



GLASSLINE

Planning manual

System variants:

- Profile sets 800 / 900 / 1,000
- Individual profile lengths
- Complete set 1,000 with glass

BALMERO

The French balcony
Fall protection

Simple and elegant. **BALMERO** is an elegant lightweight solution as fall protection for floor-to-ceiling windows.



Approved type statics for

- ✓ Glass
- ✓ Support profile
- ✓ Attachment to
 - Plastic windows
 - Aluminium windows
 - Wood windows
 - Wood-aluminium windows



System variants

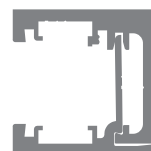
- ✓ Profile sets 800 / 900 / 1,000
- ✓ Individual profile lengths
- ✓ Complete set 1,000 with glass

Profile types

✓ **BALMERO 35**



✓ **BALMERO 45**



BALMERO – tested safety



With General Building Inspectorate Test Certificate (AbP)



Approved type statics for

- Glass
- Support profile
- Attachment to window frames



LGA-tested safety



DIN 18008-4 tested



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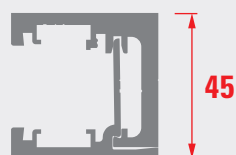
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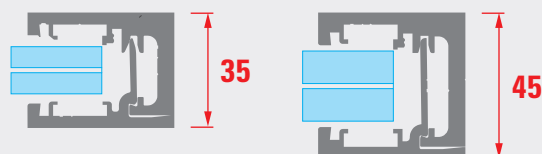
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34 BALMERO Complete set 1,000 with glass

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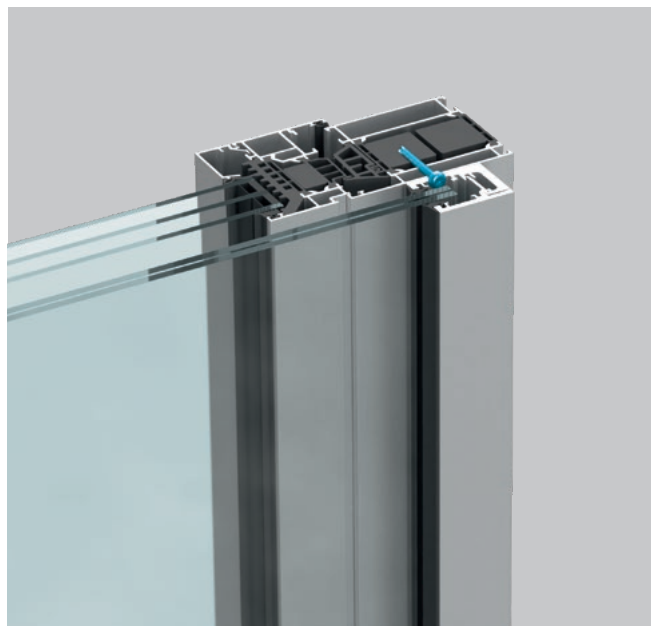
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BALMERO

The French balcony



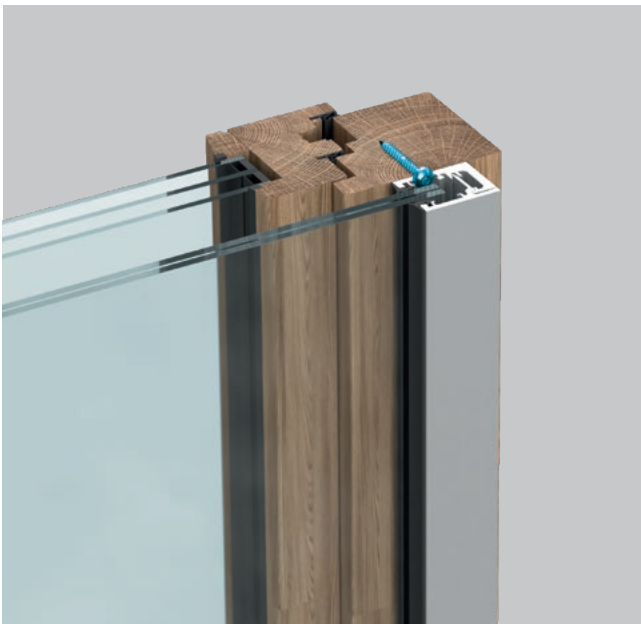
Plastic windows



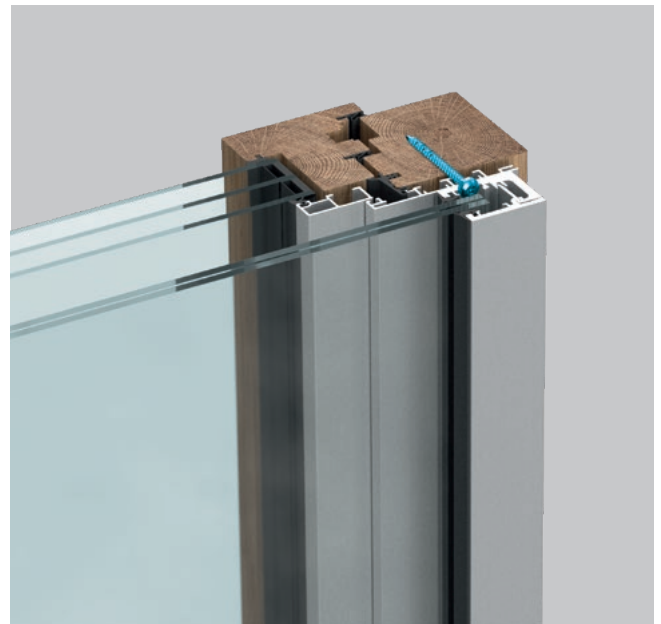
Aluminium windows

- ✓ Simplest possible attachment, approved for plastic, aluminium, wood and wood-aluminium windows
- ✓ Simply align the profile and secure with self-tapping or wood screws
- ✓ Type statically tested for
 - Glass
 - Support profile
 - Attachment to plastic, aluminium, wood and wood-aluminium windows

Of course, also for use with roller blind rails



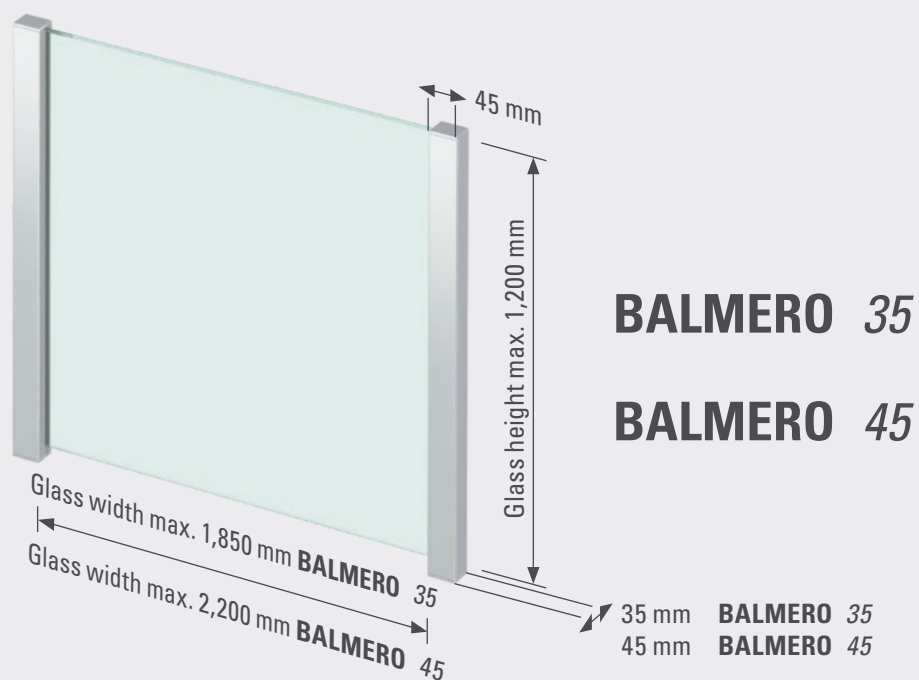
Wood windows



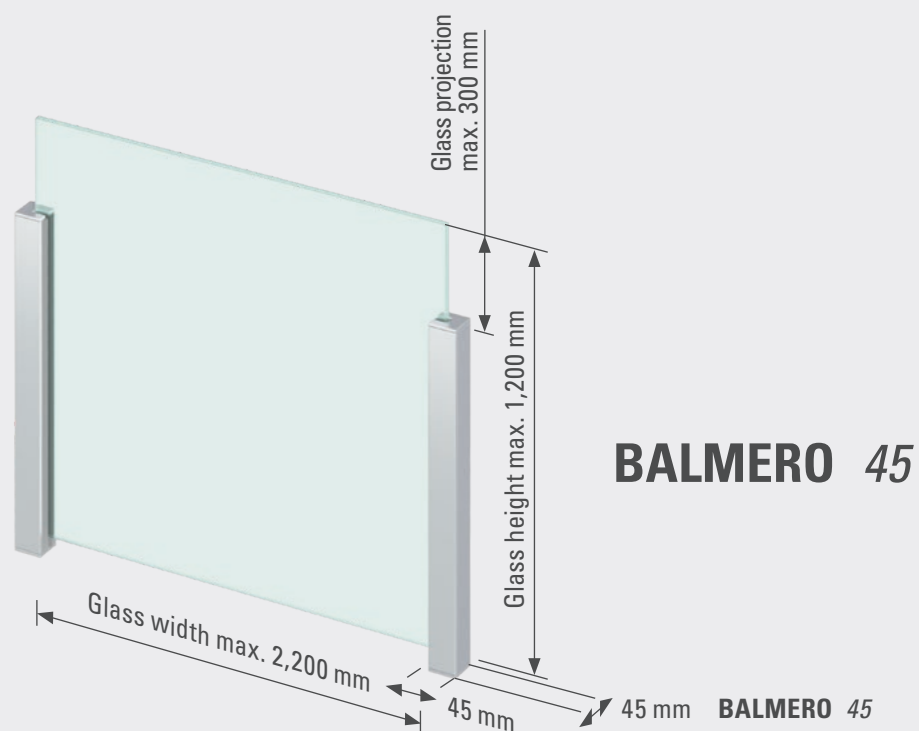
Wood-aluminium windows

- ✓ No additional certifications, no special screws and no special tools required
- ✓ All necessary, building legislation-compliant certifications included
- ✓ With General Building Inspectorate test certificate (AbP) for the glass and attachment to the window profiles

Without glass projection



With glass projection



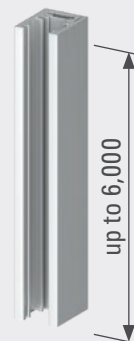
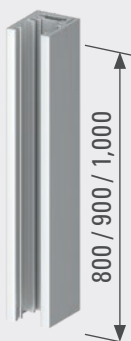
NEW!

	BALMERO 35 Page 10	BALMERO 45 Page 20	BALMERO 35 + 45 <i>Complete set 1,000 with glass</i> Page 34
Profile dimensions	35 x 45 mm	45 x 45 mm	35 x 45 mm 45 x 45 mm
Glass projection	—	✓	—
max. glass width	1,850 mm	2,200 mm	1,700 mm
Glass height	500 – 1,200 mm	400 – 1,200 mm	980 mm
Glass thickness	2 x 5 and 2 x 6 mm	2 x 5, 2 x 6 and 2 x 8 mm	2 x 6 mm
Roller blind rail	✓		✓
Centre posts	✓		✓
BALMERO firstglass	—	✓	—
Frontal attachment (in the soffit)	—	✓	✓ (only 45)
LED rail	—	✓	—

	Plastic		Aluminium		Wood		Wood-aluminium	
Roller blind rail	without	with	without	with	without	with	without	with
without glass projection	✓	✓	✓	✓	✓	✓	✓	✓
with glass projection	✓	✓	✓	—	—	—	—	—

Profile sets 800 / 900 / 1,000

Individual profile lengths



Systems:	BALMERO 35 (<u>without</u> glass projection) BALMERO 45 (<u>with</u> and <u>without</u> glass projection)
Surfaces:	Natural, stainless steel effect, anthracite RAL 7016, white RAL 9016, RAL according to customer specifications
End cover:	Plastic
Glass:	<ul style="list-style-type: none"> ■ BALMERO 35: LSG 2 x 5 mm, 2 x 6 mm (PVB 1.52) ■ BALMERO 45: LSG 2 x 5 mm, 2 x 6 mm, 2 x 8 mm (PVB 1.52)
Accessories:	<ul style="list-style-type: none"> ■ Aluminium end cover (optional) ■ Glass edge guard profiles ■ Roller blind rails ■ Screws

800 / 900 / 1,000 mm

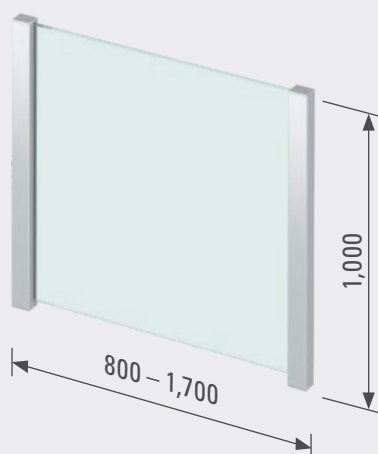
- ✓ 3 standard lengths
- ✓ Profile sets in stock
- ✓ Individual glass widths up to 2,200 mm

up to 6,000 mm

- ✓ Customised profile lengths

Complete set 1,000 with glass

NEW!



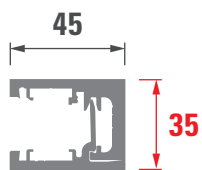
**More than 1,000
glass panes
in stock**

Systems:	BALMERO 35 and 45 <i>Complete set 1,000 with glass (without glass projection)</i>
Surfaces:	Natural, stainless steel effect, anthracite RAL 7016, white RAL 9016, RAL according to customer specifications
End cover:	Plastic
Glass:	LSG 2 x 6 mm (PVB 1.52 mm) included in the scope of delivery
Glass height:	980 mm
Glass width:	800 – 1,700 mm Increment in 20 mm widths
Accessories:	<ul style="list-style-type: none"> ▪ Aluminium end cover (optional) ▪ Glass edge guard profiles: <u>Stainless steel and aluminium</u> ▪ Roller blind rails ▪ Screws

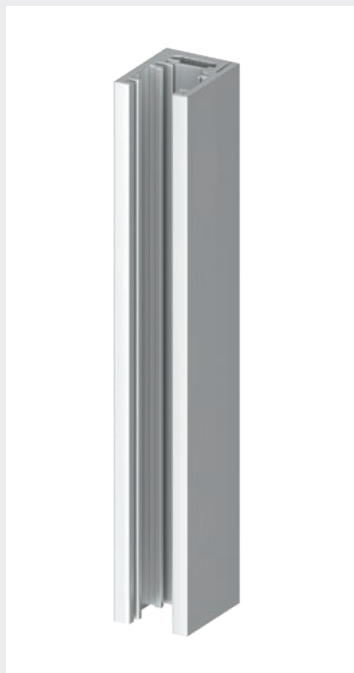
1,000 mm

- ✓ **Complete set** including glass
- ✓ More attractive all-inclusive price
- ✓ In stock

System 35



Profile



Stock program for profile sets 800 / 900 / 1,000

Profile lengths (mm)	Surfaces				
	Natural	Stainless steeleffect	Anthracite RAL 7016	White RAL 9016	RAL according to customer specifications
800	✓	✓	✓	✓	—
900	✓	✓	✓	✓	—
1,000	✓	✓	✓	✓	—

Individual profile lengths

up to 6,000	✓	✓	✓	✓	✓
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Basic profile

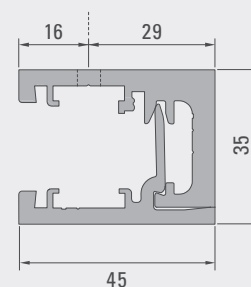
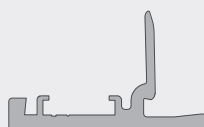
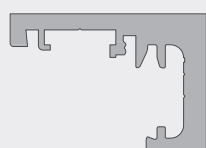


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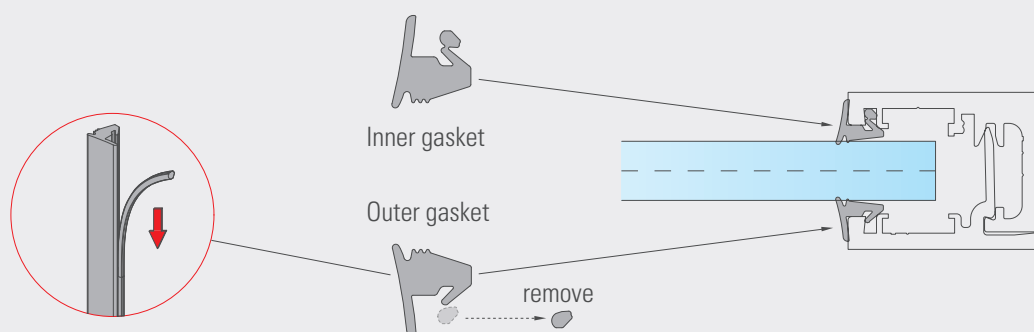
Glass bead



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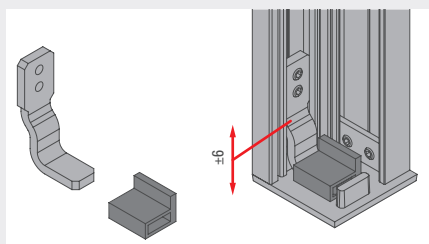


EPDM seals



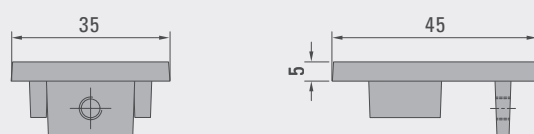
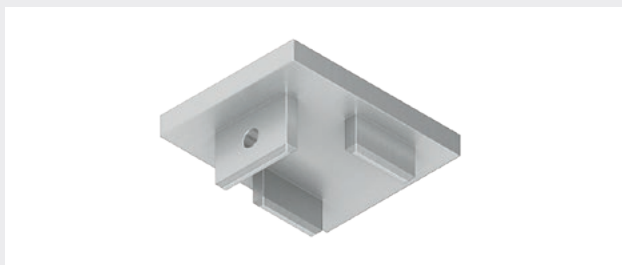
Support element (height-adjustable)

Support bracket including contact guard



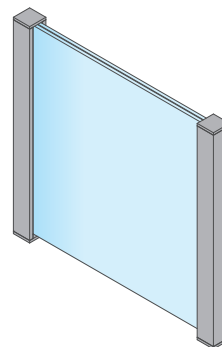
Plastic end cover (optionally in aluminium)

End cover at bottom **and** top
for system **35** without glass projection



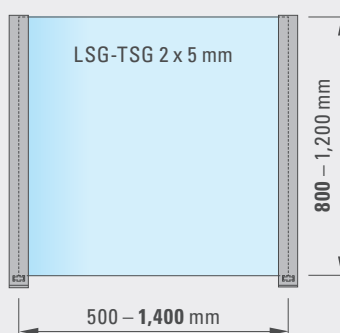
Following surfaces available:

- Colour silver (similar to E6EV1)
- RAL 7016 (anthracite grey)
- RAL 9016 (traffic white)
- RAL 9005 (deep black)

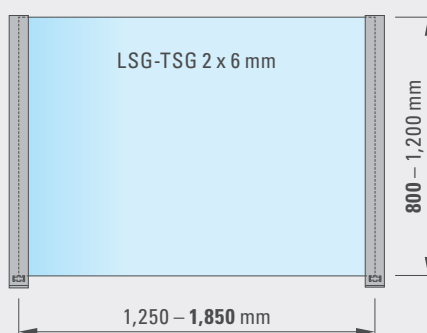
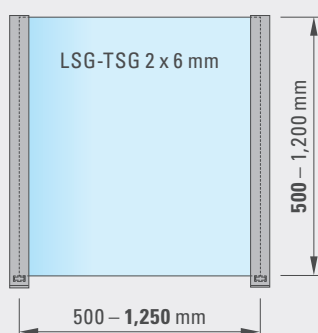


Glass dimensions

LSG 2 x 5 mm (PVB 1.52)



LSG 2 x 6 mm (PVB 1.52)

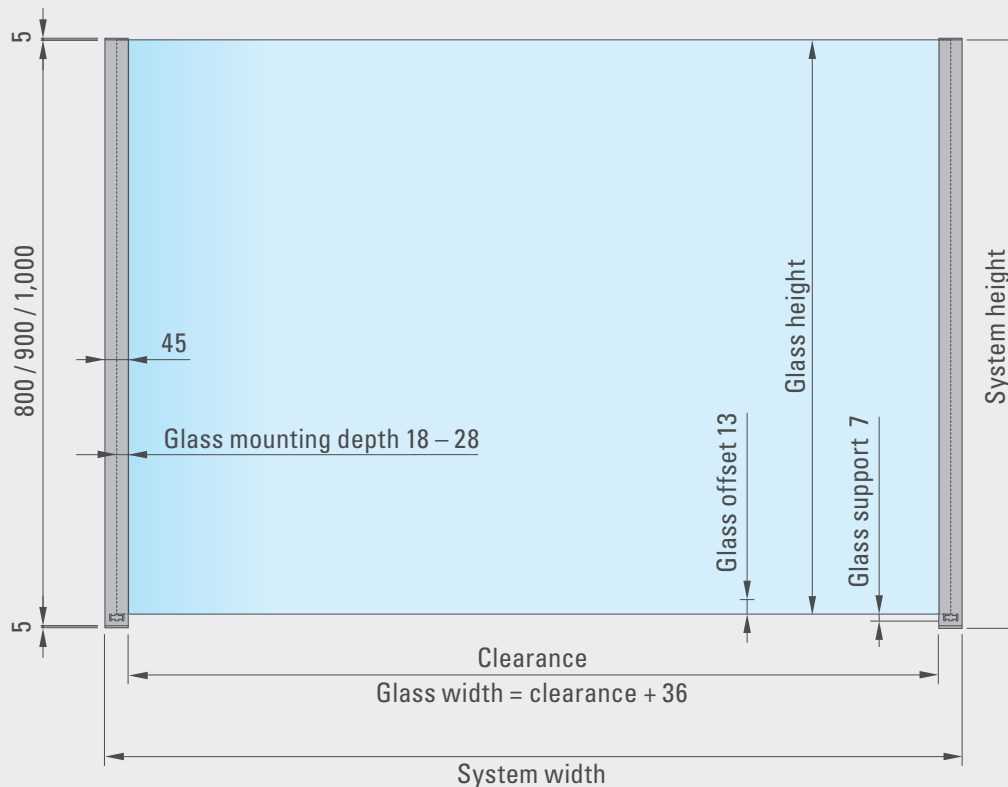


For application and dimension tables, see pages 58 – 62.



