, and may be in the range from 2.5 to 3 mm per side). Frame and sash profiles are cut at an angle of 45°.

Recommendations for choosing the correct cutting blade:

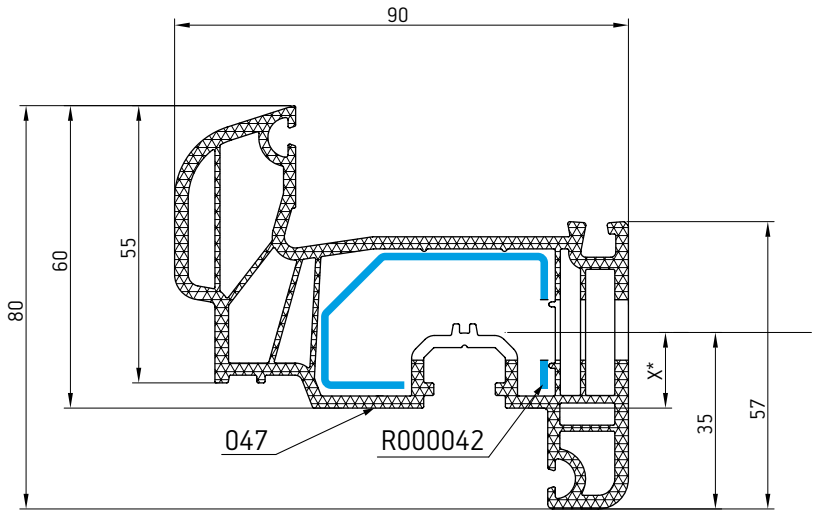
- Blade diameter: from 400 mm
- Tooth form: trapezoidal, flat
- Teeth spacing: 8-12 mm
- Turnover: 3000-4000 min -1
- Cutting speed: 50-60 m/s

It is always necessary to pay attention to the grinding sharpness of the cutting blade as dull saw increase the temperature while cutting, which in turn leads to the appearance of melted material residues between the blade cutting teeth. This negatively affects the quality of cutting, and therefore the quality of the welding. When cutting PVC profile, it is not permissible to use cutting-cooling materials as the residues of oil, water or emulsion negatively affect the quality of welding. Cutting surface cleanness is the indicator that confirms the quality of welding. To avoid contamination of the profile, and also to absorb moisture from the environment, the cut profile must be passed to welding area not later than 8 hours from the time of cutting. Mullion is cut at an angle of 90° with allowances made for projections on each side, 3 mm for the side (depending on the setting of milling machine).

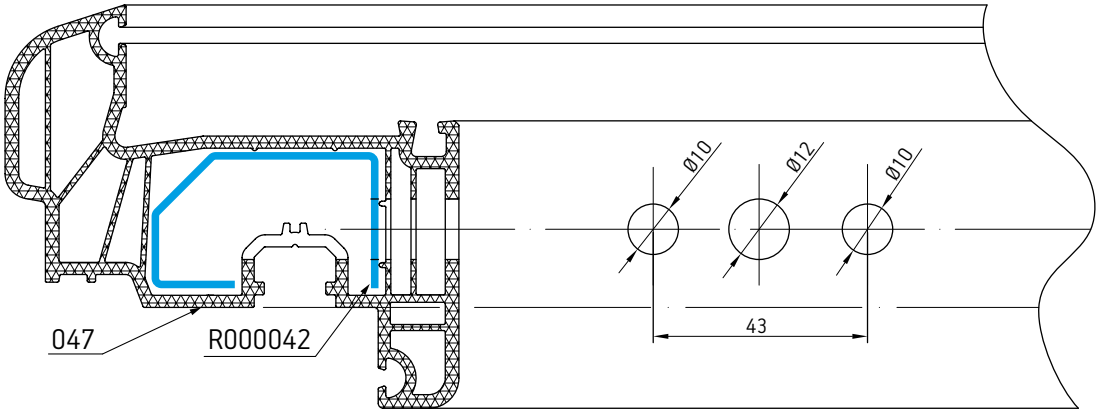
3.5.3.1 Principle of Making Holes for Fittings, Ventilation, and Condensate Drain

Milling and drilling of holes for fittings

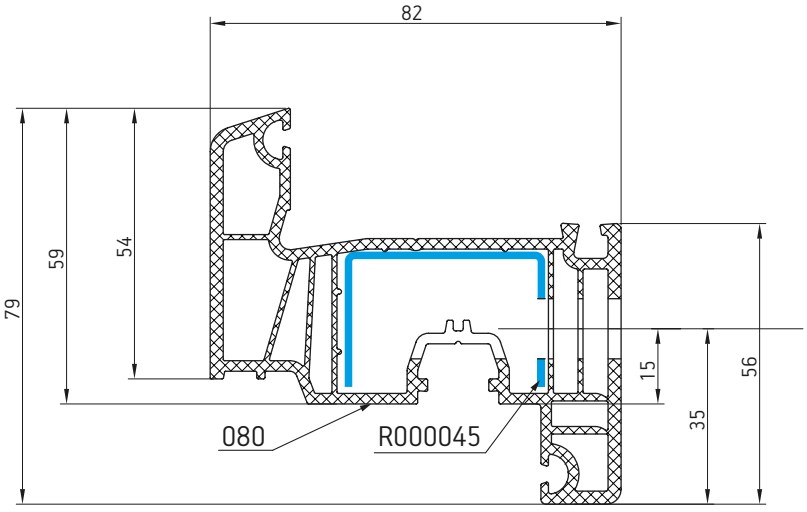
Sash // 047



*- depending on the selected fittings



Sash // 080



Drainage from the box

Drainage from the box is arranged in the lower horizontal profile of the box and is used for controlled removal of moisture trapped in the seam.

Holes in glazing rebate area are made by milling 5x25 mm grooves or drilling 3 holes of 6 mm diameter with 2-3 mm distance between the holes. The distance of holes from inner angles is about 30 mm.

The distance between the holes must not exceed 600 mm.

When making drainage holes by drilling of 6 mm diameter holes, it must be taken into account that due to the smaller section of circular holes compared with the splines (minimum 5x25 mm), the number of circular holes must be increased (one 5x25 mm spline corresponds to three 6 mm diameter holes).

Outward holes. As for the holes facing outwards, profile systems manufactured by MIROPLAST offer two options for drainage from the box.

In case of forward drainage, holes (Ø10.2 mm) or splines (minimum 5x25 mm) are made at a distance of 100 mm from the frame corner over the inner wall of the prechamber. The lower edge of the hole or spline must be located above the prechamber wall at 0.5-1.0 mm.

In case of hidden drainage down from the box, splines (minimum 5x25 mm) are made through the groove between the coupling legs or 3 holes with 6 mm diameter with 2-3 mm distance between the holes. Outward holes should be made with 50 mm offset with respect to the holes in the seam.

Glass glazing rebate ventilation.

In accordance with the terms of the guarantee from insulated glass units manufacturers, glazing rebate must have adequate ventilation. This applies to both sash and fixed glazing in the box. Ventilation is carried out through the lower and upper horizontal side of the box or sash.

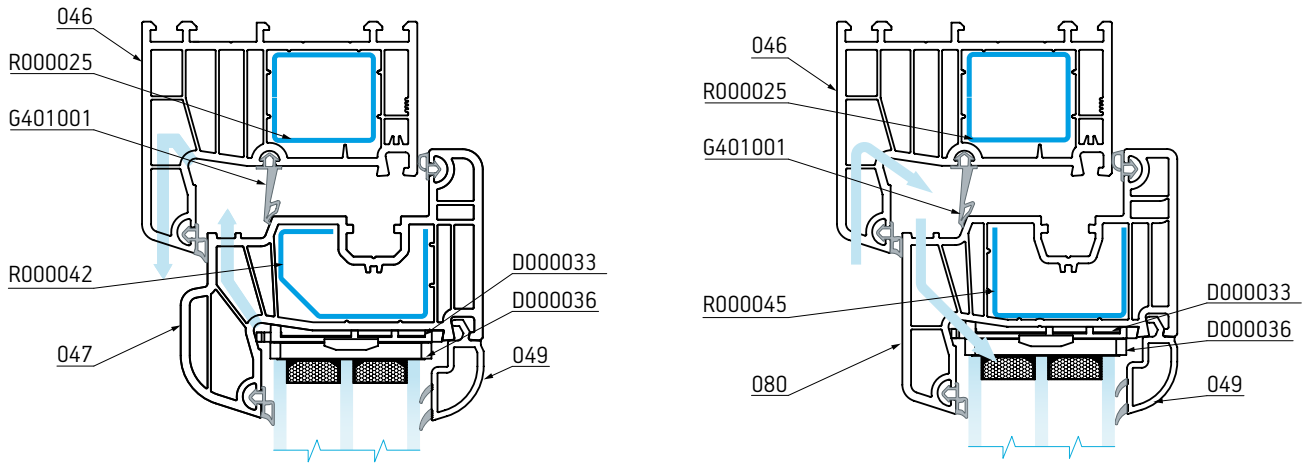
*Holes in glazing rebate area***.** Holes in glazing rebate area are made by milling the splines (minimum 5x25 mm) or drilling 3 holes of 6 mm diameter with 2-3 mm distance between the holes. The distance of holes from glazing rebate angle must be about 30 mm; the distance between the holes must not exceed 600 mm.

The holes are made in the sash and frame in upper and lower horizontal profiles. It is necessary to ensure that these holes are not closed with plates for insulated glass units.

Outward holes. Outward holes are made in the sash at the distance from window glazing rebate angle in the form of spline (minimum 5x25 mm) or 3 holes of 6 mm diameter with 2-3 mm distance between the holes. Pressure equalization in the box is made at the top by drilling 3 holes of 6 mm diameter with 2-3 mm distance between the holes or milling the splines

Outward holes should be made with 50 mm offset with respect to the holes in the seam.

The top of window unit



The bottom of window unit

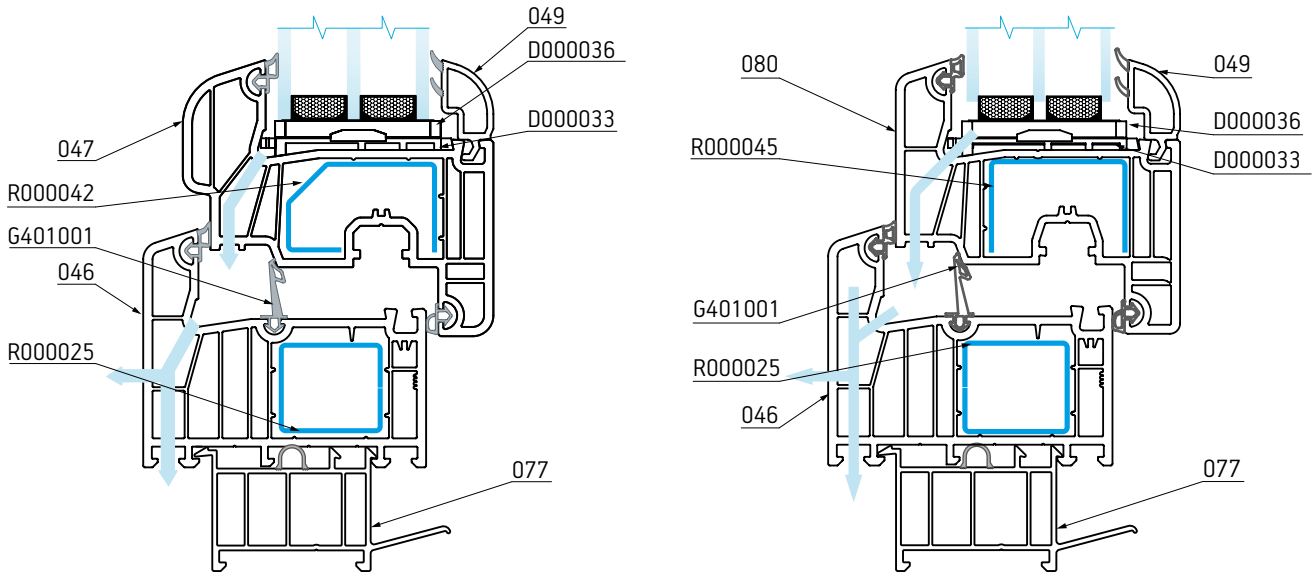


Fig. 2. Typical ventilation circuits.

Mullion ventilation

With mechanical connections, in order to reduce heat congestion in the prechamber and baffle chambers of horizontal mullions, if they have not been yet opened with holes for drainage and ventilation, ventilation holes must be made at a distance of about 30 mm from the angle.

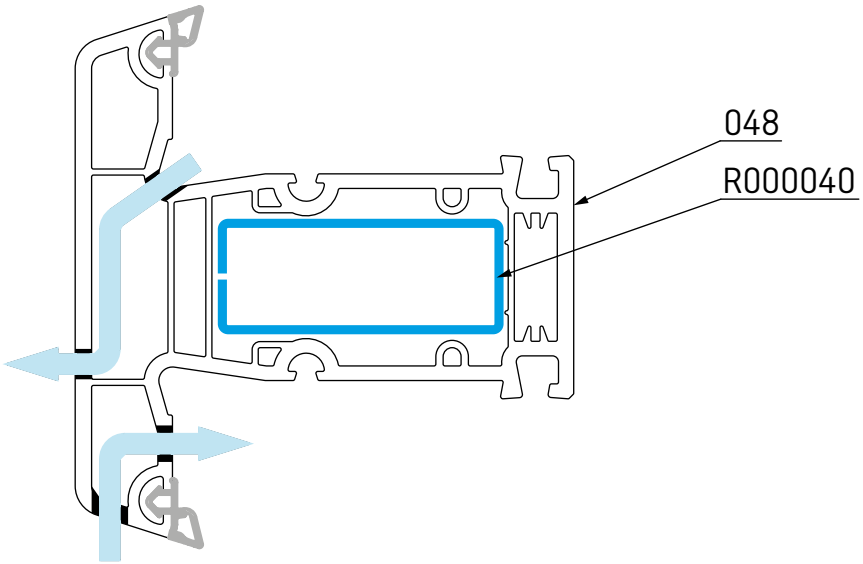


Fig. 3. Typical ventilation circuits.

Ventilation of prechamber for colored profiles

Colored profiles exposed to extreme thermal loads, for example, located behind glazing or under direct sunlight, must be specially processed, i.e. to provide ventilation of all prechambers.

Ventilation of prechamber for the frame and sash. Additional ventilation holes are drilled in the chamber (1) of upper transverse profile in case the ventilation is not performed through drainage holes.

Ventilation of the chamber (2) is performed through drainage holes.

The holes in the chamber (3) should be positioned to remain open after installation of the window in the opening (e.g. holes in the lateral profile).

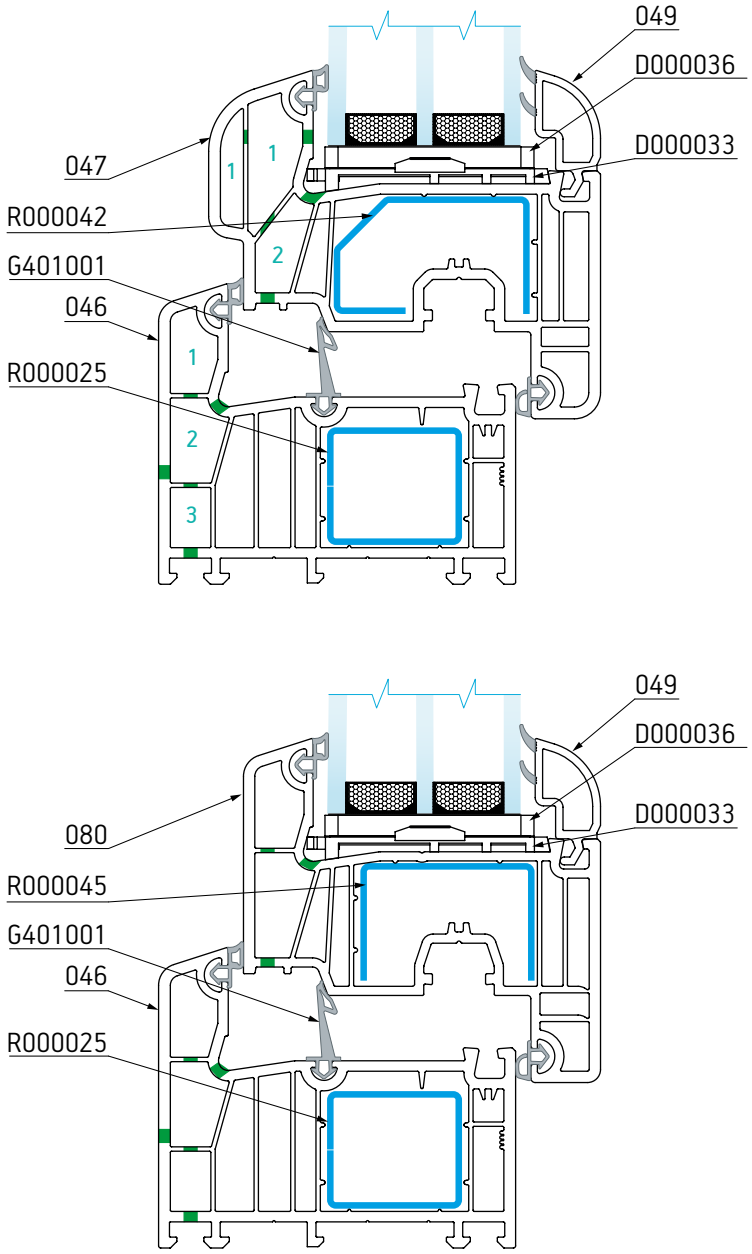
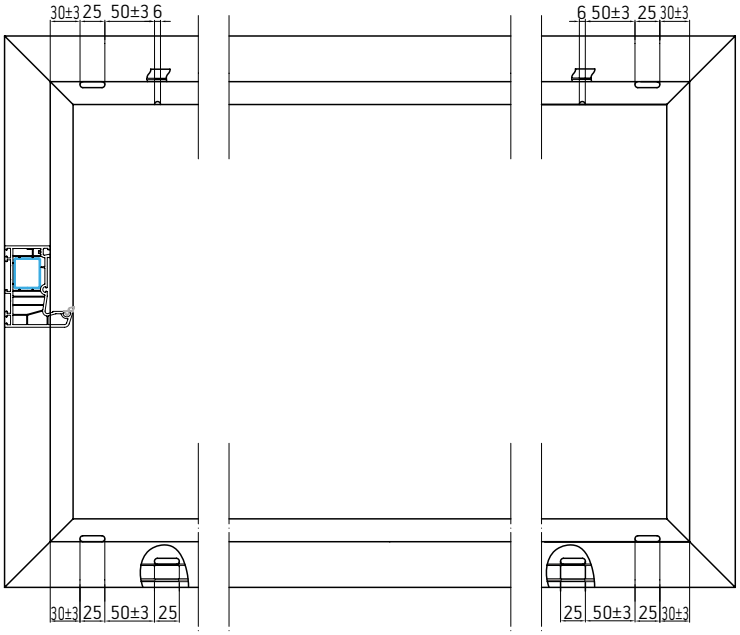
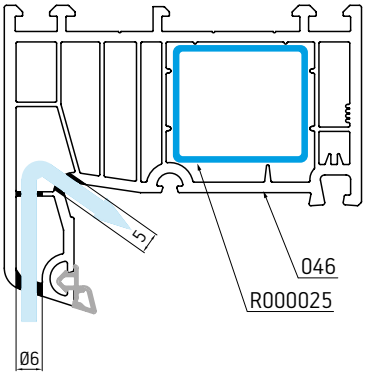


Fig. 4. Typical circuits of ventilation of prechamber for colored profiles.

