DIM Design & Installation Manual

Swisspearl Clinar Clip

Content

Remarks I **Disclaimer**

Remarks
This DIM (Design + Installation Manual) provides technical information regarding design and installation. Refer to area manager and local distributor for further information such as:

- Terms of delivery
- Pricing
- Products and colors
- Lead time, etc.

More general information available on www.swisspearl.com

CH- 8867 Niederurnen
Tel. +41 55 617 11 60
Email: info@swisspearl.com

Validity of DIM
Please consult your local distributor and or the Technical Advisor prior to the commencement of shop drawings or installation for the most current DIM guide. The current DIM can always be found at www.swisspearl.com. All previous DIM guides should be disregarded and are no longer valid.

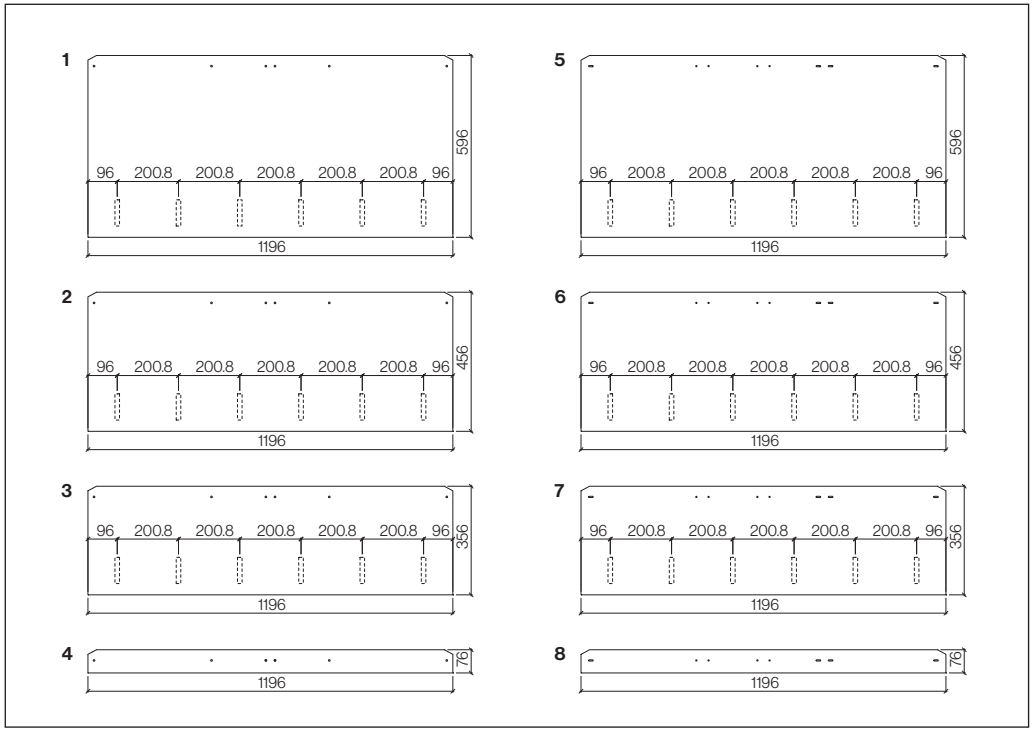
Product warranty
20 year warranty for the functional quality of panels and accessories, provided that the installation is in full compliance with this DIM.

Maritime conditions
Maritime conditions are considered 50m to 1km (0.03 to 0.6 miles) from the sea. Material specification for sub frame, fasteners and accessories to cater for maritime conditions according to local standards. Only Aluminum sub-frame is allowed for this application, as Swisspearl does only provide Aluminum Rivets.

Advantages of fiber cement products
- Maximum protection against weather
- Excellent longevity
- Easy installation in any climate
- Almost no maintenance required
- Proven details
- No cracks, paint or sealant problems
- High sustainability
- Non combustible

Project specific ordering
Subtle visual differences may occur between product batches. Therefore we recommend ordering by job or specific elevation if ordering in phases.

Clinar Clip lapped cladding 6 mm



Overview of colors available for each format and panels for reveal and lintel bottom views, see: "Delivery Program".

Product data

- Clinar 6 mm, thickness 5.8 mm
- Density >1.8 g/cm3
- Modulus of elasticity ca. 15'000 MPa
- Design resistance for bending ca. 8.0 MPa
- Thermal expansion coefficient 0.01 mm / m / °K
- Fire classification according to NFPA 285 EN 13 501-1 & A2-s1,d0
- Frost resistance and durabitliy under EN 12467
- Thermal range - 40°C to + 80°C

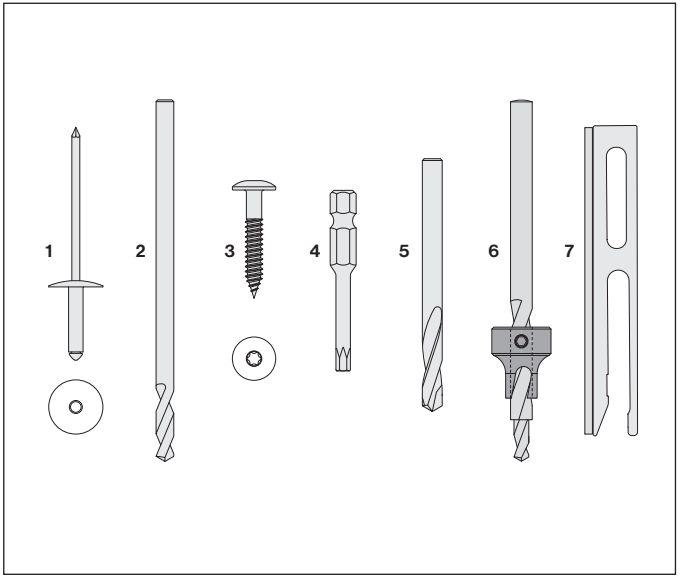
Installation on timber battens

1 Clinar Clip 6 mm, lapped cladding 1200×600 mm W
2 Clinar Clip 6 mm, lapped cladding 1200×460 mm W
3 Clinar Clip 6 mm, lapped cladding 1200×360 mm W
4 Starter 1200×76 mm W, to Clinar Clip 6 mm

Installation on aluminum supports

5 Clinar Clip 6 mm, lapped cladding 1200×600 mm M
6 Clinar Clip 6 mm, lapped cladding 1200×460 mm M
7 Clinar Clip 6 mm, lapped cladding 1200×360 mm M
8 Starter 1200×76 mm M, to Clinar Clip 6 mm

Mounting material



1 Facade rivet AlMg, rivet head Ø15 mm
- 4.0×18-K15, bare or colored, clamping length 8-13 mm
- 4.0×24-K15, bare or colored, clamping length 13-18 mm
- 4.0×30-K15, bare or colored, clamping length 18-23 mm

2 Metal drill Ø 4.1 mm, for aluminum substructure

3 Facade screw, truss head T20, corrosion-resistant, bare or colored 4.8×30, 4.8×38, 4.8×44, 4.8×60 mm

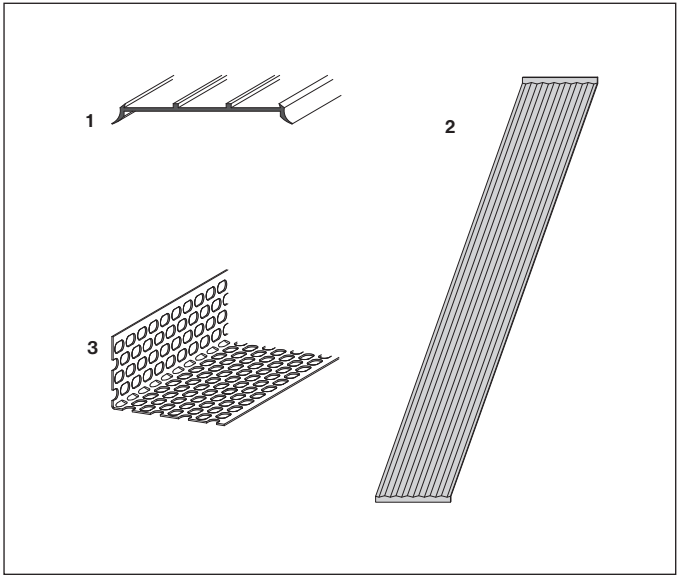
4 Torx bits T20 W

5 Drill bits "Swisspearl" Ø4.1 or Ø5.5 mm

6 Step drill Ø6.0×4.1 mm

7 Additional clips Typ 6, 20×86 mm, width 20 mm, self-adhesive, with primer

Joint sealing

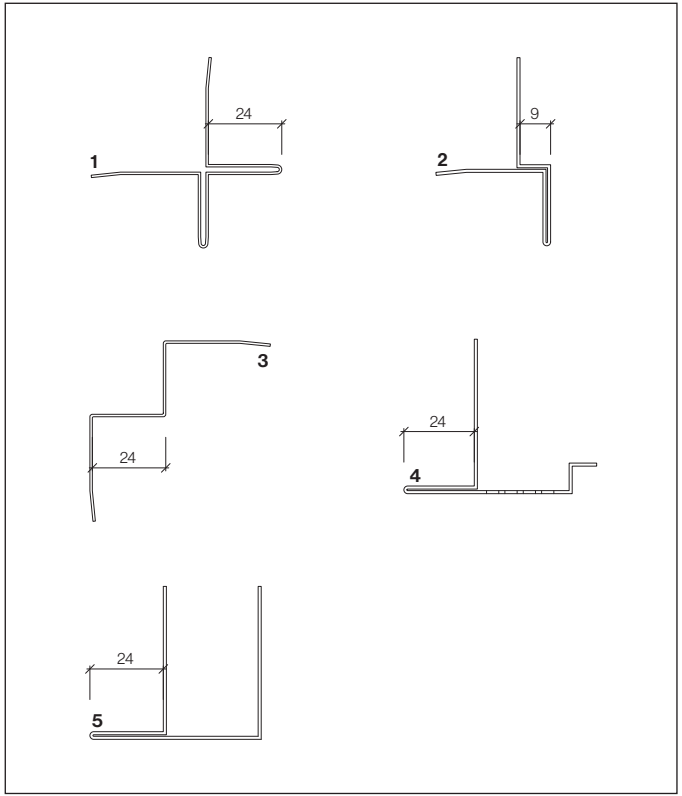


1 "Swisspearl" EPDM band, black, 60 mm, spool 50 m

2 Aluminum joint sheets, ribbed, black coat, top and bottom with inward bend, 100×592 mm, 66×452 mm, 66×352 mm

3 Aluminum ventilation laths, untreated or colored, profile length 2500 mm
Dimensions: 50×30 mm, 70×30 mm, 100×40 mm

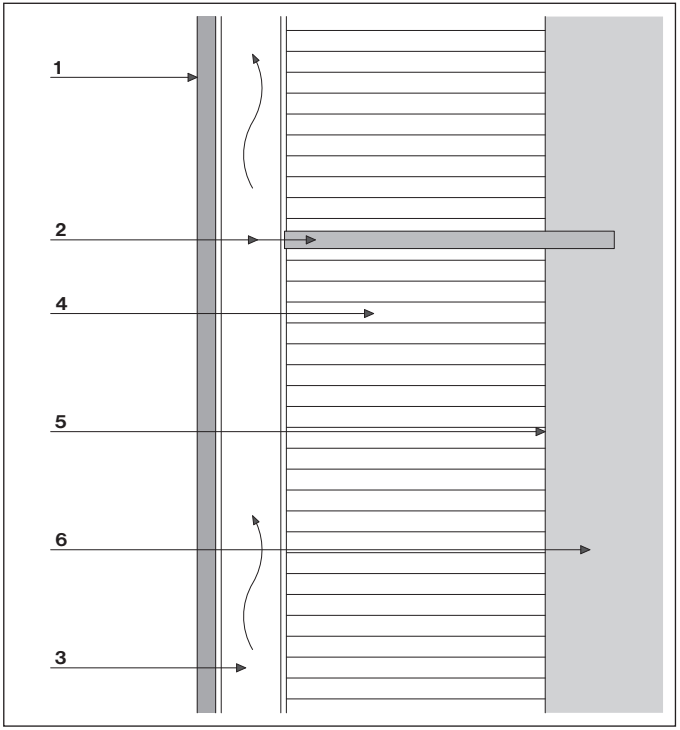
Edge profiles



1 Cross corner profile, seam height 24 mm
2 Reveal profile, seam height 24 mm
3 Interior corner profile, seam height 24 mm
4 Lintel profile, seam height 24 mm
5 Lintel profile for blind casing, seam height 24 mm