System dimensions without glass projection

Profile sets 800 / 900 / 1,000



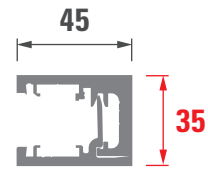
Stock program for profile sets

Profile length	800	900	1,000
Glass height = Profile length – 20 mm	780	880	980
System height = Profile length + 10 mm	810	910	1,010

Examples for individual profile lengths

Profile length	500	600	700	1,100	1,200
Glass height = Profile length – 20 mm	480	580	680	1,080	1,180
System height = Profile length + 10 mm	510	610	710	1,110	1,210

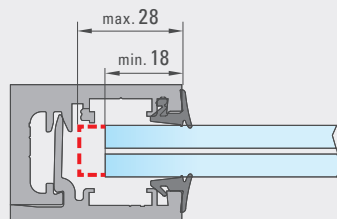
Customisations on request



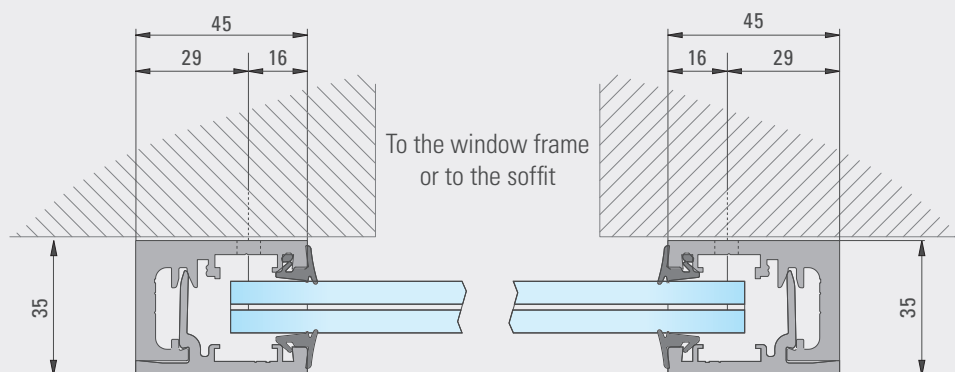
Glass mounting depth and attachment

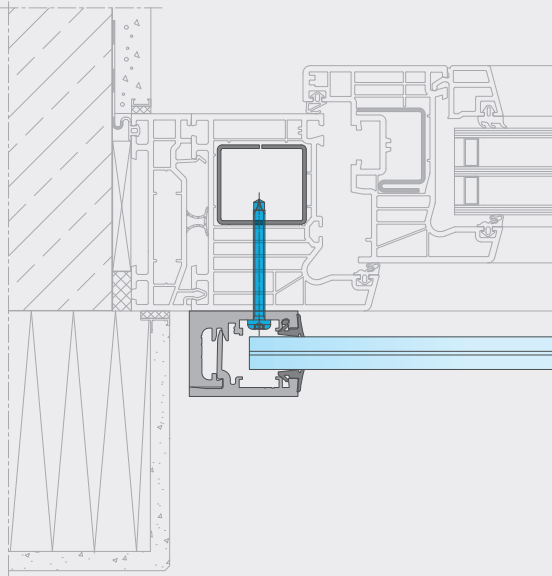
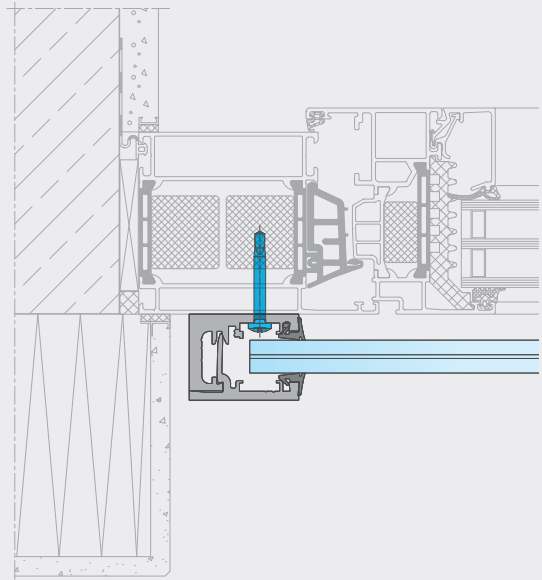
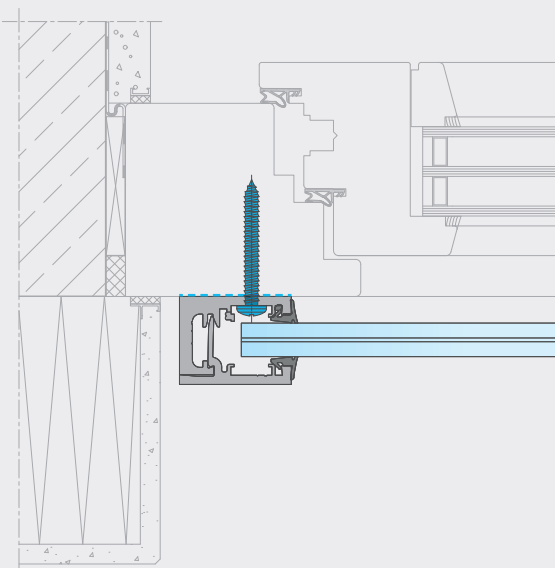
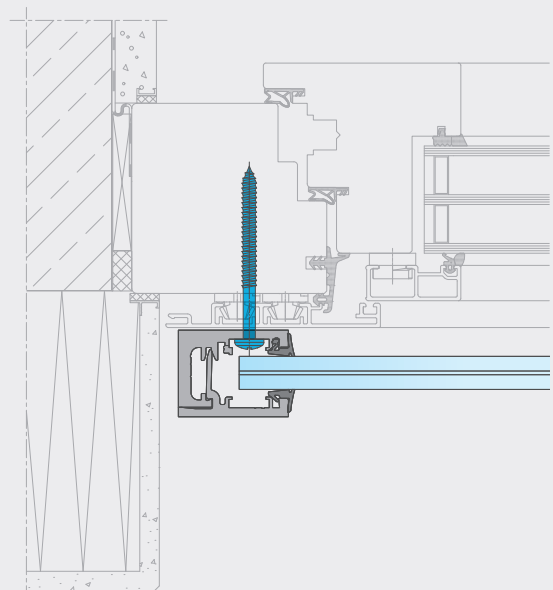
Glass mounting depth

18 – 28 mm **without** LED

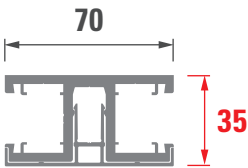


Attachment

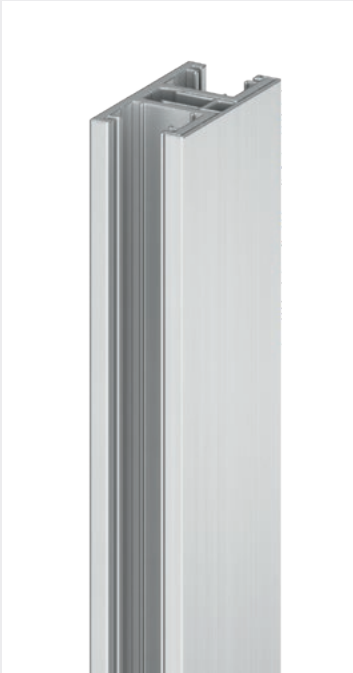


Plastic windows**Aluminium windows****Wood windows****Wood-aluminium windows**

Centre posts 35



Profile



Stock program for profile sets 800 / 900 / 1,000

Profile lengths (mm)	Surfaces				
	Natural	Stainless steel-effect	Anthracite RAL 7016	White RAL 9016	RAL according to customer specifications
800	✓	✓	✓	✓	—
900	✓	✓	✓	✓	—
1,000	✓	✓	✓	✓	—

Individual profile lengths

500 – 6,000	✓	✓	✓	✓	✓
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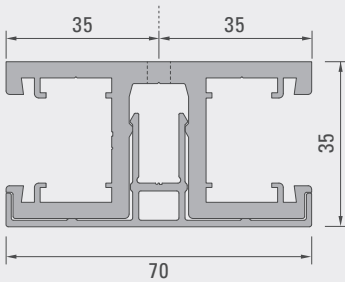
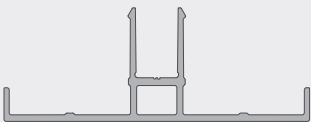
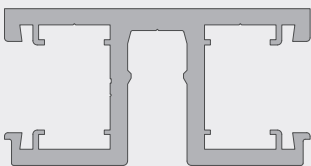
Basic profile



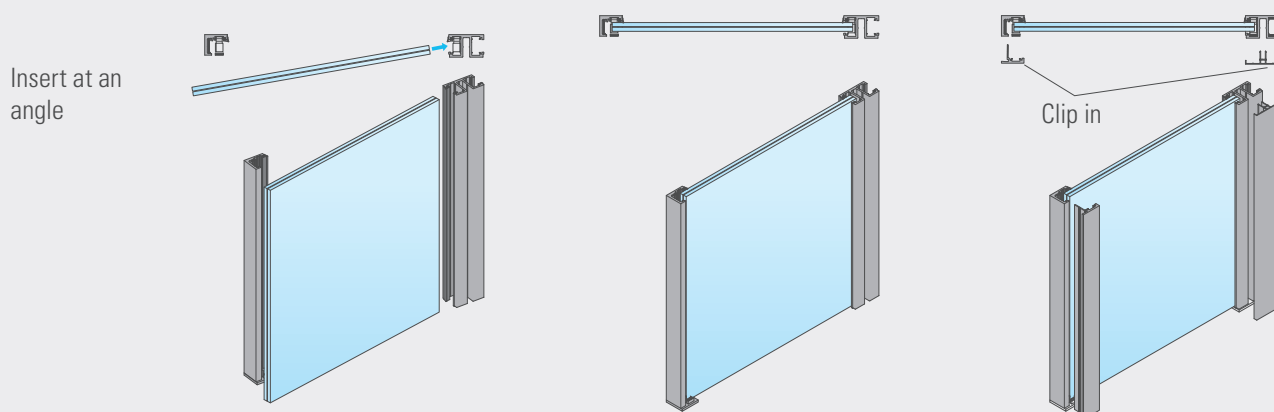
Covering strip



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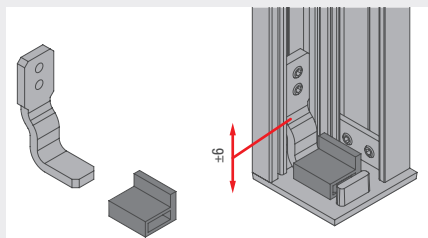


Installation



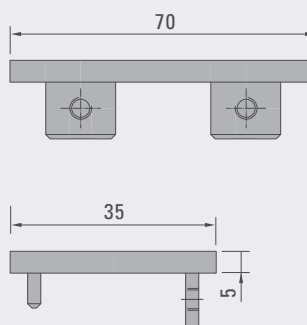
Support element (height-adjustable)

Support bracket including contact guard







Plastic end cover (optionally in aluminium)

End cover at bottom **and** top
for BALMERO system **35** without glass projection

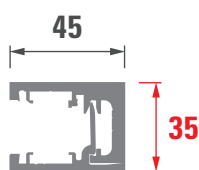


Following surfaces available:

- | | |
|--|--|
|  Colour silver (similar to E6EV1) |  RAL 9016 (traffic white) |
|  RAL 7016 (anthracite grey) |  RAL 9005 (deep black) |

Roller blind rail

Without insect screen, available length: 2,600 mm



Clip profile



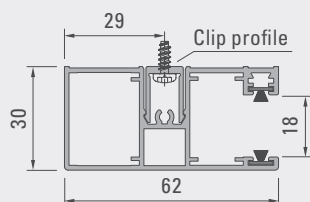
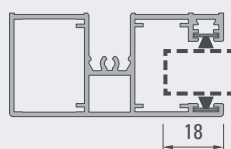
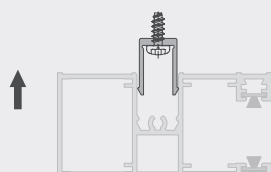
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Clip-on element

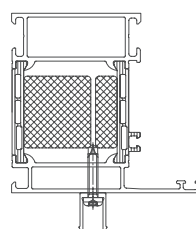


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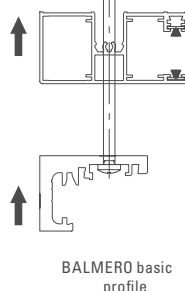
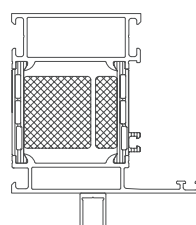
Roller blind rail



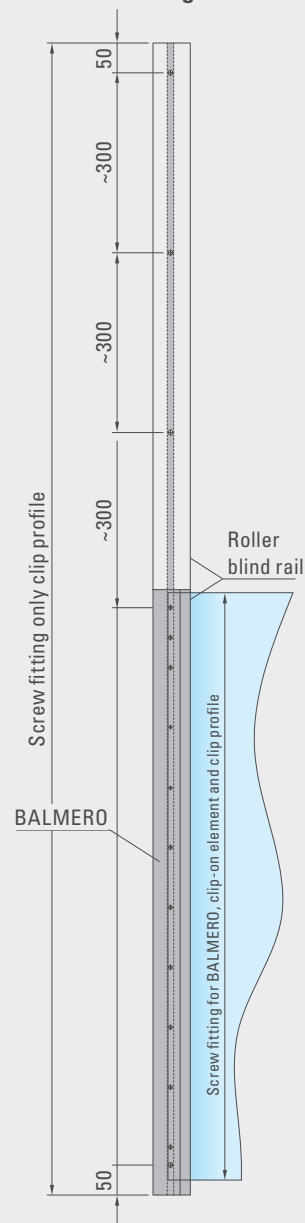
Screw fitting only clip profile



Screw fitting for BALMERO, clip-on element and clip profile



Screw fitting



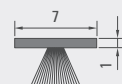
Material: Aluminium

Surfaces:

- "Natural" untreated
- Stainless steel effect (E6EV1)
- RAL 7016 (anthracite grey)
- RAL 9016 (traffic white)

Brush assortment

Size "A" Roller blind slat thickness	15-16	13-14	11-12	9-10
Indoors Size "A" outdoors	B 1	B 2	B 3	B 4



Roller blind rail

With insect screen, available length: 2,600 mm

Roller blind rail cannot be used with centre posts.



Clip profile



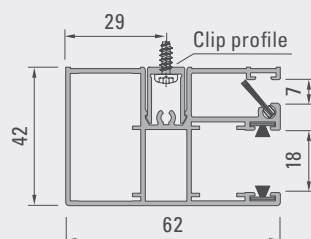
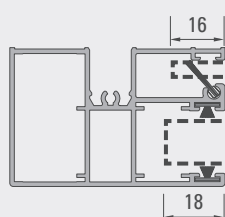
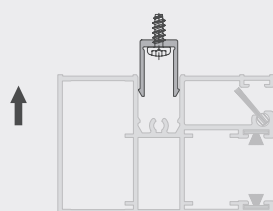
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Clip-on element

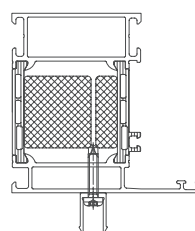


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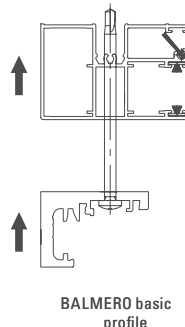
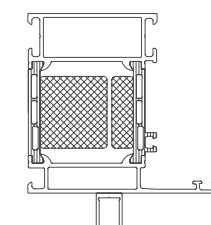
Roller blind rail with insect screen



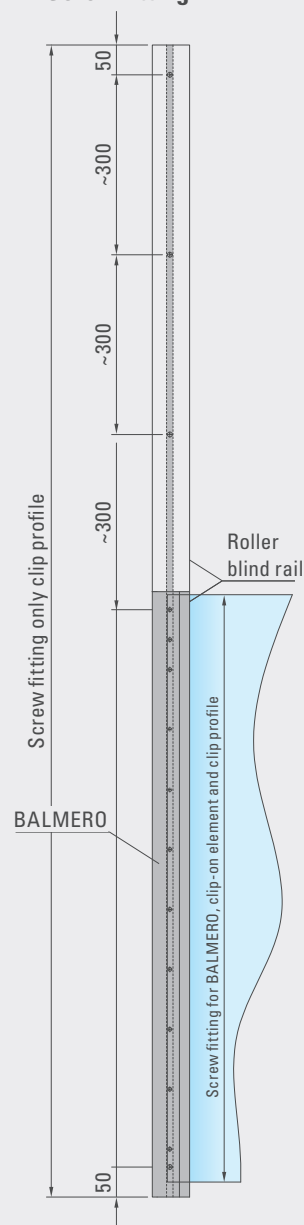
Screw fitting only clip profile



Screw fitting for BALMERO, clip-on element and clip profile



Screw fitting



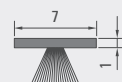
Material: Aluminium

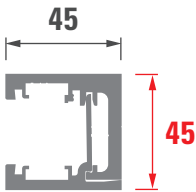
Surfaces:

- "Natural" untreated
- Stainless steel effect (E6EV1)
- RAL 7016 (anthracite grey)
- RAL 9016 (traffic white)

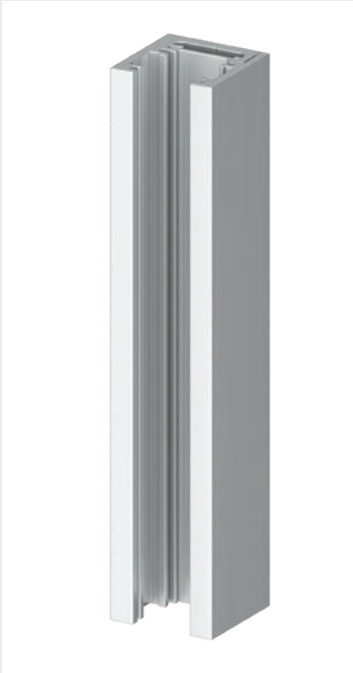
Brush assortment

Size "A" Roller blind slat thickness	15-16	13-14	11-12	9-10	Insect screen
Indoors Size "A" outdoors	B 1	B 2	B 3	B 4	B 5





Profile



Stock program for profile sets 800 / 900 / 1,000

Profile lengths (mm)	Surfaces				
	Natural	Stainless steelffect	Anthracite RAL 7016	White RAL 9016	RAL according to customer specifications
800	✓	✓	✓	✓	—
900	✓	✓	✓	✓	—
1,000	✓	✓	✓	✓	—

Individual profile lengths

350 – 6,000	✓	✓	✓	✓	✓
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Basic profile

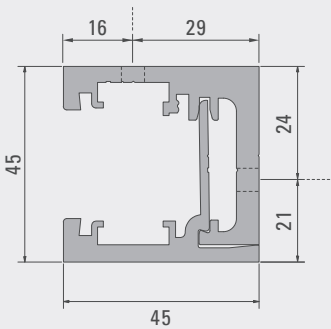
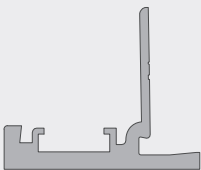
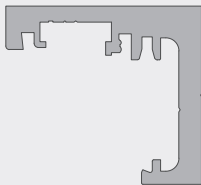


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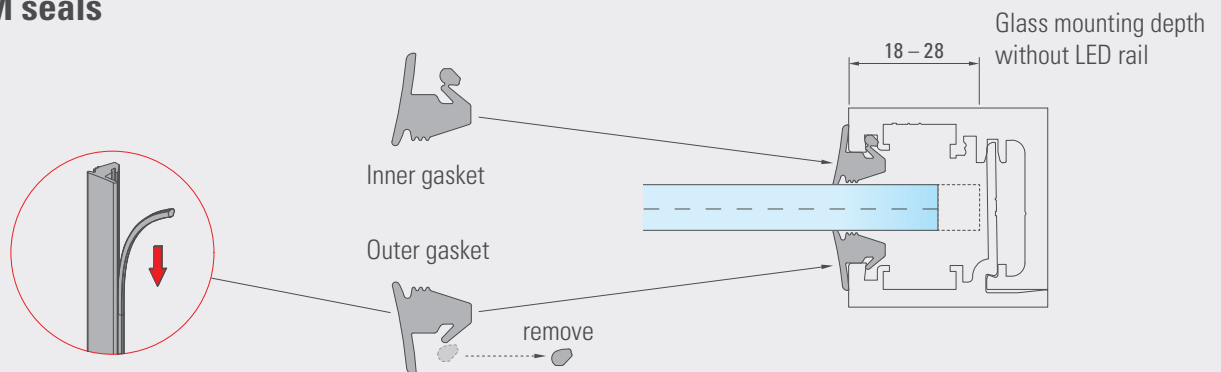
Glass bead



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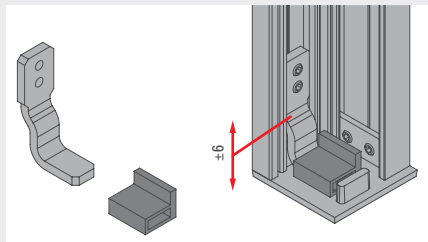


EPDM seals



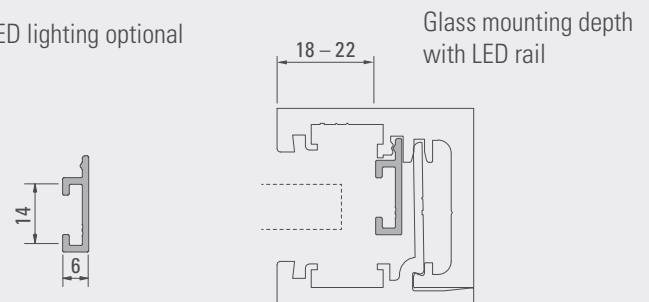
Support element (height-adjustable)

Support bracket including contact guard



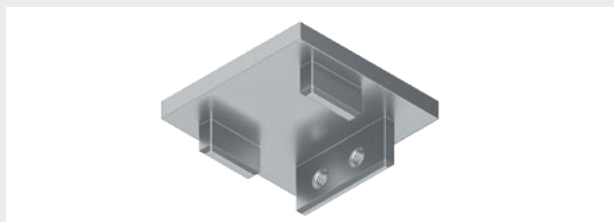
LED rail

LED lighting optional

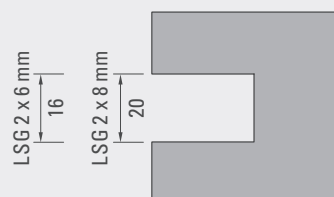
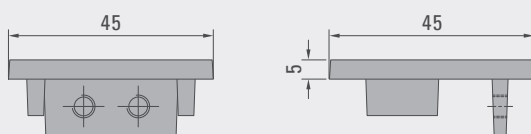
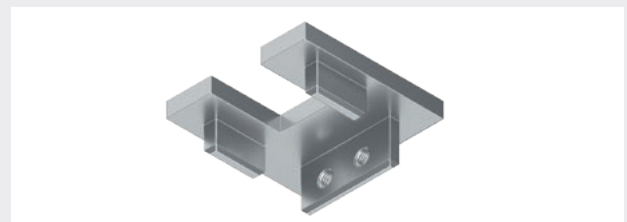


Plastic end cover (optionally in aluminium)

End cover at bottom **and** on top
for system **45** without glass projection

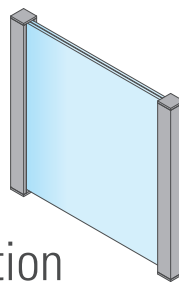


End cover on top for system **45** with glass projection



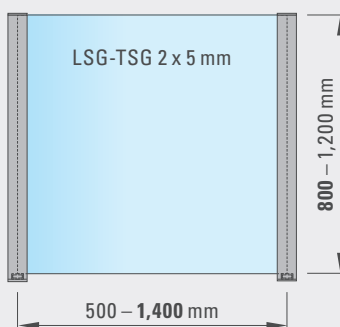
Following surfaces available:

	Colour silver (similar to E6EV1)		RAL 9016 (traffic white)
	RAL 7016 (anthracite grey)		RAL 9005 (deep black)

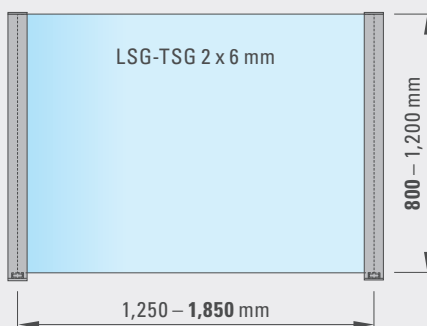
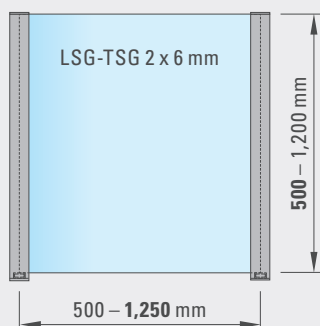


Glass dimensions without glass projection

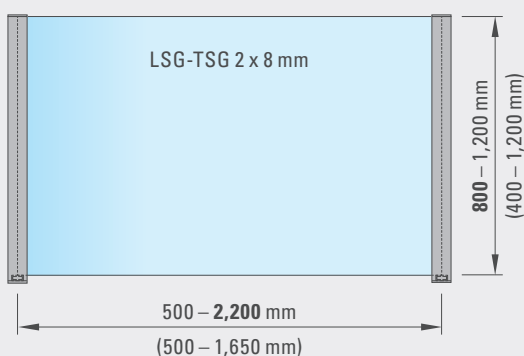
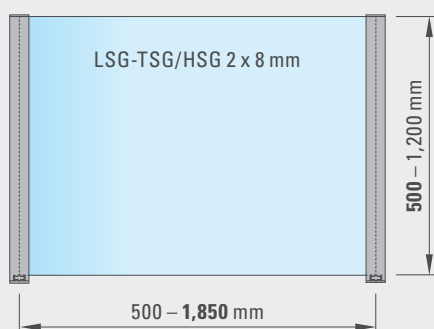
LSG 2 x 5 mm (PVB 1.52)



LSG 2 x 6 mm (PVB 1.52)



LSG 2 x 8 mm (PVB 1.52)

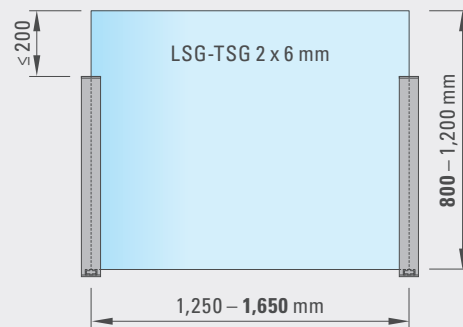
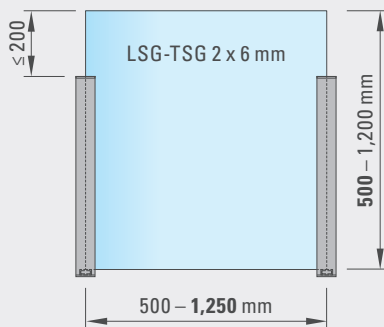


For application and dimension tables, see pages 58 – 62.