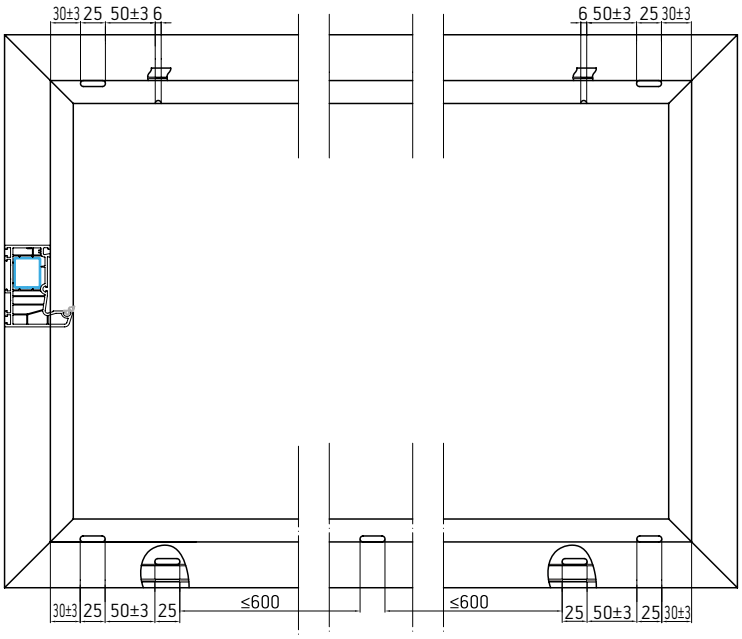
Drainage in the box (frame). Pressure equalization in the sash

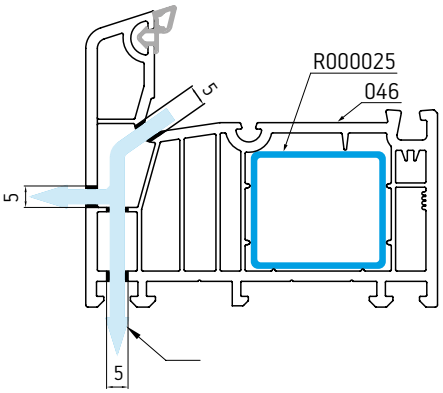
Frame width up to 600 mm



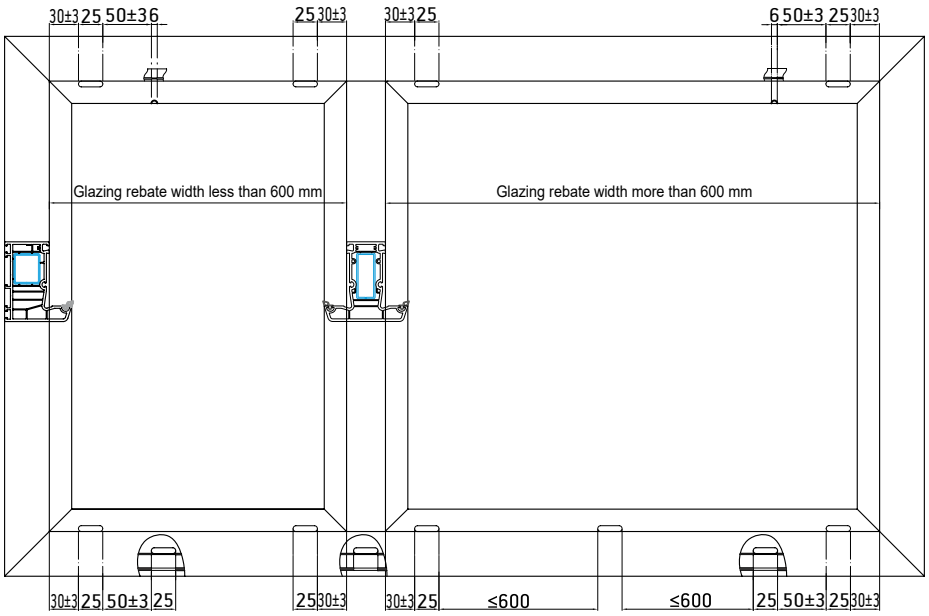


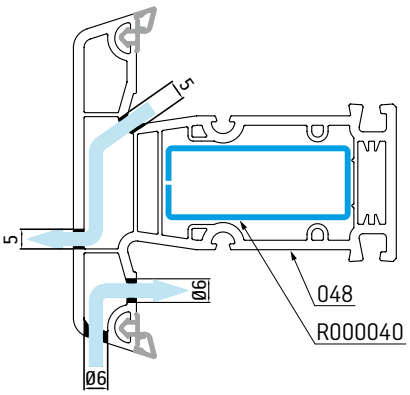
Frame width over 600 mm



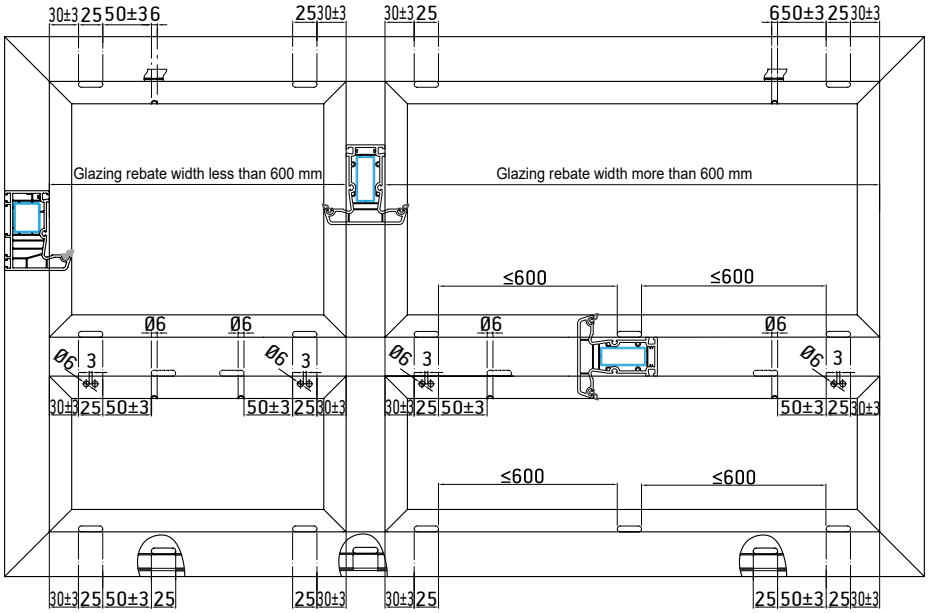


Drainage/pressure equalization in the frame with mullion



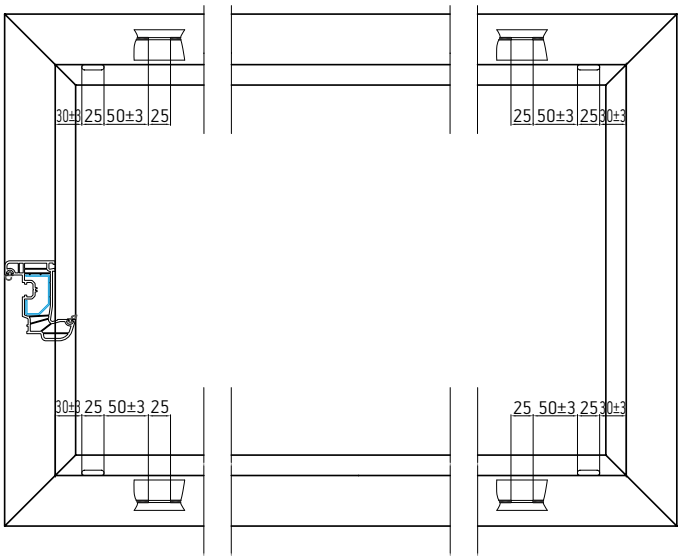


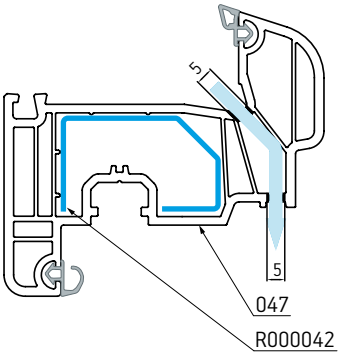
Holes in the frame with horizontal and vertical mullion

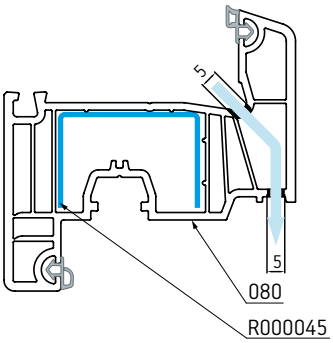


Drainage in the box (frame). Pressure equalization in the sash

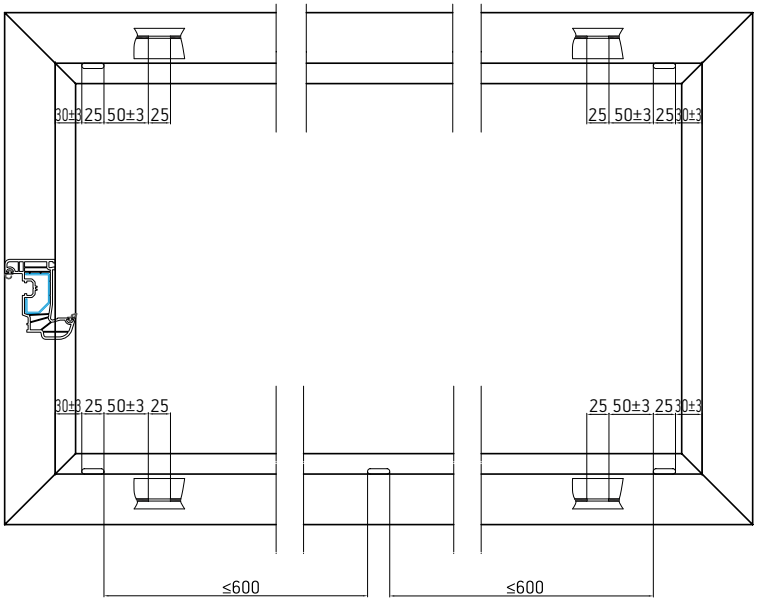
Sash width up to 600 mm

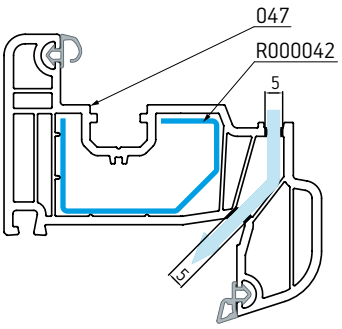


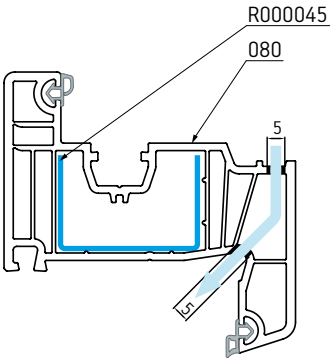




Sash width over 600 mm

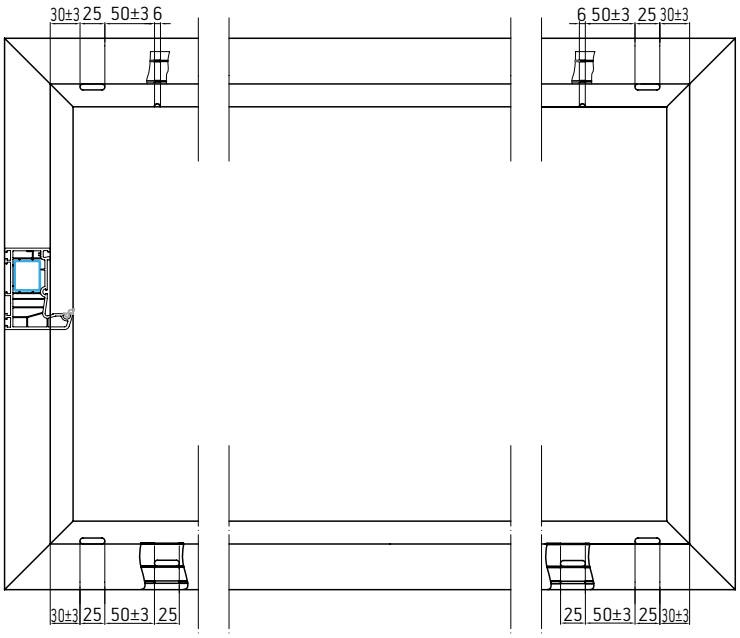


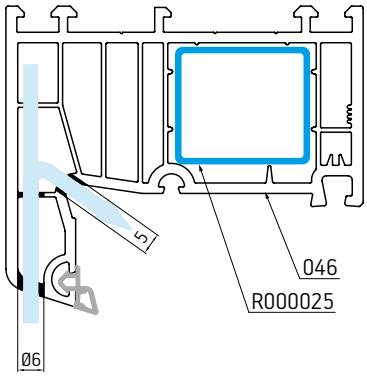




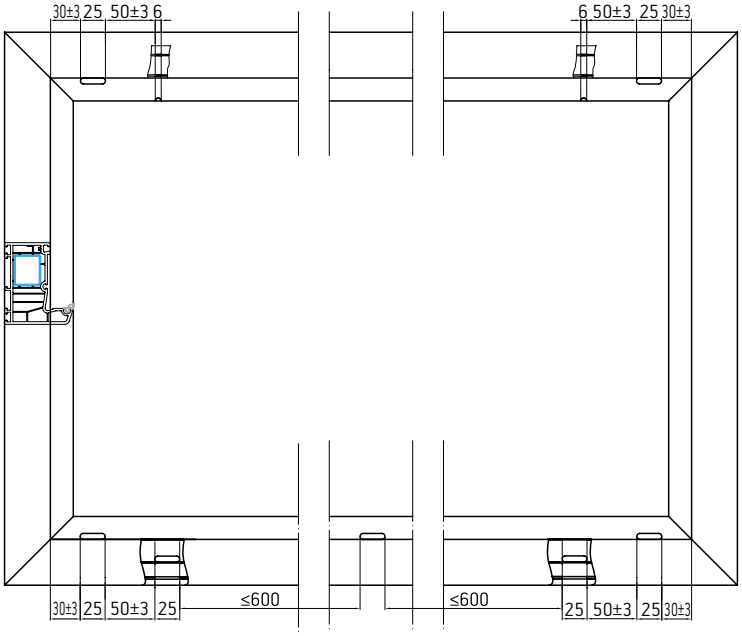
Drainage in the box (frame). Pressure equalization in the sash (laminated profile)