Profile lengths 2800 mm,
anodized colorless aluminum or powder-coated

Terminology



Vertical section

Rear ventilated cladding
The design principle involves the deflection (screening) of the rain water. As the panel joints are not sealed, minimal amounts of water can gain access into the air cavity behind the panel. The cavity is naturally ventilated by vent gaps at bottom and top, so that any moisture will evaporate naturally by thermal action.

Cladding (1)
Panels with open or closed joints, in one plane or lapped.

Sub framing (2)
To support the cladding dead and wind load, use vertical panel supports in timber or aluminum.

Ventilation cavity (3)
Cavity behind panel with ventilation gaps at bottom and top.

Thermal insulation layer (4)
To increase the thermal insulation capacity of the exterior wall.

Substrate (5)
Face of exterior wall, such as plaster, concrete, exterior sheating, vapor air barrier, etc.

Exterior wall (6)
Brick, concrete, timber and steel studs.

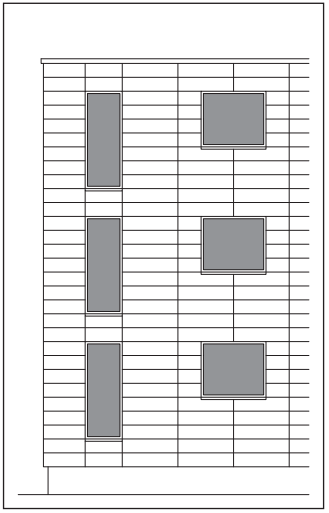
Panel support
Panel must be supported on an even surface. If perforated angles are placed between the panel and batten/vertical profile the closure piece must not exceed 0.8 mm. Perforated angles have to allow ventilation entry with a min. perforation of 60%. The use of an aluminium mesh is possible. It has a high ventilation ratio, thin material thickness (no push out of panel) and is easy to install.

Material compatibility
Untreated aluminum material such as window sills, frames, etc. is not compatible with cement and must be protected against dust from drilling panels, etc. Aluminum components are to be used in anodized or powder-coated or Kynar Coated for exterior applications with protective films.

Sealant material
Generally to keep the cladding maintenance free the use of sealants should be avoided. Where the use of sealant is unavoidable Polyurethane, Acrylic or Hybrid Polymer products would be best suitable. Before applying any sealant to fiber cement material the compatibility must be checked as certain materials leave permanent staining on panel surface.

Dilation joints
When designing structural expansion joints, the facade substructure and cladding should be separated by a continuous expansion joint.

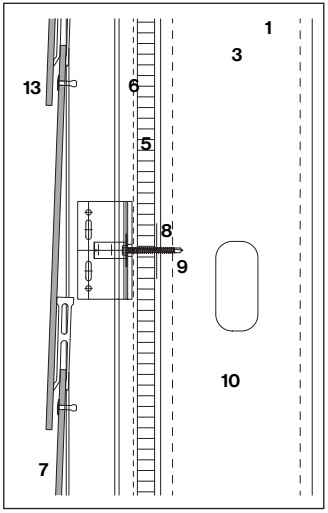
Reference lines



Reference lines, panel arrangement

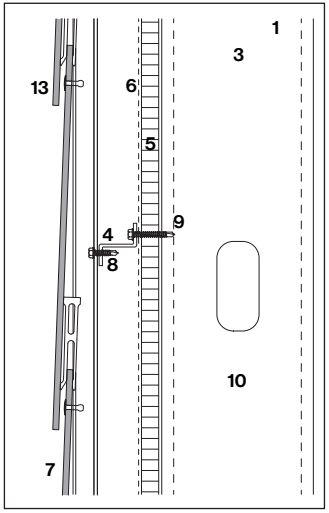
Vertical and horizontal structures are characteristic for Clinar lapped cladding. Planning the joint arrangements is key. At the corners of the building, the edge panels should be adapted to the overall appearance of the facade. Window lintels should be used on horizontal reference lines. The resulting facade plans serve as installation guides.

Sub frame types

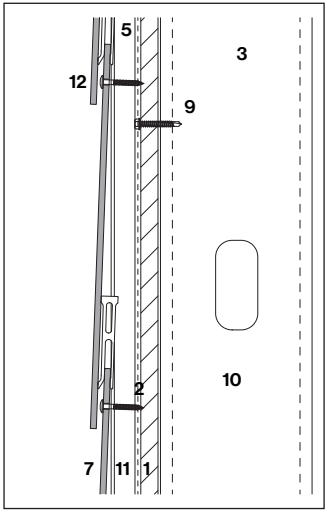


Aluminum/aluminum

Typical wall construction for timber battens is as follows: exterior grade plywood sheathing, Vapor Air barrier either liquid applied or self adhered. Vertical timber battens screwed into plywood sheating.



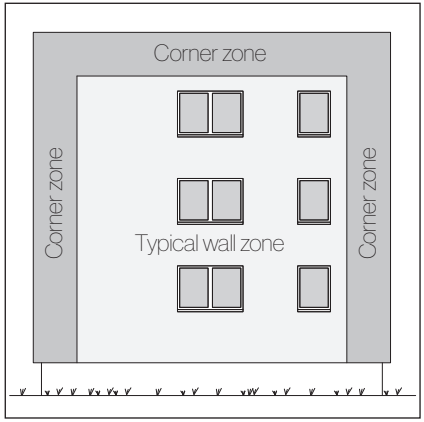
Aluminum/aluminum



Timber/timber

1 Substrate
2 Vapor Air barrier
3 Thermal Insulation
4 Horizontal batten
5 Vertical batten
6 Vent cavity
7 Clinar Clip lapped cladding 6 mm
8 Bracket
9 Engineered Screw by Others
10 Wall Cavity
11 Vertical Timber Battens
12 Screws 4.8×30 mm, blank
13 Rivet 4.0×18-K15, blank

Corner zone



Wind load zones
As per scheme there are two wind load zones: The corner zones are generally subject to increased nagative wind load (suction) due to turbulence at the edges of the building. The applicable wind load values must be determined in the cladding specification

Min. manufacturer cavity depth:
Mandatory for issuance of the warranty letter.

Cladding height	**min. cavity**
< 6 m	20 mm
6 - 30 m	30 mm
> 30 m	40 mm

Application
Clinar Clip cladding panels can be attached to vertical supports made of timber, aluminium or steel.

Windload
Always consider local standards when determining panel fastener differences. This is especially important for tall buildings, for buildings with special shapes and for high wind exposure areas.

Ventilation cavity
Building tolerances must be allowed for. The cavity may not be reduced by horizontal profiles or any stray objects such as loose insulation and other materials.

Building expansion joints
The buildings structural expansion joints should be considered when designing subframe systems. Structural expansion joints must be applied to sub frame and cladding as provided to the building structure.

Panel data: Resistance values of panel

Format		Clinar Clip 6 mm, lapped cladding
	mm	1200×600 / 1200×460 / 1200×360
Thickness (tmin)	mm	5.8
Density	g/cm³	1.7
Bending strength lengthwise	MPa	18
Bending strength crosswise	MPA	24
Young's Modulus	MPA	15000

Resistance of panel against pull-through of rivet head and screw head

Format		Clinar 6 mm, lapped cladding
	mm	1200×600 / 1200×460 / 1200×360
Corner	kN	0.32
Edge	kN	0.43

Please note:
All given values for the bending strength and the resistance against pull-through of the rivet head are characteristic values and NOT design values!

All values of the bending strength and the resistance against pull-through of the rivet head have to be reduced by safety factors according to national regulations! The determination of all design values (bending strength and resistance against pull-through of the rivet head) are in the responsibility of the engineer on site!

Recommendation for ultimate loading of panels-system against windsuction

number of rivets per panel / format mm	values in kN/m²	
	3 rivets	4 rivets
Clinar Clip 6 mm, lapped cladding 1200×600, M	3.6	5.5
Clinar Clip 6 mm, lapped cladding 1200×460, M	2.9	4.2
Clinar Clip 6 mm, lapped cladding 1200×360, M	2.0	2.5

Given are the failure loads of the system

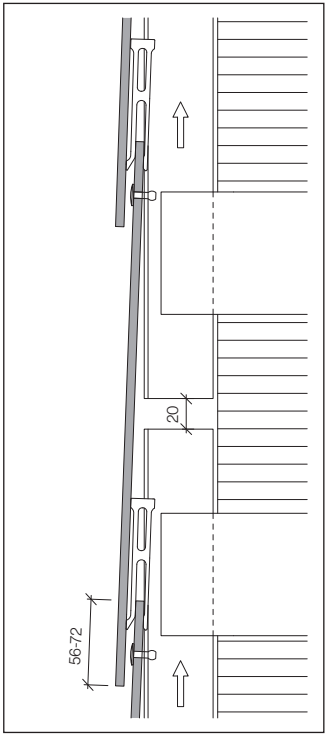
number of screws per panel / format mm	values in kN/m²	
	3 scews	3 scews
Clinar Clip 6 mm, lapped cladding 1200×600, W	3.3	5.0
Clinar Clip 6 mm, lapped cladding 1200×460, W	2.5	3.3
Clinar Clip 6 mm, lapped cladding 1200×360, W	1.8	2.4

Given are the failure loads of the system

Aluminum supports: overview

Format type				Mounting			Joint sealing	Support profile vertical mm		
				Rivets 4.0x18 K15			Joint sheet	≥100		
Format	Visual format	Panel weight		continu-ous	½ offset	⅓ offset	offset	continuous	½ offset	⅓ offset
Width×Height mm			pcs./ m²	pcs./panel			pcs./m²	m/m²		
1200×600	1200×540	1196×596	1.55	3	3	4	1.55	1.67	1.67	2.50
1200×460	1200×400	1196×456	2.08	3	3	4	2.08	1.67	1.67	2.50
1200×360	1200×300	1196×356	2.78	3	3	4	2.78	1.67	1.67	2.50

Profile joint support profile



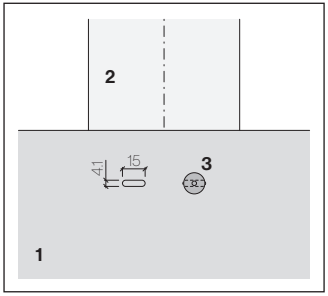
Clinar Clip lapped cladding 6 mm

Aluminum supports
The joints of vertical support profiles must be at the same height. Story-high assembly of the substructure is essential; profile lengths max. 3 m (thickness ≥ 2mm, fu ≥ 245 N/mm2)

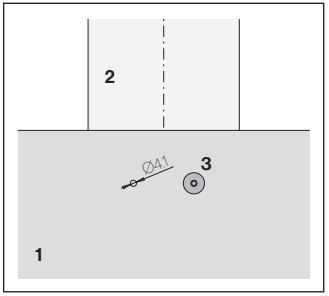
Horizontal overlap for profile joints
The horizontal overlap for the Clinar Clip panels must be within the 56-72 mm profile joint range.