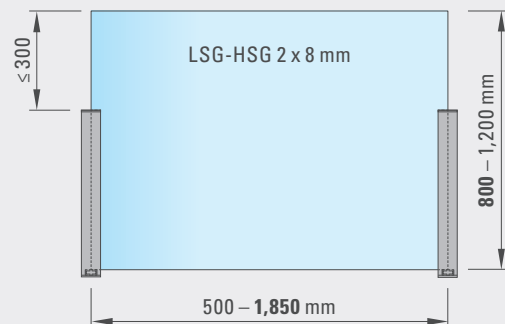
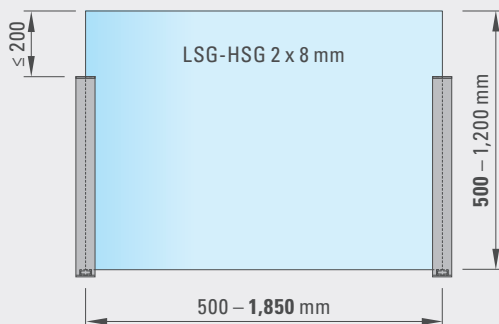
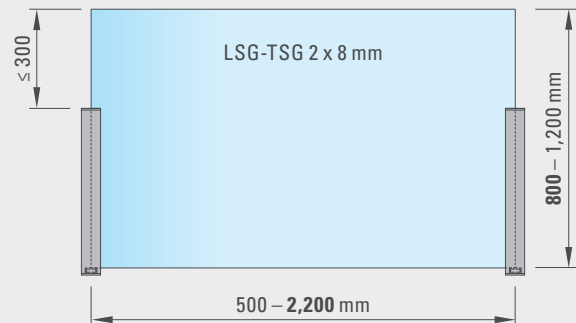
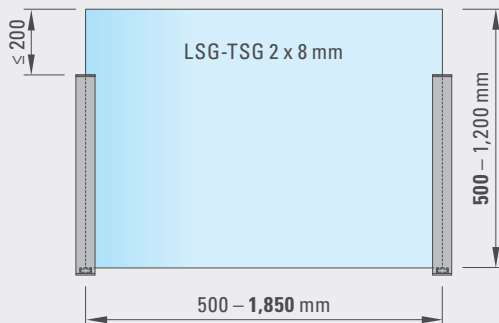


Glass dimensions with glass projection

LSG 2 x 6 mm (PVB 1.52)

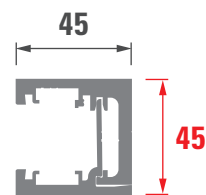


LSG 2 x 8 mm (PVB 1.52)



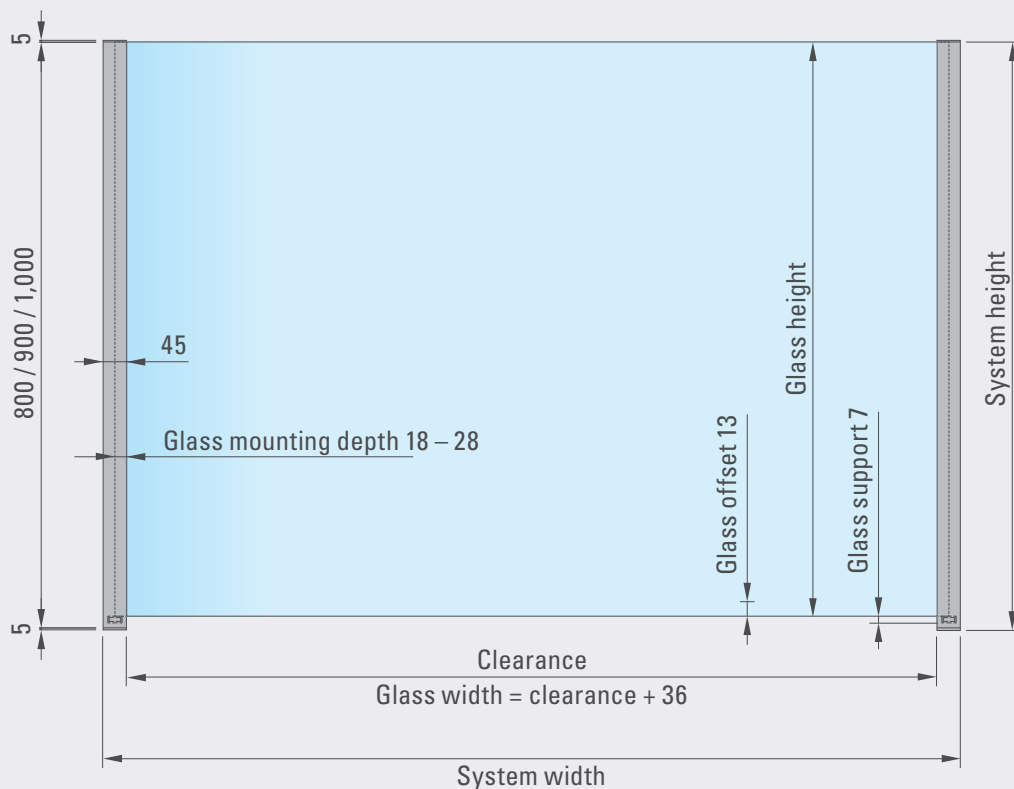
For application and dimension tables, see pages 58 – 62.





System dimensions without glass projection

Profile set 800 / 900 / 1,000



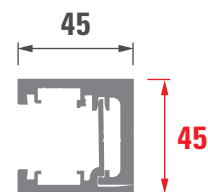
Stock program for profile sets

Profile length	800	900	1,000
Glass height = Profile length – 20 mm	780	880	980
System height = Profile length + 10 mm	810	910	1,010

Examples for individual profile lengths

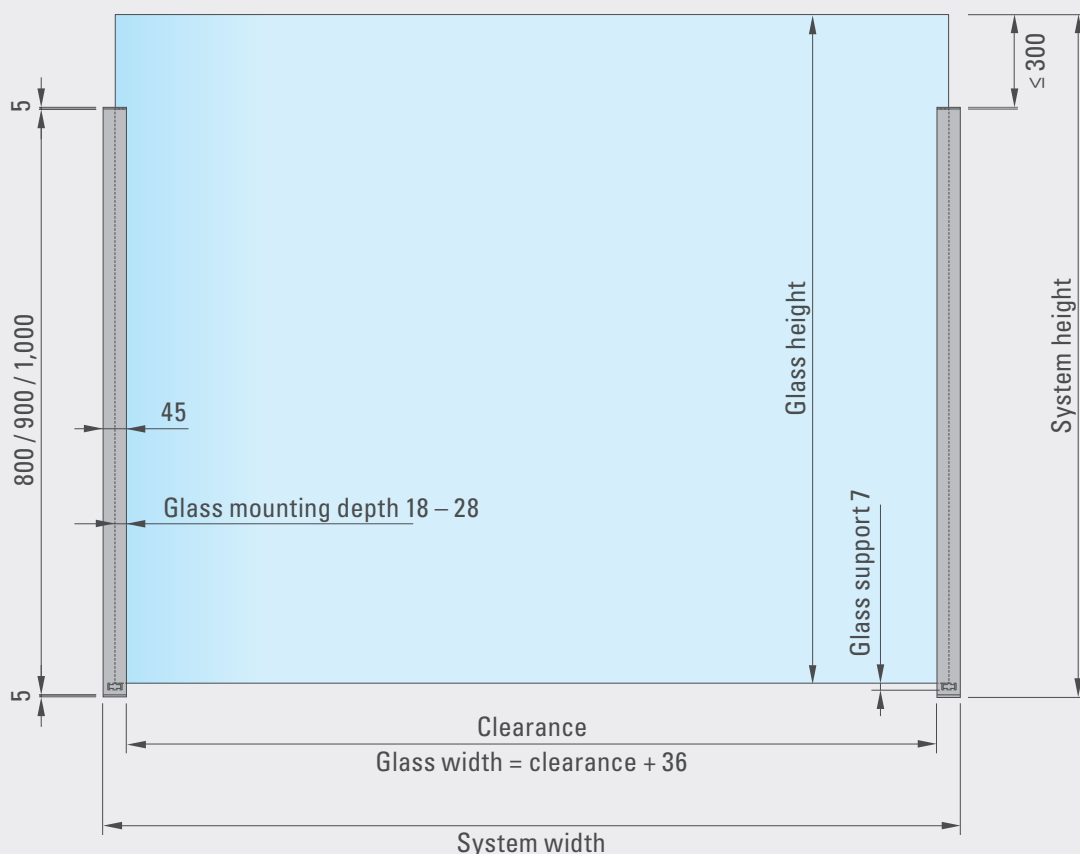
Profile length	450	500	600	700	1,100	1,200
Glass height = Profile length – 20 mm	430	480	580	680	1,080	1,180
System height = Profile length + 10 mm	460	510	610	710	1,110	1,210

Customisations on request



System dimensions with glass projection

100 / 200 / 300 mm



100 mm glass projection

Stock program for profile sets

Profile length	800	900	1,000
Glass height = Profile length – 2 mm + glass projection	898	998	1,098
System height = Profile length + 10 mm + glass projection	910	1,010	1,110

Examples for individual profile lengths

Profile length	500	600	700	1.100
Glass height = Profile length – 2 mm + glass projection	598	698	798	1,198
System height = Profile length + 10 mm + glass projection	610	710	810	1,210

Customisations on request

200 mm glass projection

Stock program for profile sets

Profile length	800	900	1,000
Glass height = Profile length – 2 mm + glass projection	998	1,098	1,198
System height = Profile length + 10 mm + glass projection	1,010	1,110	1,210

Examples for individual profile lengths

Profile length	400	500	600	700
Glass height = Profile length – 2 mm + glass projection	598	698	798	898
System height = Profile length + 10 mm + glass projection	610	710	810	910

Customisations on request

300 mm glass projection

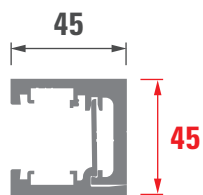
Stock program for profile sets

Profile length	800	900
Glass height = Profile length – 2 mm + glass projection	1,098	1,198
System height = Profile length + 10 mm + glass projection	1,110	1,210

Examples for individual profile lengths

Profile length	400	500	600	700
Glass height = Profile length – 2 mm + glass projection	698	798	898	998
System height = Profile length + 10 mm + glass projection	710	810	910	1,010

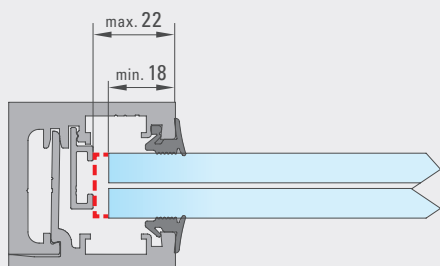
Customisations on request



Glass mounting depth

With glass projection

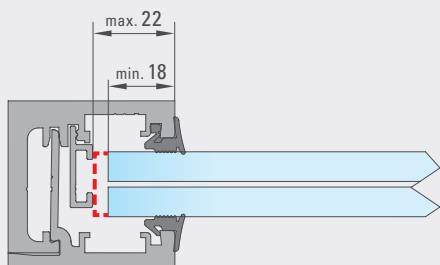
18 – 22 mm



Without glass projection

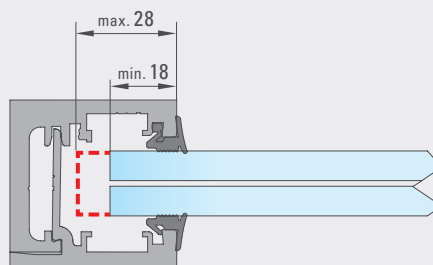
18 – 22 mm

with
LED



18 – 28 mm

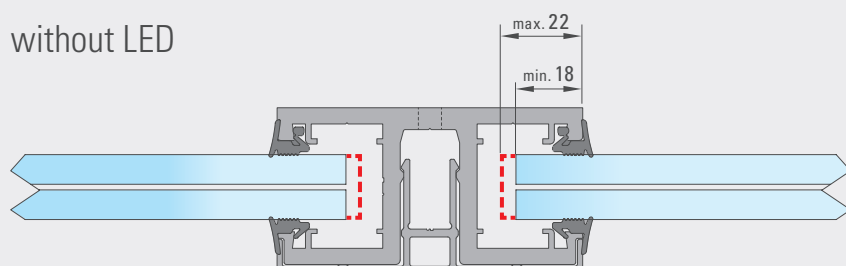
without
LED

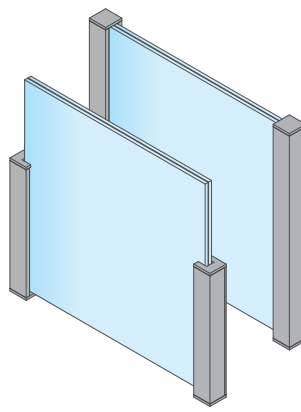


Centre posts

18 – 22 mm

without LED



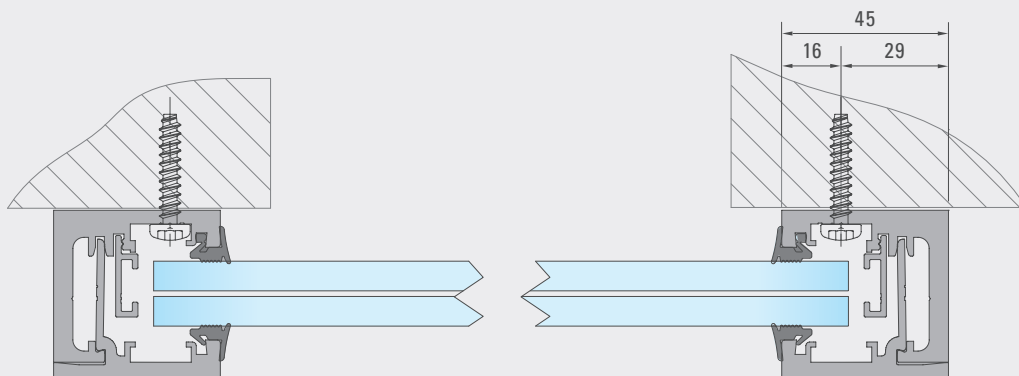


GLASSLINE

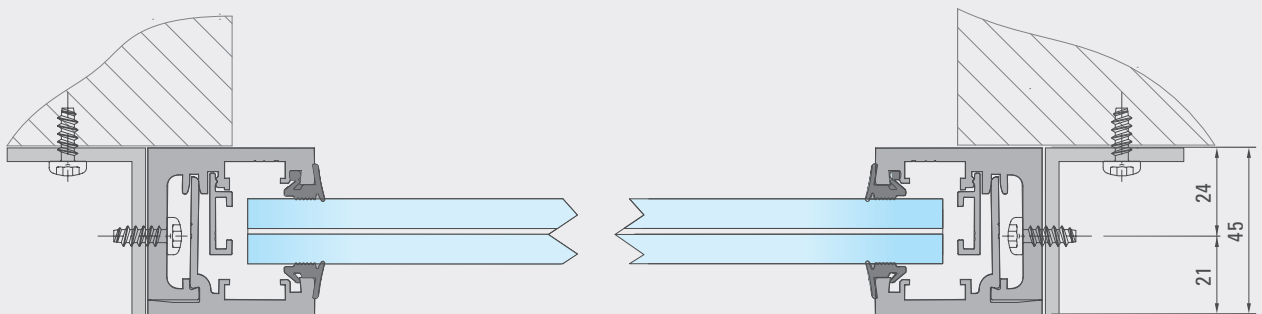
BALMERO 45

Attachment

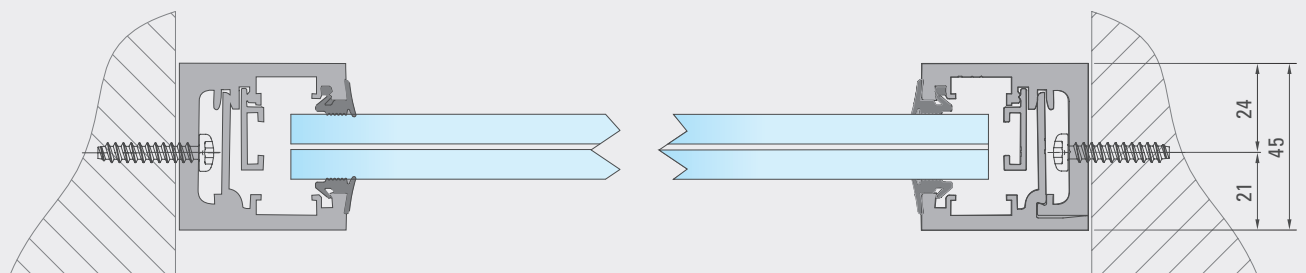
**To the window frame
or to the soffit**



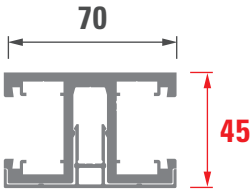
on-site substructure



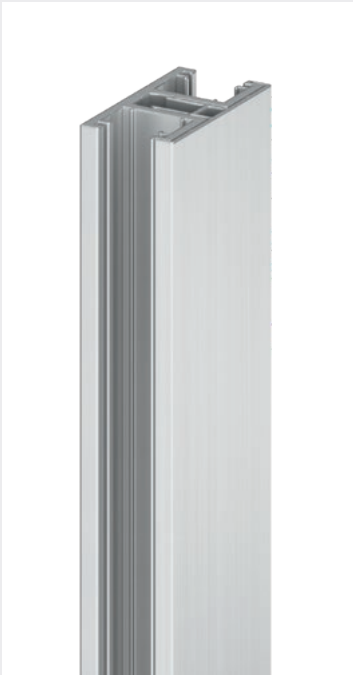
In the soffit



Centre posts 45



Profile



Stock program for profile sets 800 / 900 / 1,000

Profile lengths (mm)	Surfaces				
	Natural	Stainless steel effect	Anthracite RAL 7016	White RAL 9016	RAL according to customer specifications
800	✓	✓	✓	✓	—
900	✓	✓	✓	✓	—
1,000	✓	✓	✓	✓	—

Individual profile lengths

350 – 6,000	✓	✓	✓	✓	✓
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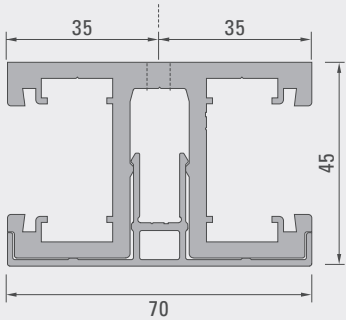
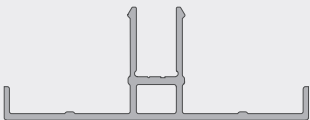
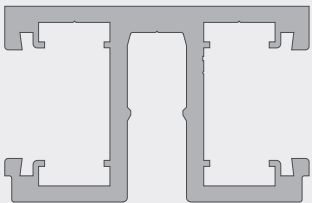
Basic profile



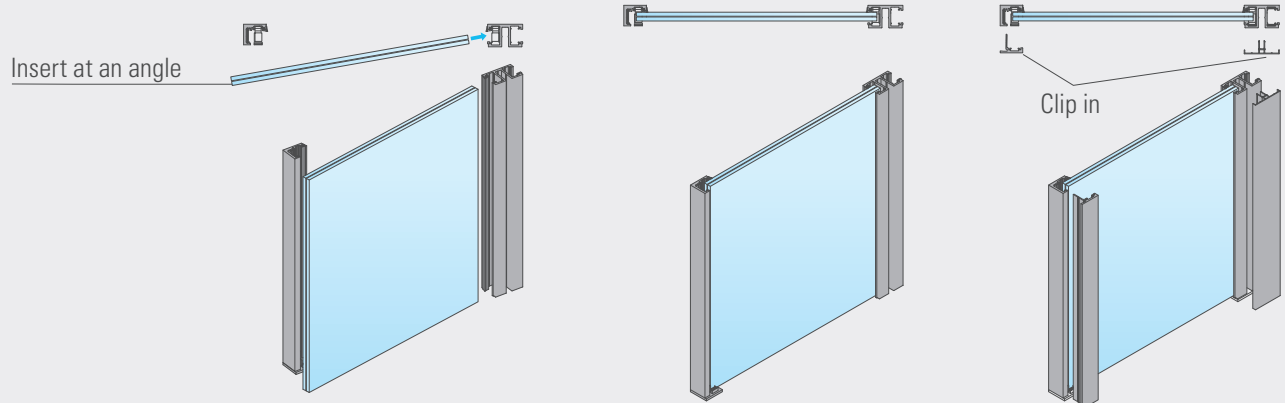
Covering strip



=

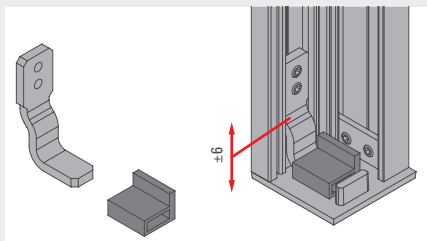


Installation



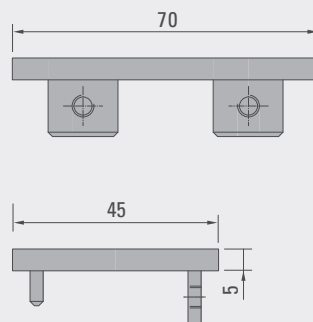
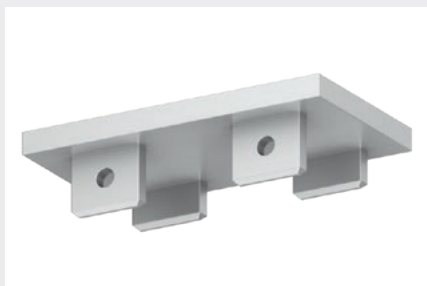
Support element (height-adjustable)

Support bracket including contact guard

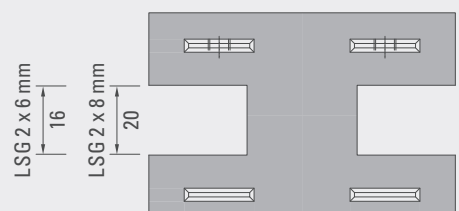


Plastic end cover (optionally in aluminium)





End cover at bottom **and** on top
for system **45** without glass projection

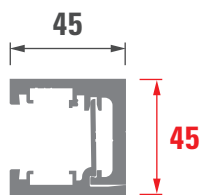


End cover on top
for system **45** without glass projection



Following surfaces available:

- | | |
|--|--|
|  Colour silver (similar to E6EV1) |  RAL 9016 (traffic white) |
|  RAL 7016 (anthracite grey) |  RAL 9005 (deep black) |



Roller blind rail

Without insect screen, available length: 2,600 mm

Clip profile



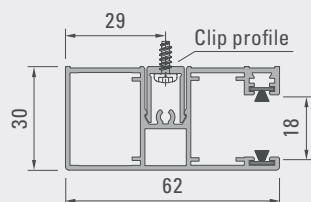
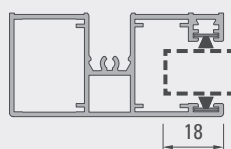
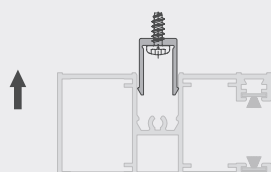
+

Clip-on element

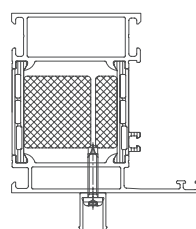


=

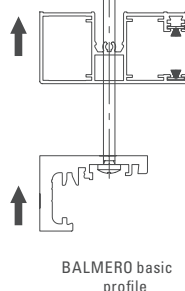
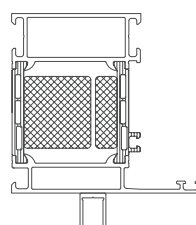
Roller blind rail



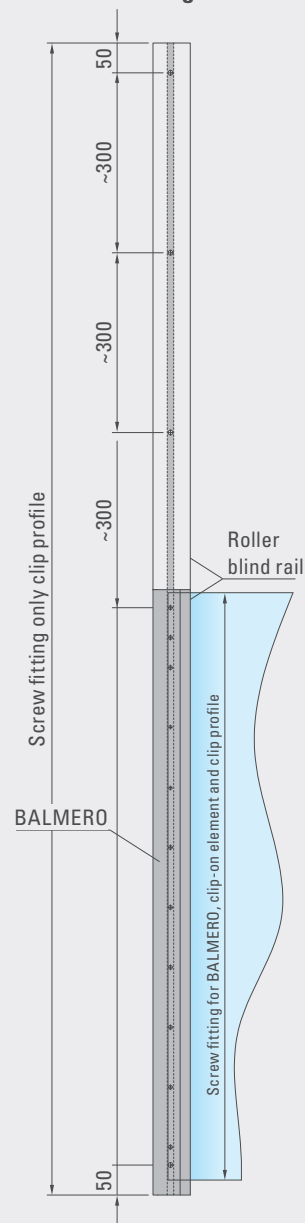
Screw fitting only clip profile



Screw fitting for BALMERO, clip-on element and clip profile



Screw fitting



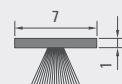
Material: Aluminium

Surfaces:

- "Natural" untreated
- Stainless steel effect (E6EV1)
- RAL 7016 (anthracite grey)
- RAL 9016 (traffic white)

Brush assortment

Size "A" Roller blind slat thickness	15-16	13-14	11-12	9-10
Indoors Size "A" outdoors	B 1	B 2	B 3	B 4



Roller blind rail

With insect screen, available length: 2,600 mm

Roller blind rail cannot be used with centre posts.