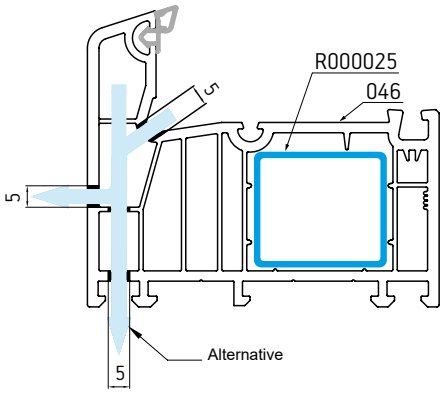
Frame width up to 600 mm



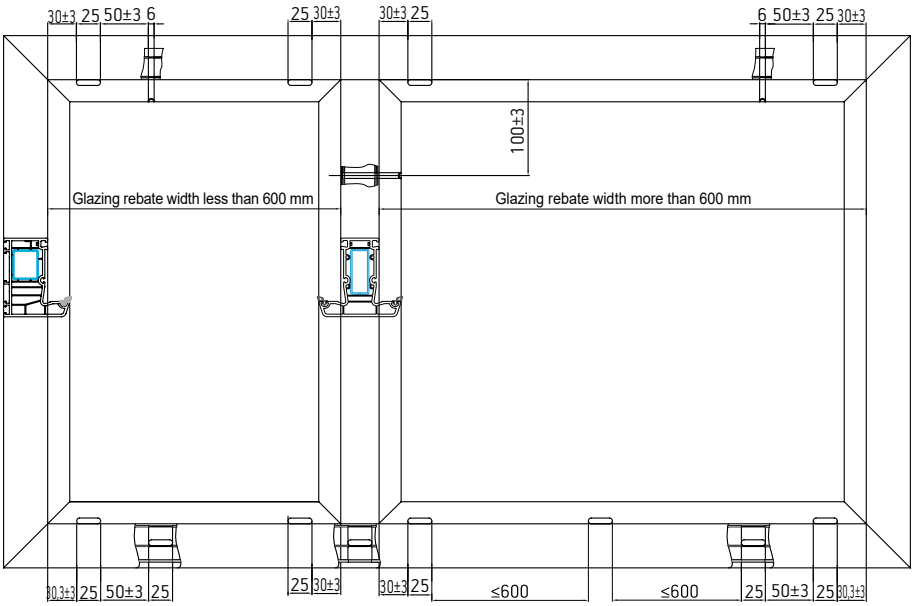


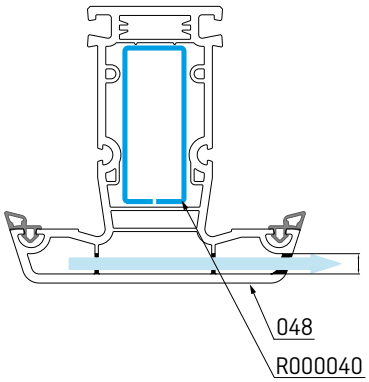
Frame width over 600 mm



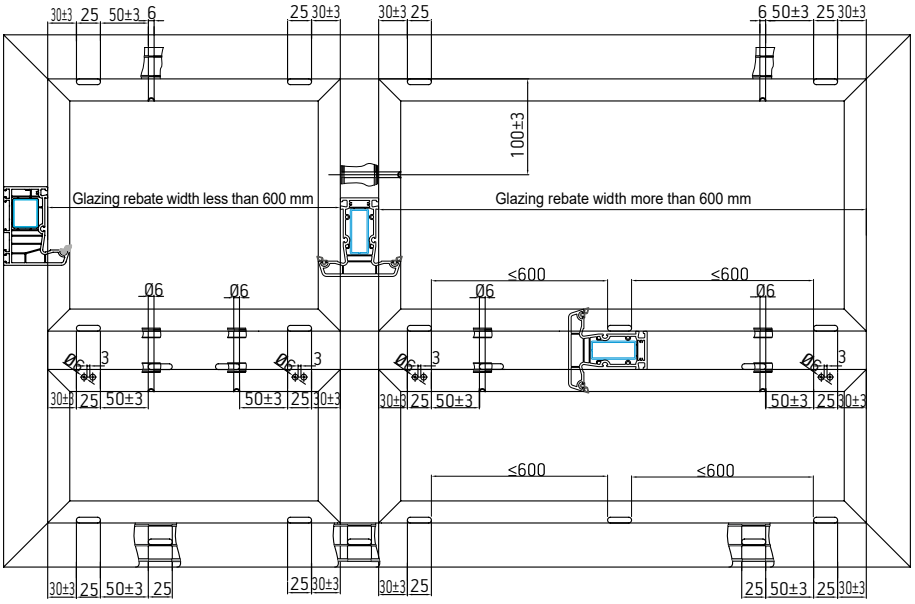


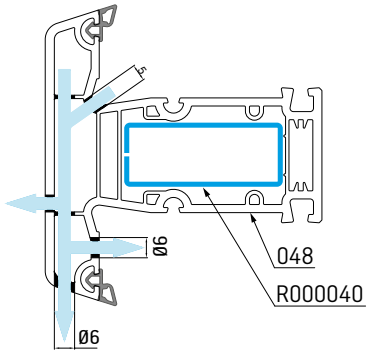
Drainage/pressure equalization in the frame with mullion (laminated profile)





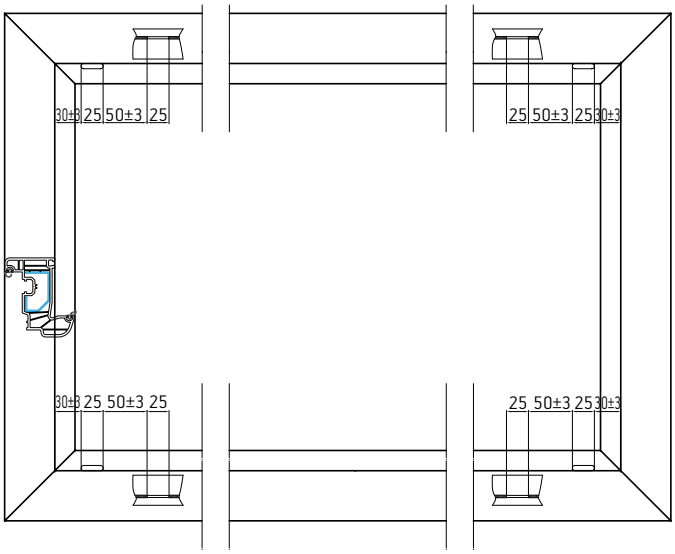
Holes in the frame with horizontal and vertical mullion

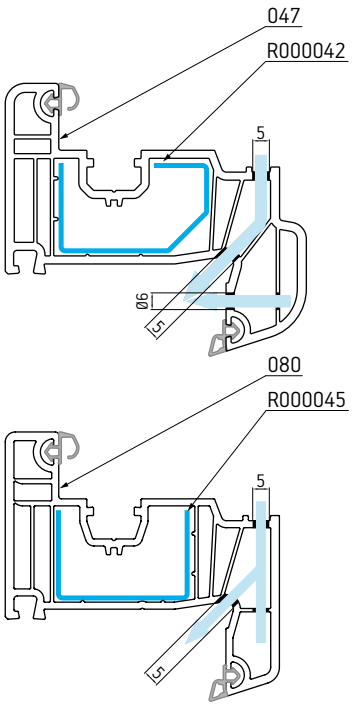




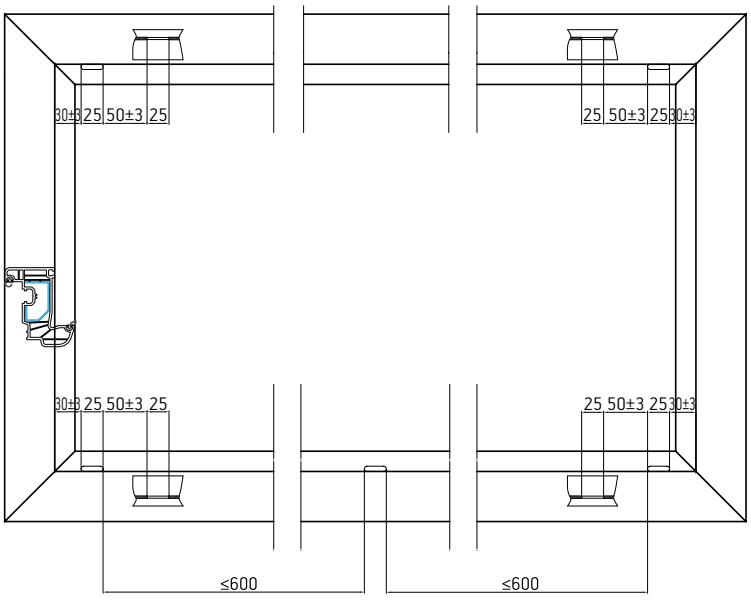
Steam pressure equalization in the sash (laminated profile)

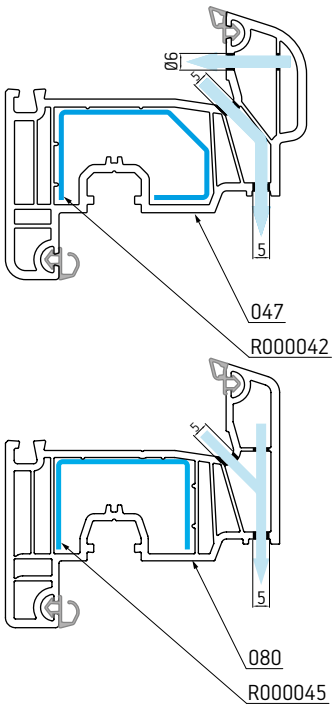
Sash width up to 600 mm





Sash width over 600 mm



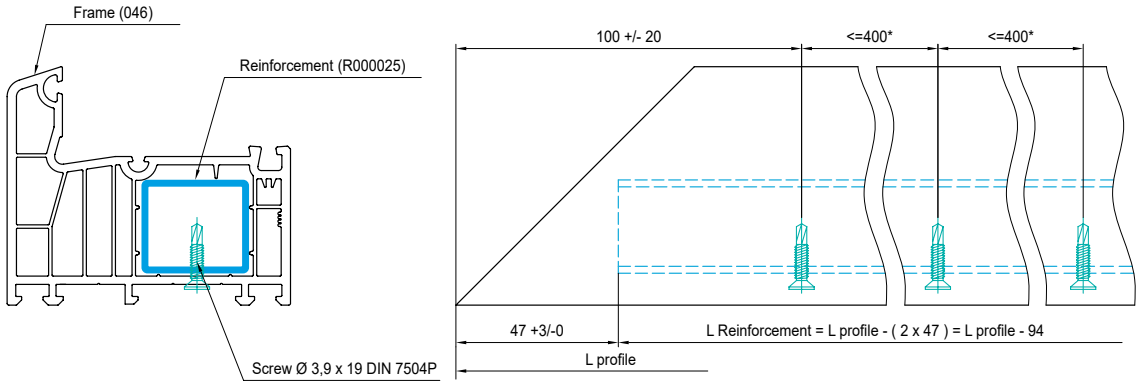


3.5.3.2 Recommendations for Reinforcing Profile Installation

Reinforcing profile must be installed along the length of PVC profile blank part according to the markings on the profile. Fixation of reinforcing profile must be made with 3.9x16, 3.9x19 mm screws and the drill (DIN 7504P) (reducing the number of screws indicated in this manual is not permitted).

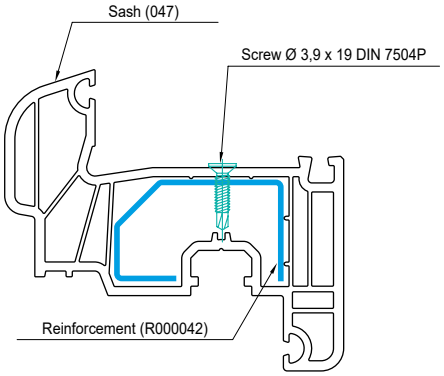
**All colored profiles (frames and sashes) must be reinforced despite the size of the window. Recommended reinforcing profiles with wall thickness not less than 1.5 mm. For colored profile, it is necessary to maintain the distance between the screws of not more than 250 mm.*

Frame // 046

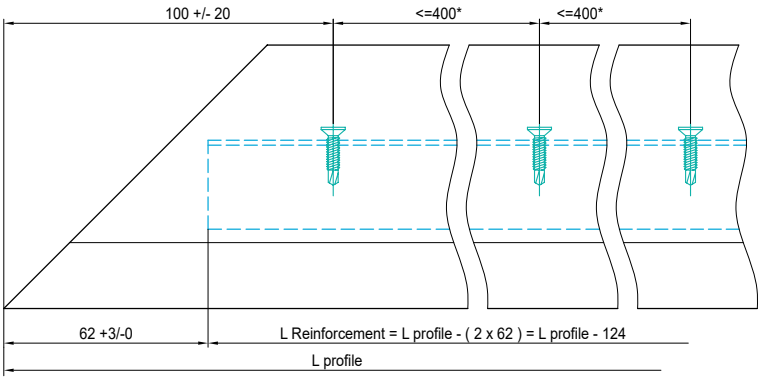


*with laminated profile the distance between self-drilling screws <= 250 mm

Sash // 047

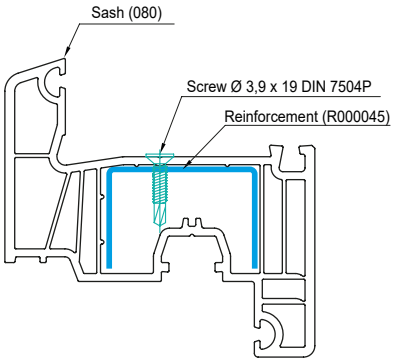


When attaching the reinforcement to short lenght profile use at least 3 self-drilling screws

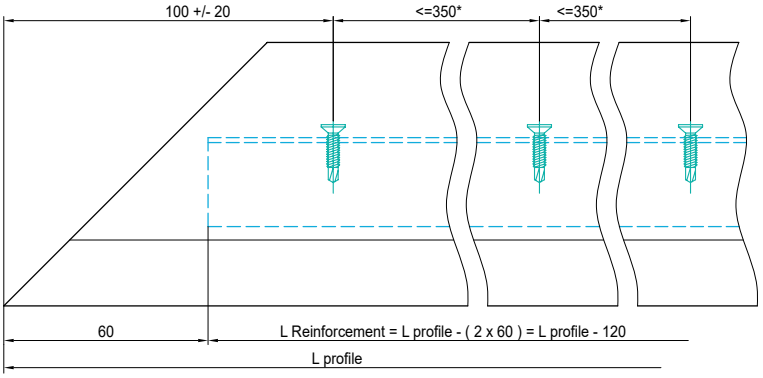


*with laminated profile the distance between self-drilling screws <= 250 mm

Sash // 080

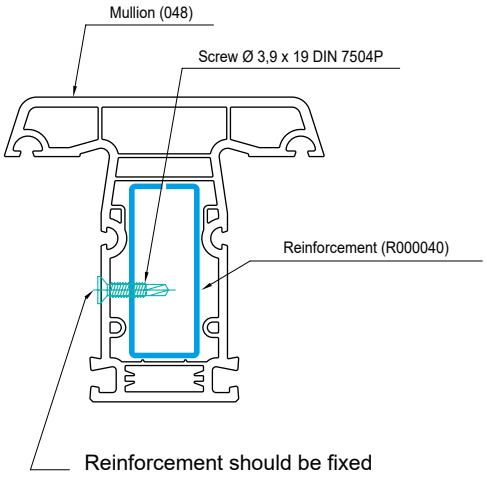


When attaching the reinforcement to short lenght profile use at least 3 self-drilling screws

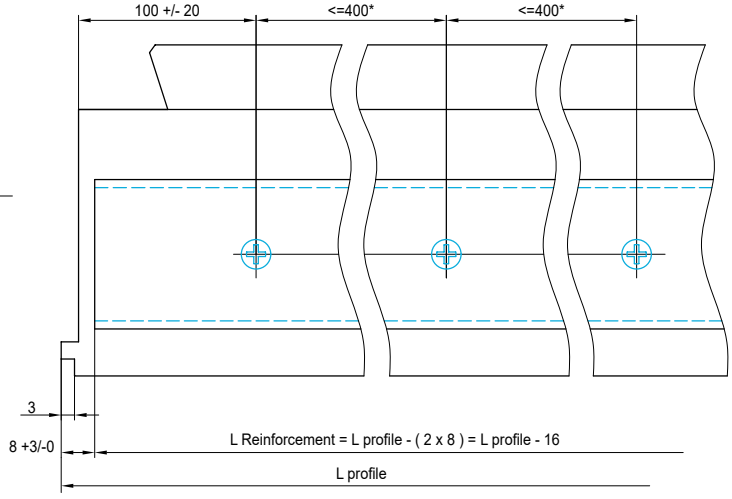


*with laminated profile the distance between self-drilling screws <= 250 mm

Mullion // 048

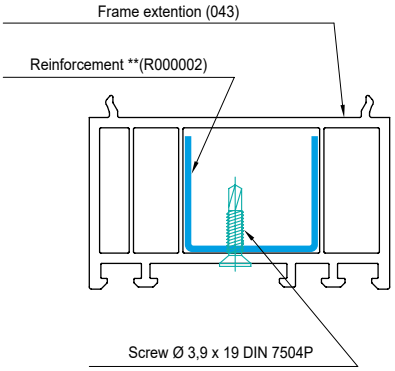


When attaching the reinforcement to short lenght profile use at least 3 self-drilling screws

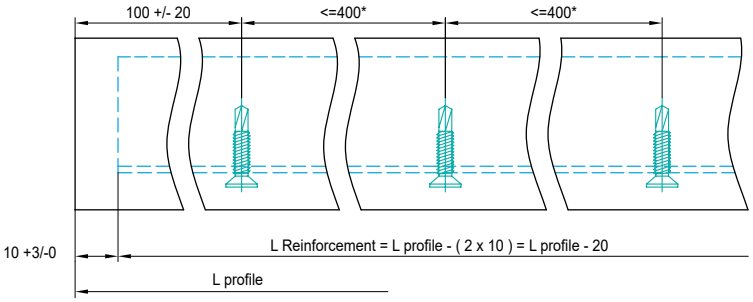


*with laminated profile the distance between self-drilling screws <= 250 mm

Frame extention // 043



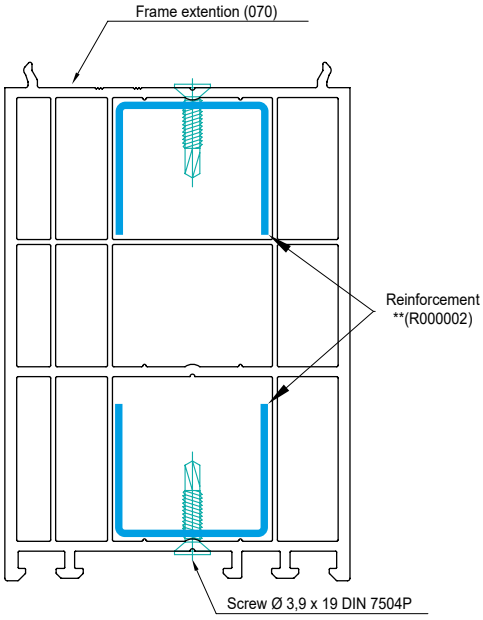
When attaching the reinforcement to short lenght profile use at least 3 self-drilling screws