Mounting for aluminum supports
The Clinar Clip lapped cladding facades are attached manually using the pre-set holes. Additional mounting holes for Clinar Clip panels must be drilled on-site as follows:
for fixed points: drill bit Ø 4.1 mm
for sliding points: drill bit Ø 6.0 mm

Mounting Standard

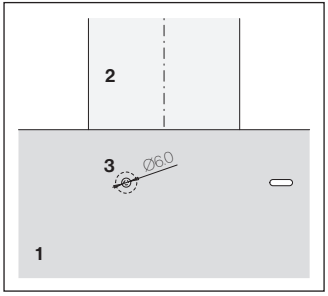


Attachment for sliding points with pre-set slot

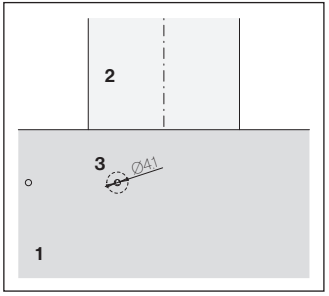


Attachment for fixed points with pre-set holes

Mounting with on-site mounting holes

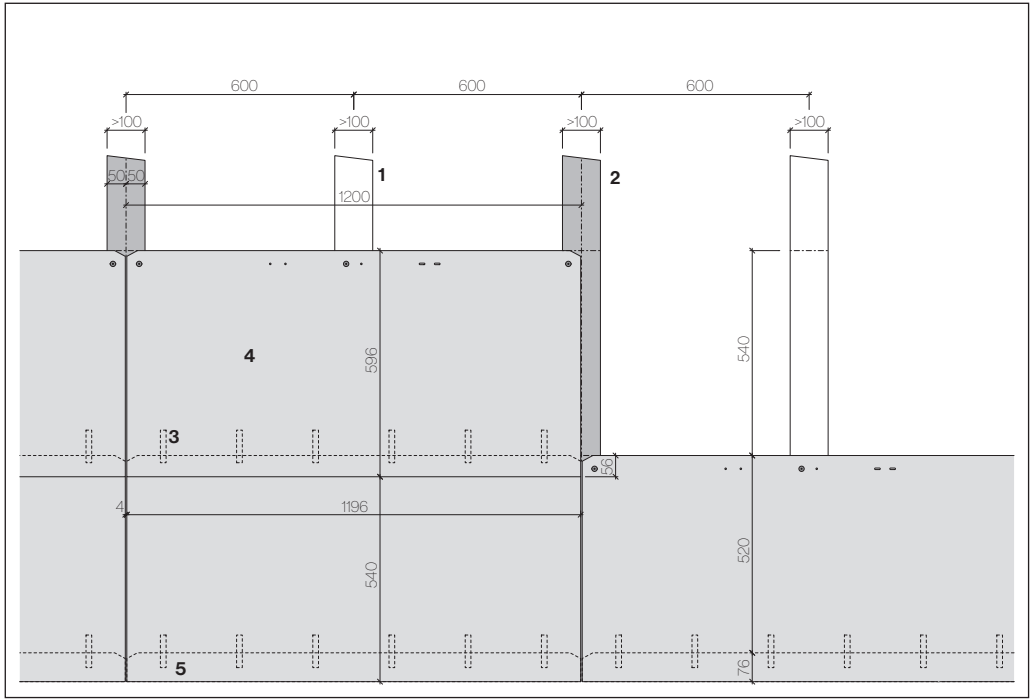


Attachment for sliding points with on-site drilling Ø 6.0 mm



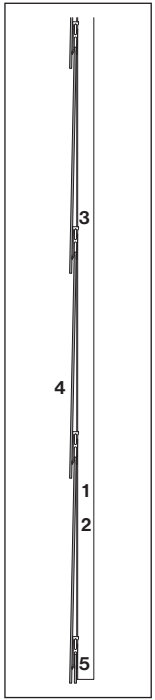
Attachment for fixed points with on-site drilling Ø 4.1 mm

Clinar Clip lapped cladding 6 mm, 1200×600 mm M, continuous joint, viewing height 540 mm



Attachment: 3 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

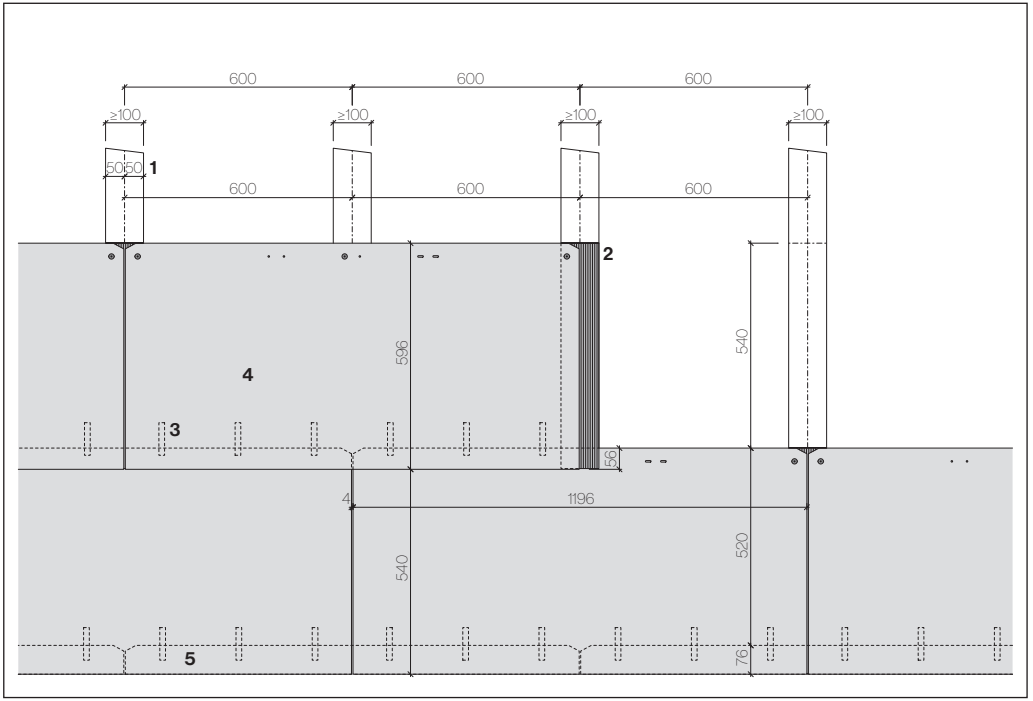
1 Vertical support profile, ≥ 100 mm, blank
2 Vertical support profile, ≥ 100 mm, black
3 Clip
4 Clinar Clip lapped cladding, 1200×600 mm
5 Clinar Clip starter, 1200×76 mm

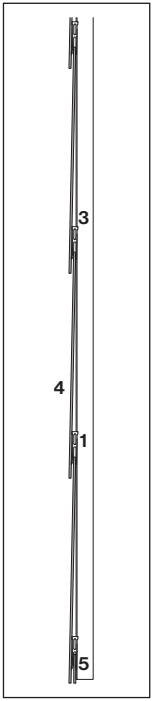


Main section
Facade base

Design I **Arrangement for aluminum supports**

Clinar Clip lapped cladding 6 mm, 1200×600 mm M, joint ½ offset, viewing height 540 mm



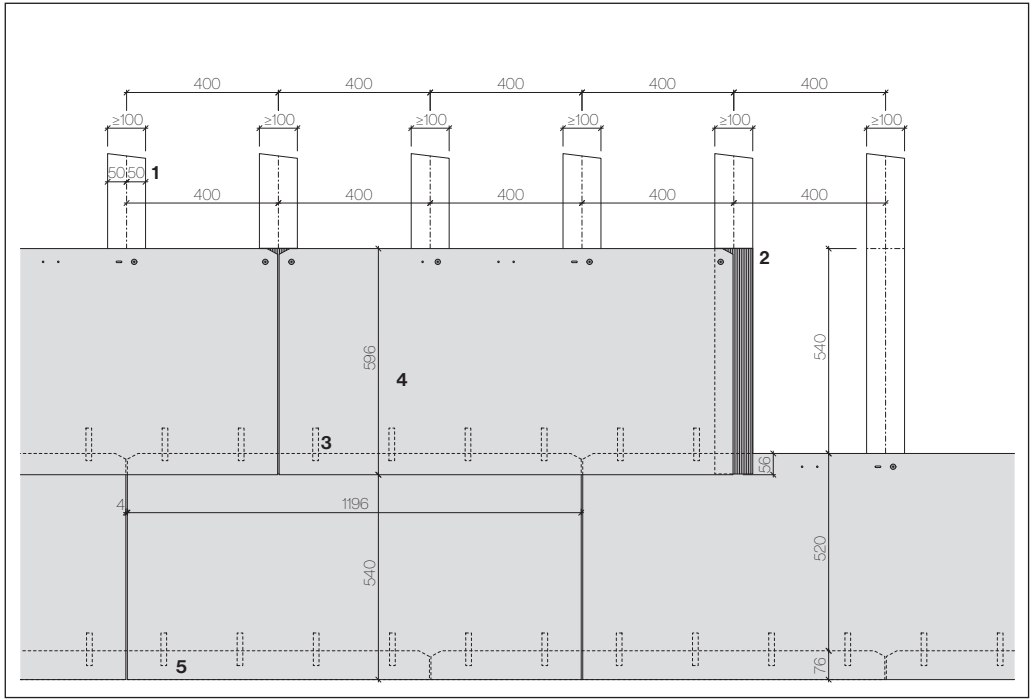


Mounting: 3 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile, ≥ 100 mm, blank
2 Aluminum joint sheets, ribbed, black, 100×592 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×600 mm, M
5 Clinar Clip starter, 1200×76 mm, M

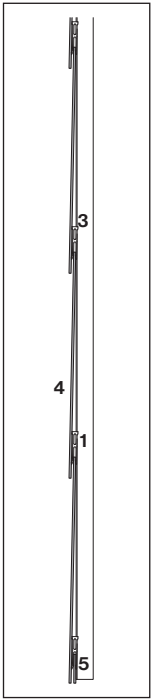
Main section
Facade base

Clinar Clip lapped cladding 6 mm, 1200×600 mm M, joint ⅓ offset, viewing height 540 mm