Clip profile



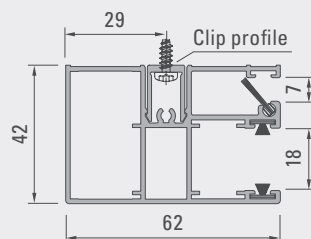
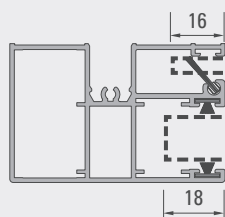
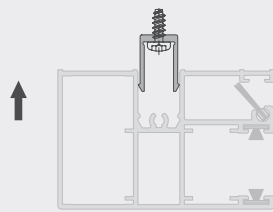
+

Clip-on element

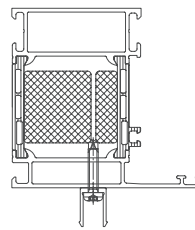


=

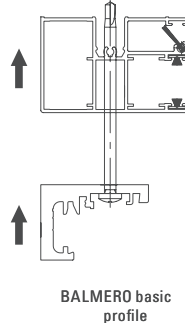
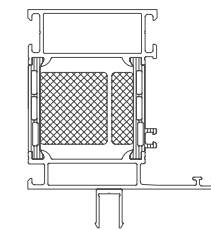
Roller blind rail with insect screen



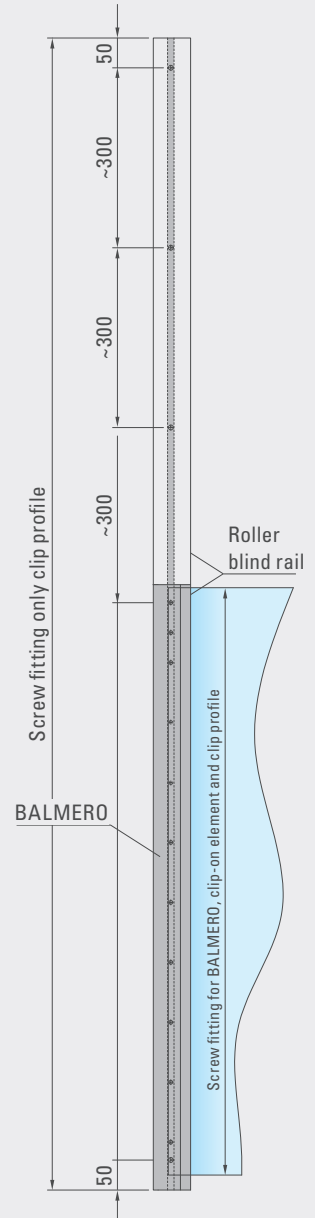
Screw fitting only clip profile



Screw fitting for BALMERO, clip-on element and clip profile

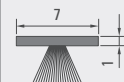


Screw fitting



Brush assortment

Size "A" Roller blind slat thickness	15-16	13-14	11-12	9-10	Insect screen
Indoors Size "A" outdoors	B 1	B 2	B 3	B 4	B 5

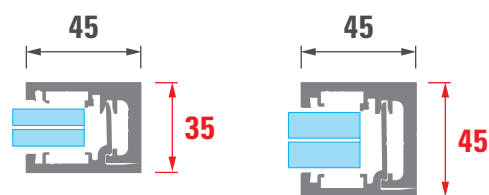


Material: Aluminium

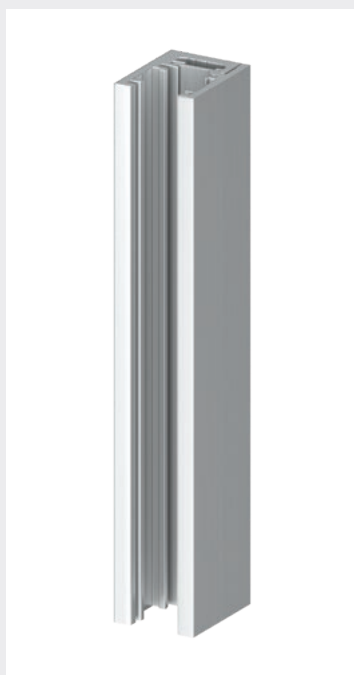
Surfaces:

- "Natural" untreated
- Stainless steel effect (E6EV1)
- RAL 7016 (anthracite grey)
- RAL 9016 (traffic white)

System 35/45



Profile



Complete set 1,000 with glass

Profile length (mm)	Surfaces				
	Natural	Stainless steelffect	Anthracite RAL 7016	White RAL 9016	RAL according to customer specifications
1,000	✓	✓	✓	✓	—

More than 1,000 glass panes in stock

Basic profile

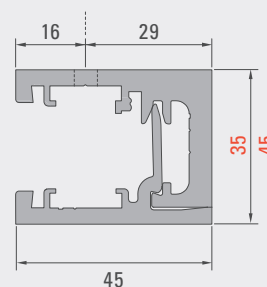
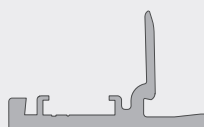


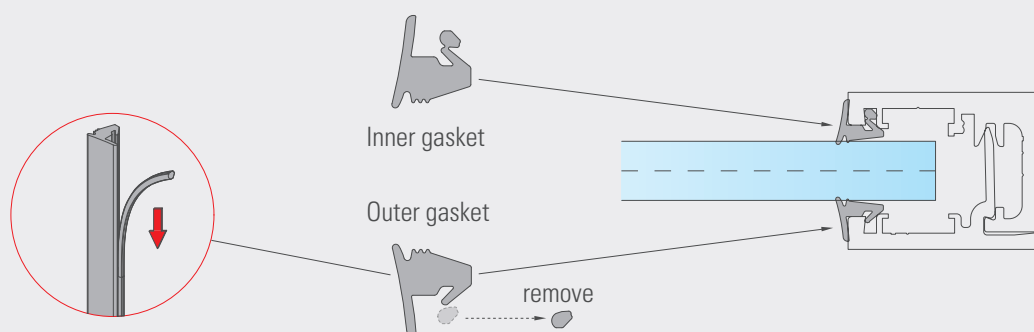
+

Glass bead

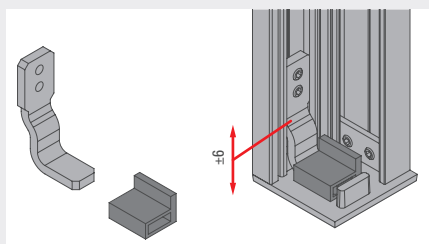


=

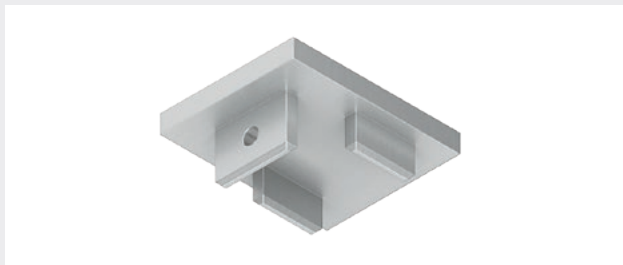


Complete set
EPDM seals

Support element (height-adjustable)





Support bracket including contact guard

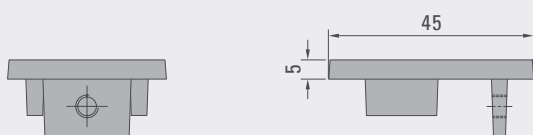

Plastic end cover (optionally in aluminium)

End cover at bottom **and** top
for system without glass projection

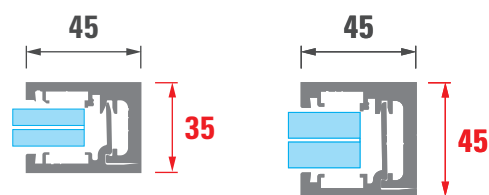


Following surfaces available:

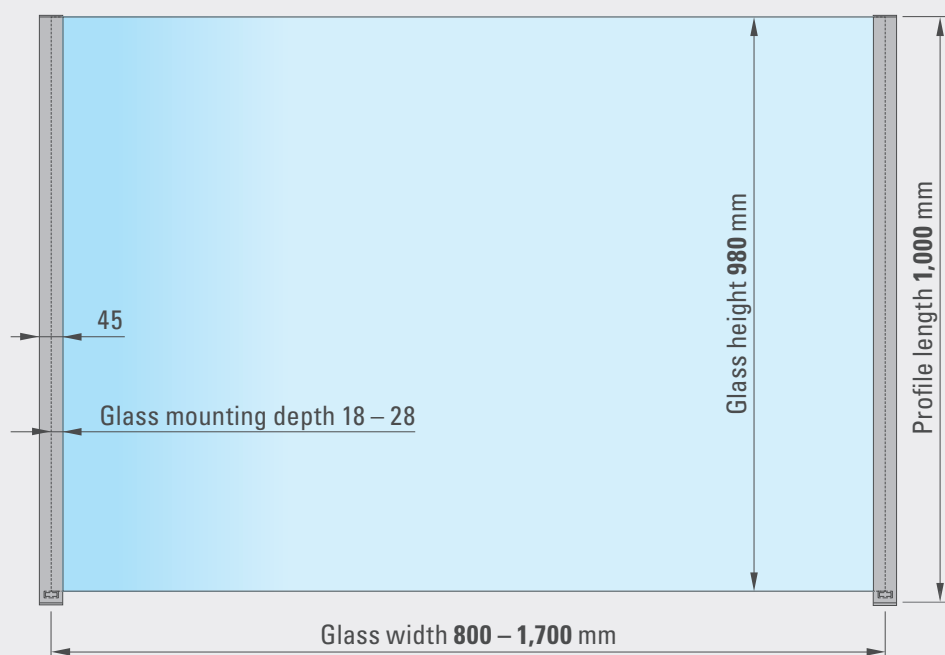
-  Colour silver (similar to E6EV1)
-  RAL 7016 (anthracite grey)
-  RAL 9016 (traffic white)
-  RAL 9005 (deep black)



Glass dimensions

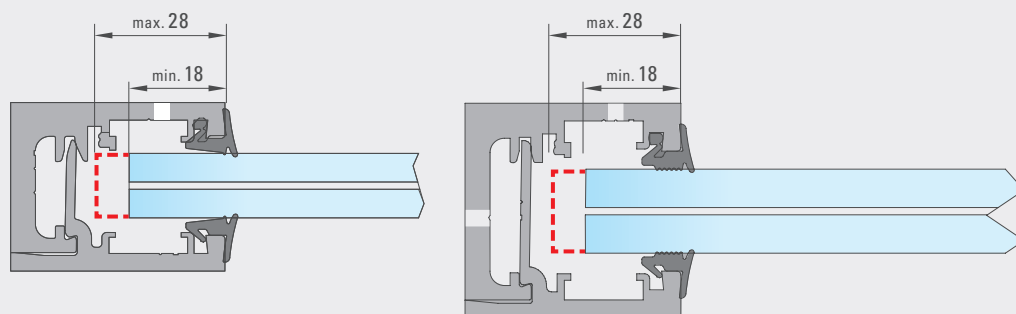


BALMERO Complete set 1,000 LSG 2 x 6 mm (PVB 1.52)



Glass mounting depth

18 – 28 mm



For application and dimension tables, see pages 58 – 62; for glass, see page 42.

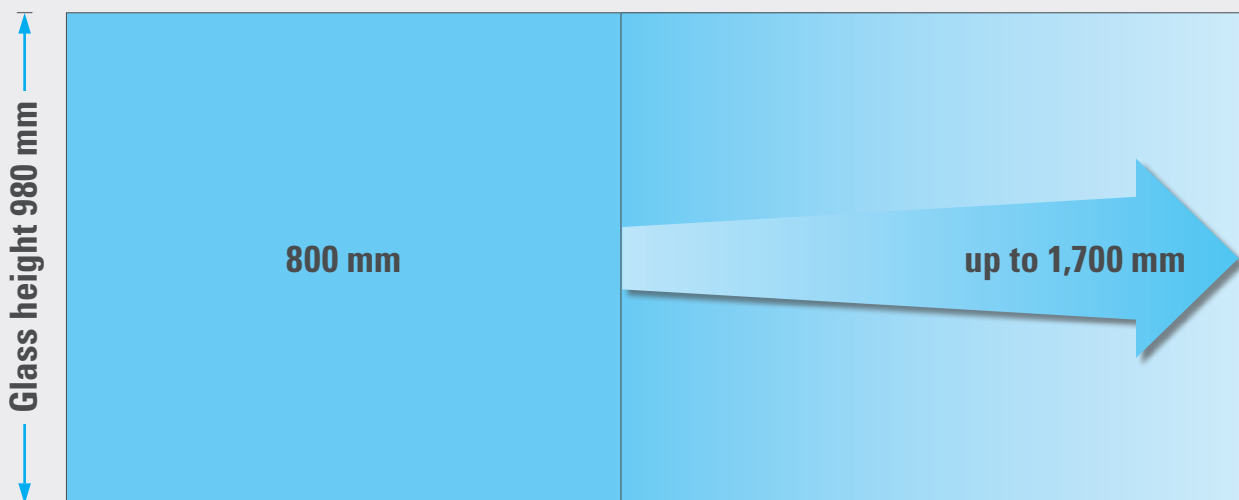


Glass stock program

Complete set

The unique BALMERO glass stock program

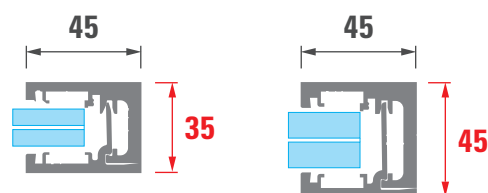
Glass widths available from 800 to 1,700 mm



Glass:	LSG 2 x 6 mm (PVB 1.52)
Glass pane height:	980 mm
Glass widths in glass stock program:	800 – 1,700 mm in 20-mm increments

**More than 1,000
glass panes in stock**

Determination of the glass pane width

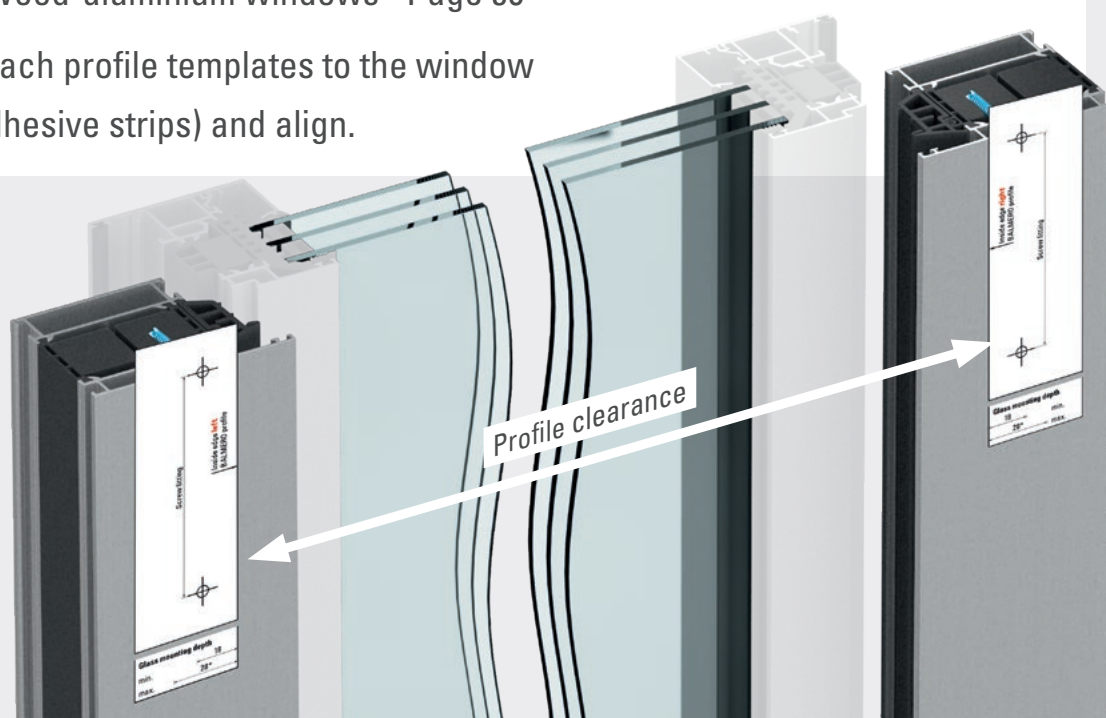
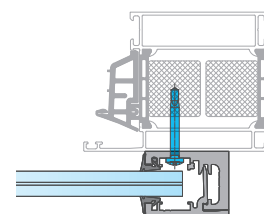


In 3 steps for the ideal glass pane width:

- 1 Determination of the **profile clearance** using the profile template
- 2 Calculation of the minimum pane width incl. minimum glass mounting depth
- 3 Determination and selection of the glass pane from the stock program

1 Determination of the profile clearance:

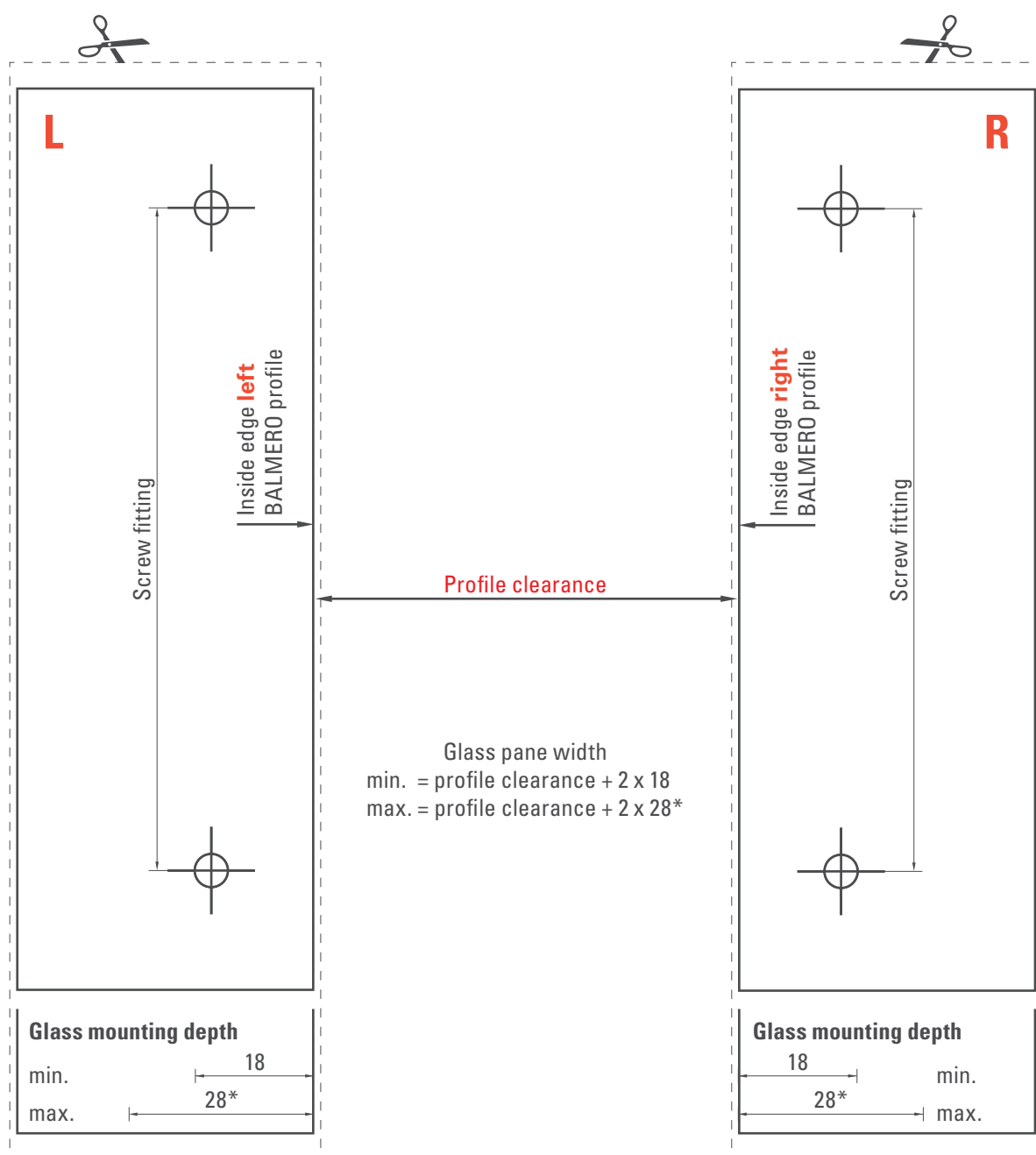
1. Copy and cut out templates (see page 39)
2. Determine location of the BALMERO profile in the window frame for
 - Plastic windows Page 48
 - Aluminium windows Page 50
 - Wood windows Page 54
 - Wood-aluminium windows Page 56
3. Attach profile templates to the window (adhesive strips) and align.



Complete set

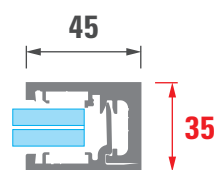
Profile templates 1:1 scale
copy and cut out:

**For attachment on the window
frame and on the soffit**

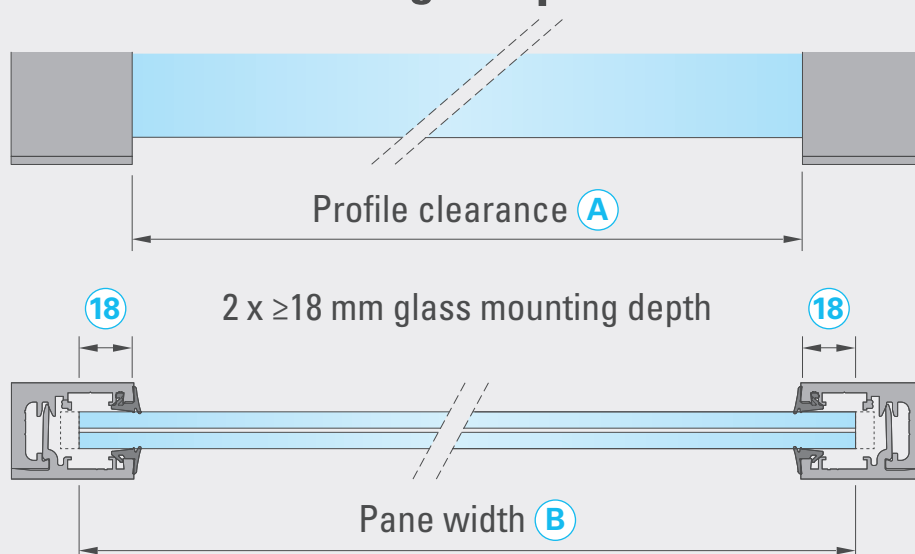


* max. glass mounting depth with glass projection = 22

Determination of the glass pane width



2 Calculation of the glass pane width:



Formula for calculating the glass pane width:

Profile clearance **A** + 2 x **18** mm = min. pane width **B**

Formula for calculating the glass pane width (in the soffit)

Clear wall opening - 90 mm + 2 x **18** mm = pane width **B**

3 Determination and selection of the glass pane from the stock program

Round up **B** pane width to the next

20 mm increment of the glass stock program (see below or page 37)

Example: $A = 800 \text{ mm} + 2 \times 18 = 836 \text{ mm} \rightarrow \mathbf{840 \text{ mm}}$ Order width

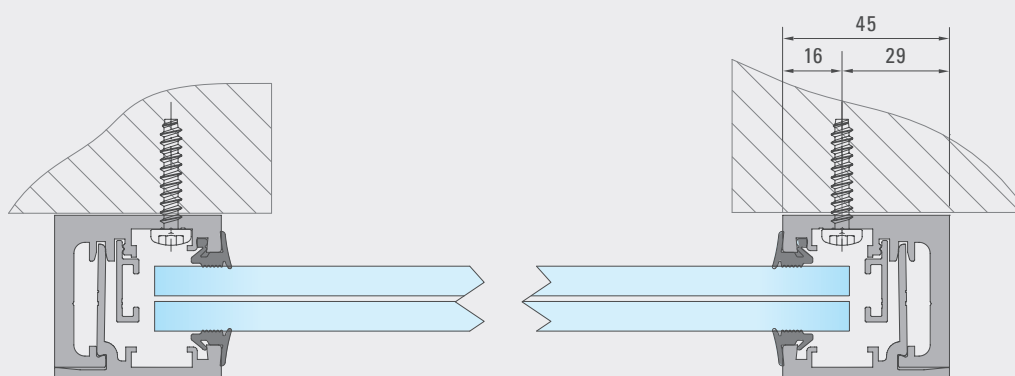
Glass height Glass width

	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700
980	820	920	1,020	1,120	1,220	1,320	1,420	1,520	1,620	
	840	940	1,040	1,140	1,240	1,340	1,440	1,540	1,640	
	860	960	1,060	1,160	1,260	1,360	1,460	1,560	1,660	
	880	980	1,080	1,180	1,280	1,380	1,480	1,580	1,680	

Attachment

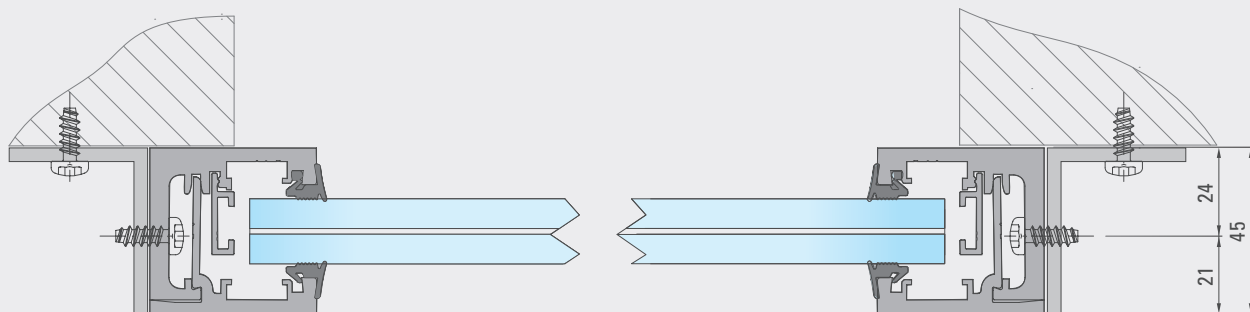
Complete set

To the window frame or to the soffit



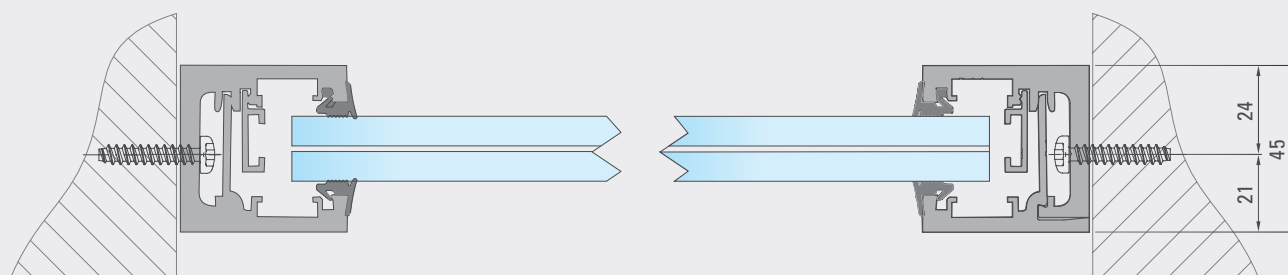
on-site substructure

BALMERO 45



in the soffit

BALMERO 45



Glass – Open spaces for your design

BALMERO offers a variety of design options with a high level of transparency:

- **BALMERO *firstglass***
- Glass edge guard profile in stainless steel and aluminium
- Custom glass design:
 - printed or coloured PVB film
 - printed or enamelled glass

With BALMERO, you have approved type statics for the glass, the support profile and the attachment to the window frame. For maximum safety, only laminated safety glass (LSG) is used.