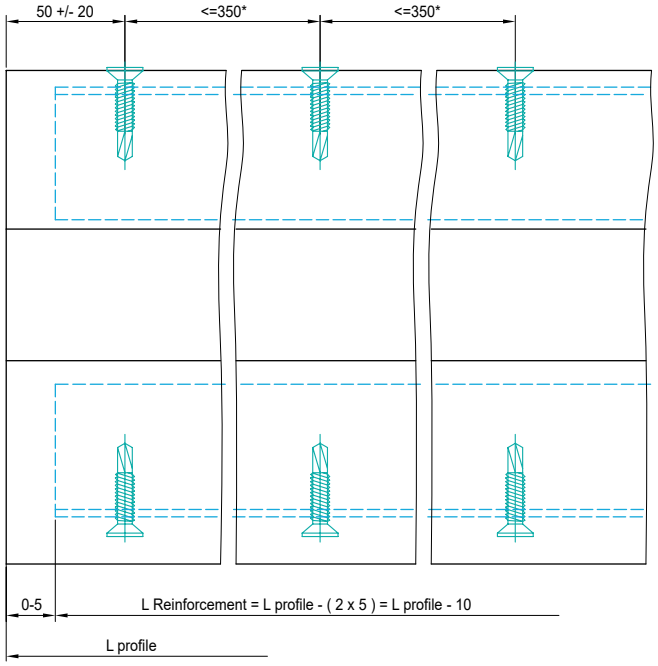


*with laminated profile the distance between self-drilling screws <= 250 mm

Frame extention // 070

When attaching the reinforcement to short lenght profile use at least 3 self-drilling screws

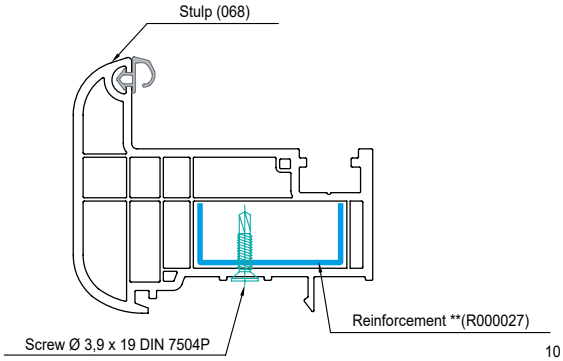


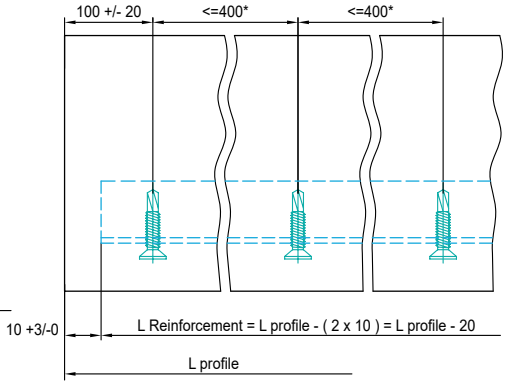


*with laminated profile the distance between self-drilling screws <= 250 mm

Stulp // 068

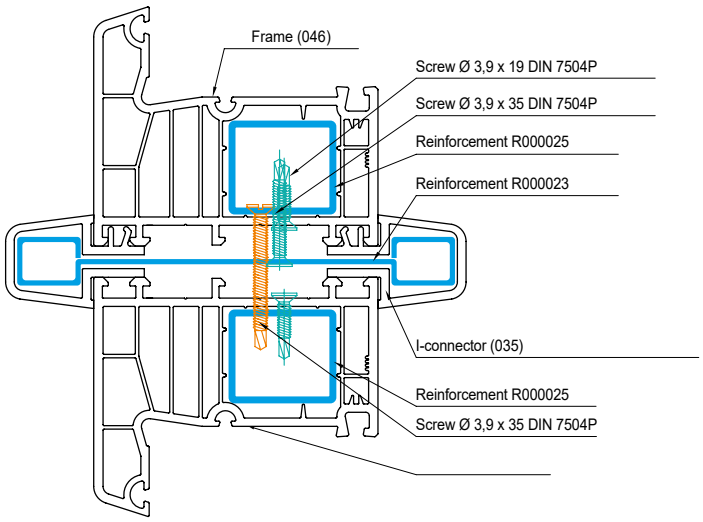
When attaching the reinforcement to short lenght profile use at least 3 self-drilling screws

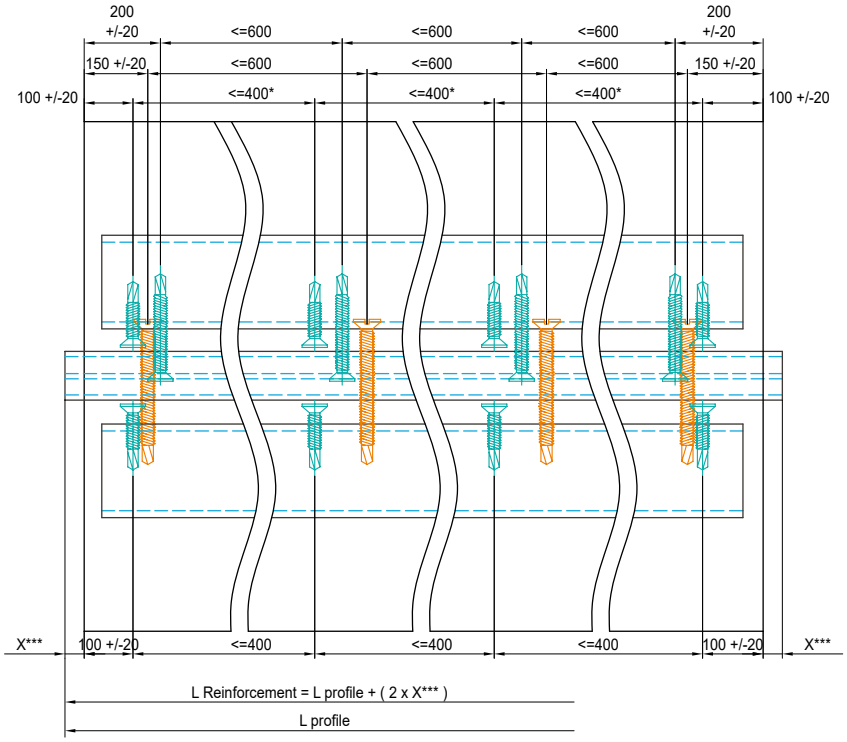




*with laminated profile the distance between self-drilling screws <= 250 mm
** with laminated profile, use reinforcing profile with wall thickness of not less than 1.5 mm

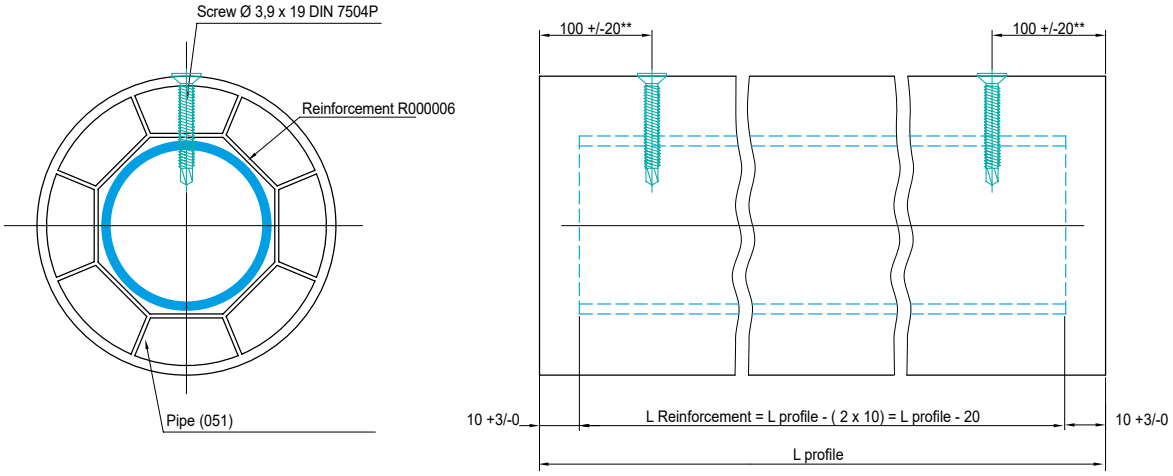
I - connector // 035





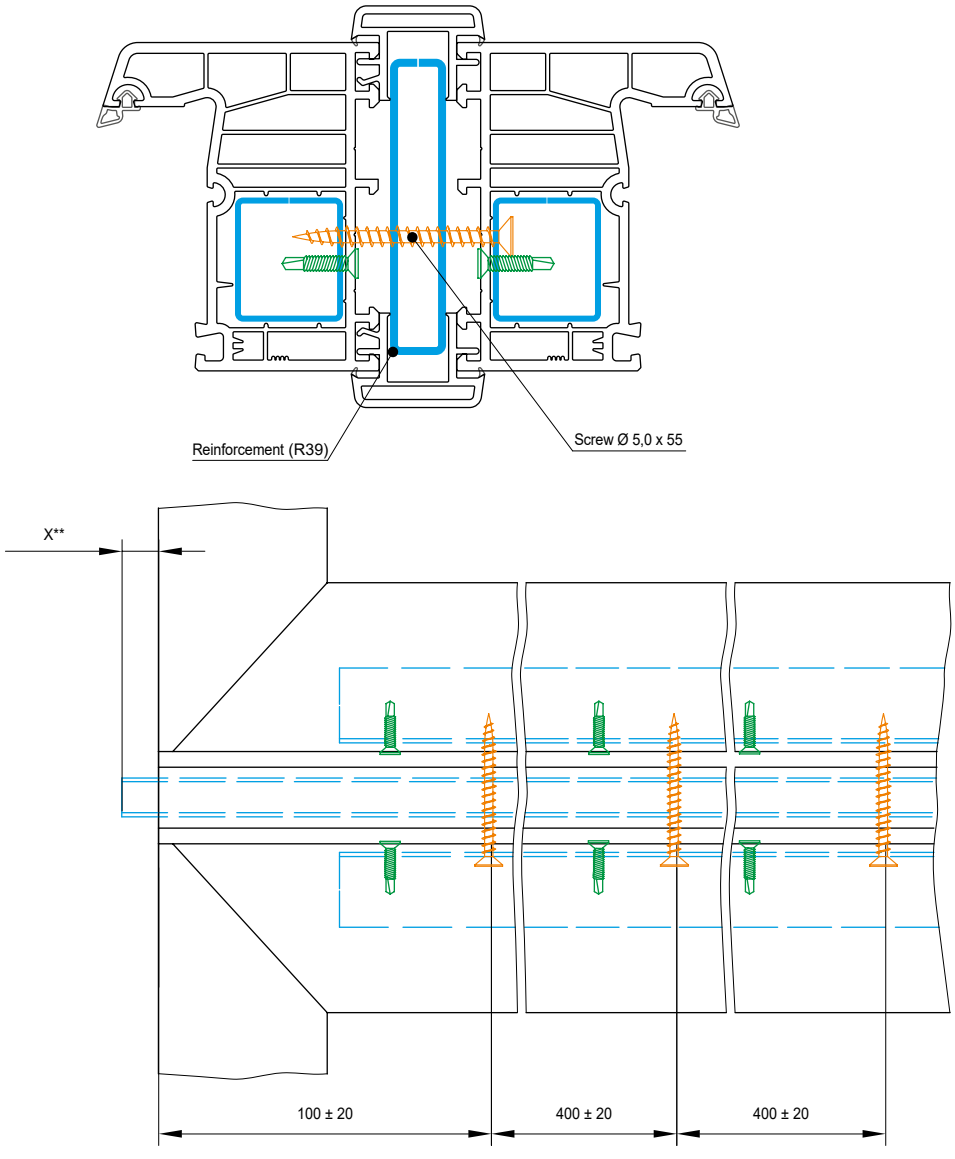
*with laminated profile the distance between self-drilling screws <= 250 mm
*** size is selected based on installation conditions

Pipe // 051



** It is recommended to locate mount attachment of reinforcing profile to circular connector at two points on the edges, at a distance of 100 mm from the edge, regardless of the construction height

I - connector // 076



** It is recommended to locate mount attachment of reinforcing profile to circular connector at two points on the edges, at a distance of 100 mm from the edge, regardless of the construction height

3.5.3.3 PVC Products Welding Area

Profiles welding is carried out using special industrial machines. Welding machines can have one, two or four welding heads. Welding machine with four heads is the most productive one since the process of product welding products is performed in a single cycle. Welding on 2-head machine is performed in two cycles and on 1-head machine in four cycles respectively. Welding machine parameters must be checked during weld test of trial angle bars daily before the start of work.

During the welding process, it is necessary to strictly maintain the necessary welding conditions: Heating element surface must be clean. In order to keep working surface of heating element clean and to reduce the adhesion force at disconnection of the heating elements, the heating element is covered with PTFE film (teflon).

Teflon coating of the heating element must be wiped with a clean cotton or paper towel every hour, at hot condition, without the use of solvents. The thickness of teflon film in heating element should be between 0.120 (special) to 0.200 mm

The most optimal welding parameters are selected based on the results of welding of testing samples.

The following parameters should be deemed optimal:

- Heating element temperature: about 249±1°C
- Profile down pressure: 6 bar
- Melting time: 24-26 seconds
- Down pressure of profile to heating element: about 2.5-3.0 bar
- Connection time: 30-32 seconds
- Connection pressure: 2.5-3.0 bar
- Profile temperature not below 17°C

Welded profile surface must not be damaged and contaminated with dust, grease or oil.

Before installing the blank parts on welding machine, it is necessary to ensure that the surfaces to be welded are cleaned, because grease, dust, PVC or metal shaving dramatically degrade the quality of weld joint. Having completed the welding process, visual inspection of weld joint quality is performed. The joint must be white (light yellowing on its axis is allowed, this indicates that the temperature of heating element or warm-up time has been excessive). The joint must be uniform. The blank parts must be welded over the entire weld surface.

Possible mistakes during welding:

- sensor temperature does not correspond to the temperature of heating element;
- heating element is cooled by air on one side (draft);
- melting temperature, melting time and down pressure of profile to heating elementare not properly adjusted;
- very short cooling time;
- welding surfaces are contaminated or wet;
- heating element is contaminated;
- welding planes does not lie parallel to heating element;
- weld fixtures are set incorrectly.
- Profile temperature below 17°C

During profile welding (frame, sash, mullion) some seal defects may occur, such as hardening and convexity. Consequently, the correct adjustment of the window during assembly and installation and tight closing of the windows make become difficult or impossible, that does not comply with the standards. To prevent the occurrence of such defects, it is necessary before the welding process to remove seal burr on profile ends remaining after cutting. Residual welding defects and irregularities in the frame are removed by a chisel, and side cutter in the sash.

Prohibited activities:

1. Cool profiles with accelerated method (blow out with compressed air, put on a cold surface).
2. Allow the cuts on inner corner of weld connection.
3. Make lateral groove depth of more than 0.5 mm.
4. Use cleaning and polishing agents that dissolve PVC.

The following are key figures for calculating the fracture stress of weld angle or T-shape connection of WDS 8 SERIES Window Profile pursuant to paragraph 7.11 DSTU B V.2.6-15.

Table 1. Key figures for calculating the fracture stress of weld angle or T-shape connection of WDS 8 SERIES Window Profile

Profile name	J_x	J_y	e_x	e_y	W_x, (mm^3)	W_y, (mm^3)	e, (mm^3)	F_{min}, (N)	const	Li, (mm)
Frame 8S	346964	846860	41,3	45,4	8401	18653	41,3	3443	0,0102	200
Sash 8S	396247	1032679	41,1	48,3	9641	21381	41,1	3948	0,0089	201
Sash 8S classic	352803	848361	41,8	43,0	8440	19729	41,8	10150	0,0034	199
Mullion 8S	346964	866646	43,0	48,0	9911	18055	43,0	4091	0,0086	197

Formula for calculating the minimum breaking load, [N]:

$$F_{min} = \frac{2 \times W_x \times \delta_{min}}{\frac{a}{2} - \frac{e}{\sqrt{2}}}$$

F_{min} — minimum fracture force for a particular type of PVC profile

W_x — profile resistance moment in the direction of the load

δ_{min} — minimum fracture stress (35)

a — distance between rotation axes (a=400±2 mm)

e — distance from the neutral axis to extreme fibers, (mm)

Formula for calculating fracture stress, [N/mm2]:

$$\delta = F \times \left(\frac{\frac{a}{2} - \frac{e}{\sqrt{2}}}{2 \times W} \right)_{const} \geq 35$$