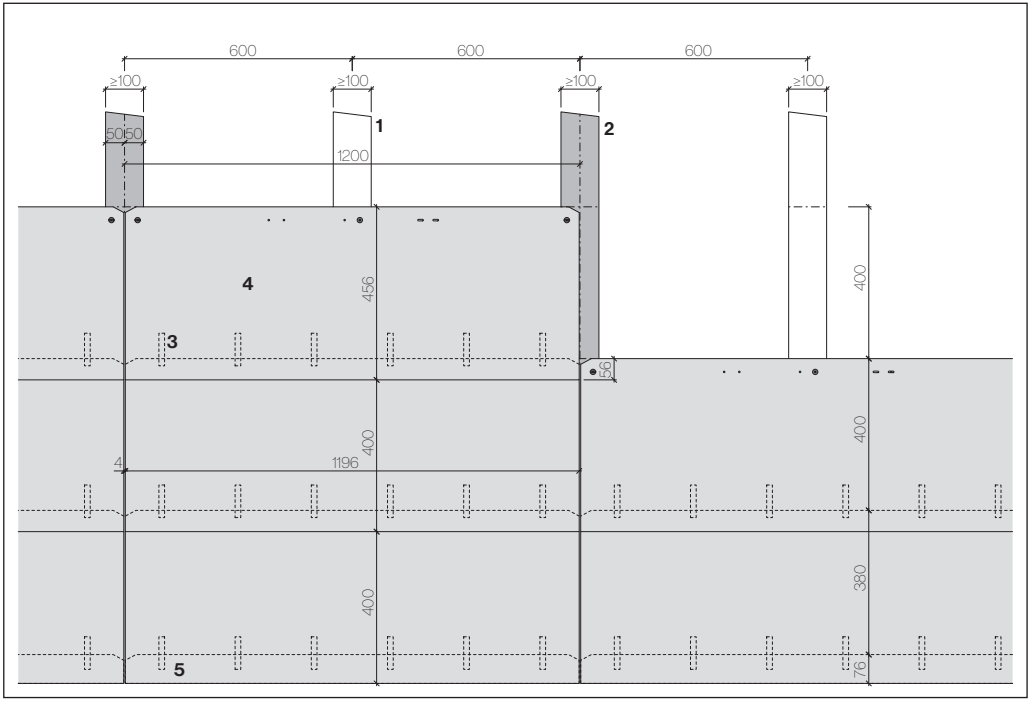
Mounting: 4 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile ≥ 100 mm, blank
2 Aluminum joint sheets, ribbed, black, 100×592 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×600 mm, M
5 Clinar Clip starter, 1200×76 mm, M



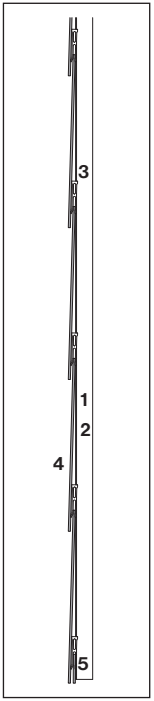
Main section
Facade base

Clinar Clip lapped cladding 6 mm 1200×460 mm M, continuous joint, viewing height 400 mm



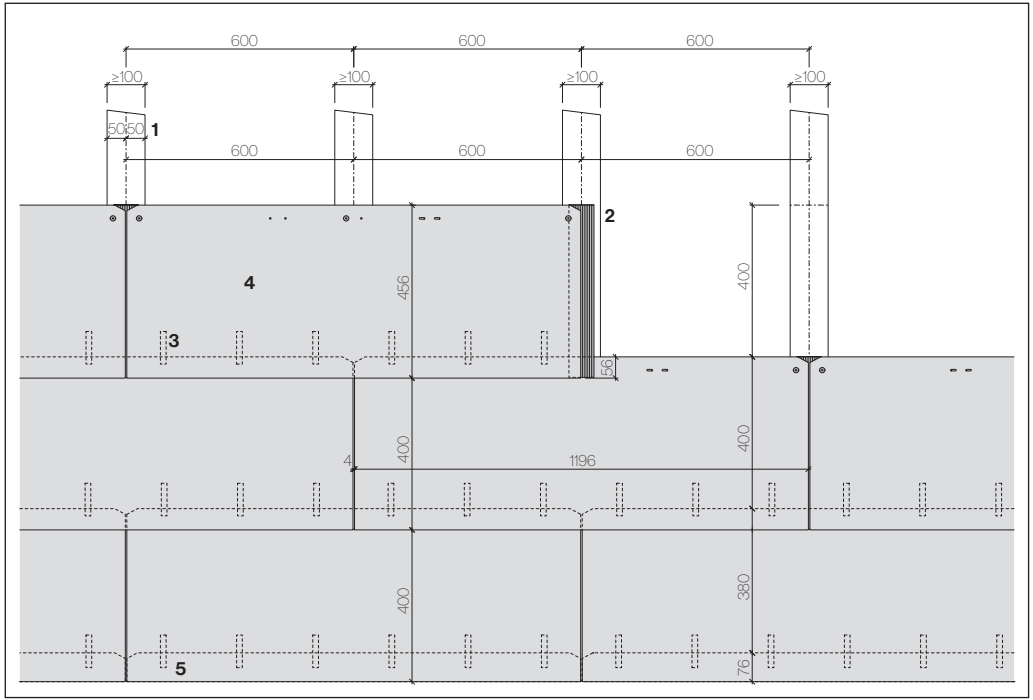
Mounting: 3 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

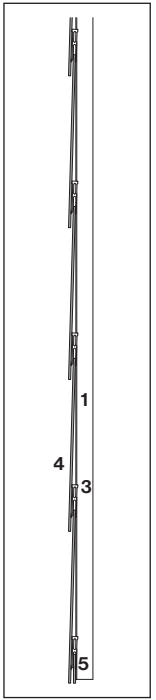
1 Vertical support profile, ≥ 100 mm, blank
2 Vertical support profile, ≥ 100 mm, black
3 Clip
4 Clinar Clip lapped cladding, 1200×460 mm, M
5 Clinar Clip starter, 1200×76 mm, M



Main section
Facade base

Clinar Clip lapped cladding 6 mm 1200×460 mm M, joint ½ offset, viewing height 400 mm



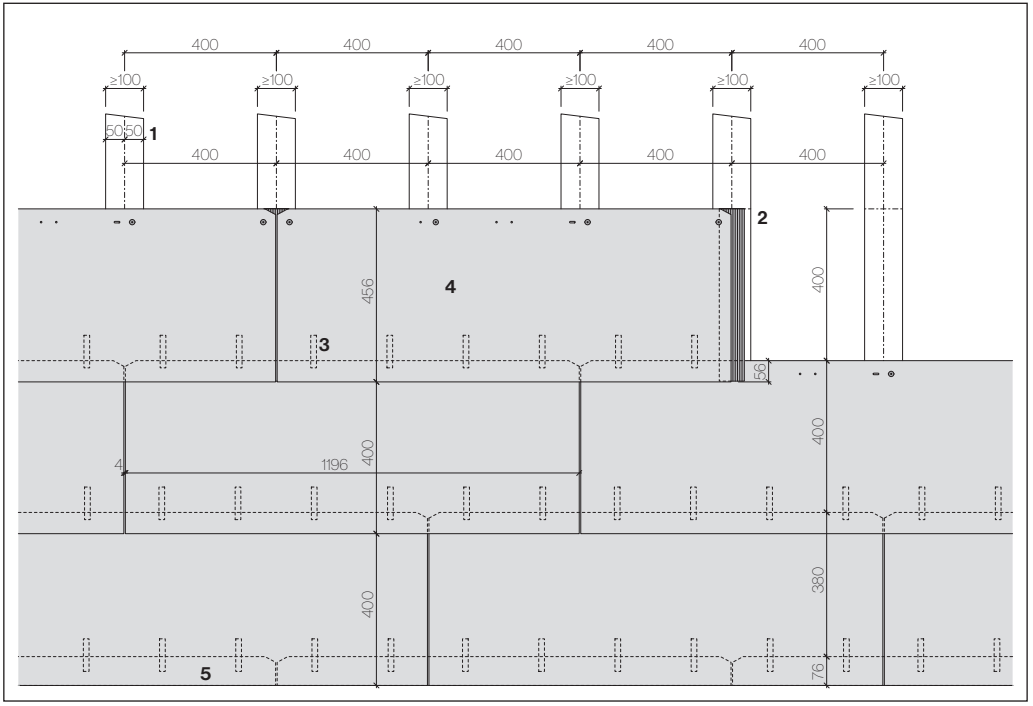


Mounting: 3 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile, ≥ 100 mm, blank
2 Aluminum joint sheets, ribbed, black, 66×452 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×460 mm, M
5 Clinar Clip starter, 1200×76 mm, M

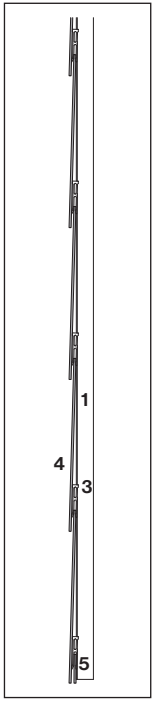
Main section
Facade base

Clinar Clip lapped cladding 6 mm 1200×460 mm M, joint ⅓ offset, viewing height 400 mm



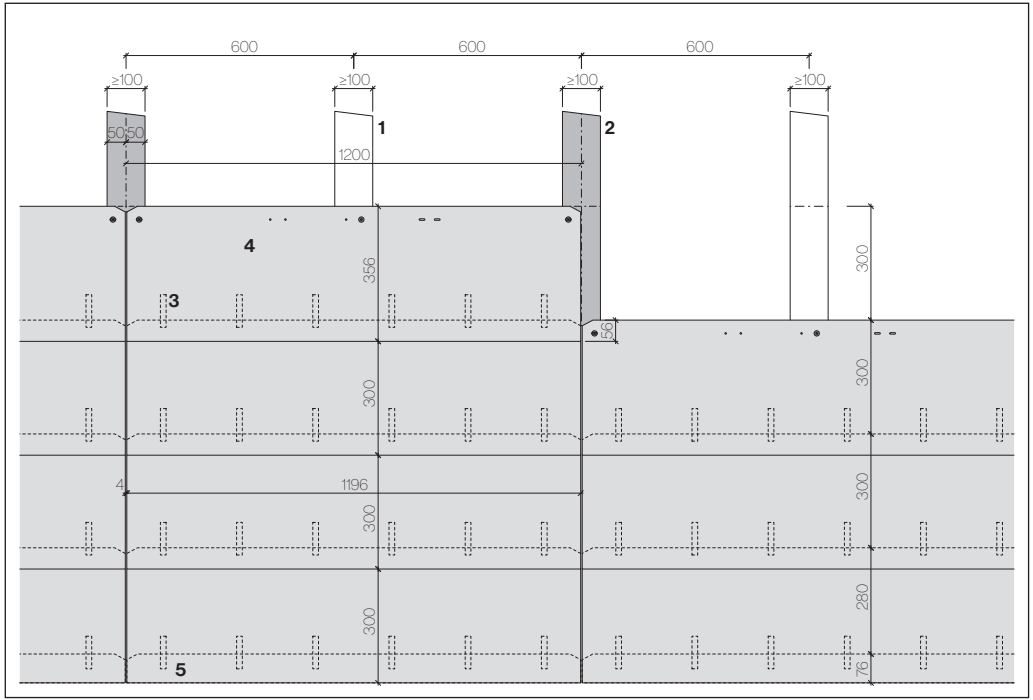
Mounting: 4 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile, ≥ 100 mm, blank
2 Aluminum joint sheets, ribbed, black, 66×452 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×460 mm, M
5 Clinar Clip starter, 1200×76 mm, M