BALMERO can be installed as a French balcony without additional tests and certifications.



With General Building Inspectorate Test Certificate (AbP)



Approved type statics for

- Glass
- Support profile
- Attachment to window frames



LGA-tested safety



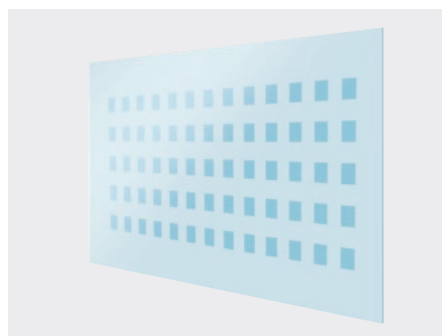
DIN 18008-4 tested

Custom glass design

Such as with matt-white film

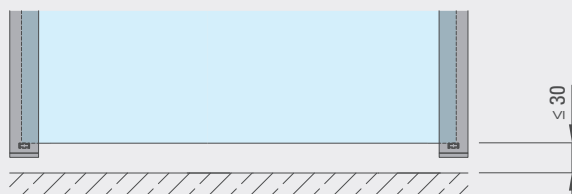
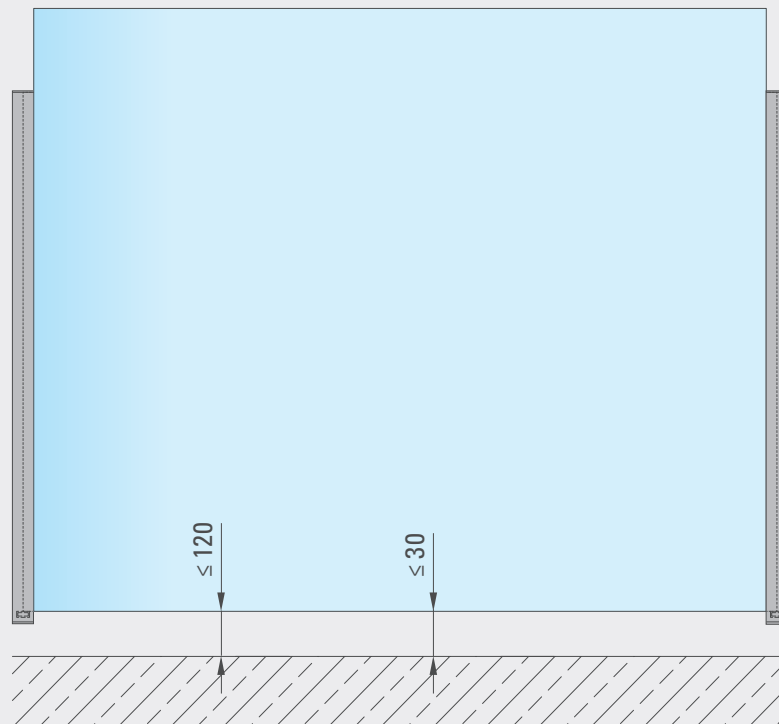


Such as with a template

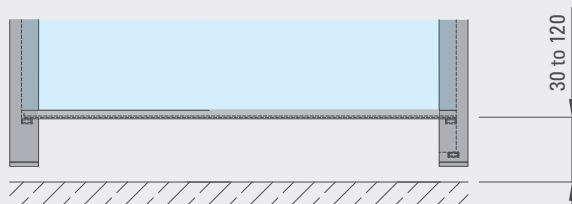


Such as with your company logo





Glass edge guard profile not required.



Open, accessible glass edges with a spacing of > 30 mm from adjacent components are to be constructively protected in accordance with DIN 18008-4, such as with a glass edge guard profile page 45.

Glass edge guard profile
Length = glass width

BALMERO *firstglass*

Perfection in frameless glass architecture

SHOW CRYSTAL CLEAR EDGES – The permanently laminated crystal clear edge of BALMERO *firstglass* redefines transparency with BALMERO 45!

Your advantage: No visible metal glass edge guard profiles! Just pure glass!

Discover new possibilities in frameless glass architecture.

Glass thickness LSG 2 x 8 mm

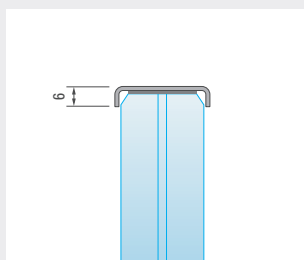


DIN 18008-4 tested

Only with GLASSLINE!



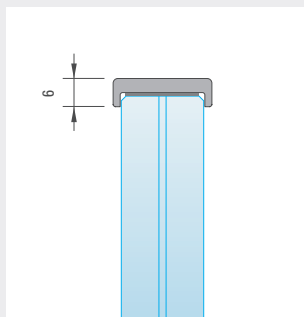
Stainless steel glass edge guard profile



Material:	Stainless steel		
Surface:	polished		
	Including adhesive attachment		
For LSG glass thickness	2 x 5 mm	2 x 6 mm	2 x 8 mm
Available lengths:	1,400 mm	1,300 mm 1,700 mm 2,200 mm	1,300 mm 2,200 mm

 BALMERO Complete set 1,000 with glass

Aluminium glass edge guard profile



Material:	Aluminium		
Surfaces:	Natural untreated Colour silver (similar to E6EV1) RAL 7016 (anthracite grey) RAL 9016 (traffic white) RAL 9005 (deep black)		
	Including adhesive attachment		
For LSG glass thickness	2 x 5 mm	2 x 6 mm	2 x 8 mm
Available lengths:	1,400 mm	1,300 mm 1,700 mm	1,300 mm 2,200 mm

 BALMERO Complete set 1,000 with glass

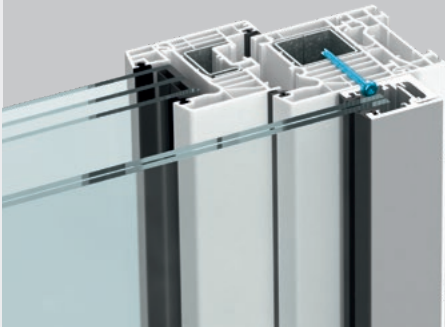
If necessary, the edge guard should be additionally secured against detachment with an adhesive of Sealant Group E according to DIN 18545-2. Processing and bonding instructions are to be observed. PVB compatibility must be checked.



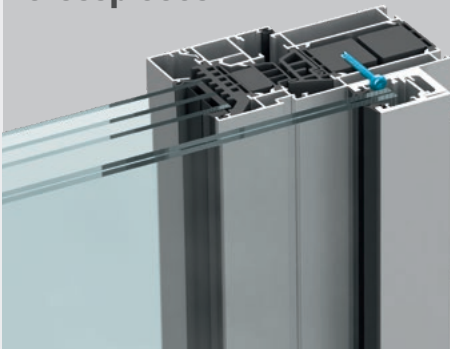
Notes

Applications

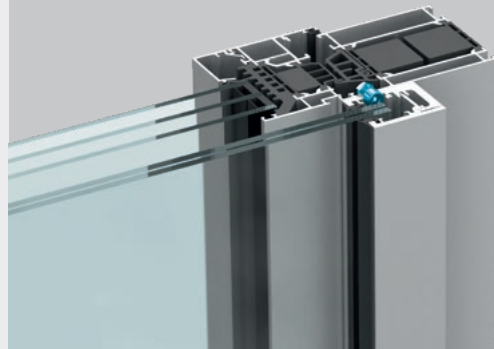
**Plastic window with steel core
Attachment to the steel reinforcement**



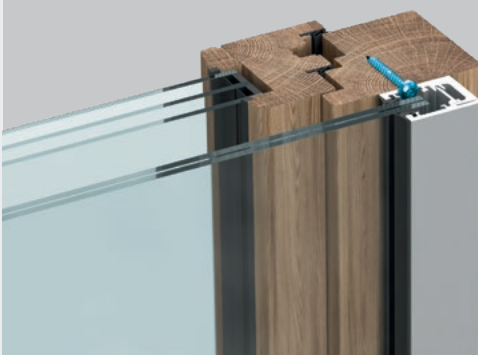
**Aluminium windows
Attachment through the profile
crosspieces**



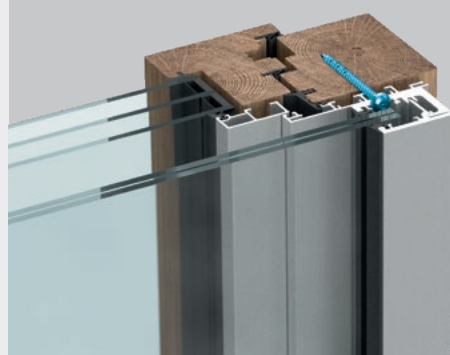
**Aluminium windows
Attachment to the frame overlap**



**Wood windows
Attachment to the wood**



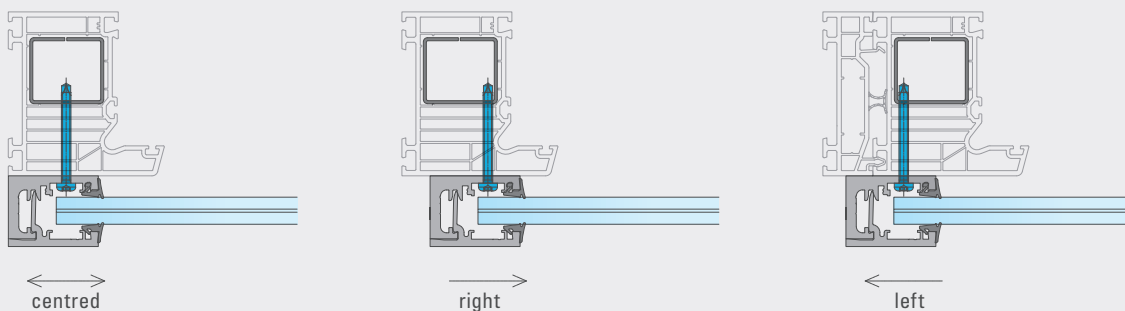
**Wood-aluminium windows
Attachment to the wood**



Plastic windows

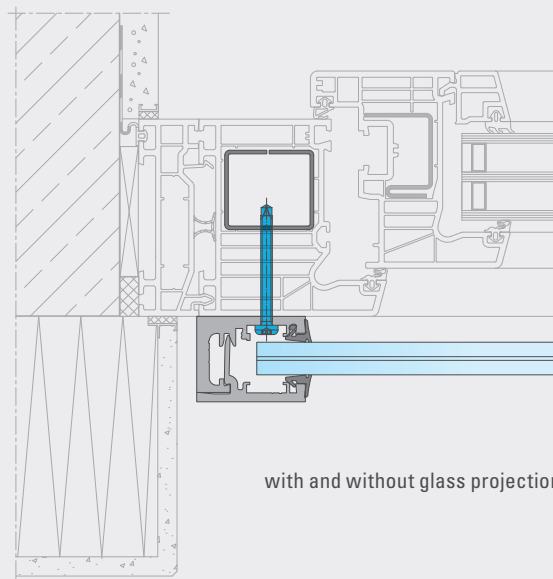


Flexible attachment through the steel reinforcement



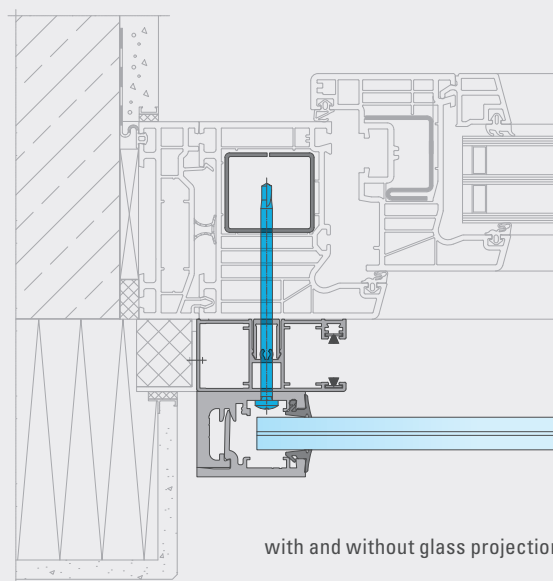
Attachment to the plastic window

Without roller blind rail



Tested attachment with BALMERO screws through the steel reinforcement

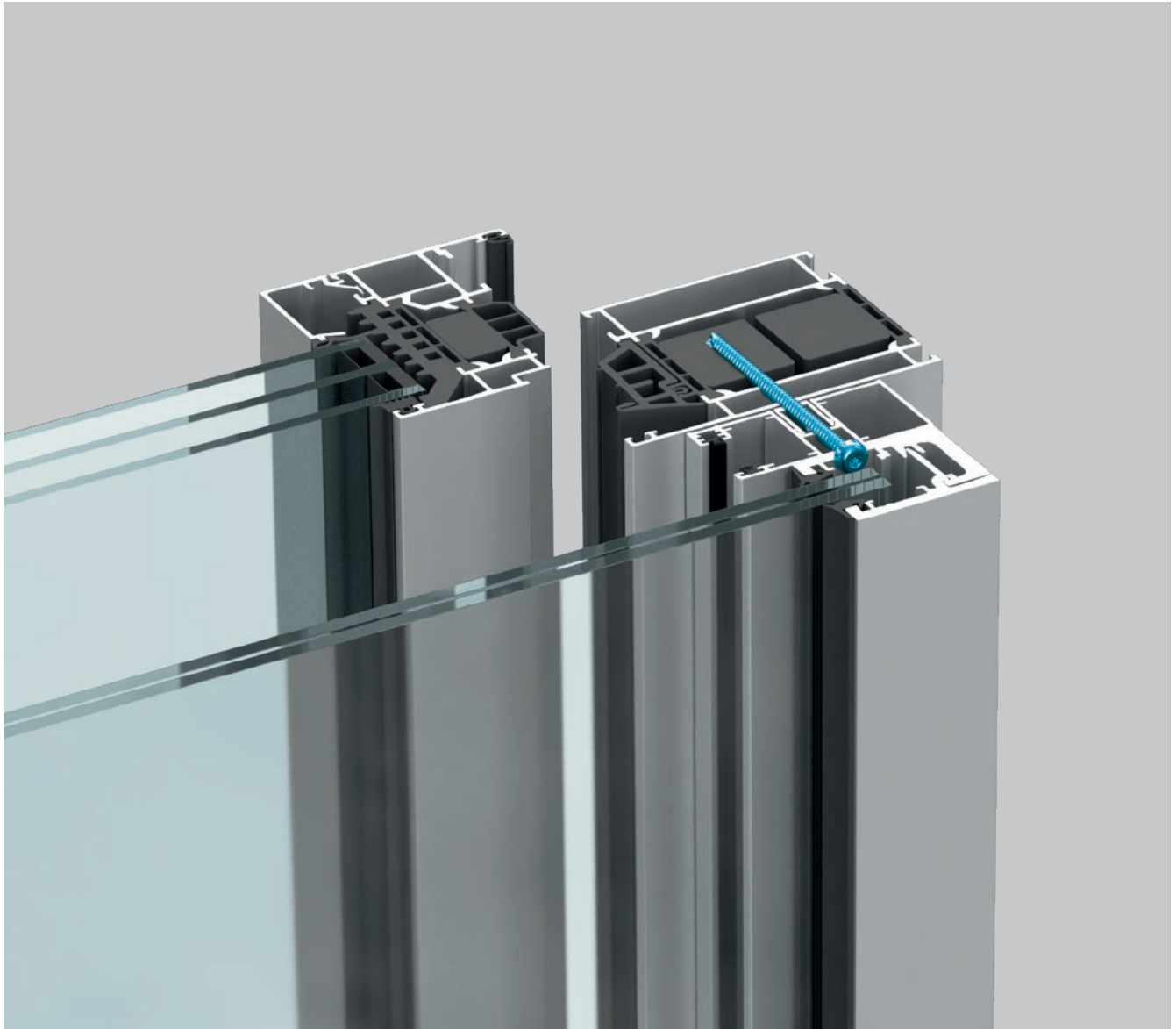
With roller blind rail



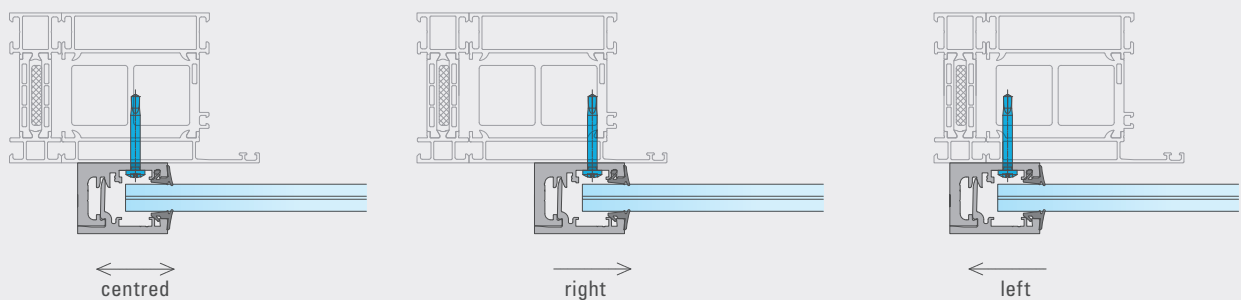
The screw must be screwed through the steel reinforcement in the window frame ($t \geq 1.5 \text{ mm}$). Important: The opening of the steel reinforcement must not be on the side to be screwed. The length of the screw depends on the plastic profile system and the roller blind rail. For attachment elements see page 65.



Aluminium windows

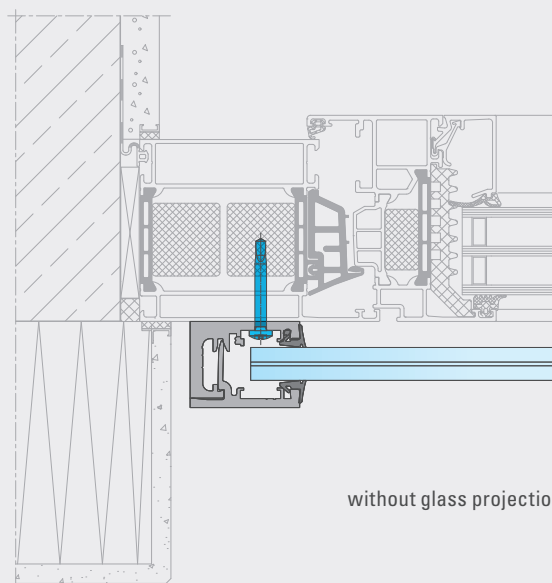


Flexible attachment through the profile crosspieces



Attachment to aluminium windows – Profile web

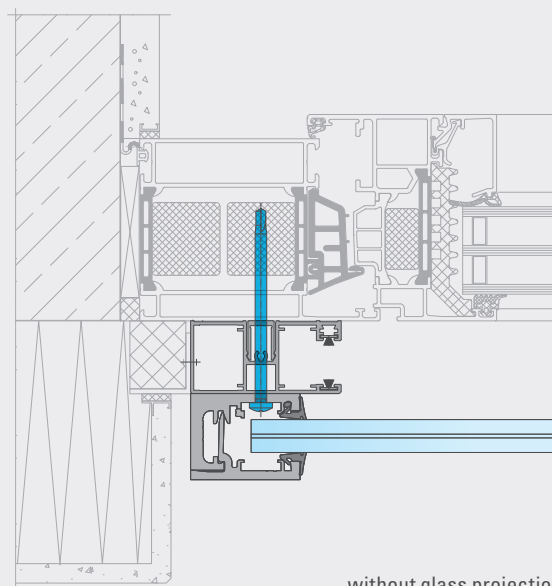
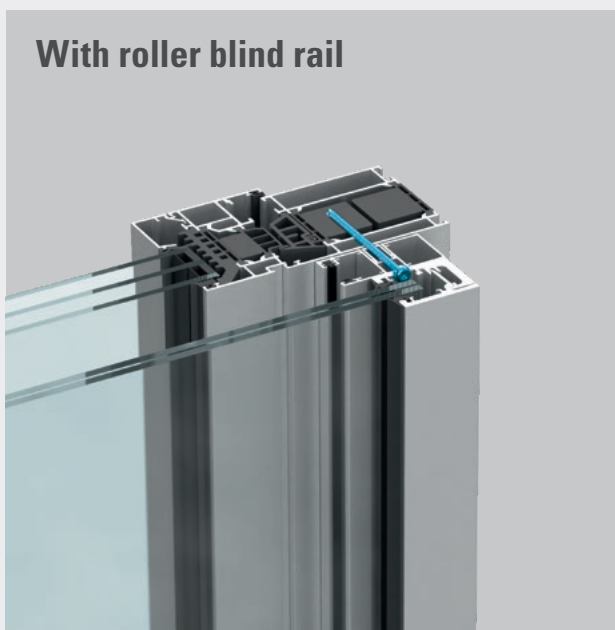
Without roller blind rail



without glass projection

Tested attachment with BALMERO screws through the profile crosspieces

With roller blind rail



without glass projection

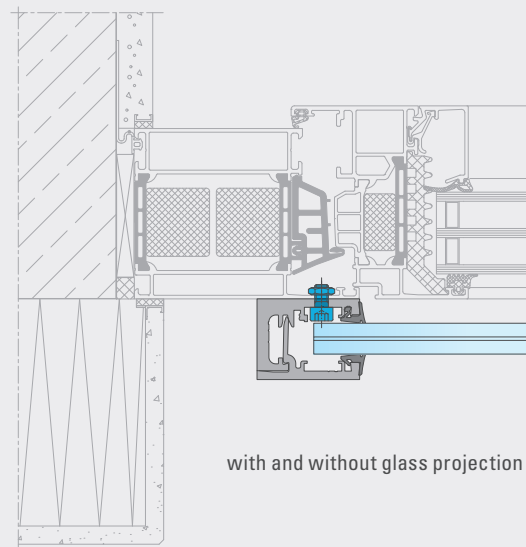
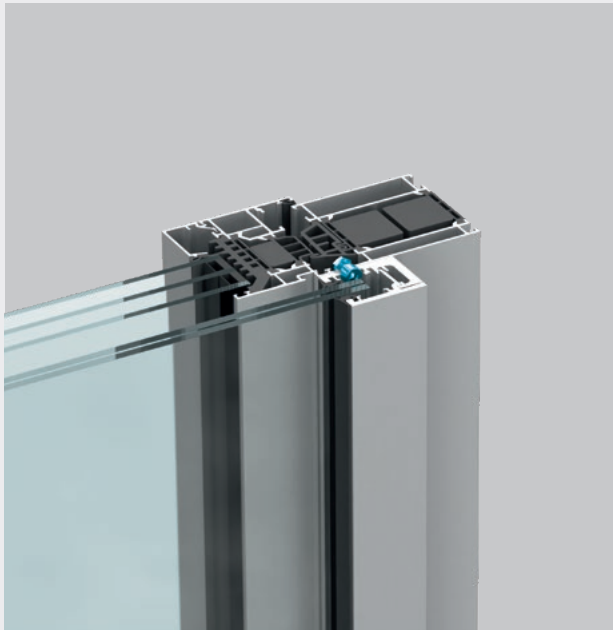
The screw must be screwed through two aluminium walls (min. 2 x 1.6 mm). The length of the screw depends on the aluminium profile system and the roller blind rail.
For attachment elements see page 65.