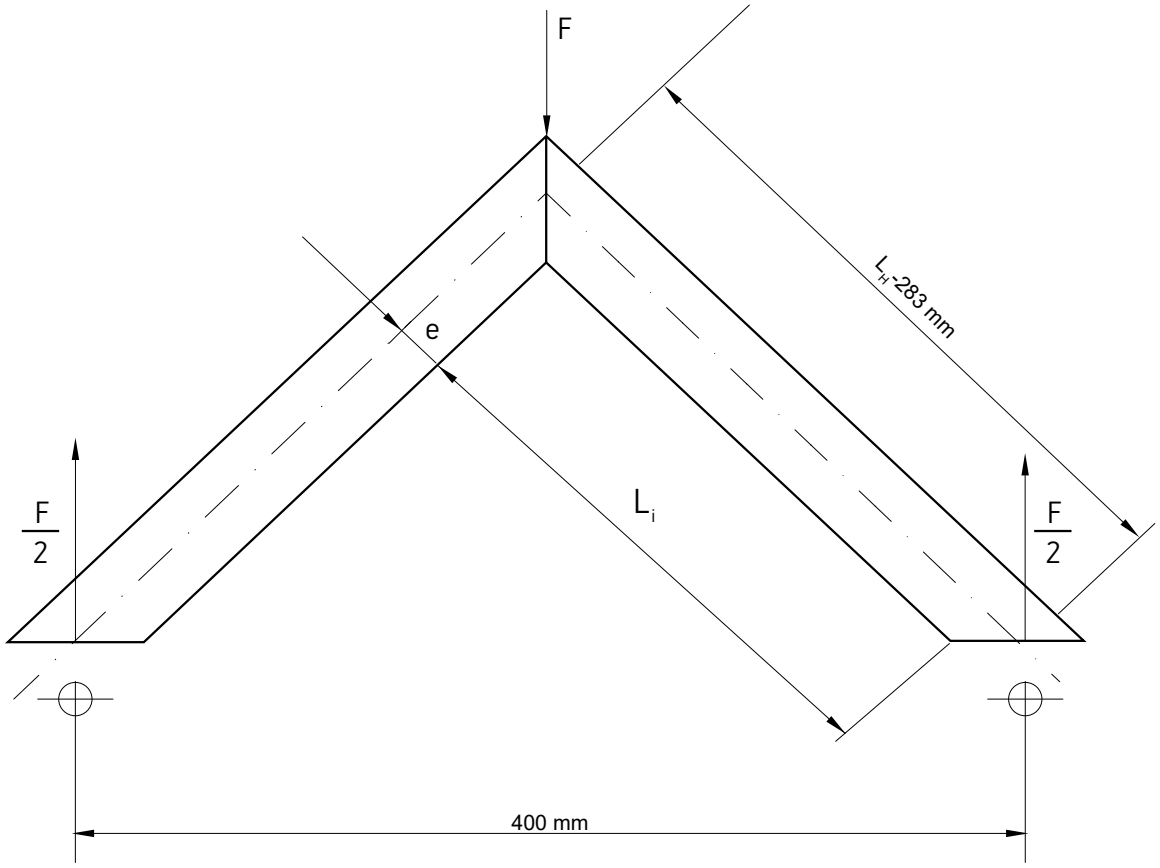


Fig. 5. Sketch of the sample to test angle weld connection

3.5.3.4 PVC Products Angles Cleaning Area

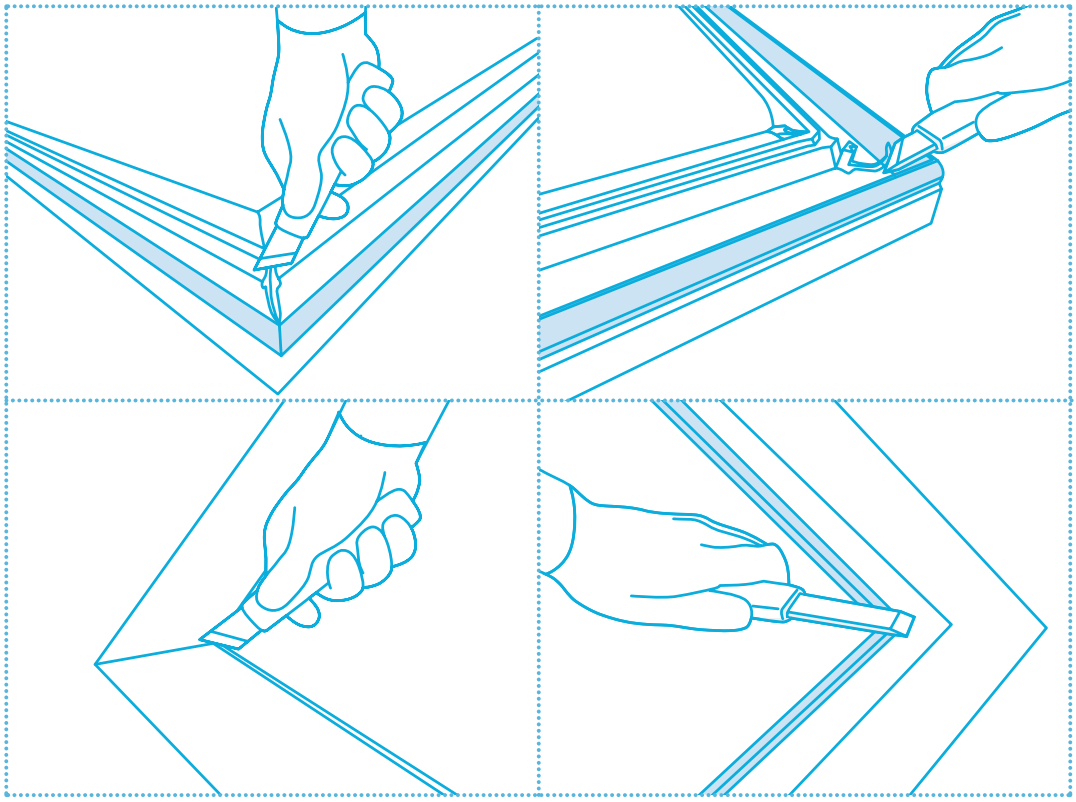
Products angles cleaning is carried out manually or on special industrial machine. When cleaning manually, a chisel with narrow blade of 8-10 mm or special crescent knife are used. When cleaning angles with cleanup machines, attention must be paid to profile faces in order to prevent them from damage by cutters. Due to weld joint cleaning on face surfaces (diagonal groove), it is necessary to maintain the cleaning depth of 0.3-0.5 mm.

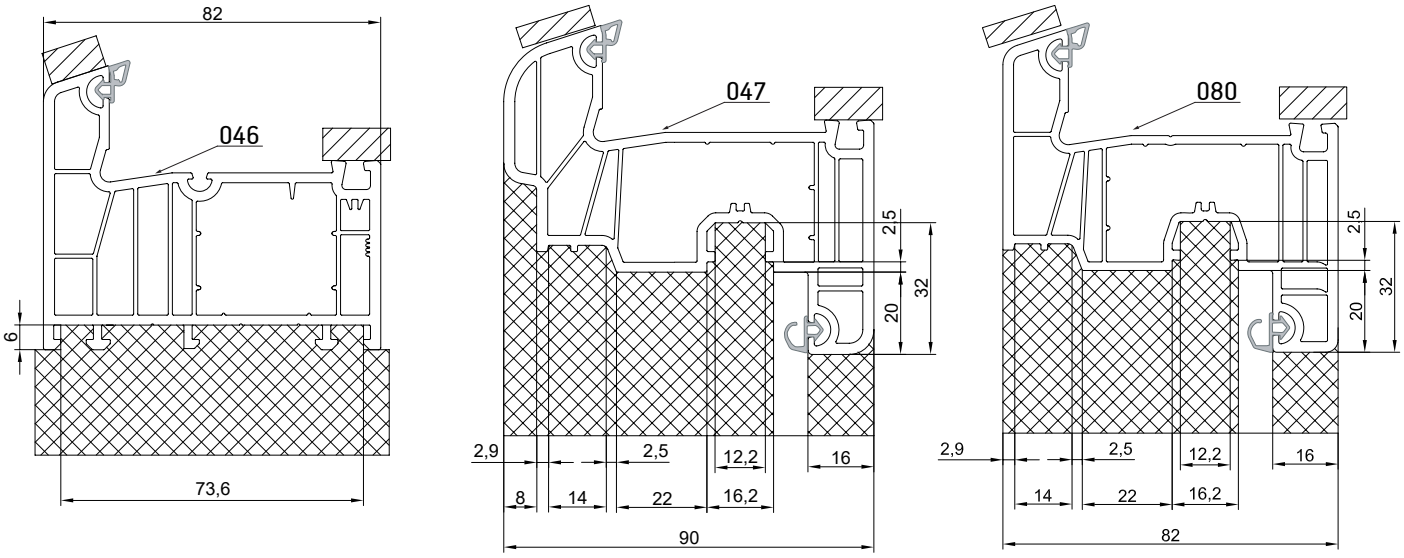
Recommended cleaning loop of frame and sash angle is specified in Fig. 6.

Automatic machine cleans one angle at a time. After completing cleaning operations and cleaning quality control, products are installed on special collecting racks for temporary storage.

Primarily, it is necessary to monitor the correct cleaning of functionally important zones of profile loop and profile areas.

1. Groove angle for locking device should be cleaned so that corresponding parts could be freely installed in it, and their normal operation was not hindered.
2. Planes in the vicinity of seal groove must be cleaned so that the seal passage along the perimeter is without gaps and drops.





Manual processing
Mechanical processing

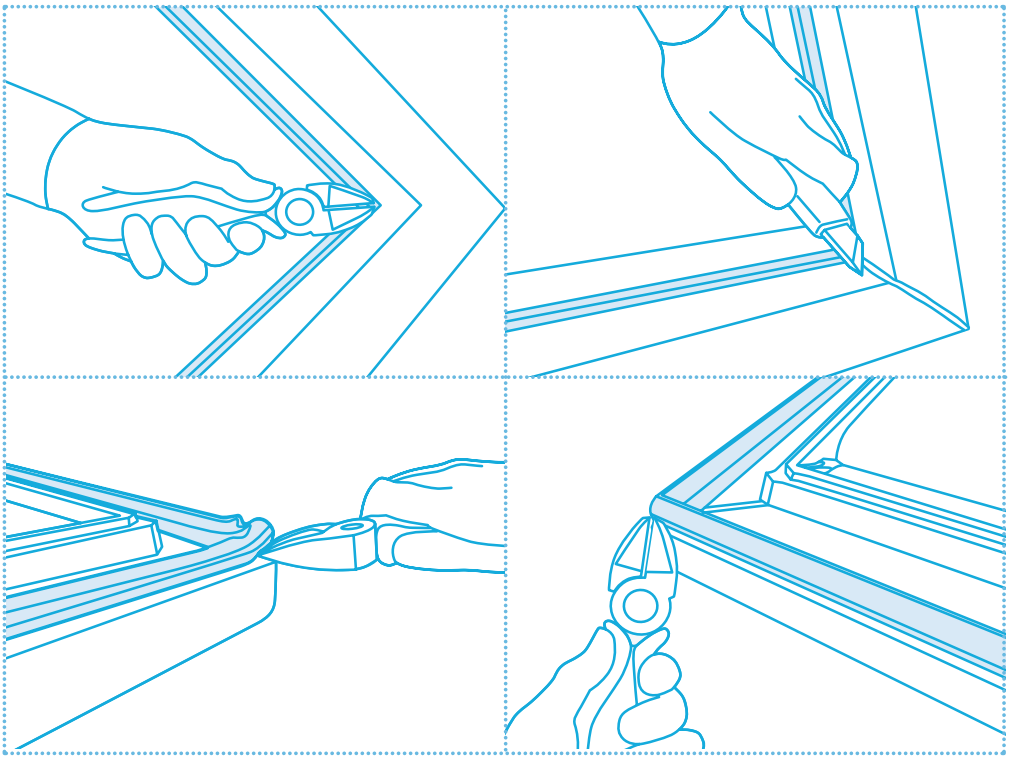


Fig. 6. Angle processing in the point of seal welding

For a softer angle in the point of seal welding, it is recommended to use the equipment for precleaning of profile sealing groove. This technology will allow to avoid additional manufacturing operations and ensure the stability of pressing the sash to the frame.

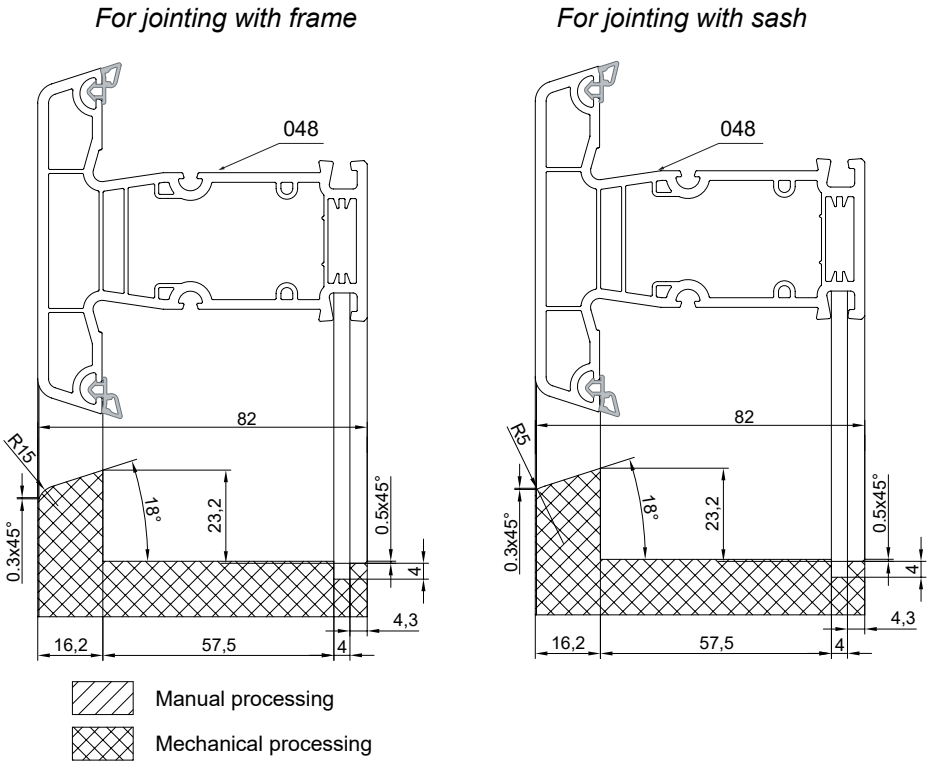
The processing of weld joint in colored profiles must be held without damaging the surface and – as well as in white profile – using special machines. The attention must be paid to small depth of the groove.

Joint surface uncovered with decorative film must be shaded the special pencil. Colored profiles should not in any case be processed using the sandpaper.

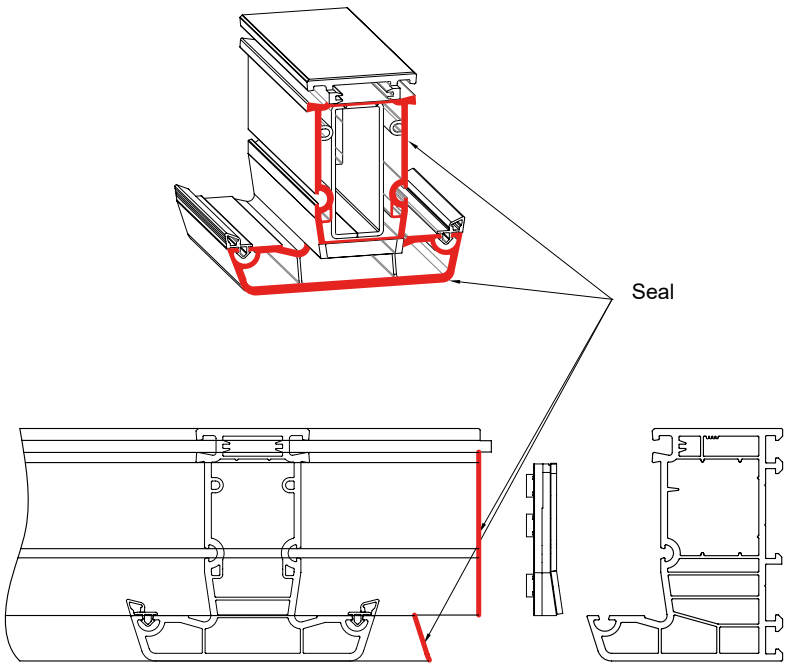
3.5.4 Mullion Installation Area

3.5.4.1 Mullion Installation Principle

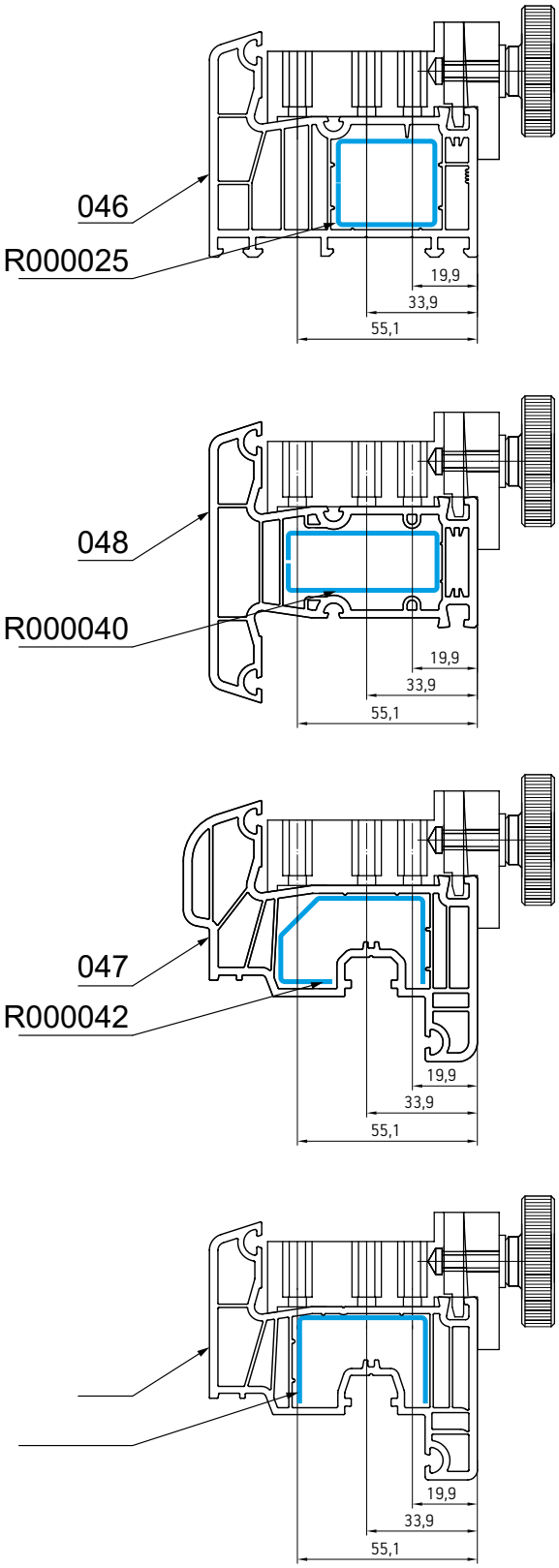
Mullion milling should be performed by original mullion cutter. Before installing the mullion, excess seal must be removed using side cutters or knife.



To prevent moisture penetration to internal chambers of horizontal mullion it is recommended to apply a layer of silicon sealer to the mullion's end surface before installation, as indicated in the picture. The thickness of sealer layer ~ 1 mm. Seal overage should be removed only after its full setting solid.



Installation diagram template



Use the screwdriver, original mullion connector is installed with self-drilling screws 4,2x50-4,2x70 DIN 982.