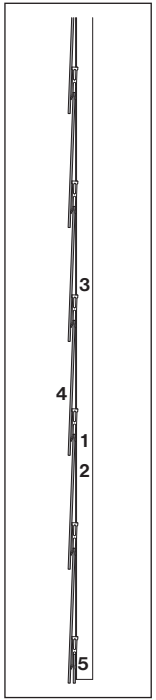
Main section
Facade base

Clinar Clip lapped cladding 6 mm 1200×360 mm M, continuous joint, viewing height 300 mm



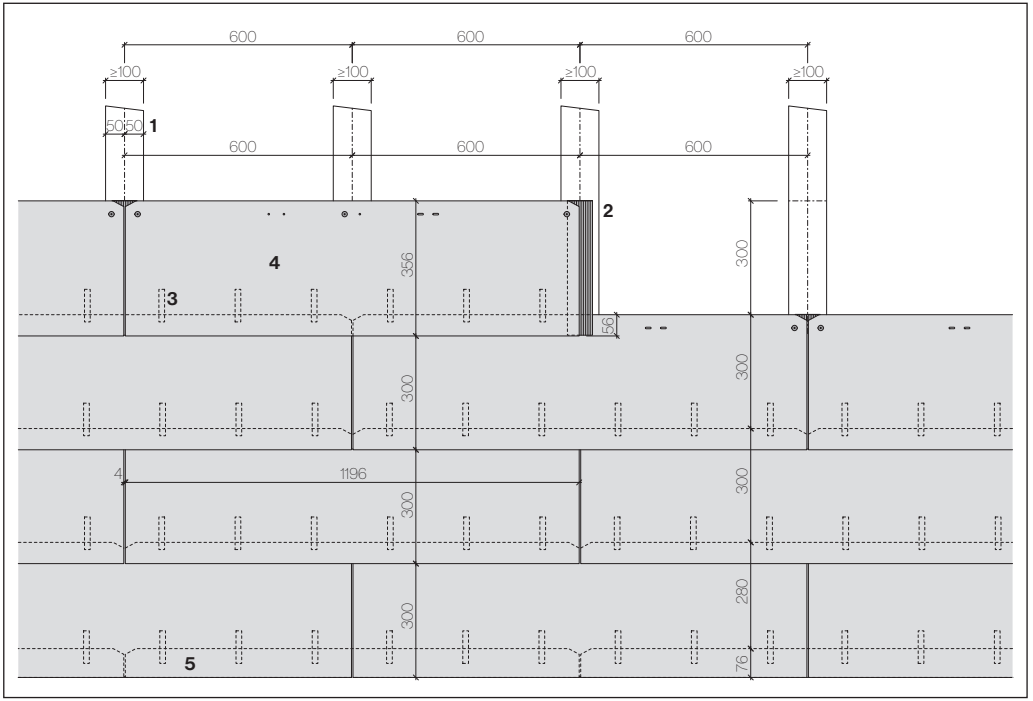
Mounting: 3 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile, ≥ 100 mm, blank
2 Vertical support profile, ≥ 100 mm, black
3 Clip
4 Clinar Clip lapped cladding, 1200×360 mm, M
5 Clinar Clip starter, 1200×76 mm, M



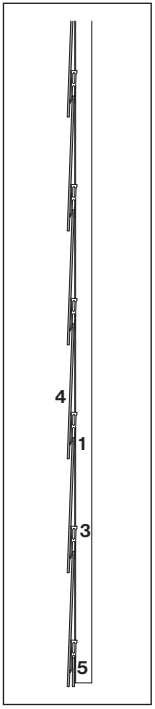
Main section
Facade base

Clinar Clip lapped cladding 6 mm 1200×360 mm M, joint ½ offset, viewing height 300 mm



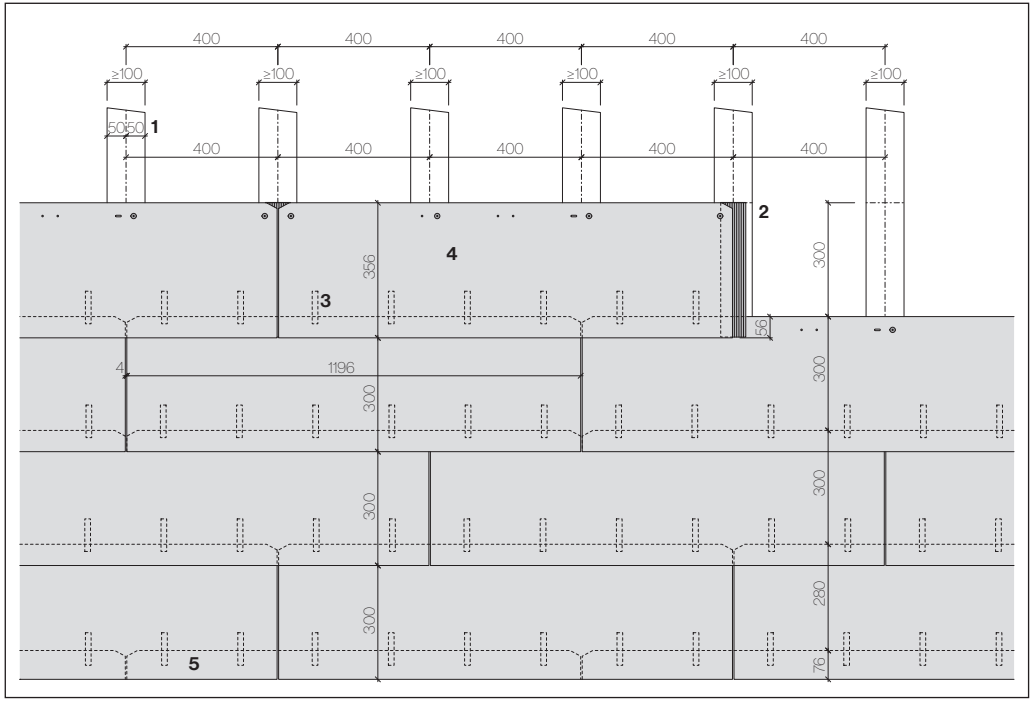
Mounting: 3 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile, ≥ 100 mm, blank
2 Aluminum joint sheets, ribbed, black, 66×352 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×360 mm, M
5 Clinar Clip starter, 1200×76 mm, M



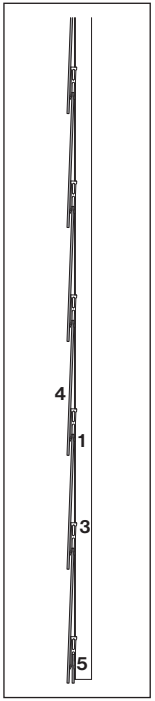
Main section
Facade base

Clinar Clip lapped cladding 6 mm 1200×360 mm M, joint ⅓ offset, viewing height 300 mm



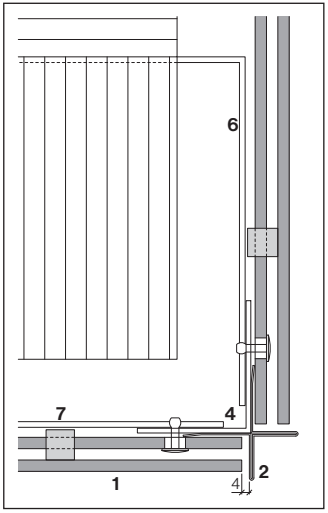
Mounting: 4 rivets 4.0×18-K15 mm
Horizontal overlap 51 to 76 mm

1 Vertical support profile, ≥ 100 mm, blank
2 Aluminum joint sheets, ribbed, black, 66×352 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×360 mm, M
5 Clinar Clip starter, 1200×76 mm, M



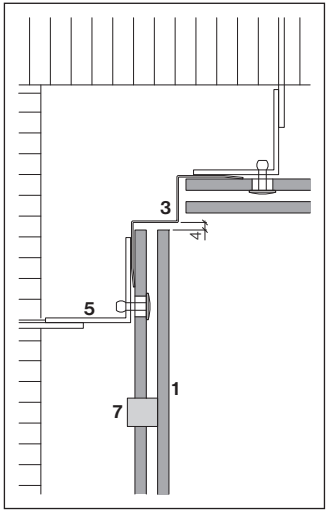
Main section
Facade base

Outer corners



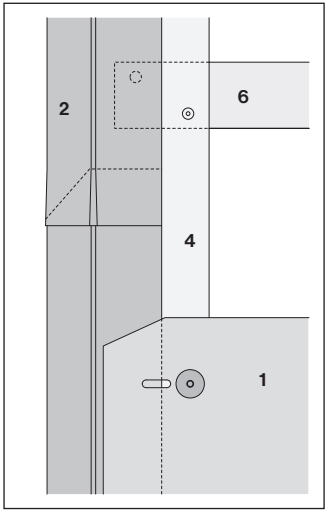
Cross corner profile, seam height 24 mm, aluminum bracket and corner profile bracket.

Inner corners



Inside corner profile, seam height 24 mm.

Trimming the upper corner

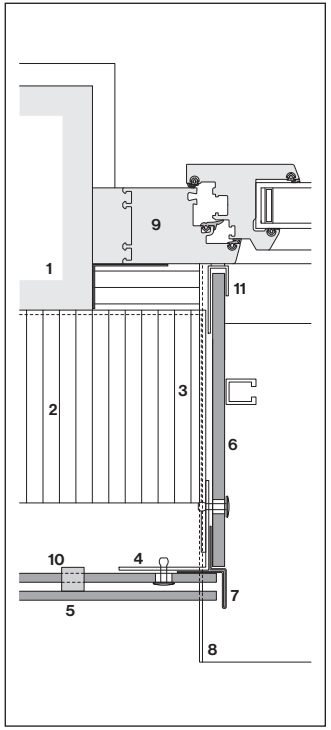


Interior and exterior profiles must be interlocked. The upper corner of the facade panel must be trimmed for all junctions and transitions. Additional attachment holes must be pre-drilled on site, Ø 6.0 mm, for Clinar panels.

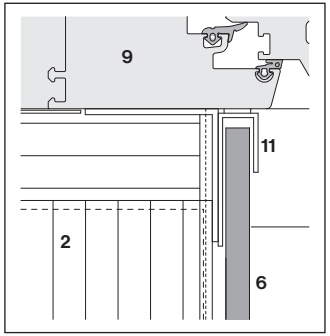
1 Clinar Clip lapped cladding 6 mm
2 Cross corner profile, seam height 24 mm
3 Inside corner profile, seam height 24 mm
4 Aluminum bracket 60×60×2 mm
5 Support profile vertical, 45×45×2mm
6 Corner profile bracket
7 Clip

The cross corner sheets must be at the same height as the vertical support profile.