Aluminium windows



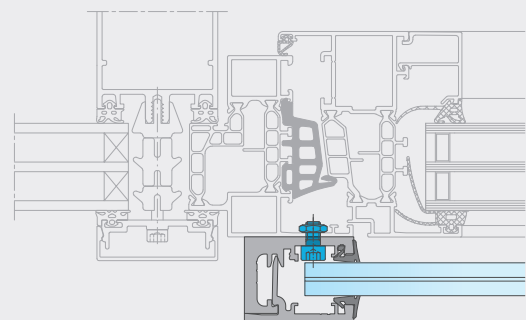
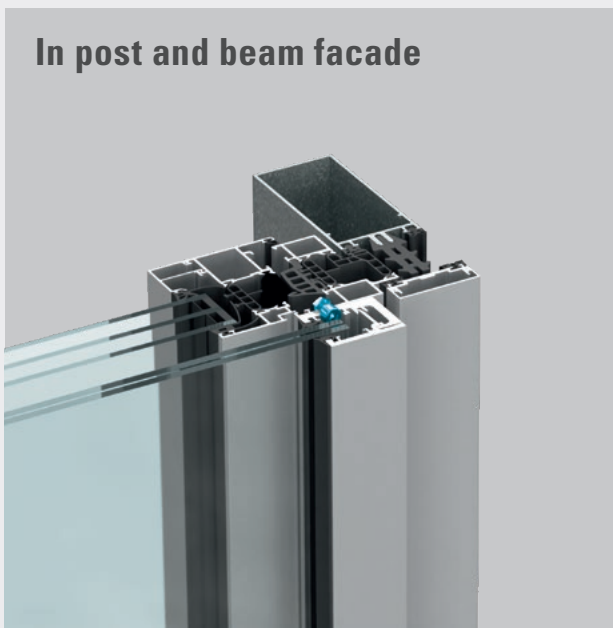
Attachment to aluminium windows – Frame overlap



with and without glass projection

Tested attachment with DIN screws in the frame overlap

In post and beam facade

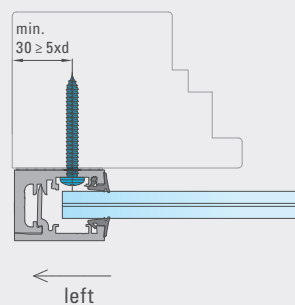
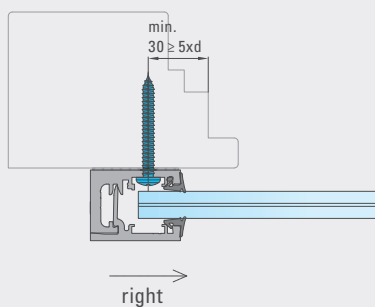
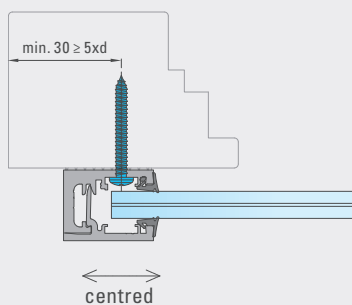
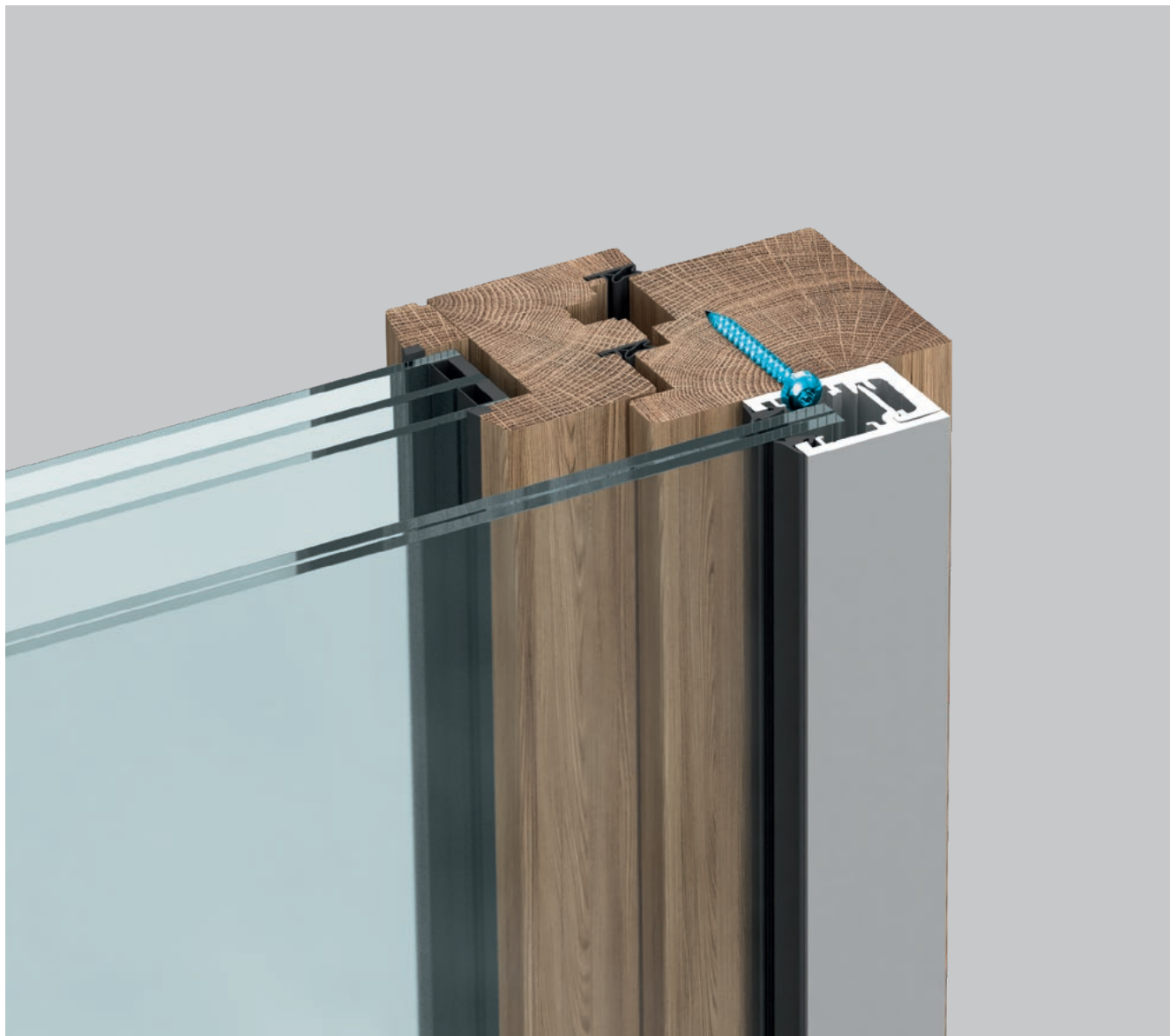


with and without glass projection

Screw fitting, such as: Cylinder head screws DIN 912 M6, Cylinder head screws DIN 7984 M6.

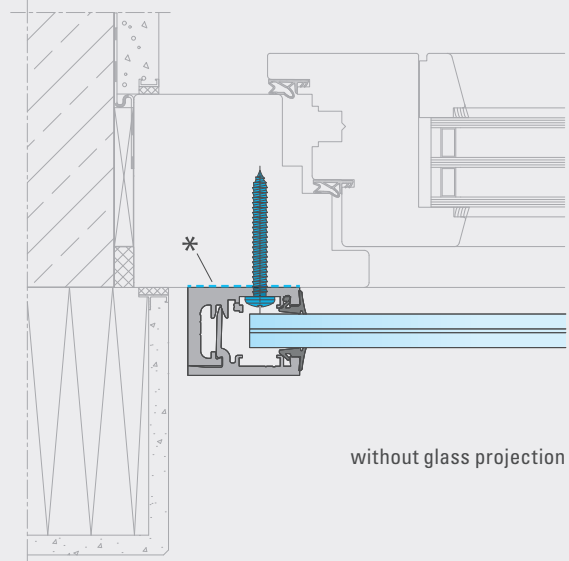


Wood windows



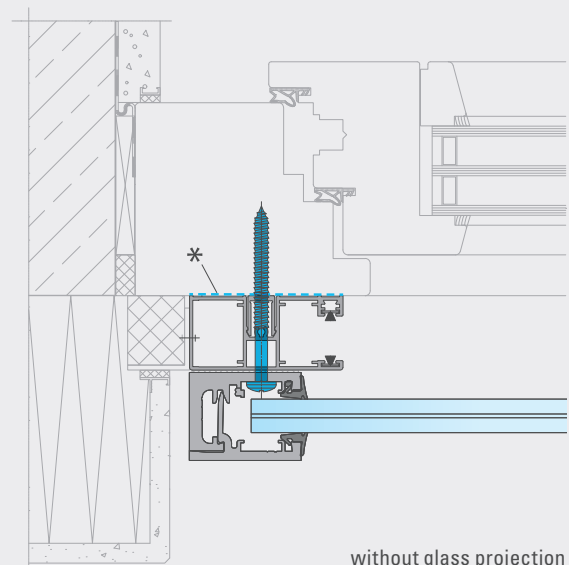
Attachment to the wood

Without roller blind rail



Tested attachment with BALMERO screws in wood

With roller blind rail

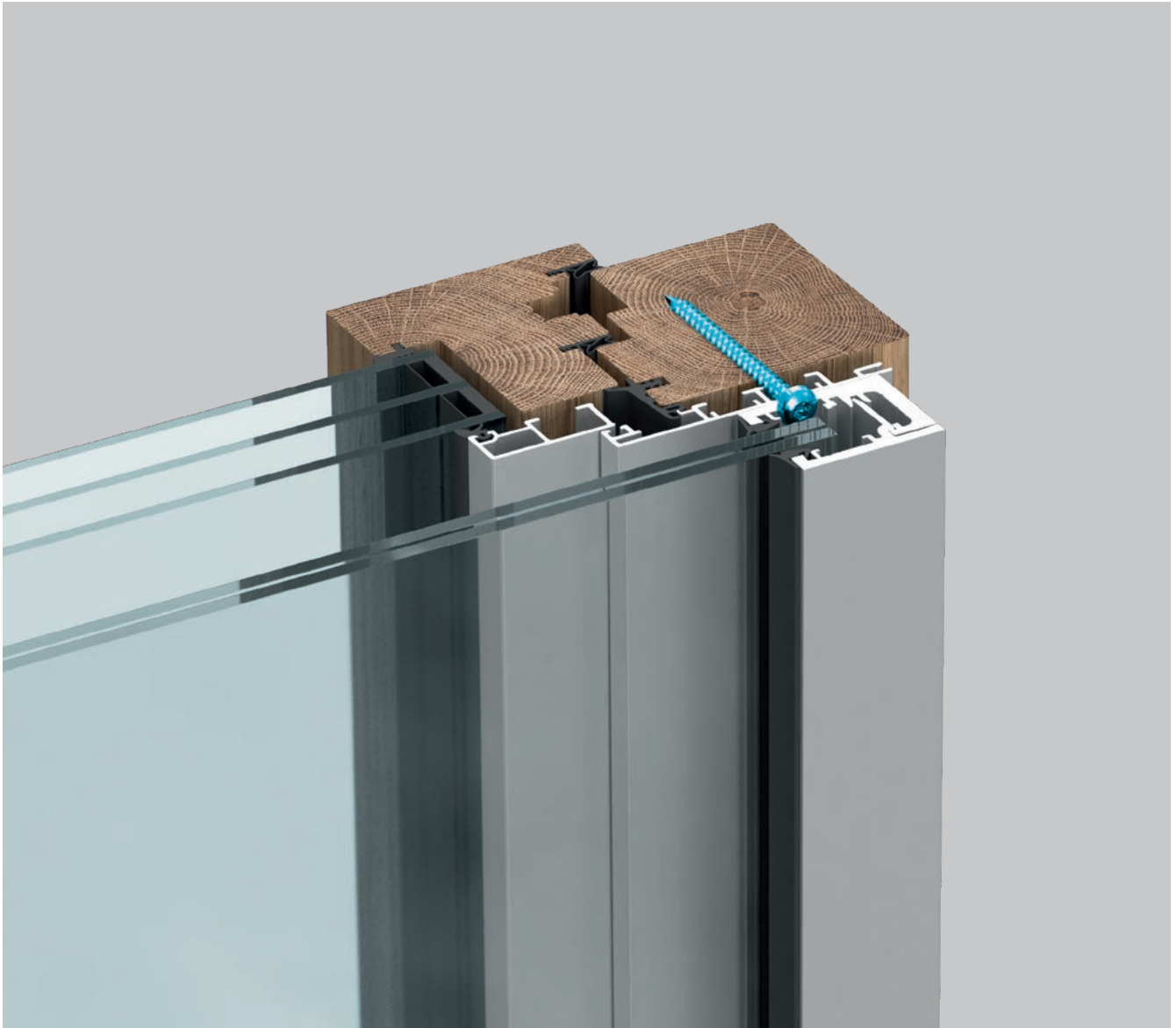


The length of the screw depends on the wood profile system and the roller blind rail.
For attachment elements see page 65.

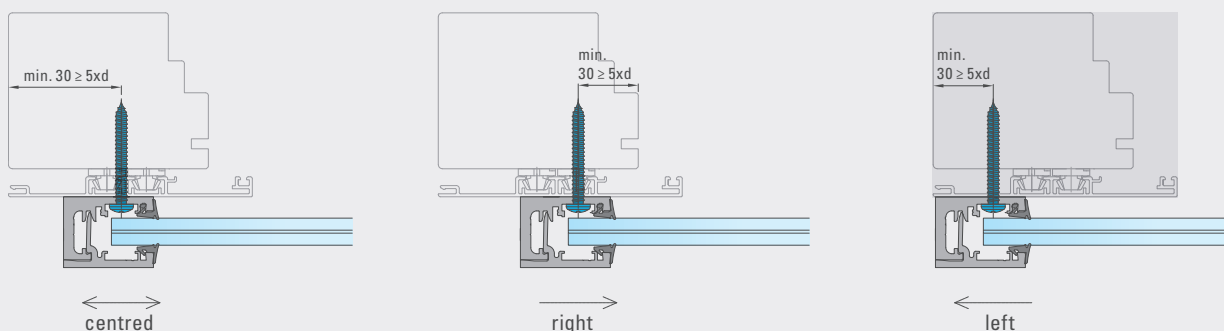
* An intermediate layer against penetrating moisture, such as that made of EPDM, is required on-site.



Wood-aluminium windows

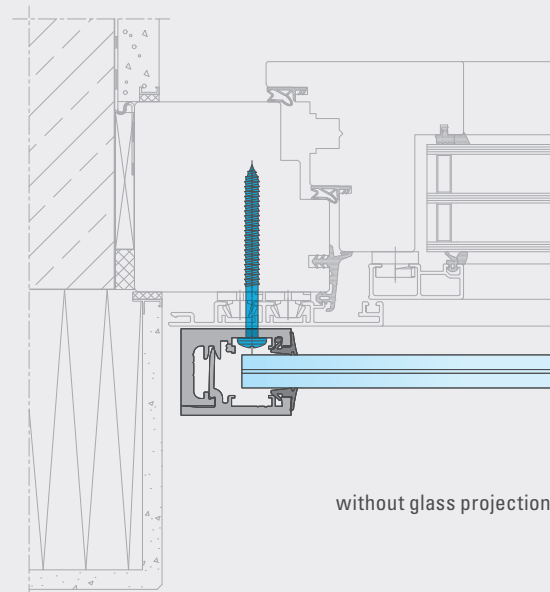


Flexible attachment to wood



Attachment to the wood

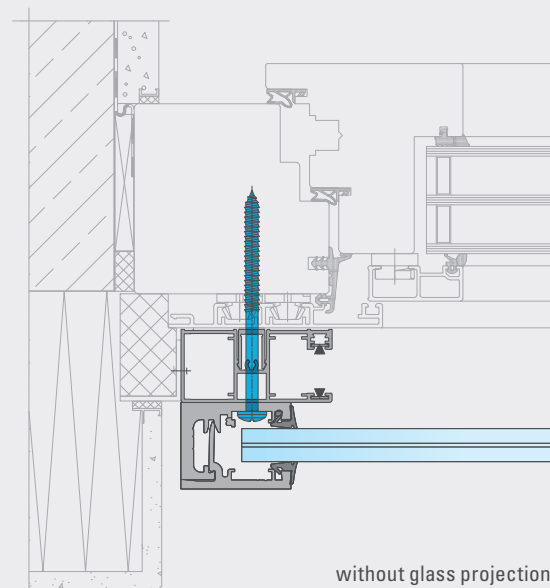
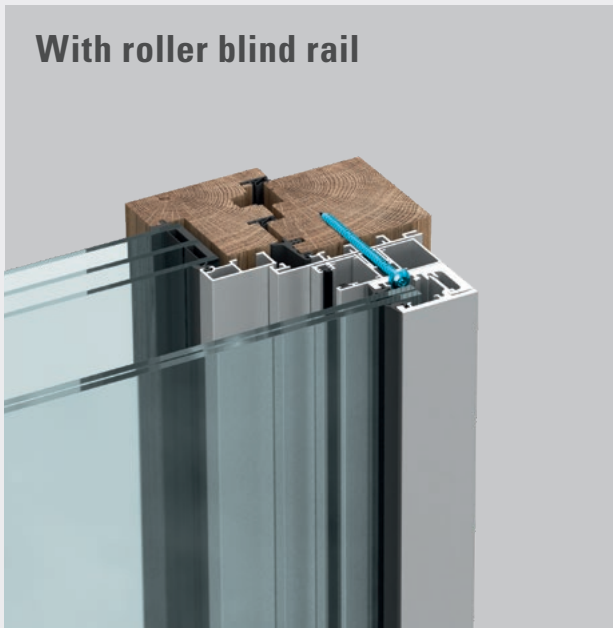
Without roller blind rail



without glass projection

Tested attachment with BALMERO screws in wood

With roller blind rail



without glass projection

The length of the screw depends on the wood profile system and the roller blind rail.
For attachment elements see page 65.



Application and dimension tables

Plastic windows – Attachment through the steel reinforcement

Rail load [kN/m]	Glass projection [mm]	Glass [mm]	Glass height [mm]	Glass width [mm]																			
				500	800	1,000	1,100	1,200	1,250	1,300	1,400	1,500	1,600	1,650	1,700	1,800	1,850	1,900	2,000	2,100	2,200		
				Max. absorbable typical wind loads [kN/m²]																			
0.5	without	LSG-TSG 2 x 5	800 – 1,200	3.00	3.00	2.63	2.16	1.98	1.80	1.23	–	–	–	–	–	–	–	–	–	–	–		
		LSG-TSG 2 x 6	500	3.00				2.92	–	–	–	–	–	–	–	–	–	–	–	–	–		
			800	3.00				2.92	2.66	2.22	1.86	1.38	1.20	1.05	0.77	0.60	–	–	–	–			
			1,000	3.00	3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.08	0.81	0.67	–	–	–	–			
			1,200	3.00				2.92	2.66	2.22	1.86	1.38	1.20	1.10	0.84	0.73	–	–	–	–			
		LSG-TSG 2 x 8	400	3.00										–			–	–	–	–	–	–	
			500	3.00										2.92			2.33	2.09	–	–	–	–	
			800	3.00										2.92			2.54	2.25	1.99	1.58	1.27	1.03	
			1,000	3.00										2.96			2.57	2.29	2.03	1.63	1.32	1.08	
		1,200	3.00										2.60			2.32	2.07	1.67	1.36	1.12			
		LSG-TSG 2 x 8*	500 – 800	3.00				2.90	2.62	2.16	1.80	1.52	1.41	1.30	1.12	1.04	–	–	–	–	–		
			1,000	3.00				2.95	2.72	2.27	1.91	1.63	1.51	1.40	1.22	1.14	–	–	–	–	–		
	1,200		3.00				2.82	2.37	2.01	1.73	1.61	1.50	1.31	1.23	–	–	–	–	–	–			
	≤ 200	LSG-TSG 2 x 6	500 – 800	3.00				2.84	2.40	2.22	–	–	–	–	–	–	–	–	–	–	–		
			1,000	3.00				2.84	2.40	2.22	–	–	–	–	–	–	–	–	–	–	–		
			1,200	3.00				2.84	2.40	2.22	2.05	1.78	1.40	1.04	0.91	–	–	–	–	–	–		
		LSG-TSG 2 x 8	500	3.00						2.80	2.40	2.20	2.00	1.80	1.80	1.60	1.40	–	–	–	–		
			800	3.00						2.80						2.60	2.40	2.25	1.99	1.58	1.27	1.03	
			1,000	3.00						2.80						2.60	2.40	2.29	2.03	1.63	1.32	1.08	
			1,200	3.00						2.80						2.60	2.40	2.32	2.07	1.67	1.36	1.12	
		LSG-TSG 2 x 8*	500 – 1,000	3.00				2.79	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			1,200	3.00				2.79	2.59	2.24	1.96	1.73	1.61	1.50	1.31	1.23	–	–	–	–	–	–	
		201–300	LSG-TSG 2 x 8	800 – 1,200	3.00				2.60	2.40	2.20	2.00	1.80	1.60	1.60	1.40	1.40	1.20	1.20	1.00	1.00	0.80	
LSG-TSG 2 x 8*			800 – 1,200	3.00	2.26	1.95	1.70	1.59	1.50	1.15	0.75	0.50	0.41	0.34	0.24	0.20	–	–	–	–	–		
1		without	LSG-TSG 2 x 5	800 – 1,200	3.00	3.00	2.47	1.92	1.52	1.10	0.87	0.19	–	–	–	–	–	–	–	–	–	–	
	LSG-TSG 2 x 6		500	3.00				2.42	2.15	–	–	–	–	–	–	–	–	–	–	–	–		
			800	3.00				2.64	2.37	2.13	1.75	1.14	0.24	0.11	–	–	–	–	–	–	–		
			1,000	3.00	3.00			2.64	2.37	2.13	1.75	1.24	0.44	0.28	–	–	–	–	–	–	–		
			1,200	3.00				2.64	2.37	2.13	1.75	1.33	0.64	0.45	–	–	–	–	–	–	–	–	
	LSG-TSG 2 x 8		500	3.00										2.55	2.32	2.10	1.29	1.02	–	–	–	–	–
			800	3.00										2.9	2.70	2.50	1.91	1.67	1.40	0.40	–	–	–
			1,000	3.00										2.9	2.70	2.50	2.01	1.75	1.50	0.40	–	–	–
			1,200	3.00										2.9	2.70	2.50	2.10	1.82	1.59	0.40	–	–	–
	LSG-TSG 2 x 8*		500	3.00				2.50	2.22	1.98	1.35	0.57	0.25	0.00	–	–	–	–	–	–	–	–	
			800	3.00				2.65	2.36	2.12	1.72	1.41	1.18	1.04	0.90	0.50	0.36	–	–	–	–	–	
			1,000	3.00				2.72	2.44	2.2	1.80	1.49	1.26	1.14	1.02	0.69	0.57	–	–	–	–	–	
		1,200	3.00				2.79	2.51	2.27	1.88	1.57	1.33	1.23	1.14	0.88	0.77	–	–	–	–	–		
	200	LSG-TSG 2 x 8	800 – 1,200	3.00				2.8	2.2	1.60	1.00	0.80	0.60	0.35	0.20	–	–	–	–	–	–		
		LSG-TSG 2 x 8*	800 – 1,200	3.00				2.8	2.2	1.60	1.00	0.80	0.60	0.00	0.00	–	–	–	–	–	–		
	201–300	LSG-TSG 2 x 8	800 – 1,200	3.00	2.40	2.00	1.40	1.20	1.00	0.60	0.00	–	–	–	–	–	–	–	–	–	–		
		LSG-TSG 2 x 8*	800 – 1,200	2.80	0.20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		

* printed / enamelled or LSG-HSG 2 x 8

BALMERO Complete set 1,000 with glass

Intermediate values can be interpolated. Typical horizontal imposed loads (rail loads) are to be determined in accordance with DIN EN 1991-1-1/NA, Tab. 6.12DE. Usage categories in accordance with Tab 6.12DE, DIN EN 1991-1-1/NA. Typical wind loads are to be calculated in accordance with DIN EN 1991-1-4 for each installation situation: $w_e = q_p(z_e) \cdot c_{pe}$ or $w_e = q_p(z_e) \cdot c_{p,net}$

The values apply to attachment to plastic windows with system screws through a steel core $t \geq 1.5$ mm

Max. spacing possible between the BALMERO basic profile and steel reinforcement is up to 80 mm (such as a roller blind rail).

Connection in accordance with the borehole pattern on page 65.



Application and dimension tables

Wood and wood-aluminium windows – Attachment to the wood

Rail load [kN/m]	Glass projection [mm]	Glass [mm]	Glass height [mm]	Glass width [mm]																		
				500	800	1,000	1,100	1,200	1,250	1,300	1,400	1,500	1,600	1,650	1,700	1,800	1,850	1,900	2,000	2,100	2,200	
				Max. absorbable typical wind loads [kN/m²]																		
0.5	without	LSG-TSG 2 x 5	800 – 1,200	3.00	3.00	2.63	2.16	1.98	1.80	1.23	–	–	–	–	–	–	–	–	–	–	–	
		LSG-TSG 2 x 6	500	3.00			2.92	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
			500 – 800	3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.05	0.77	0.60	–	–	–	–	–	–	
			1,000	3.00	3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.08	0.81	0.67	–	–	–	–		
			1,200	3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.10	0.84	0.73	–	–	–	–	–		
		LSG-TSG 2 x 8	400	3.00											–	–	–	–	–	–	–	–
			500	3.00											2.92	2.33	2.09	–	–	–	–	–
			800	3.00											2.92	2.54	2.25	1.99	1.58	1.27	1.03	
			1,000	3.00											2.96	2.57	2.29	2.03	1.63	1.32	1.08	
			1,200	3.00											2.60	2.32	2.07	1.67	1.36	1.12	–	
		LSG-TSG 2 x 8*	500 – 800	3.00			2.90	2.62	2.16	1.80	1.52	1.41	1.30	1.12	1.04	–	–	–	–	–	–	
			1,000	3.00			2.95	2.72	2.27	1.91	1.63	1.51	1.40	1.22	1.14	–	–	–	–	–	–	
			1,200	3.00			2.82	2.37	2.01	1.73	1.61	1.50	1.31	1.23	–	–	–	–	–	–	–	
1.0	without	LSG-TSG 2 x 5	800 – 1,200	3.00	2.47	1.92	1.40	0.40	–	–	–	–	–	–	–	–	–	–	–	–		
		LSG-TSG 2 x 6	500 – 1,200	3.00	2.47	1.92	1.40	0.40	–	–	–	–	–	–	–	–	–	–	–	–		
		LSG-TSG 2 x 8	500 – 1,200	3.00	2.47	1.92	1.40	0.40	–	–	–	–	–	–	–	–	–	–	–	–		
		LSG-TSG 2 x 8*	500 – 1,200	3.00	2.47	1.92	1.40	0.40	–	–	–	–	–	–	–	–	–	–	–	–		

* printed / enamelled or LSG-HSG 2 x 8

 BALMERO Complete set 1,000 with glass

Intermediate values can be interpolated. Typical horizontal imposed loads (rail loads) are to be determined in accordance with DIN EN 1991-1-1/NA, Tab. 6.12DE. Usage categories in accordance with Tab 6.12DE, DIN EN 1991-1-1/NA. Typical wind loads are to be calculated in accordance with DIN EN 1991-1-4 for each installation situation: $w_e = q_p(z_e) \cdot c_{pe}$ or $w_e = q_p(z_e) \cdot c_{p,net}$

The values apply to attachment to wood windows with system screws; min. screw-in depth into the wood core is 40 mm, min. spacing from the frame rebate is 30 mm. Min. wood strength is C16 in accordance with DIN EN 1995-1-1 (softwood/coniferous wood).