- nib of milled mullion must not be more than 6 mm. Recommended nib size is 3 mm.
- chamfer on outer visible surface (wide side of milled mullion) must have the size of 2 mm.

- Holes for central mounting self-drilling screws (5x60, 5x70 DIN 7997) are made using original mullion conductor. (Up to 3 holes can be made in the frames and mullions, and 2 holes in the sashes)
- chamfer on inner visible surface (narrow side of milled mullion) must have the size of less than 1 mm.

Mandatory cutting of the seal on the frame, sash, and mullion for mounting place of mullion is performed manually.

- Connection of mullion with frame is made using self-drilling screws 5x60 (5x70) DIN 7997.
- Fixing of mullion along horizontal axis is made using self-drilling screws 3.9x25 DIN 7504P with the drill.

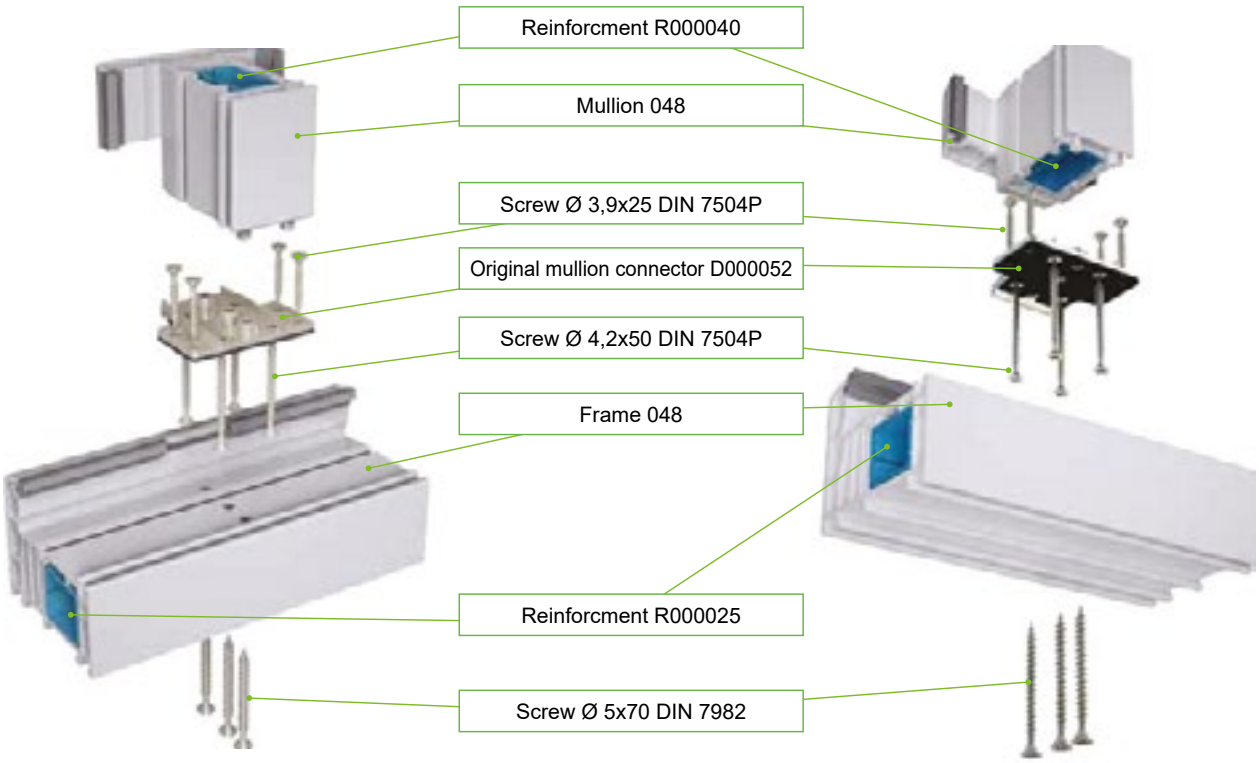


Fig. 7. Mullion installation circuit

3.5.4.2 Central Seal Contour Structure

In frame-frame connection, central seal contour can be joined in two methods.

Method 1 (Fig.8):

- Before welding the frame, central seal contour must be rolled using the roller into blank parts on which the sash will be mounted.

- After rolling, the seal must be cut in the same plane with frame end. In the blank parts where the seal is rolled to the point of mullion installation, the seal must be cut with a reserve.

The frame, therefore, is welded and cleaned together with the seal.

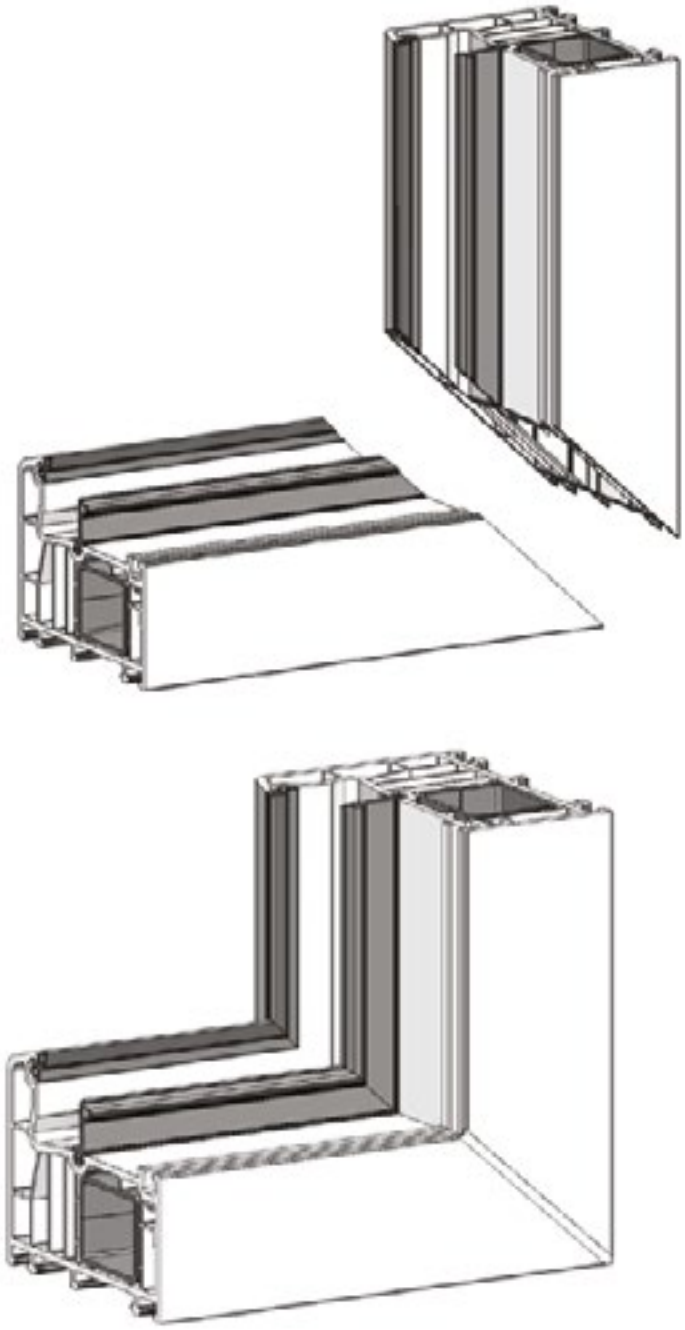


Fig. 8 Central seal contour joining. Method 1

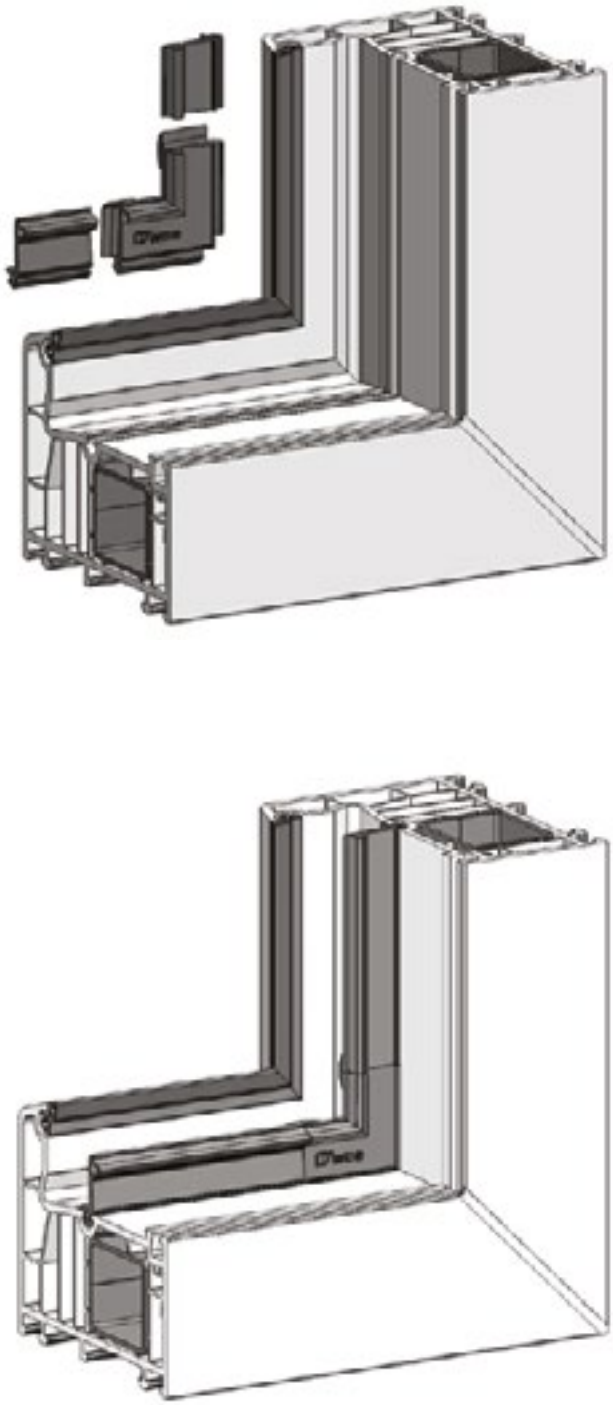


Fig. 9 Central seal contour joining. Method 2

Method 2 (Fig.9):

- Special angle bars of central seal contour must be inserted to welded frame angles (Item D000054/ D000055/D000056).

- Roll in strictly measured seal up to mounting place of angle bar.

- Stick the seal to angle bar using special cyanoacrylate-based adhesive designed for polymeric materials.

In frame- mullion connection (Fig.9), central seal is joined only using angle bars of central seal. The seal must be rolled into mullion blank part from the side of the sash with cutting margin.

- After installation of mullion, angle bars of central seal must be installed into the angle between mullion and frame from the side of the sash.

- Cut strictly measured seal up to mounting place of angle bar.

- Stick the seal to angle bar using special cyanoacrylate-based adhesive designed for polymeric materials.

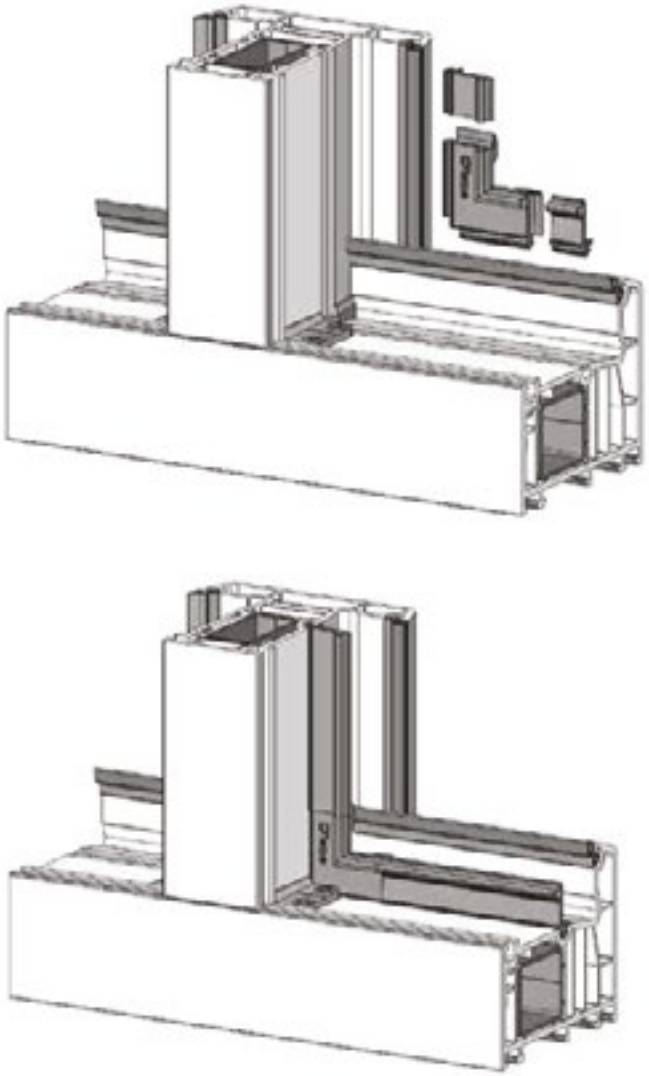


Fig. 9 Central seal contour joining. Method 1

3.5.5 Fittings Installation Area

In this area, installation of necessary fittings is performed according to the order. It is necessary to use fittings designed only for PVC windows. All kinds of commercially available fittings can be mounted into 16 mm euro-groove. Profile is designed so that load-carrying parts of fittings are fixed through three profile walls or through steel reinforcement.

The following describes fittings installation into the window. Angle switches, connectors, lock connectors and middle locks are mounted on the sash, which are fixed with screws 4.2x25 DIN 7982. The main drive is cut at the desired size using a guillotine. Before cutting, it is necessary to accurately measure the size of the sash at glazing rebate and set this size on scale bar using gate. The mistake in the measurements leads to defects!

The main lock is installed on the sash and secured with screws 4.2x25 DIN 7982. Originally, all movable elements of fittings have special spacers that hold the position of the fittings in neutral position. This is necessary to ensure that during the installation all components of the fittings are correctly connected together. Spacers are broken on the first turn of the handle. However, prior to installation, it is necessary to check the proper positioning of fitting parts.

When mounting standard stripes (locks) in frame- mullion, it is necessary to use screws 4.2x25 DIN 7982 (do not use screws with ‘borer’), in case of mounting elements of antiburglar fittings into frame- mullion, it is necessary to use closed section reinforcement or screws the length of which will reach the opposite wall of U-shaped reinforcement and dig into it by three turns of thread.

Scissors on the sash are cut to required size using a guillotine, installed on the sash and secured with screws 4.2x25 DIN 7982. If the sash is higher than 700 mm along fitting groove, additional pressure installation is needed for the sash between upper and lower hinge strap.

Middle lock is used in the fittings for this purpose. Standard size of middle lock is selected in advance depending on the height of the sash. For correct positioning of sash relative to the frame, transportation inserts D000022 are used. Transportation inserts D000022 are latched inward the frame with 2 pieces in each corner, and then the sash is inserted into the frame.

The use of transportation inserts allows to roughly estimate the correctness of manufacturing sash and frame. If the sash is loose, then most likely it is made smaller than required size or the frame is made bigger than required size. If the sash cannot be inserted into the frame, then it indicates the opposite phenomenon: the frame is smaller of the sash is bigger.

Lower hinge strap on the frame is mounted on the sash of tilt and turn window using template and secured with long screws 4.2x38 DIN 7982. Longer screws are because they can only be screwed into the plastic. The screws should at least pass through two barriers of plastic. In this case, the length of the screw 4.2x25 DIN 7982 is not enough.

Upper and lower hinge straps are mounted on the frame, which are fixed with the screws 3.9 x 25 mm with the drill DIN 7504P. Sash and frame are connected into single structure. All necessary stripes are mounted on the frame. Functional check. Fittings should work without jamming and jerking. The distance between frame face and sash is checked, it must equal to 17.5-18.5 mm (taking into account overlap width).

Considering the large coefficient of thermal expansion of colored profiles compared to white ones, it is necessary to adhere to maximum sizes of the clearances. Other remarks are the same as for white profiles.

3.5.6 Insulated Glass Units Installation Area

Installation of insulated glass units into PVC products is performed according to DSTU B V.2.6-15.

Final adjustment of the sashes is made on a special stand. This stand allows to simulate the real conditions of the window installation into the opening. At this stage, it is necessary to carry out the overall quality control of product manufacturing.

Functional purpose of plates for insulated glass units.

Plates for insulated glass units are designed for the following purposes:

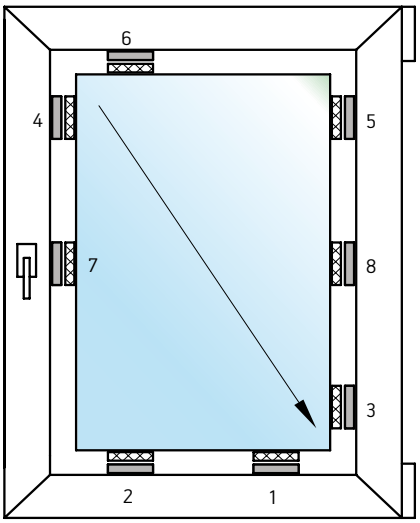
- Distribute the weight of insulated glass unit equalizing the load on the seam, and further eliminate undesirable stresses arising due to temperature changes, operating conditions, etc.
- Prevent the possibility of pushing the sash out during breaking in. With antiburglar configuration, the plates are installed opposite each locking element, which is the requirement DIN V ENV 1627
- Prevent undesirable contact of insulated glass unit with the glazing rebate of frame or sash.