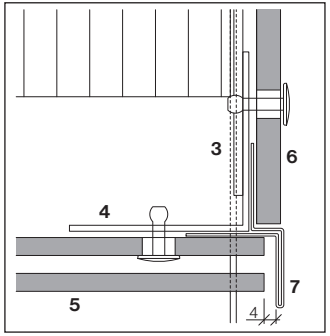
Window reveal



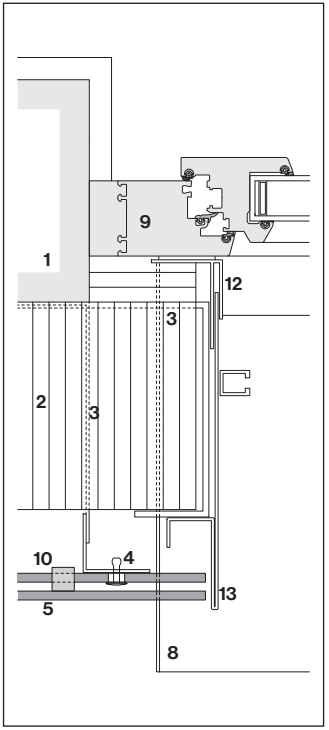
Reveal with Largo



Window connection

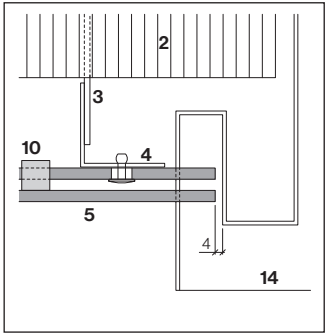


Reveal profile, seam height 24 mm



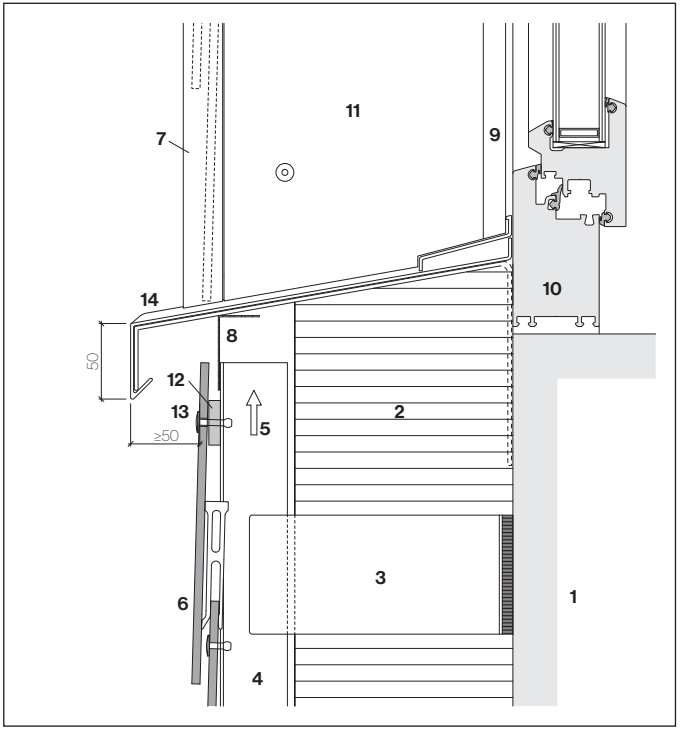
Reveal with hidden frame

1 Support structure, below ground
2 Thermal insulation
3 Corner profile bracket
4 Vertical support profile
5 Clinar Clip lapped cladding 6 mm
6 Reveal panel, Largo 8 mm
7 Reveal profile, seam height 24 mm
8 Window ledge
9 Window frame
10 Clip
11 Joint profile, U-form with sealing
12 Joint profile, F-form with sealing
13 Hidden frame
14 Window casing (frame)

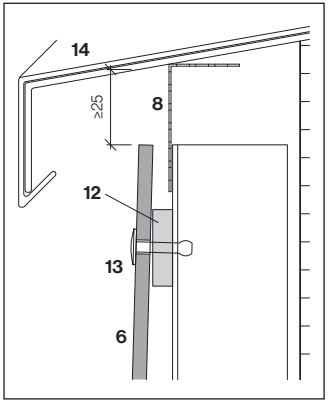


Window casing (frame)

Window ledge



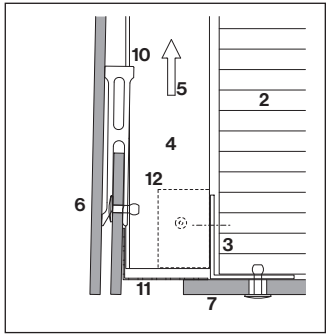
Metal window ledge



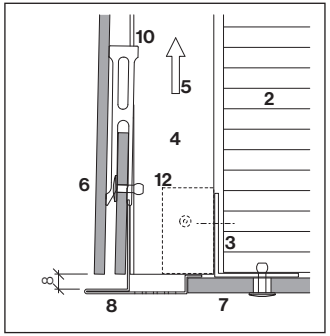
Window ledge connection

1 Support structure, below ground
2 Thermal insulation
3 Bracket
4 Vertical support profile
5 Rear ventilation
6 Clinar Clip lapped cladding 6 mm
7 Reveal profile, seam height 24 mm
8 Ventilation profile
9 Joint profile with sealing
10 Window frame
11 Reveal panel Largo 8 mm
12 Rafter support
13 Facade rivets, colored
14 Window ledge

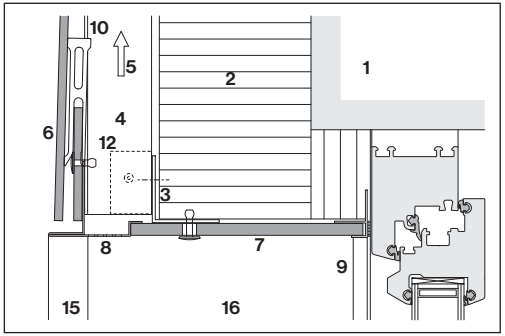
Window lintel



Facade panel, overhanging

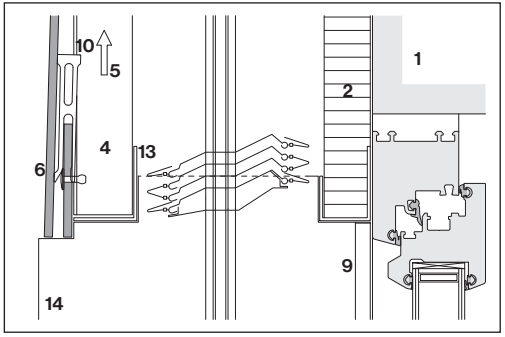


Lintel edge with profile connection



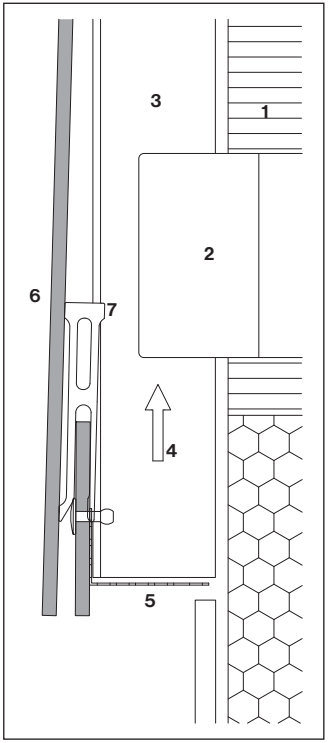
Window lintel with Largo 8 mm

1 Support structure, below ground
2 Thermal insulation
3 Horizontal batten
4 Vertical support profile
5 Rear ventilation
6 Clinar Clip lapped cladding 6 mm
7 Support panel, Largo 8 mm
8 Lintel profile, seam height 24 mm
9 Joint profile with sealing
10 Clip
11 Ventilation profile
12 Reinforcement profile
13 Reinforcement profile
14 Hidden frame
15 Reveal profile, seam height 24 mm
16 Reveal panel, Largo 8 mm



Window lintel with shutters

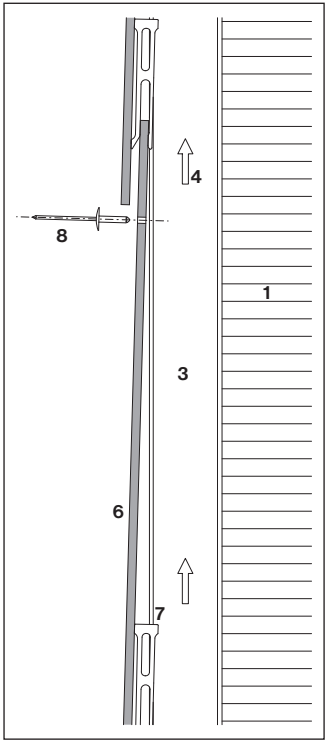
Facade base



1 Thermal insulation
2 Bracket
3 Vertical support profile
4 Rear ventilation
5 Ventilation profile
6 Clinar Clip lapped cladding 6 mm
7 Clip
8 Colored facade rivet

Aluminum supports

Scaffolding anchors



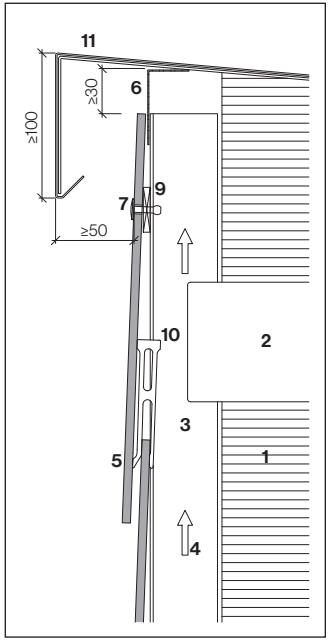
Visible panel attachment with scaffolding anchors

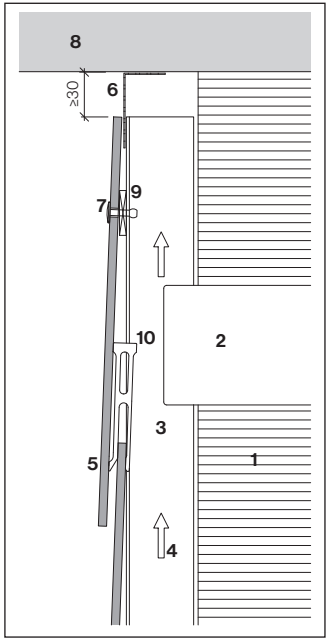
Position scaffolding anchors below the window ledge whenever possible. This allows the missing panels to be mounted when the scaffold is disassembled. If the scaffolding anchors are within the facade surface, the panels are inserted later and are visibly attached using colored rivets 4.0×18-K15 (3 rivets per panel, except with 1/3 staggered joints where 4 rivets are used). If the horizontal overlap is too great, the panels are trimmed accordingly (min. overlap of 51 mm).

- The Clinar 6 mm lapped clad - ding is attached directly into the vertical support profile using fixed and sliding points.