Max. spacing possible between the BALMERO basic profile and window profile is up to 80 mm (such as a roller blind rail).

Connection in accordance with the borehole pattern on page 65.

Application and dimension tables

Aluminium windows – Attachment through the profile crosspieces

Rail load [kN/m]	Glass projection [mm]	Glass [mm]	Glass height [mm]	Glass width [mm]																		
				500	800	1,000	1,100	1,200	1,250	1,300	1,400	1,500	1,600	1,650	1,700	1,800	1,850	1,900	2,000	2,100	2,200	
				Max. absorbable typical wind loads [kN/m²]																		
0.5	without	LSG-TSG 2 x 5	800 – 1,200	3.00	3.00	2.63	2.16	1.98	1.80	1.23	–	–	–	–	–	–	–	–	–	–	–	
		LSG-TSG 2 x 6	500	3.00				2.92	–	–	–	–	–	–	–	–	–	–	–	–		
			800	3.00				2.92	2.66	2.22	1.86	1.38	1.20	1.05	0.77	0.60	–	–	–	–		
			1,000	3.00	3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.08	0.81	0.67	–	–	–	–		
			1,200	3.00				2.92	2.66	2.22	1.86	1.38	1.20	1.10	0.84	0.73	–	–	–	–		
		LSG-TSG 2 x 8	400	3.00										–	–	–	–	–	–	–	–	
			500	3.00										2.92	2.33	2.09	–	–	–	–	–	
			800	3.00										2.92	2.54	2.25	1.99	1.58	1.27	1.03		
			1,000	3.00										2.96	2.57	2.29	2.03	1.63	1.32	1.08		
		LSG-TSG 2 x 8*	1,200	3.00										2.60	2.32	2.07	1.67	1.36	1.12			
			500 – 800	3.00				2.90	2.62	2.16	1.80	1.52	1.41	1.30	1.12	1.04	–	–	–	–		
			1,000	3.00				2.95	2.72	2.27	1.91	1.63	1.51	1.40	1.22	1.14	–	–	–	–		
1,200	3.00				2.82	2.37	2.01	1.73	1.61	1.50	1.31	1.23	–	–	–	–	–					
1	without	LSG-TSG 2 x 5	800 – 1,200	3.00	2.47	1.92	1.52	1.10	0.87	0.19	–	–	–	–	–	–	–	–	–	–		
		LSG-TSG 2 x 6	500	3.00				2.42	2.15	–	–	–	–	–	–	–	–	–	–	–		
			800	3.00				2.64	2.37	2.13	1.75	1.14	0.24	0.11	–	–	–	–	–			
			1,000	3.00	3.00			2.64	2.37	2.13	1.75	1.24	0.44	0.28	–	–	–	–	–			
			1,200	3.00				2.64	2.37	2.13	1.75	1.33	0.64	0.45	–	–	–	–	–	–		
		LSG-TSG 2 x 8	500	3.00										2.55	2.32	2.10	1.29	1.02	–	–	–	–
			800	3.00										2.90	2.70	2.50	1.91	1.67	1.40	0.40	–	–
			1,000	3.00										2.90	2.70	2.50	2.01	1.75	1.50	0.40	–	–
			1,200	3.00										2.90	2.70	2.50	2.10	1.82	1.59	0.40	–	–
		LSG-TSG 2 x 8*	500	3.00				2,5	2.22	1.98	1.35	0.57	0.25	0.00	–	–	–	–	–	–		
			800	3.00				2.65	2.36	2.12	1.72	1.41	1.18	1.04	0.90	0.50	0.36	–	–	–		
			1,000	3.00				2.72	2.44	2.20	1.80	1.49	1.26	1.14	1.02	0.69	0.57	–	–	–		
1,200	3.00				2.79	2.51	2.27	1.88	1.57	1.33	1.23	1.14	0.88	0.77	–	–	–					

* printed / enamelled or LSG-HSG 2 x 8

 BALMERO Complete set 1,000 with glass

Intermediate values can be interpolated. Typical horizontal imposed loads (rail loads) are to be determined in accordance with DIN EN 1991-1-1/NA, Tab. 6.12DE. Usage categories in accordance with Tab 6.12DE, DIN EN 1991-1-1/NA. Typical wind loads are to be calculated in accordance with DIN EN 1991-1-4 for each installation situation: $w_e = q_p(z_e) \cdot c_{pe}$ or $w_e = q_p(z_e) \cdot c_{p,net}$

The values apply to attachment to aluminium windows with system screws through at least two crosspieces of the window profile each with $t \geq 1.6$ mm. Max. spacing possible between the BALMERO basic profile and window profile is up to 80 mm (such as a roller blind rail).

Connection in accordance with the borehole pattern on page 65.



Application and dimension tables

Aluminium windows – Attachment in the frame overlap with DIN screw M6

Rail load [kN/m]	Glass projection [mm]	Glass [mm]	Glass height [mm]	Glass width [mm]																	
				500	800	1,000	1,100	1,200	1,250	1,300	1,400	1,500	1,600	1,650	1,700	1,800	1,850	1,900	2,000	2,100	2,200
				Max. absorbable typical wind loads [kN/m²]																	
0.5	without	LSG-TSG 2 x 5	800 - 1,200	3.00			2.63	2.16	1.98	1.80	1.23	—	—	—	—	—	—	—	—	—	—
		LSG-TSG 2 x 6	500			3.00			2.92	—	—	—	—	—	—	—	—	—	—	—	—
			800			3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.05	0.77	0.60	—	—	—	—
			1,000	3.00		3.00			2.92	2.66	2.22	1.86	1.38	1.20	1.08	0.81	0.67	—	—	—	—
			1,200			3.00			2.92	2.66	2.22	1.86	1.38	1.20	1,1	0.84	0.73	—	—	—	—
		LSG-TSG 2 x 8	400					3.00							2.92	2.33	2.09	—	—	—	—
			500					3.00							2.92	2.54	2.25	1.99	1.58	1.27	1.03
			800					3.00							2.92	2.57	2.29	2.03	1.63	1.32	1.08
			1,000					3.00							2.92	2,6	2.32	2.07	1.67	1.36	1.12
		LSG-TSG 2 x 8*	500 – 800			3.00			2.90	2.62	2.16	1.80	1.52	1.41	1.30	1.12	1.04	—	—	—	—
			1,000			3.00			2.95	2.72	2.27	1.91	1.63	1.51	1.40	1.22	1.14	—	—	—	—
			1,200			3.00			2.82	2.37	2.01	1.73	1.61	1.50	1.31	1.23	—	—	—	—	—
			≤ 200	LSG-TSG 2 x 6	500 – 1,000		3.00		2.84	2.40	2.22	—	—	—	—	—	—	—	—	—	—
	1,200				3.00		2.84	2.40	2.22	2.05	1.78	1.40	1.04	0.91	—	—	—	—	—	—	—
	LSG-TSG 2 x 8	500						3.00							2.90	2.33	2.09	—	—	—	—
		800						3.00							2.54	2.25	1.99	1.58	1.27	1.03	
		1,000						3.00							2.57	2.29	2.03	1.63	1.32	1.08	
		1,200						3.00							2.60	2.32	2.07	1.67	1.36	1.12	
	LSG-TSG 2 x 8*	500 – 1,000				3.00			2.79	—	—	—	—	—	—	—	—	—	—	—	—
		1,200				3.00			2.79	2.59	2.24	1.96	1.73	1.50	1.40	1.31	1.23	—	—	—	—
	201 - 300	LSG-TSG 2 x 8	800				3.00				2.71	2.44	2.33	2.21	2.01	1.92	1.84	1.58	1.27	1.03	
			1,000				3.00				2.71	2.44	2.33	2.21	2.01	1.92	1.84	1.63	1.32	1.08	
			1,200				3.00				2.71	2.44	2.33	2.21	2.01	1.92	1.84	1.67	1.36	1.12	
		LSG-TSG 2 x 8*	800 – 1,200	3.00	2.26	1.95	1.70	1.59	1.50	1.15	0.75	0.50	0.41	0.34	0.24	0.20	—	—	—	—	
	1	without	LSG-TSG 2 x 5	800 – 1,200	3.00	3.00	2.47	1.92	1.52	0.86	0.87	0.19	—	—	—	—	—	—	—	—	—
LSG-TSG 2 x 6			500			3.00		2.42	2.15	—	—	—	—	—	—	—	—	—	—	—	
			800			3.00		2.64	2.37	2.13	1.75	1.14	0.24	0.11	—	—	—	—	—	—	
			1,000	3.00		3.00		2.64	2.37	2.13	1.75	1.24	0.44	0.28	—	—	—	—	—	—	
			1,200			3.00		2.64	2.37	2.13	1.75	1.33	0.64	0.45	—	—	—	—	—	—	
LSG-TSG 2 x 8			500					3.00					2.55	2.32	2.10	1.29	1.02	—	—	—	
			800					3.00					2.90	2.70	2.50	1.91	1.67	1.46	0.98	0.21	0.05
			1,000					3.00					2.90	2.70	2.50	2.01	1.75	1.53	1.11	0.56	0.29
			1,200					3.00					2.90	2.70	2.50	2.10	1.82	1.59	1.23	0.91	0.52
LSG-TSG 2 x 8*			500			3.00		2.50	2.22	1.98	1.35	0.57	0.25	0.00	—	—	—	—	—	—	—
			800			3.00		2.65	2.36	2.12	1.72	1.41	1.18	1.04	0,9	0,5	0.36	—	—	—	—
			1,000			3.00		2.72	2.44	2.20	1.80	1.49	1.26	1.14	1.02	0.69	0.57	—	—	—	—
			1,200			3.00		2.79	2.51	2.27	1.88	1.57	1.33	1.23	1.14	0.88	0.77	—	—	—	—
≤ 200		LSG-TSG 2 x 8	500 – 1,000					3.00					2,4	1.89	1.38	0.82	0.64	—	—	—	—
			1,200					3.00					2,4	1.89	1.38	0.82	0.64	0.50	0.31	0.19	0.01
		LSG-TSG 2 x 8*	500 – 1,200	3.00	1.20	0.76	0,0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
201 - 300		LSG-TSG 2 x 8	800 – 1,200			3.00		2.69	2.10	1.50	1.09	0.59	0.34	0.20	0.00	—	—	—	—	—	—
		LSG-TSG 2 x 8*	800 – 1,200	2.80	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* printed / enamelled or LSG-HSG 2 x 8

BALMERO Complete set 1,000 with glass

Intermediate values can be interpolated. Typical horizontal imposed loads (rail loads) are to be determined in accordance with DIN EN 1991-1-1/NA, Tab. 6.12DE. Usage categories in accordance with Tab 6.12DE, DIN EN 1991-1-1/NA. Typical wind loads are to be calculated in accordance with DIN EN 1991-1-4 for each installation situation: $w_e = q_p(z_e) \cdot c_{pe}$ or $w_e = q_p(z_e) \cdot c_{p,net}$

The values apply for all BALMERO system components independent of screw fittings and the load-bearing substructure.

Possible attachment such as using M6 socket head screws (min. strength class A2-70) with a connection distance up to 300 mm.

Max. spacing possible between the BALMERO basic profile and window profile is up to 80 mm (such as a roller blind rail).

Upper 3 screws in accordance with the borehole pattern on page 65. Certification of the substructure must be provided by the customer.



Application and dimension tables

Attachment to the soffit on the soffit

Rail load [kN/m]	Glass projection [mm]	Glass [mm]	Glass height [mm]	Glass width [mm]														
				500	800	1,000	1,100	1,200	1,250	1,300	1,400	1,500	1,600	1,650	1,700	1,800	1,850	1,900
				Max. absorbable typical wind loads [kN/m²]														
0.5	without	LSG-TSG 2 x 5	800 - 1,200	3.00			2.63	2.16	1.98	1.80	1.23	—	—	—	—	—	—	—
		LSG-TSG 2 x 6	500			3.00		2.92	—	—	—	—	—	—	—	—	—	—
			800			3.00		2.92	2.66	2.22	1.86	1.38	1.20	1.05	0.77	0.60	—	—
			1,000	3.00		3.00		2.92	2.66	2.22	1.86	1.38	1.20	1.08	0.81	0.67	—	—
			1,200			3.00		2.92	2.66	2.22	1.86	1.38	1.20	1.1	0.84	0.73	—	—
		LSG-TSG 2 x 8	400					3.00						—	—	—	—	—
			500					3.00						2.92	2.33	2.09	—	—
			800					3.00						2.92	2.54	2.25	1.99	1.58
			1,000					3.00						2.92	2.57	2.29	2.03	1.63
			1,200					3.00						2.92	2.6	2.32	2.07	1.67
		LSG-TSG 2 x 8*	500 - 800			3.00		2.90	2.62	2.16	1.80	1.52	1.41	1.30	1.12	1.04	—	—
			1,000			3.00		2.95	2.72	2.27	1.91	1.63	1.51	1.40	1.22	1.14	—	—
			1,200			3.00			2.82	2.37	2.01	1.73	1.61	1.50	1.31	1.23	—	—
	≤ 200	LSG-TSG 2 x 6	500 - 1,000		3.00		2.84	2.40	2.22	—	—	—	—	—	—	—	—	—
		LSG-TSG 2 x 8	1,200		3.00		2.84	2.40	2.22	2.05	1.78	1.40	1.04	0.91	—	—	—	—
			500					3.00						2.90	2.33	2.09	—	—
			800					3.00						2.54	2.25	1.99	1.58	1.27
			1,000					3.00						2.57	2.29	2.03	1.63	1.32
			1,200					3.00						2.60	2.32	2.07	1.67	1.36
		LSG-TSG 2 x 8*	500 - 1,000			3.00		2.79	—	—	—	—	—	—	—	—	—	—
			1,200			3.00		2.79	2.59	2.24	1.96	1.73	1.50	1.40	1.31	1.23	—	—
	201 - 300	LSG-TSG 2 x 8	800				3.00				2.71	2.44	2.33	2.21	2.01	1.92	1.84	1.58
			1,000				3.00				2.71	2.44	2.33	2.21	2.01	1.92	1.84	1.63
			1,200				3.00				2.71	2.44	2.33	2.21	2.01	1.92	1.84	1.67
		LSG-TSG 2 x 8*	800 - 1,200		3.00	2.26	1.95	1.70	1.59	1.50	1.15	0.75	0.50	0.41	0.34	0.24	0.20	—
1	without	LSG-TSG 2 x 5	800 - 1,200	3.00	3.00	2.47	1.92	1.52	0.86	0.87	0.19	—	—	—	—	—	—	—
		LSG-TSG 2 x 6	500			3.00		2.42	2.15	—	—	—	—	—	—	—	—	—
			800			3.00		2.64	2.37	2.13	1.75	1.14	0.24	0.11	—	—	—	—
			1,000	3.00		3.00		2.64	2.37	2.13	1.75	1.24	0.44	0.28	—	—	—	—
			1,200			3.00		2.64	2.37	2.13	1.75	1.33	0.64	0.45	—	—	—	—
		LSG-TSG 2 x 8	500					3.00						2.55	2.32	2.10	1.29	1.02
			800					3.00						2.90	2.70	2.50	1.91	1.67
			1,000					3.00						2.90	2.70	2.50	2.01	1.75
			1,200					3.00						2.90	2.70	2.50	2.10	1.82
		LSG-TSG 2 x 8*	500		3.00		2.50	2.22	1.98	1.35	0.57	0.25	0.00	—	—	—	—	—
			800		3.00		2.65	2.36	2.12	1.72	1.41	1.18	1.04	0.9	0.5	0.36	—	—
			1,000		3.00		2.72	2.44	2.20	1.80	1.49	1.26	1.14	1.02	0.69	0.57	—	—
			1,200		3.00		2.79	2.51	2.27	1.88	1.57	1.33	1.23	1.14	0.88	0.77	—	—
	≤ 200	LSG-TSG 2 x 8	500 - 1,000				3.00				2.4	1.89	1.38	0.82	0.64	—	—	—
			1,200				3.00				2.4	1.89	1.38	0.82	0.64	0.50	0.31	0.19
		LSG-TSG 2 x 8*	500 - 1,200		3.00	1.20	0.76	0.0	—	—	—	—	—	—	—	—	—	—
	201 - 300	LSG-TSG 2 x 8	800 - 1,200		3.00		2.69	2.10	1.50	1.09	0.59	0.34	0.20	0.00	—	—	—	—
		LSG-TSG 2 x 8*	800 - 1,200	2.80	0.20	—	—	—	—	—	—	—	—	—	—	—	—	—

* printed / enamelled or LSG-HSG 2 x 8

BALMERO Complete set 1,000 with glass

Intermediate values can be interpolated. Typical horizontal imposed loads (rail loads) are to be determined in accordance with DIN EN 1991-1-1/NA, Tab. 6.12DE. Usage categories in accordance with Tab 6.12DE, DIN EN 1991-1-1/NA. Typical wind loads are to be calculated in accordance with DIN EN 1991-1-4 for each installation situation: $w_e = q_p(z_e) \cdot c_{pe}$ or $w_e = q_p(z_e) \cdot c_{p,net}$

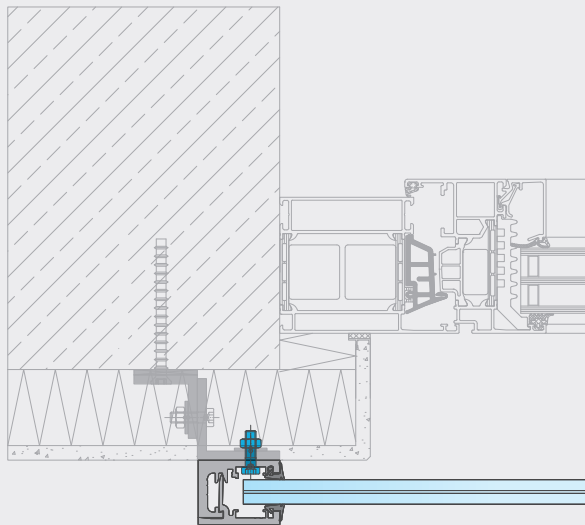
The values apply to attachment to aluminium windows with system screws through at least two crosspieces of the window profile each with $t \geq 1.6$ mm. Max. spacing possible between the BALMERO basic profile and window profile is up to 80 mm (such as a roller blind rail).

Connection in accordance with the borehole pattern on page 65.

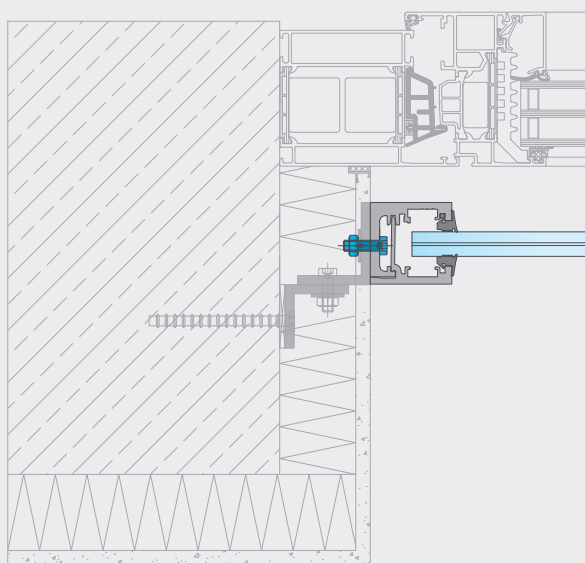


Application examples

Attachment variants



with and without glass projection



with and without glass projection
for BALMERO 45

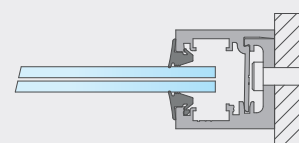
Load introduction and transfer to the structure is to be provided by the customer in accordance with static requirements.



Application examples

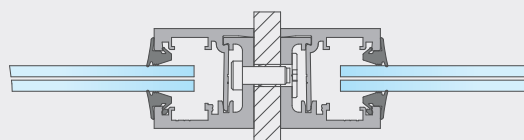
Attachment variants on the existing substructure

End posts



for BALMERO 45

Centre posts



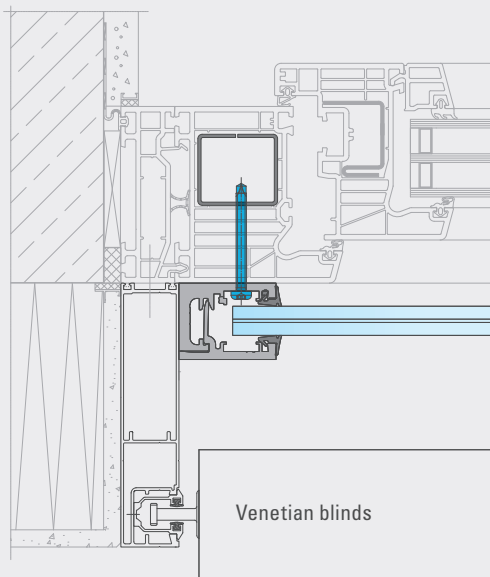
for BALMERO 45

Load introduction and transfer to the structure is to be provided by the customer in accordance with static requirements.