3.5.7 Technology of Sash Wedging During Insulated Glass Units Installation

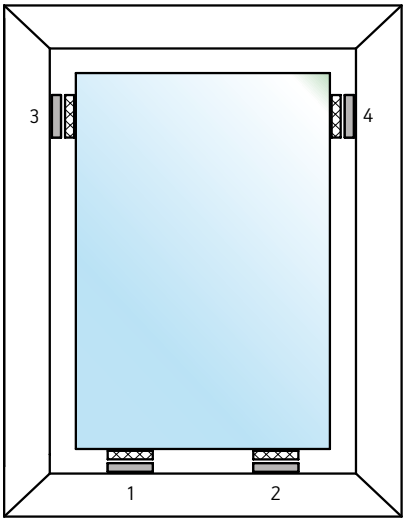
The plates are mounted into the sash for aligning the glazing rebate in the places where the plates for insulated glass unit will be installed, at the distance of 5 cm from the angles of insulated glass unit. Insulated glass unit is mounted into window sash on two plates (No.1 and No.2) of 5 mm thickness. The position of insulated glass unit is aligned in window opening using mounting blade and the plates No.3 and No.4 of 5 mm thickness are installed. The plate No.2 is taken out with the entire weight of insulated glass unit shifting to the plate No.1.

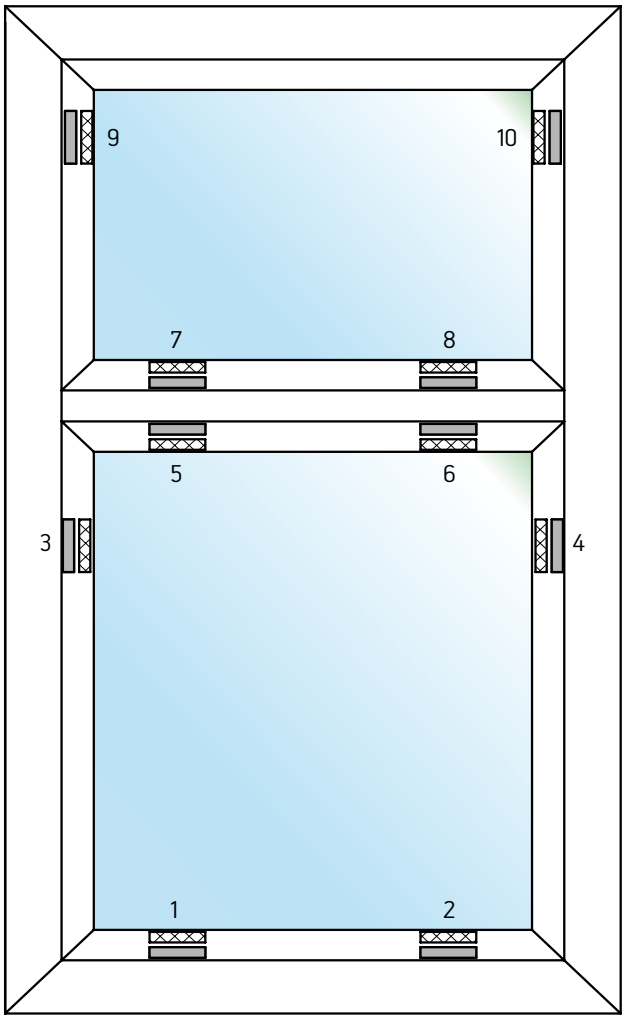
If the sash is slacking, mounting blade should be inserted between frame glazing rebate and the top of insulated glass unit. Pushing on insulated glass unit, move the top of sash up and install the plate No.6 of required thickness. Check the operation of the sash and, if necessary, change the thickness of the plate No.6. If the sash height is more than 1.3 m, it is necessary to install additional distant plates No.7 and No.8. During their installation, plate thickness is selected provided that there is bending of the vertical part of the sash. All plates, depending on transportation conditions and distance can be fixed with small amount of silicone sealant.

After installing glazing beads, it is mandatory to ‘hammer in’ sash and frame parts with plastic hammer. All sash adjusting operations are performed in vertical position on the stand, on-site, and after product installation in the opening. The plates are installed at 50-70 mm from inner seal angle. If sash width is more than one meter, the plates can be shifted up to 250 mm from inner glazing rebate angle.



Glazing rebate insert
Distant and load-carrying plates





Glazing rebate insert
Distant and load-carrying plates

For fixed glazing, the plates for glazing rebate aligning are installed at the places of distant and load-carrying plates installation. Insulated glass unit is mounted on load-carrying plates No.1 and No.2 of 5 mm thickness. Insulated glass unit position is aligned in frame opening using mounting blade. Distant plates No.3 and No.4 of required thickness are selected. During the glazing of fixed constructions with horizontal mullion, it is necessary to convey the weight of upper insulated glass unit on building framework through the plates and lower insulated glass unit. To do this, it is necessary to put additional plates No.5 and No.6 on the top of lower insulated glass unit.

For detailed information, please contact «MIROPLAST» technical representative

WDS 8 SERIES

Profiles ordering, transportation, and storage

4

VOLUME

4. WDS 8 SERIES PROFILES ORDERING, TRANSPORTATION, AND STORAGE

4.1 Ordering Regulations

Profile systems ordering is carried out according the procedure outlined below:

- In case of initial order for profile systems by the Company, which had not previously cooperated with MIROPLAST, customer card is created (document containing full information about the Buyer), contract and supplemental agreement setting out the conditions for cooperation are agreed and signed. Once the documentation package for new customer has been signed, customer manager can accept the order.
- In case of ordering of profile systems by the Company, which had previously cooperated with MIROPLAST, the order must be executed and delivered according to the procedure below:

1. Buyer's order filled at a special order form must be completed electronically or sent to customer manager by fax and contain the following information:

   — Customer name

   — Delivery address

   — Code, product name, unit of measure, number of meters, weight

   — Desired date of shipment

   In the case of self-collection, indicate desired time of shipment, size of vehicle body and its type (board, pyramid, booth, tent, etc.)

2. The order must be provided to customer manager 24 hours before the planned shipment (before 12 pm). With customer self-delivery of products, changes, additions or cancellations are possible on the day of the order or prior to the approval of shipment date, because agreed shipment is prepared by company warehouse beforehand.
3. Upon receipt of the purchasing order from the customer, customer manager issues the invoice for ordered products, which must be paid in accordance with the conditions set in the contract.
4. Upon receipt of payment from the customer, customer manager negotiates the final date of shipment with coordinating logistics specialist.
5. On the basis of requests submitted by coordinating logistics specialist, the warehouse prepares the products and performs the shipment at a specified date and time. The process of profile systems shipment is accompanied by the provisioning of shipping documents.

4.2 Profile Coding

X	•	X	•	X	•	X	•	X	•	X	•	X	•	X	•	X	•	X
Arch code		Package code		Lamination side code		Lamination color code		Seal code				Die code (profile type)					Profile mass color code: PVC	

X	Arch code
0	straight profile
1	profile bent into arch

X	Package code
0	no package
1	package

X	Lamination side code
0	no lamination
1	outside lamination
2	two-side lamination
3	inside lamination

X	Lamination color code (one color)
0	no lamination
2	Golden Oak
3	Dark Cherry
4	Walnut
8	Montana Oak
A	Anthracite
D	Natural Oak
C	Silver Metallic
B	Sheffield Oak

X	Lamination color code (different colors)
A	Anthracite
B	Sheffield Oak
C	Silver Metallic
D	Natural Oak
E	Dark Cherry
F	Montana Oak
D	Golden Oak
H	Walnut

X	Gasket code
0	no gasket
1	grey rolled in gasket
2	black rolled in gasket
3	grey co-extruded gasket
4	black co-extruded gasket
5	beige rolled in gasket
6	beige co-extruded gasket
7	grey sash seal + beige frame gasket
8	grey sash seal + black frame gasket

Code of gasket color combinations:

A	black frame gasket or black frame gasket + black sash gasket
B	grey frame gasket or grey frame gasket + grey sash gasket
C	beige frame gasket or beige frame gasket + beige sash gasket
D	black frame gasket + grey sash gasket
E	beige frame gasket + grey sash gasket
F	grey frame gasket + black sash gasket
G	grey frame gasket + beige sash gasket
H	black frame gasket + beige sash gasket
I	beige frame gasket + black sash gasket

XXX	**Die code**
046	Frame
047	Sash
080	Sash classic
048	Mullion
068	Stulp
049	Glazing bead for glass unit 44 mm
051	Pipe
052	Pipe adaptor
043	Frame extention
070	Frame extention
077	Fixed frame
024	H-connector
035	I-connector
076	I-connector

XX	**Profile mass color code**
01	white mass
06	beige mass

Example of 11-symbol code of finished products of WDS 8 SERIES:

A0113804701

Explanation:

A	profile length is 6.5 m
0	profile is straight
1	profile is packed
1	profile has outside lamination covering
3	profile has Dark Cherry lamination covering
8	profile has grey gasket on ledge side + black frame gasket
047	profile type is sash 8S
01	profile mass has ‘white’ color

Example of 11-symbol code of finished products with two-side lamination of different color:

A01HBC04606

Explanation:

A	profile length is 6.5 m
0	profile is straight
1	profile is packed
H	profile has Walnut outside lamination covering
B	profile has Sheffield Oak inside lamination covering
C	profile has beige frame gasket on ledge side
046	profile type is frame 8S
06	profile mass has beige color

Coding of WDS 8 SERIES reinforcing profile

R000042	Reinforcing profile 16,5x27x45x27 (1,5 mm)
R000043	Reinforcing profile 16,5x27x45x27 (2 mm)
R000002	Reinforcing profile 27x31x27 (1,5 mm)
R000030	Reinforcing profile 27x31x27 (2 mm)
R000006	Reinforcing profile 42,3 (3,2 mm)
R000040	Reinforcing profile 19x47x19x47 (1,5 mm)
R000041	Reinforcing profile 19x47x19x47 (2 mm)
R000023	Reinforcing profile 14x126x14 (1,5 mm)
R000039	Reinforcing profile 14x74x14x74 (2 mm)
R000019	Reinforcing profile 27x31x27x31 (2 mm)
R000025	Reinforcing profile 27x31x27x31 (1,5 mm)
R000027	Reinforcing profile 17x40x17 (1,5 mm)
R000045	Reinforcing profile 27x40x27 (1,5 mm)
R000046	Reinforcing profile 27x40x27 (2 mm)
R000044	Reinforcing profile 40x15x40x15 (1,5 mm)

Coding of profile-dependent materials

D000022	Transportation insert
D000033	Folded insert
D000035	Plate insert
D000036	Plate insert
D000037	Plate insert
D000052	Mechanical mullion connector WDS 8 S
D000054	Angle bar for central gasket contour grey
D000055	Angle bar for central gasket contour beige
D000056	Angle bar for central gasket contour black
D000061	Overhung cover white
D000062	Overhung cover beige
G501001	‘Grey’ frame gasket
G502001	‘Black’ frame gasket
G503001	‘Beige’ frame gasket
G601001	‘Grey’ sash gasket
G602001	‘Black’ sash gasket
G603001	‘Beige’ sash gasket
G401001	‘Grey’ central gasket contour
G402001	‘Black’ central gasket contour
G403001	‘Beige’ central gasket contour

Profile Lamination options, colors gaskets

Lamination	Gasket	GOLDEN OAK	WALNUT	DARK CHERRY	MONTANA OAK	SHEFFIELD OAK*	NATURAL OAK*	SILVER METALLIC*	ANTHRACITE*
Both sided	Frame gasket	● Beige	● Beige	● Black	● Black	● Grey	● Beige	● Grey	● Black
	Sash gasket	● Beige	● Beige	● Black	● Black	● Grey	● Beige	● Grey	● Black
Internal*	Frame gasket	● Beige	● Beige	● Black	● Black	● Grey	● Beige	● Grey	● Black
	Sash gasket	● Grey	● Grey	● Grey	● Grey	● Grey	● Grey	● Grey	● Grey
Outer*	Frame gasket	● Grey	● Grey	● Grey	● Grey	● Grey	● Grey	● Grey	● Grey
	Sash gasket	● Beige	● Beige	● Black	● Black	● Grey	● Beige	● Grey	● Black

4.3 Ordering Regulations

WDS 8 SERIES Profile System is delivered in pallets or bunches. One pallet consists of 16 bunches in separate package (shipping in pallets is available only for basic profile: frame, sash, mullion). Pallet volume is displayed on figure.

Fig. 10 Pallet profile WDS 8 SERIES

Overall size of pallet is 0.8 m in width and 0.5-0.6 m in height (taking into account wooden beams).

Pallet storage is allowed in the quantity of not more than 4 pallets in height.

Standard profile size is 6.50 m +0.01 m (at temperature 20°C).

Profiles are stored in pallets or racks with solid, flat base, thus preventing twisting and slacking. Profiles are stacked at height of not more than 1 m.

The distance between the joists must not exceed 700 mm; end overhang of the profiles from the rack should not exceed 600 mm.

When purchasing WDS 8 SERIES Profile System, the following product delivery options are available:

1. Self-delivery of the products by the customer

Subject to delivery of ordered products by the customer, driver (freight forwarder) of the vehicle is responsible for packaging, compliance of product to order, transportation, and safety of shipped products during transportation.

Recommendations on the choice of vehicle:

- When transporting profile systems of up to 1 ton, it is possible to use ‘pyramid vehicle’.
- When transporting profile systems of 1-3 tons, it is recommended to use any trucks with body length of at least 6.75 m with a smooth floor surface.
- When transporting profile systems of 3-7 tones, it is recommended to use the vehicle with body length of 6.75 m with a smooth floor surface and possibility of lateral load (lateral load means the presence of removable boards and stands, side span of not less than 6.5 m).

2. Delivery at the expense of the supplier

Delivery at the expense of the supplier is possible when ordering products from 7 tons and above. The supplier is responsible for packaging, delivery, and safety of the product.

Recommendations on the ordering of profile systems:

- we recommend to order basic profiles (frame, sash, mullion) in pallet standards.
- This requires that the total order for each item was a multiple of 16 packages (16 packages – 1 pallet)
- total weight of the order for one vehicle must not exceed 20 tons.

When transporting profile systems, prolonged exposure to direct sunlight must be avoided (according to the requirements of DSTU B V.2.6-15).

4.4 WDS 8 SERIES Profile Storage Recommendations

Proper profiles stacking prevents from deformations, which may occur due to strong bending of the profile. Due to proper stacking, it is possible to avoid damage and contamination of profile outer surface. Moisture penetration and exposure to direct sunlight is unacceptable during stacking and storage.

Profile stacking should be performed indoors, on a straight and flat surface. To prevent difficulties in reprocessing, it is necessary to avoid stacking outdoors, protect profile from the effects of temperature, contamination, and humidity. If there is no other possibility and profile stacking is performed outdoors, it is necessary to perform profile conditioning at +17°C prior to the reprocessing.

Temperature equalization occurs at a rate of 1°C/hour. During the processing, it is necessary to keep the premises minimum temperature at +17°C, as in case this temperature is decreasing in thermally loaded profile, material stress occurs during welding.

The profiles must be stacked in parallel in order to avoid deformation.

The profiles can be stacked on joists (space between supports is up to 700 mm).

To avoid damages on profile surface, it is necessary to take them out on the side of the package; you cannot pull the profile from the face.

The profiles must be protected from direct sunlight, including if the profiles are stored under glass (according to the requirements of DSTU B V.2.6-15).

WDS 8 SERIES

Information about the Company

5

VOLUME

5.1 Information about MIROPLAST LLC.

Our Company

MIROPLAST is Ukrainian company founded in March of 2006 aiming to produce quality profile systems for PVC windows and doors at affordable prices.

Within six months, we constructed and equipped a 12,000 m2 factory that complies with Ukrainian and international standards, a warehouse with state-of-the-art logistic resources and adjacent head office facilities. We created a complete business infrastructure to comply with manufacturing criteria recognized in European and even exceed tough Ukrainian requirements regulating PVC profile production. Nowadays, the finished product is available to the end user in every corner of Ukraine and neighboring countries. Along with that, MIROPLAST is actively developing export sales.

Our Success

MIROPLAST LLC. is one of the largest manufacturers of PVC profile systems in Ukraine. Our unique product quality is acclaimed by windows producers and dealers nationwide. Our quality control laboratory is state approved and operates on an uninterrupted cycle to ensure the compliance with Ukrainian and international standards of quality.

In addition to the development of manufacturing resources, we have created in-house distribution of our products throughout Ukraine. Every day the number of our partners and dealers is growing, today our products are present in more than 4,000 points of sale across the country.

Our Development

On the verge of 2012, MIROPLAST LLC. increased investments in the development of technologies and equipment doubling, therefore, the capacity of its plant. In 2013, profile lamination shop was equipped with three modern production lines from the Italian manufacturer.

Also in 2013, MIROPLAST launched the production of PVC windowsills with front rounded free edges of 600 mm and 500 mm width.

We believe in quality without compromise

MIROPLAST LLC. constantly improves its business processes, introduces new technologies and meets the needs of the market. In January 2011, the company has introduced Quality Management System DSTU ISO 9001:2009. Under this system, QMS (Quality Management System) flow process charts and methods were appropriately finalized, which facilitated the optimal synchronization and aligning of all business processes, as well as the improvement of company document workflow. The implementation of activities under QMS enables MIROPLAST LLC. to provide its customers with products and services, high quality of which is guaranteed. And in 2012, the company received Dekra certificate confirming compliance of MIROPLAST QMS with international standard ISO 9001:2008.

5.2 Certification of WDS 8 SERIES Profile System

In the context of expanding the range of industrial products, there is a particularly critical issue concerning the identity of presented technical requirements and test methods that provide adequate assessment of product quality. In order to confirm the stated qualitative adjectives for products, nationwide criteria for assessing product quality are used. Innovative local companies opted for the certification of products manufactured and services provided.

Certification is one of the important components of the state technical policy aimed at ensuring the safety of humans, animals, property, and environment.

Product certification according to the Law of Ukraine on Conformity Assessment is an activity, which results in ensuring product conformity with requirements established by law. Government regulatory certification bodies perform the procedure of quality conformity assessment by obtaining evidence assessments documenting the conformity of products, quality management systems, environmental management systems, occupational health and safety management system, personnel with the requirements established by law.

Certification system should be understood as the system that is institutionalized, technically, financially, and methodically equipped and recognized at sectorial, national, and international level and has its own rules, procedures, and controls for certification.