For information on drilling the attachment holes, see Page 29

Roof edge and soffit





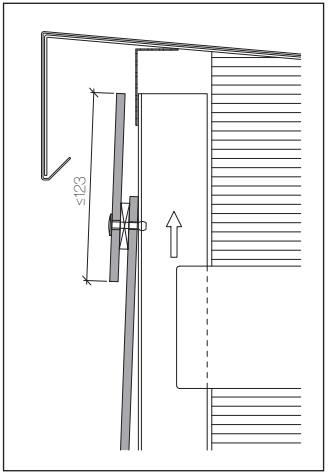
Roof edge

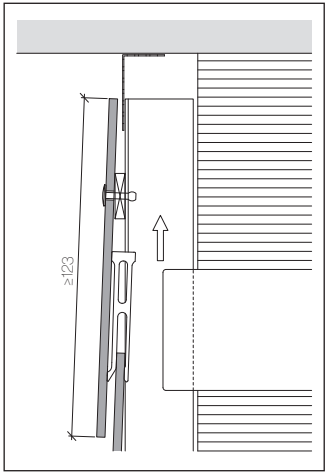
1 Thermal insulation
2 Bracket
3 Vertical support profile
4 Rear ventilation
5 Clinar Clip lapped cladding 6 mm
6 Ventilation profile

Connecting to the soffit

7 Facade rivet, colored
8 Soffit
9 Rafter support
10 Clip
11 Roof capping

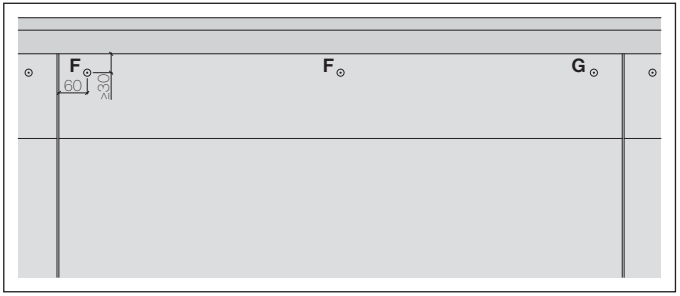
Upper end panels



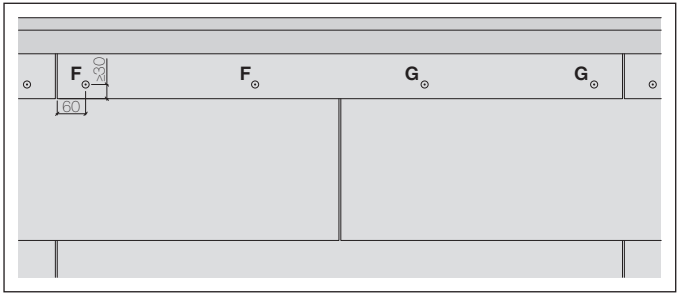


Attach upper end panels that are narrower than 123 mm using rivets, without a clip and with a 6 mm spacer panel as an intermediate layer on the lower panel. Use 4 rivets 4.0×30-K15 mm (drill hole Ø 4.1 mm) (for staggered joints, note the fixed and sliding points on page 29).

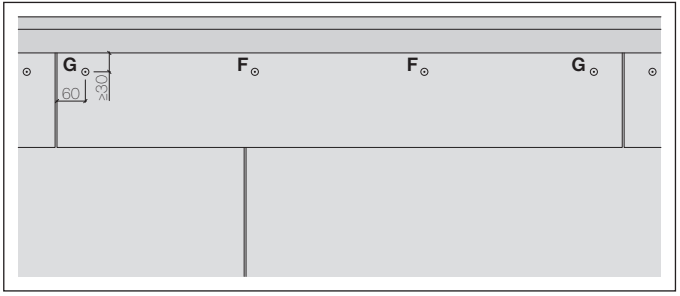
Panel Mounting under horizontal facades



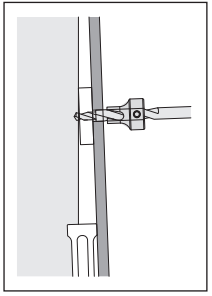
Clinar Clip lapped cladding 6 mm continuous, attach with 3 rivets.



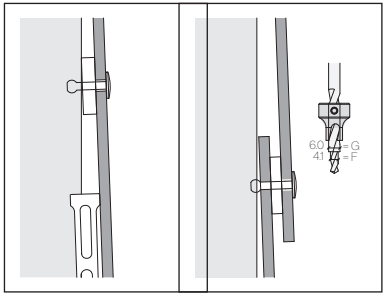
Clinar Clip lapped cladding 6 mm ½ overlap, attach with 4 rivets.



Clinar Clip lapped cladding 6 mm ⅓ overlap, attach with 4 rivets.



Sliding point drill hole, align depth stop to 6 mm panel thickness.

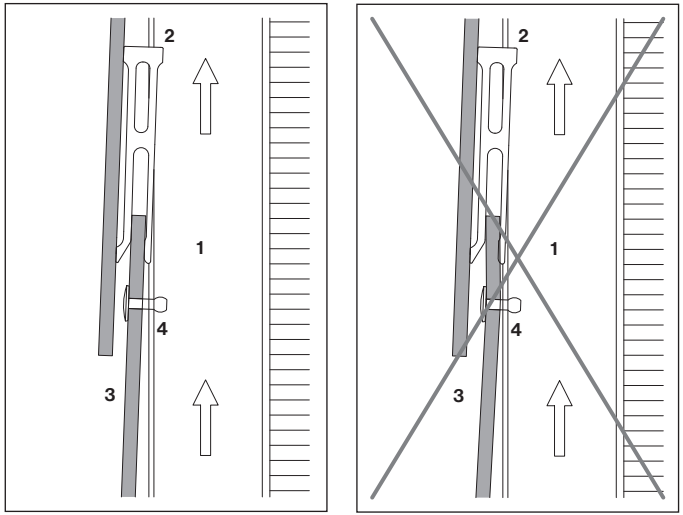


Sliding point attachment with rivet, rivet head Ø15.0 mm, 4.0×30-K15 mm

F= fixed point attachment with no stepped hole Ø4.1 mm (continuous)
G= sliding point attachment with stepped hole Ø6.0×4.1 mm (top panel)

The fixed point must always be positioned on the same lower panel.

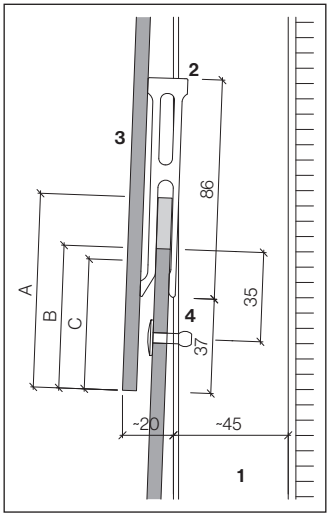
Mounting on aluminum supports



Restraint-free mounting

Mounting on light aluminum supports requires fixed and sliding points. It can be done without restraints using AlMg rivets 4.0×18-K15 mm. The Clinar Clip modules are fitted on site using special perforations for mounting on aluminum.

Overlap

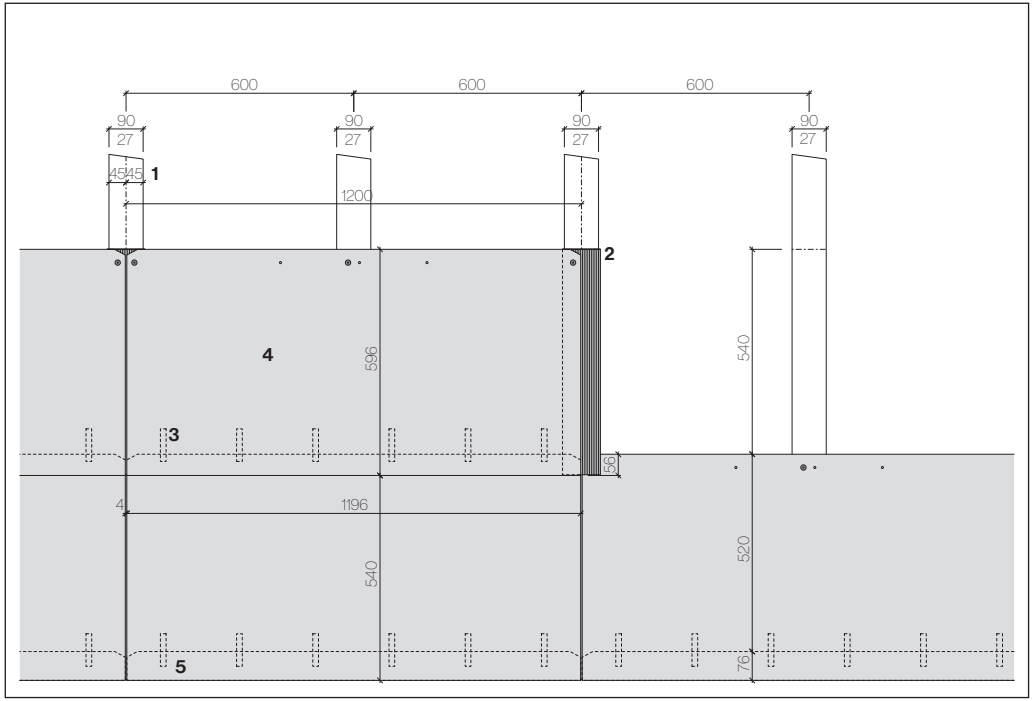


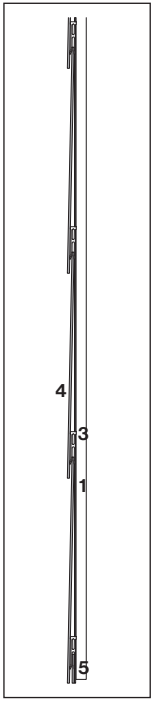
1 Vertical support profile
2 Clip
3 Clinar Clip lapped cladding 6 mm
4 Facade rivets
A Max. overlap 76 mm
B Standard overlap 56 mm
C Min. overlap 51 mm

Timber battens overview

Format type				Mounting			Joint sealing	Battens mm		
				Screws T20 4.8×30 mm			Joint sheets	27×90	27×90	27×90
Format	Visual format	Panel weight		continuous	½ offset	⅓ offset	continuous offset	continuous	½ offset	⅓ offset
Width×Height			pcs./ m²	pcs./panel			pcs./m²	m/m²		
1200×600	1200×540	1196×596	1.55	3	3	4	1.55	1.67	1.67	2.50
1200×460	1200×400	1196×456	2.08	3	3	4	2.08	1.67	1.67	2.50
1200×360	1200×300	1196×356	2.78	3	3	4	2.78	1.67	1.67	2.50

Clinar Clip lapped cladding 6 mm 1200×600 mm W, continuous joint, viewing height 540 mm