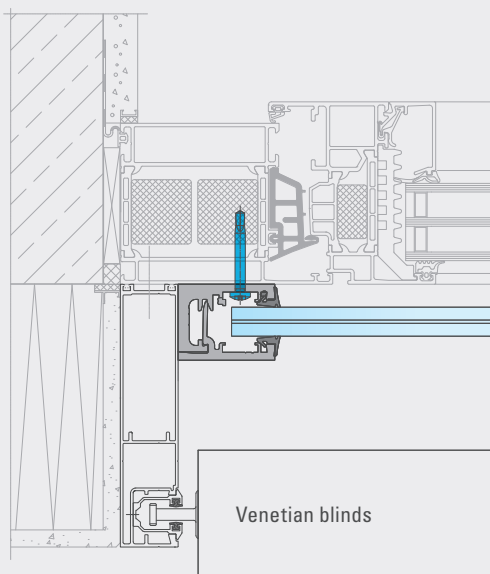


Application examples for a Venetian blind

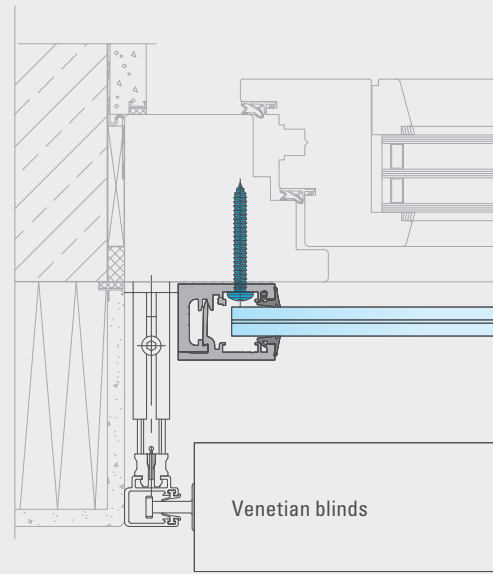
Plastic window with steel core



Aluminium windows



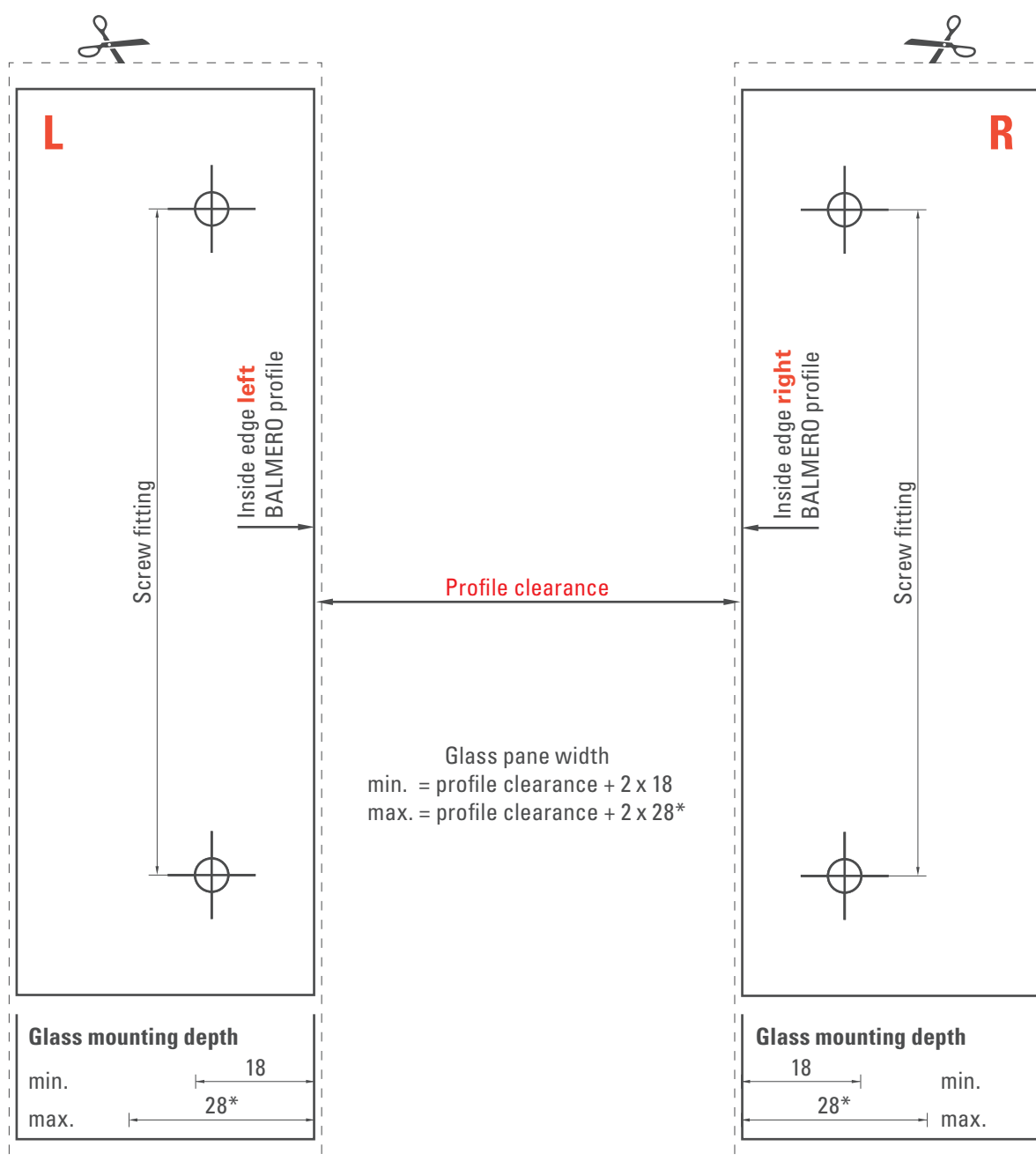
Wood windows



Complete set

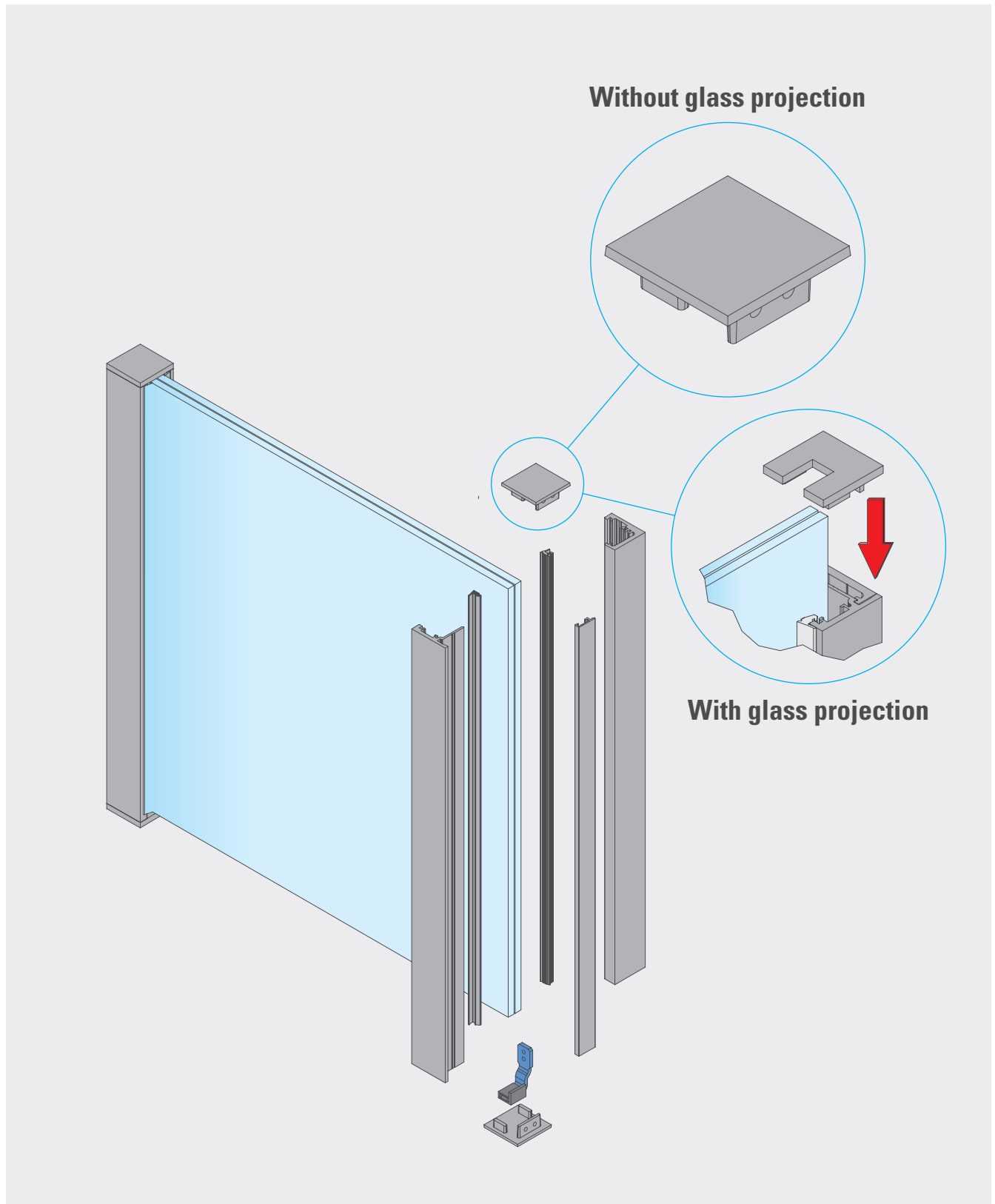
Profile templates 1:1 scale
copy and cut out:

**For attachment on the window
frame and on the soffit**

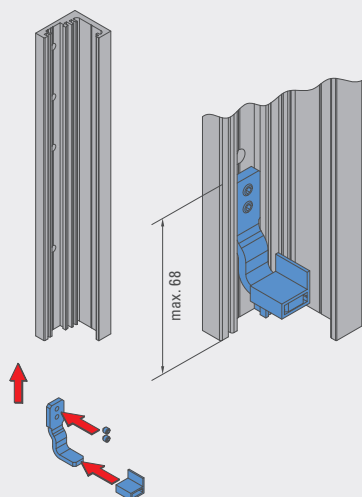


* max. glass mounting depth with glass projection = 22

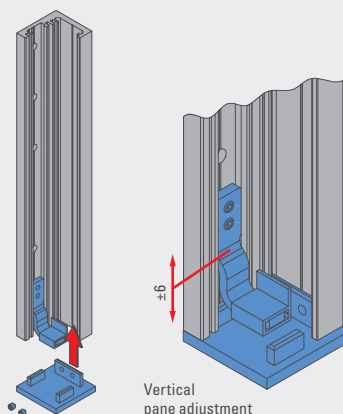
Installation instructions



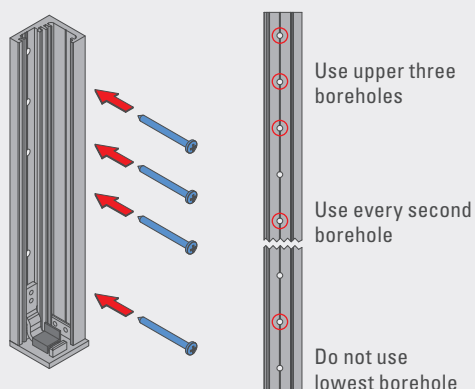
Installation instructions



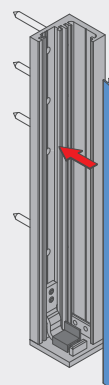
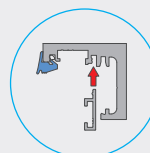
1. Press the contact guard onto the support bracket. Then guide the support bracket through the groove and secure with M5 threaded pins x 5. Tightening torque approx. 6 Nm.



2. Screw the end cover to the bottom of the basic profile using M5 threaded pins x 5. Tightening torque: 6 Nm.



3. Fit to substructure with suitable screws. In the case of boreholes marked in red, the profile must be screwed in.

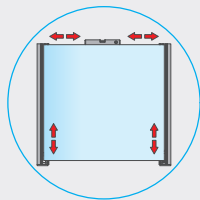


4. Press the EPDM inner gasket onto the basic profile. OPTION: Clip in the LED rail.

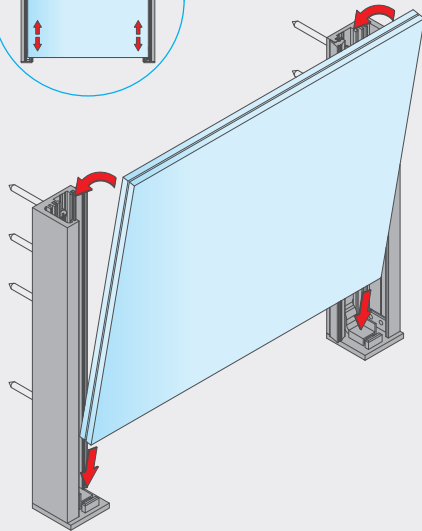
All screw connections must be permanently secured using a liquid screw adhesive (such as Loctite).



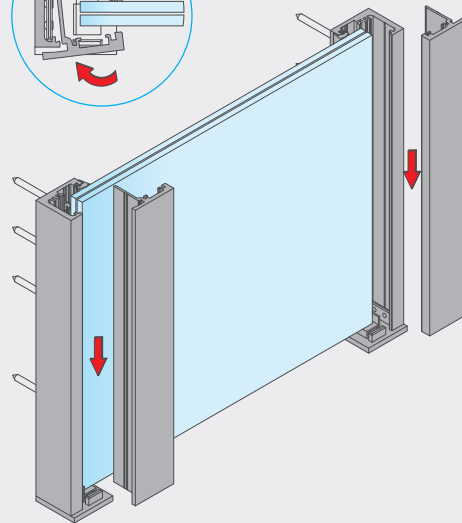
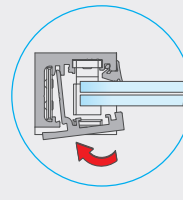
For mounting on wood/wood-aluminium elements, the customer must ensure that the wood and the attachment areas are permanently protected against penetrating moisture (such as with a suitable intermediate layer).



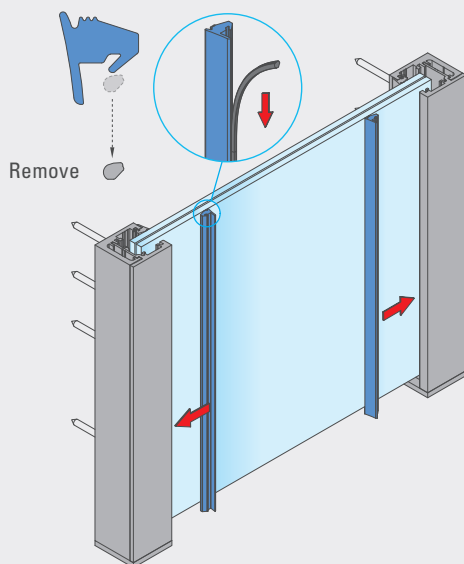
IMPORTANT! Secure pane until the glazing beads are mounted.



5. Place the pane of glass with contact guard fitted on the support bracket and align using a spirit level. Ensure that the minimum glass mounting depth of 18 mm is adhered to while doing so.

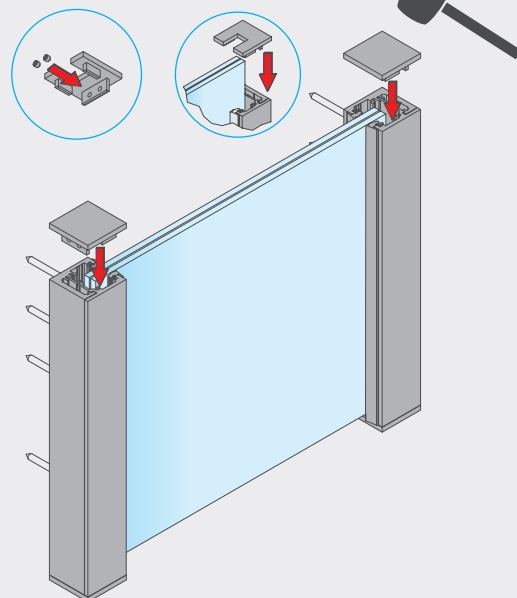


6. Clip the glazing bead onto the basic profile.



Remove

7. For the outer gasket: Peel off the EPDM seal and press between glass pane and glazing bead.



8. Screw in M5 stud screw so far that when the cover is inserted into the BALMERO profile, a clamping effect is achieved. If necessary, hammer the cover into the BALMERO profile with a plastic hammer. Finished!

All screw connections must be permanently secured using a liquid screw adhesive (such as Loctite).



BALMERO 35

Without glass projection

(Please fill in all fields and corresponding boxes)

Name	
Company	
Street/house number	
Postcode/City	
Telephone	Telefax
Email	
Construction project	
Different shipping address:	
Street/house number	
Postcode/City	
Comments	

☐ **Product enquiry**

☐ **Order**

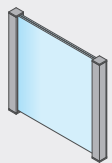
Quick contact:

- Copy form
- Fill out
- Fax to
+49 (0) 6291/6259-11
or per email to
info@glassline.de
Your enquiry/order will
be processed as quickly
as possible.

Glass size

_____ mm glass width _____ mm glass height

System



☐ **BALMERO 35**
without
glass projection (PVB 1.52)

Glass thickness:

☐ 2 x 5 mm
☐ 2 x 6 mm



Set (2 pieces)
Profile:



Piece
Centre posts:

System profile

System profile

- ☐ 1,000
☐ 900
☐ 800
☐ Individual
system lengths
(500 – 6,000 mm) _____

Glass edge guard profile

☐ Stainless
steel



☐ Aluminium



- ☐ Natural untreated
☐ Colour silver (similar to E6EV1)
☐ RAL 7016 (anthracite grey)
☐ RAL 9016 (traffic white)
☐ RAL 9005 (deep black)

☐ LSG 2 x 5 mm ☐ 1,400 mm

☐ LSG 2 x 6 mm ☐ 1,300 mm ☐ 1,700 mm ☐ 2,200 mm

Surface



☐ **"Natural"**
untreated



☐ **Stainless steel**
effect (E6EV1)



☐ **RAL 7016**
(anthracite grey)



☐ **RAL 9016**
(traffic white)



☐ **RAL according to cus-**
tomers specifications

End cover

☐ Plastic ☐ Aluminium

Roller blind rails

- ☐ without insect screen
☐ with insect screen

Brush assortment:

☐ B1 ☐ B2 ☐ B3 ☐ B4

Screws (pack of 12 pieces)

BALMERO screws for
plastic and aluminium windows

Ø 4.8 x 38 _____

Ø 4.8 x 50 _____

Ø 4.8 x 80 _____

Ø 4.8 x 90 _____

Ø 4.8 x 100 _____

BALMERO screws for
wood and wood-aluminium windows

Ø 6.0 x 50 _____

Ø 6.0 x 70 _____

Ø 6.0 x 90 _____

Ø 6.0 x 100 _____

BALMERO 45

With and without glass projection

(Please fill in all fields and corresponding boxes)

Name

Company

Street/house number

Postcode/City

Telephone

Telefax

Email

Construction project

Different shipping address:

Street/house number

Postcode/City

Comments

☐ **Product enquiry**

☐ **Order**

Quick contact:

- Copy form
- Fill out
- Fax to
+49 (0) 6291/6259-11

or per email to

info@glassline.de

Your enquiry/order will be processed as quickly as possible.

Glass size

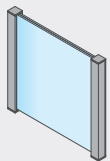
_____ mm glass width _____ mm glass height

Attachment

☐ in the soffit

☐ to the soffit

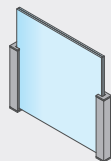
System



☐ **BALMERO 45**
without
glass projection

Glass thickness:

- ☐ 2 x 5 mm
☐ 2 x 6 mm
☐ 2 x 8 mm
(PVB 1.52)



☐ **BALMERO 45**
with
glass projection

Glass thickness:

- ☐ 2 x 6 mm
☐ 2 x 8 mm
(PVB 1.52)

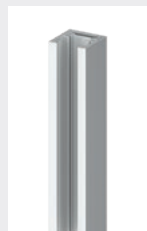
Optional:

BALMERO firstglass



Glass thickness:

- ☐ 2 x 8 mm



Set (2 pieces)
Profile:



Piece
Centre posts:

System profile

System profile

- ☐ 1,000
☐ 900
☐ 800
☐ Individual
system lengths
(350 – 6,000 mm) _____

Glass edge guard profile*

☐ Stainless
steel



☐ Aluminium



- ☐ Natural untreated
☐ Colour silver (similar to E6EV1)
☐ RAL 7016 (anthracite grey)
☐ RAL 9016 (traffic white)
☐ RAL 9005 (deep black)

☐ LSG 2 x 5 mm ☐ 1,400 mm

☐ LSG 2 x 6 mm ☐ 1,300 mm ☐ 1,700 mm ☐ 2,200 mm

☐ LSG 2 x 8 mm ☐ 1,300 mm ☐ 1,700 mm ☐ 2,200 mm

* Not with BALMERO firstglass LSG 2 x 8 mm

Surface



☐ **"Natural"**
untreated



☐ **Stainless steel**
effect (E6EV1)



☐ **RAL 7016**
(anthracite grey)



☐ **RAL 9016**
(traffic white)



☐ **RAL according to cus-**
tomers specifications

End cover

☐ Plastic ☐ Aluminium

Roller blind rails

- ☐ without insect screen
☐ with insect screen

Brush assortment:

☐ B1 ☐ B2 ☐ B3 ☐ B4

Screws (pack of 12 pieces)

BALMERO screws for
plastic and aluminium windows

Ø 4.8 x 38 _____
Ø 4.8 x 50 _____
Ø 4.8 x 80 _____
Ø 4.8 x 90 _____
Ø 4.8 x 100 _____

BALMERO screws for
wood and wood-aluminium windows

Ø 6.0 x 50 _____
Ø 6.0 x 70 _____
Ø 6.0 x 90 _____
Ø 6.0 x 100 _____

BALMERO *Complete set 1,000 with glass*

Without glass projection

(Please fill in all fields and corresponding boxes)

Name

Company

Street/house number

Postcode/City

Telephone

Telefax

Email

Construction project

Different shipping address:

Street/house number

Postcode/City

Comments

☐ **Product enquiry**

☐ **Order**

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- Copy form
- Fill out
- Fax to
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or per email to

info@glassline.de

Your enquiry/order will
be processed as quickly
as possible.

Glass size

_____ mm glass width 980 mm glass width

Attachment

☐ in the soffit (only BALMERO 45)

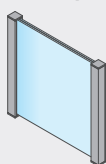
☐ to the soffit

BALMERO

☐ 35

☐ 45

Complete set 1,000



_____ **Set(s)** including glass, plastic end cover

Surface

- ☐ "Natural" untreated
- ☐ Stainless steel effect (E6EV1)
- ☐ RAL 7016 (anthracite grey)
- ☐ RAL 9016 (traffic white)

Glass width

<input type="checkbox"/> 800	<input type="checkbox"/> 900	<input type="checkbox"/> 1,000	<input type="checkbox"/> 1,100	<input type="checkbox"/> 1,200	<input type="checkbox"/> 1,300	<input type="checkbox"/> 1,400	<input type="checkbox"/> 1,500	<input type="checkbox"/> 1,600	<input type="checkbox"/> 1,700
<input type="checkbox"/> 820	<input type="checkbox"/> 920	<input type="checkbox"/> 1,020	<input type="checkbox"/> 1,120	<input type="checkbox"/> 1,220	<input type="checkbox"/> 1,320	<input type="checkbox"/> 1,420	<input type="checkbox"/> 1,520	<input type="checkbox"/> 1,620	
<input type="checkbox"/> 840	<input type="checkbox"/> 940	<input type="checkbox"/> 1,040	<input type="checkbox"/> 1,140	<input type="checkbox"/> 1,240	<input type="checkbox"/> 1,340	<input type="checkbox"/> 1,440	<input type="checkbox"/> 1,540	<input type="checkbox"/> 1,640	
<input type="checkbox"/> 860	<input type="checkbox"/> 960	<input type="checkbox"/> 1,060	<input type="checkbox"/> 1,160	<input type="checkbox"/> 1,260	<input type="checkbox"/> 1,360	<input type="checkbox"/> 1,460	<input type="checkbox"/> 1,560	<input type="checkbox"/> 1,660	
<input type="checkbox"/> 880	<input type="checkbox"/> 980	<input type="checkbox"/> 1,080	<input type="checkbox"/> 1,180	<input type="checkbox"/> 1,280	<input type="checkbox"/> 1,380	<input type="checkbox"/> 1,480	<input type="checkbox"/> 1,580	<input type="checkbox"/> 1,680	

Accessories (not included in set)

Glass edge guard profile

☐ Stainless steel



☐ Aluminium



- ☐ Natural untreated
- ☐ Colour silver (similar to E6EV1)
- ☐ RAL 7016 (anthracite grey)
- ☐ RAL 9016 (traffic white)
- ☐ RAL 9005 (deep black)

Screws (pack of 12 pieces)

BALMERO screws for plastic and aluminium windows

Ø 4.8 x 38 _____

Ø 4.8 x 50 _____

Ø 4.8 x 80 _____

Ø 4.8 x 90 _____

Ø 4.8 x 100 _____

BALMERO screws for wood and wood-aluminium windows

Ø 6.0 x 50 _____

Ø 6.0 x 70 _____

Ø 6.0 x 90 _____

Ø 6.0 x 100 _____

End cover (optional)

☐ Aluminium

Roller blind rails

- ☐ without insect screen
- ☐ with insect screen

Brush assortment:

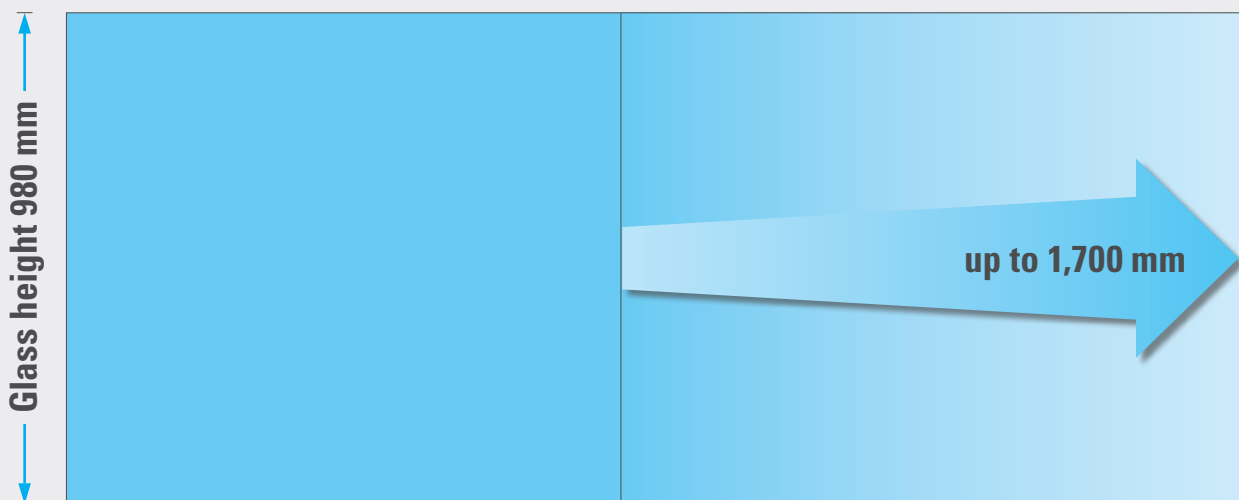
☐ B1 ☐ B2 ☐ B3 ☐ B4

Glass stock program

Complete set

The unique BALMERO glass stock program

Glass widths available from 800 to 1,700 mm



Glass:	LSG 2 x 6 mm (PVB 1.52)
Glass pane height:	980 mm
Glass widths in glass stock program:	800 – 1,700 mm in 20-mm increments

**More than 1,000
glass panes in stock**



GLASSLINE GmbH

Industriestraße 7-10
74740 Adelsheim, Germany
Tel. +49 (0) 6291 6259-0
Fax +49 (0) 6291 6259-11
info@glassline.de
www.glassline.de

The system vendor for frameless glass architecture

GLASSLINE is a leading supplier which develops, manufactures and sells high-quality system solutions in the point support system, glass railing system and frameless canopy construction sectors, alongside systems with thermal separation for secure fastening of attachment elements to building envelopes.

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- All screw connections are to be permanently secured against loosening, such as through gluing.
- The pressure-resistant insulating elements are to be protected against UV radiation and weather influences.
- Object-specific application as well as verifications of load application and transfer are to be checked or carried out on-site.