WDS 8 SERIES Profile System is certified in accordance with Ukrainian UkrSEPRO system and Russian GOST R system. Voluntary certification of building envelope – namely profile systems manufactured by MIROPLAST – was a strategic decision, which aims to providing a stable level of product quality.

5.2.1 Certificates of Compliance with State Standards of Ukraine

МІНІСТЕРСТВО ЕКОНОМІЧНОГО РОЗВИТКУ І ТОРГІВЛІ УКРАЇНИ
ДЕРЖАВНА СИСТЕМА СЕРТИФІКАЦІЇ

Серія ВГ

СЕРТИФІКАТ ВІДПОВІДНОСТІ

Зареєстровано в Реєстрі Системи за № UA1.196.0007283-17
Зарегистрирован в Реестре Системы

Термін дії з 19 травня 2017 **по** 18 травня 2018
Срок действия с

Продукція Профілі полівінілхлоридні для віконних та дверних конструкцій торгівельних марок: 'WDS', 'TRIO', 'GALAXY', 'Olimpia'
Продукция

код УКТ ЗЕД, ТН ЗЕД
22.21.10
код ДКПП, ОКП

Відповідає вимогам ДСТУ Б В.2.7-130:2007 п.п. 5.2.3 - 5.2.5, 5.3.1 (табл. 3, рядки 5-7), 5.3.7
Соответствует требованиям

Виробник продукції ТОВ 'МІРОПЛАСТ', 49083, Дніпропетровська обл., м. Дніпро, вул. Собінова, 1, код ЄДРПОУ 34230288
Изготовитель продукции

Сертифікат видано ТОВ 'МІРОПЛАСТ', 49083, Дніпропетровська обл., м. Дніпро, вул. Собінова, 1, код ЄДРПОУ 34230288
Сертификат выдан

Додаткова інформація Продукція, що виготовляється серійно з 19.05.2017 р. до. 18.05.2018 р., з урахуванням гарантійного терміну зберігання, технічний нагляд один раз на рік.
Дополнительная информация

Сертифікат видано органом з сертифікації ОС ТОВ 'ВЕС 'УКРЕКСПЕРТИЗА', м. Запоріжжя, вул. Північне шосе, 3 , свідоцтво про призначення № UA.P.156 від 10.02.2015 р./ свідоцтво про уповноваження № UA.PN.196 від 10.02.2015р. т. (061)212-31-49, ves.ukrexpertiza@gmail.com, www.ves.in.ua
Сертификат выдан органом по сертификации

На підставі Протоколу сертифікаційних випробувань № Т072/05-17 від 19.05.2017 р., виданого ВЛ ТОВ ВСЦ 'Південтест', м. Дніпропетровськ, 49064, пр-т. Калініна, 50, атестат акредитації № 2Н485 від 25.10.2013 р. до 24.10.2018 р.
На основании

№ 659251

Керівник органу з сертифікації К.О. Єрмоленко
Руководитель органа по сертификации
підпис ініціали, прізвище

М.П.

Чинність сертифіката відповідності можна перевірити в Реєстрі Системи за тел. (044) 528-84-28

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ДЕРЖАВНА САНІТАРНО-ЕПІДЕМІОЛОГІЧНА СЛУЖБА

ЗАТВЕРДЖУЮ

ДЕРЖАВНА САНІТАРНО-ЕПІДЕМІОЛОГІЧНА СЛУЖБА УКРАЇНИ
(назва установи)
вул.Грушевського, 7, м.Київ, 01601
(місцезнаходження)
253-94-84, 559-29-88

Заступник головного державного санітарного лікаря України

С.В. Протас

Висновок державної санітарно-епідеміологічної експертизи

від 16.05. 2016р. № 05.03.02-04/ 16859

Профілі полівінілхлоридні (в тому числі, головні та добірні профілі, підвіконня) для огороджувальних будівельних конструкцій виготовлені відповідно до ДСТУ Б.В.2.7-130:2007 "Профілі полівінілхлоридні для огороджувальних конструкцій. Загальні технічні умови"
(об'єкта експертизи)

код за ДКПП: 25.21.10.700
(код за ДКПП, код за УКТЗЕД артикул)

Будівництво та реконструкція громадських споруд без обмежень (в тому числі, будинки, споруди та приміщення дошкільних навчальних, навчальних закладів, закладів охорони здоров'я та відпочинку, медичних закладів, будинки, споруди, та приміщення мікробіологічної та фармакологічної промисловості, фізкультурно-оздоровчі та спортивні, багатофункціональні будинки та комплекси, що включають приміщення різного призначення)
(сфера застосування та реалізації об'єкта експертизи)

ТОВ "МІРОПЛАСТ", Україна, 49083, м. Дніпропетровськ, вул. Себінова 1; фактична адреса виробництва: 49083, м. Дніпропетровськ, вул. Курсантська, 10, тел. (0562) 33 80 00, код ЄДРПОУ: 34230288
(країна, виробник, адреса, місцезнаходження, телефон, факс, E-mail, WWW)

ТОВ "МІРОПЛАСТ", Україна, 49083, м. Дніпропетровськ, вул. Себінова, 1, код ЄДРПОУ: 34230288
(замовник експертизи, адреса, місцезнаходження, телефон, факс, E-mail, WWW)

Продукція вітчизняного виробника
(дані про контракт на постачання об'єкта експертизи в Україну)

Об'єкт експертизи відповідає встановленим медичним критеріям безпеки / показникам:
Міграція хімічних речовин в атмосферне повітря (ДР, не більше, мг/м³): дибутилфталату – 0,1; бензолу – 0,1; вінілу хлористого – 0,005; циклогексанону – 0,04; рівень запаху - 2 бали відповідно до Державних санітарних норм та правил "Полімерні та полімервмісні матеріали, вироби і конструкції, що застосовуються у будівництві та виробництві меблів. Гігієнічні вимоги", затверджених Наказом Міністерства охорони здоров'я України від 29.12.2012 року № 1139 та Інструкції 6035.А-91 "Инструкция по санитарно-гигиенической оценке полимерных материалов, предназначенных для применения в строительстве и производстве мебели".
(критерії безпеки / показники)

Необхідними умовами використання /застосування, зберігання, транспортування, утилізації, знищення є:
При використанні зазначеної продукції дотримуватись рекомендацій виробника.
(особливості умов використання, застосування, зберігання, транспортування, утилізації, знищення)

За результатами державної санітарно-епідеміологічної експертизи Профілі полівінілхлоридні (в тому числі, головні та добірні профілі, підвіконня) для огороджувальних будівельних конструкцій виготовлені відповідно до ДСТУ Б.В.2.7-130:2007 "Профілі полівінілхлоридні для огороджувальних конструкцій. Загальні технічні

CERTIFICATE

MIROPLAST

ISO 9001:2008

DEKRA Certification Sp. z o.o. hereby certifies that the company

LLC "MIROPLAST"

Scope of certification:
Manufacturing and sale of polyvinylchioride profiles

Certified location:
10, Kursantskaya str., Dnepropetrovsk, 49051, Ukraine

has established and maintains a quality management system according to the above mentioned standard. The conformity was adduced with audit report no. W-A 617415/A12/P/9001.

This certificate is valid from 2015-04-11 to 2018-04-10

Certificate registration no.: 320412036/1
Duplicate

DEKRA Certification Sp. z o.o.
Wrocław, 2015-04-09

Lack of fulfilment of conditions as set out in the Certification Agreement may render this certificate invalid.

DEKRA Certification GmbH • Handwerkstraße 15 • D-70565 Stuttgart • www.dekra-certification.com

page 1of 1

ГЛОБАЛ СЕРТИФІК GLOBAL CERTIFIK ГЛОБАЛ СЕРТИФІК

Management System certification body Global Certifik LLC

CERTIFICATE

Management System certification body Global Certifik LLC

certifies that the company

MIROPLAST

LLC "MIROPLAST"

1, Sobinova str.,
Dnepropetrovsk, 49083, Ukraine

for the following scope of activities:

Manufacture and sale of polyvinylchloride profiles

has established and applies a Management System according to the standard

ISO 9001:2008
ДСТУ ISO 9001:2009

This certificate was issued on the base of audit results and management system assessment. Audit report **№ 00097 dated on 27.02.2015**

Certificate **№ UA-GC/1/096:2015**
Certificate validity till **26.02.2018.**

Kiev, 27.02.2015

8O043
ISO 17021:2011

20, Esplanadna str., Kiev, 01001, Ukraine / phone (044) 229 6617

UA

UA/Kiev/2015

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р

ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС RU.ПЩ01.Н05310

Срок действия с 26.07.2016 по 25.07.2019

№ 2109546

ОРГАН ПО СЕРТИФИКАЦИИ рег. № RA.RU.11ПЩ01

Орган по сертификации продукции "Контур" ООО "Контур-Сертификация"
Место нахождения: Российская Федерация, 101000, г. Москва, ул. Мясницкая, д. 41, стр. 4. Фактический адрес: Российская Федерация, 101000, г. Москва, ул. Мясницкая, д. 41, стр. 4. Телефон (495) 665-21-90
Адрес электронной почты: info@kontur-rus.ru

ПРОДУКЦИЯ Профили поливинилхлоридные для оконных и дверных блоков, т.м. «WDS». Серийный выпуск.

код ОК 005 (ОКП): 57 7200

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ

ГОСТ 30673-2013 «Профили поливинилхлоридные для оконных и дверных блоков. Технические условия»

код ТН ВЭД России: 3916 20 000 0

ИЗГОТОВИТЕЛЬ Общество с ограниченной ответственностью «СТЛ ПРОИЗВОДСТВО»
ОГРН: 1025007110039, ИНН: 5053021927, КПП: 505301001. Адрес производства: 144001, Россия, Московская область, г.Электросталь, проезд Криулинский, 5. Телефон: +7(495)767-27-84, Факс: +7(495)767-27-84, E-mail: info@stlmso.ru.

СЕРТИФИКАТ ВЫДАН Общество с ограниченной ответственностью «КТС»
ОГРН: 1137746647015, ИНН: 7701365813, КПП: 770101001. Адрес: 101000,Россия, г. Москва, ул. Покровка, д.1/13/6, кор.2, кв.35 . Телефон: 89166068560, Факс: 89166068560, E-mail: valerii.kleinberg@ktswin.ru

НА ОСНОВАНИИ Протокол испытаний № 6048/15 от 25.07.2016 года, Испытательного центра Общество с ограниченной ответственностью "ТЕСТ-ГРУПП" аттестат № 4265-2 сроком действия до 26.12.2017 года

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Упаковка: картонная коробка, масса нетто от 1 кг до 5 кг. Срок годности 1 год, условия хранения 4-10 °С
Схема сертификации: 3

М.П.

Руководитель органа _____ (подпись) С.А. Никифоров (инициалы, фамилия)

Эксперт _____ (подпись) И.А. Александрова (инициалы, фамилия)

Сертификат не применяется при обязательной сертификации

РОССИЙСКАЯ ФЕДЕРАЦИЯ

СЕРТИФИКАТ СООТВЕТСТВИЯ

(обязательная сертификация)

№ C-UA.ПБ37.В.01510

№ 0000852

ЗАЯВИТЕЛЬ
Общество с ограниченной ответственностью "МИРОПЛАСТ".
Адрес: 49083, г. Днепропетровск, ул. Собинова, 1, Украина.
Телефон 380-562-338-000, факс 380-562-338-038.

ИЗГОТОВИТЕЛЬ
Общество с ограниченной ответственностью "МИРОПЛАСТ".
Адрес: 49083, г. Днепропетровск, ул. Собинова, 1, Украина.
Телефон 380-562-338-000, факс 380-562-338-038.

ОРГАН ПО СЕРТИФИКАЦИИ
ООО "НПО ПОЖЦЕНТР". 105187, г. Москва, ул. Советская, д. 15, стр. 1.
Телефон (495) 308-92-08, 796-89-34, 774-01-18, факс (495) 308-92-07. ОГРН: 1077759457489.
Аттестат рег. № ТРПБ.RU.ПБ37 выдан 07.10.2010 МЧС России.

ПОДТВЕРЖДАЕТ, ЧТО ПРОДУКЦИЯ
Профили поливинилхлоридные для оконных и дверных конструкций, в том числе ламинированные торговых марок: WDS, Galaxy, Olimpia, Trio, выпускаемые по ДСТУ Б В.2.7-130:2007. Серийный выпуск.

код ОК 005 (ОКП): 57 7200

код ЕКПС:

код ТН ВЭД России: 3916 20 000 0

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ ТЕХНИЧЕСКОГО РЕГЛАМЕНТА (ТЕХНИЧЕСКИХ РЕГЛАМЕНТОВ)
Технический регламент о требованиях пожарной безопасности (Федеральный Закон № 123-ФЗ от 22 июля 2008г., в ред. Федеральных законов от 10.07.2012 N 117-ФЗ, от 02.07.2013 N 185-ФЗ).
Класс пожарной опасности строительных материалов см. Приложение

ПРОВЕДЕННЫЕ ИССЛЕДОВАНИЯ (ИСПЫТАНИЯ) И ИЗМЕРЕНИЯ
Отчеты об испытаниях: № 3913/РС, № 3914/РС от 27.04.2015 г. НИЛ ПВБ ООО "НПО ПОЖЦЕНТР", рег. № ТРПБ.RU.ИЛ28 от 07.10.2010 г.

ПРЕДСТАВЛЕННЫЕ ДОКУМЕНТЫ
Сертификат соответствия № C-UA.ПБ37.В.00182 от 29.04.2010 г.
Место нанесения знака обращения на рынке: на упаковке (таре) и/или на сопроводительной технической документации.

СРОК ДЕЙСТВИЯ СЕРТИФИКАТА СООТВЕТСТВИЯ с 29.04.2015 по 28.04.2018

Руководитель (заместитель руководителя) органа по сертификации — В.А. Литвинов

М.П.

Эксперт (эксперты) — В.Ю. Шитиков

РОССИЙСКАЯ ФЕДЕРАЦИЯ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № C-RU.ПБ37.В.01510

(обязательная сертификация)

№ 0000522

Для неокрашенной и неламинированной продукции - класс пожарной опасности строительных материалов КМ4: группа нормальногорючие (Г3), группа умереннвоспламеняемые (В2), группа с высокой дымообразующей способностью (Д3), группа по токсичности продуктов горения умеренноопасные (Т2) (ст. 13, табл. 3 Федеральный закон от 22.07.2008 N 123-ФЗ);

Для окрашенной и ламинированной продукции - класс пожарной опасности строительных материалов КМ5: группа сильногорючие (Г4), группа умереннвоспламеняемые (В2), группа с высокой дымообразующей способностью (Д3), группа по токсичности продуктов горения умеренноопасные (Т2) (ст. 13, табл. 3 Федеральный закон от 22.07.2008 N 123-ФЗ).

Руководитель (заместитель руководителя) органа по сертификации — В.А. Литвинов

М.П.

Эксперт (эксперты) — В.Ю. Шитиков

НАЦИОНАЛЬНАЯ СИСТЕМА ПОДТВЕРЖДЕНИЯ СООТВЕТСТВИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

ГОССТАНДАРТ

№ 0016191

Серия Б

СЕРТИФИКАТ СООТВЕТСТВИЯ

* Внесено изменение с 23.05.2013.
Зам. руководителя аккредитованного органа по сертификации
Д.А. Ковширко

Зарегистрирован в реестре
№ BY/112 03.03. 022 02895
Срок действия с **16 февраля 2011г.** по **24 января 2016г.**

Орган по сертификации строительных материалов и изделий РУП "Стройтехнорм", 220002, г. Минск, ул. Кропоткина, 89, тел. 334-95-10, факс 288-61-21

Настоящий сертификат удостоверяет, что идентифицированная должным образом продукция изготовленная ООО "Миропласт", Украина
и представленная на сертификацию под наименованием Профили поливинилхлоридные "WDS" систем "WDS 400", "WDS 404", "WDS 505" для окон и дверей, выпускаемые по ДСТУ Б В.2.7-130-2007 "Профили поливинилхлоридные для ограждающих строительных конструкций. ОТУ"

Серийное производство

код ОК РБ – 25.21.10
код ТН ВЭД – 3916 20 100 0

соответствуют требованиям технических нормативных правовых актов:
СТБ 1264-2001 "Профили поливинилхлоридные для окон и дверей. ТУ" п.п. 4.6, 5.2.4 (табл. 2 п.п. 1-8), 6.9.

Заявитель (изготовитель, продавец) ООО "МИРОПЛАСТ", Украина .
Юридический адрес: 49083, г. Днепропетровск, ул. Собянова, 1
Адрес производства: 49051, г. Днепропетровск, ул. Курсантская, 10
код УНП –

Сертификат выдан на основании:
а) документов Сертификат соответствия № UA1.024.0006759-11, срок действия по 24.01.2016.
б) протоколов испытаний ЦИСП РУП "Стройтехнорм", BY/112.02.1.0.0494, пр. № 13(2)-93.1/10 от 18.05.2010. ООО Испытательно-сертификационный центр "ПИВДЕНТЕСТ", Украина, 2Н485, пр. № 11.01.16.009 от 21.01.2011. ИЦ "НИИ ПБиЧС МЧС Беларуси", BY/112.02.1.0.0042, пр. №№ 04-52/767П, 04-52/768П от 04.05.2010. НИЛ ППТПГ БГУ, № BY/112 02.1.0.0412, пр. № 1080 от 03.05.2010.
Инспекционный контроль осуществляет
Особые отметки Заявитель обязан хранить сертификат соответствия в течение одного года после окончания его срока действия
Дополнительная информация Серия "WDS 400"- класс В, "WDS 404"-класс А, "WDS 505" – класс В.
* Декларат "Наименование продукции" серии "WDS 500" (класс В), "WDS 55" (класс В).
* Протокол испытаний ЦИСП РУП "Стройтехнорм", BY/112.02.1.0.0494, пр. № 13(2)-137/13 от 08.07.2013.

М.П.

Руководитель органа по сертификации — **Д. А. Ковширко**

Эксперт-аудитор — **Л. И. Запольская**