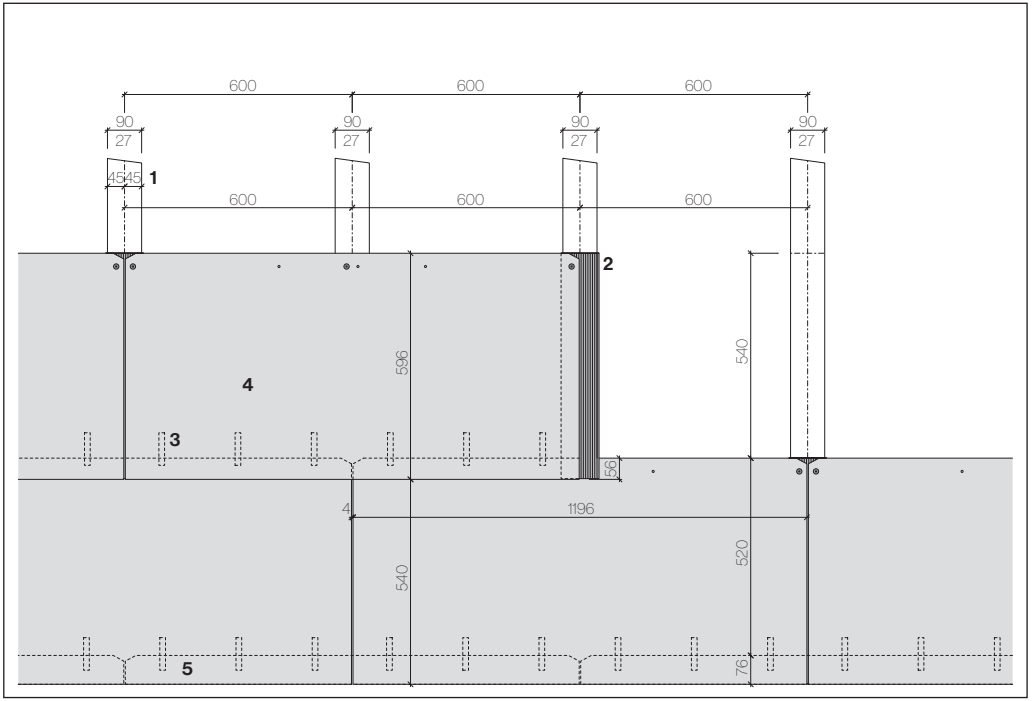


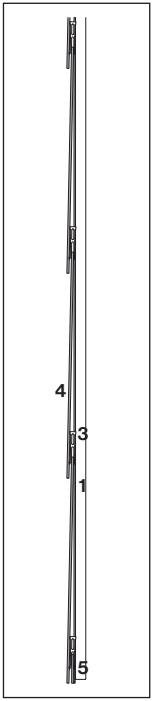
Attachment: 3 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheet, black, 100×592 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×600 mm, W
5 Clinar Clip starter, 1200×76 mm, W

Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×600 mm W, joint ½ offset, viewing height 540 mm



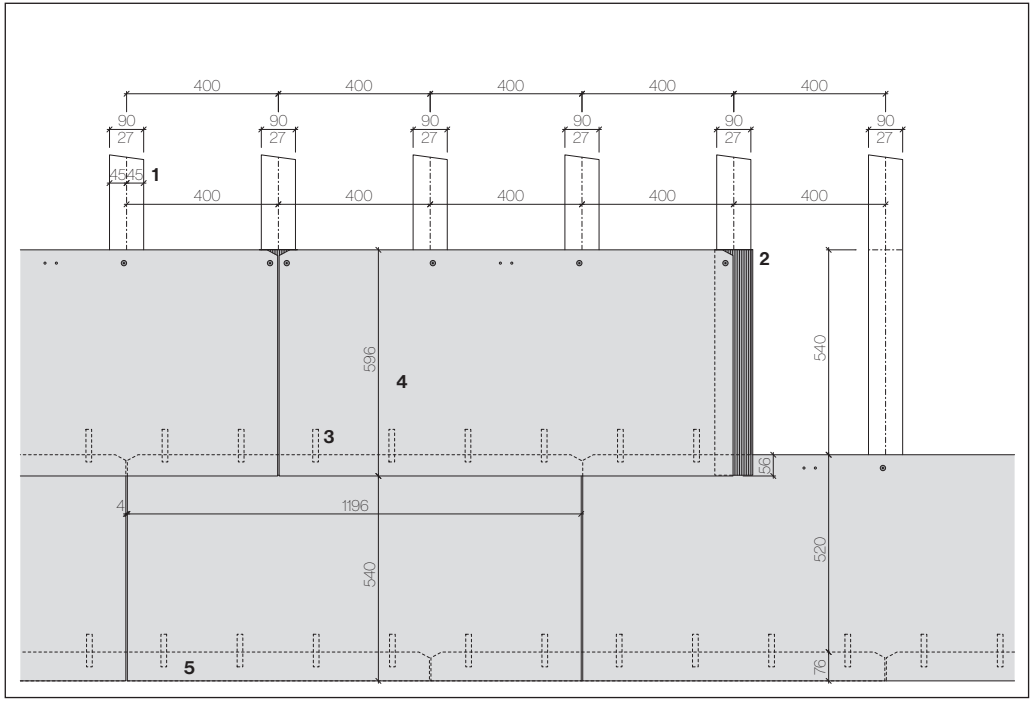


Attachment: 3 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 100×592 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×600 mm, W
5 Clinar Clip starter, 1200×76 mm, W

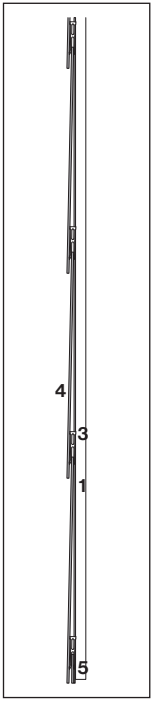
Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×600 mm W, joint ⅓ offset, viewing height 540 mm



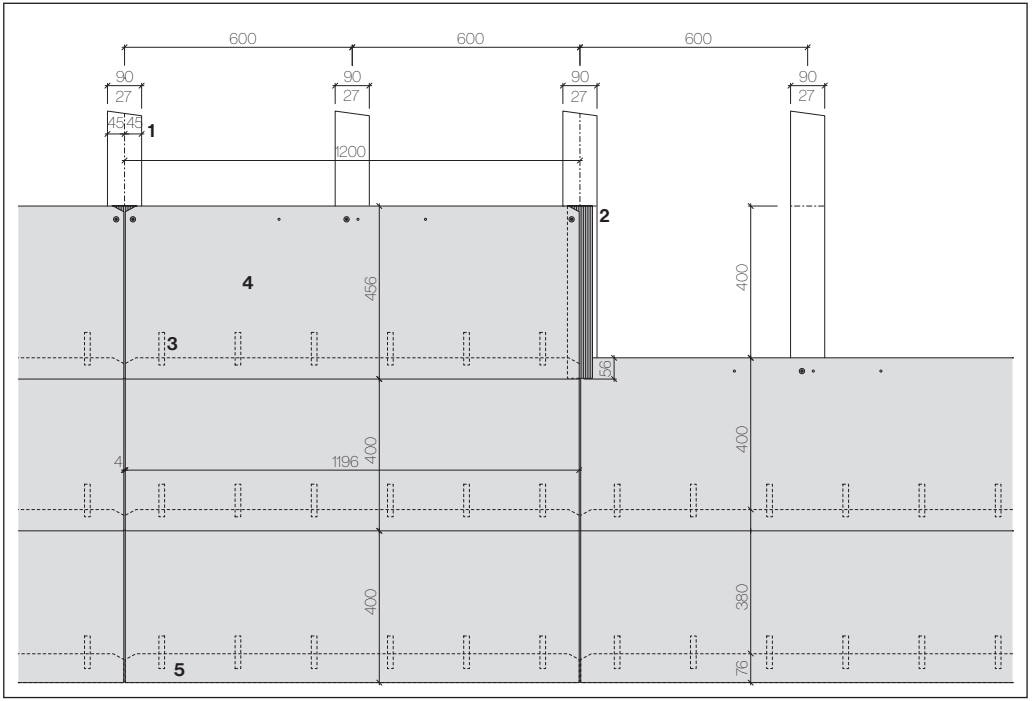
Attachment: 4 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

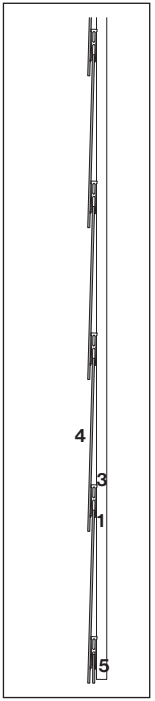
1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 100×592 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×600 mm, W
5 Clinar Clip starter, 1200×76 mm, W



Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×460 mm W, continuous joint, viewing height 400 mm



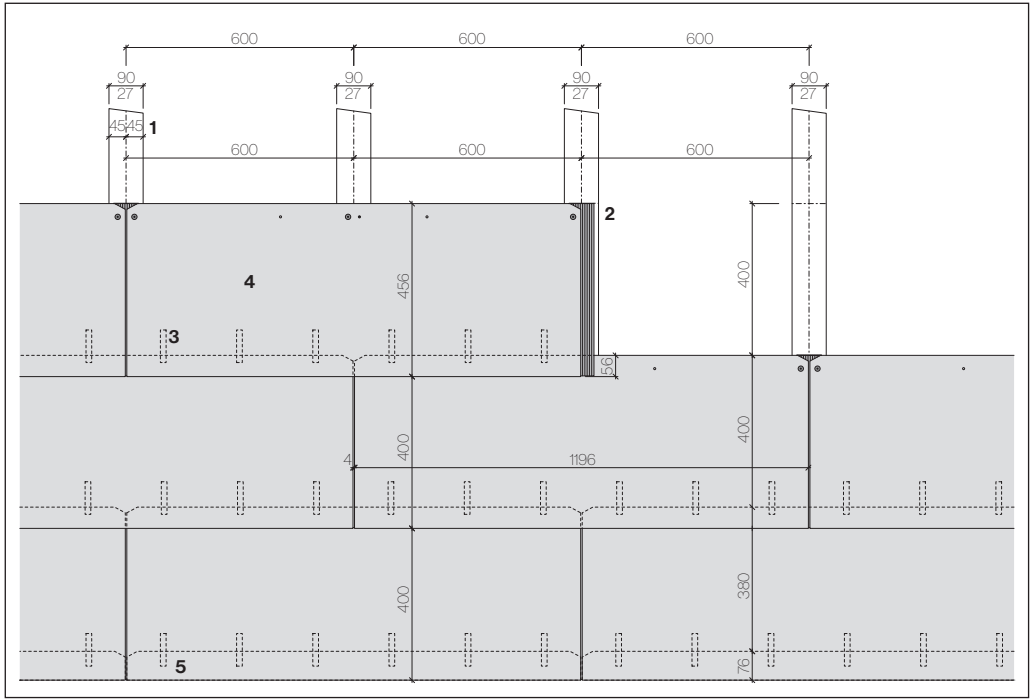


Attachment: 3 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 66×452 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×460 mm, W
5 Clinar Clip starter, 1200×76 mm, W

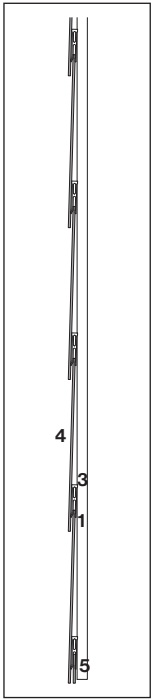
Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×460 mm W, joint ½ offset, viewing height 400 m



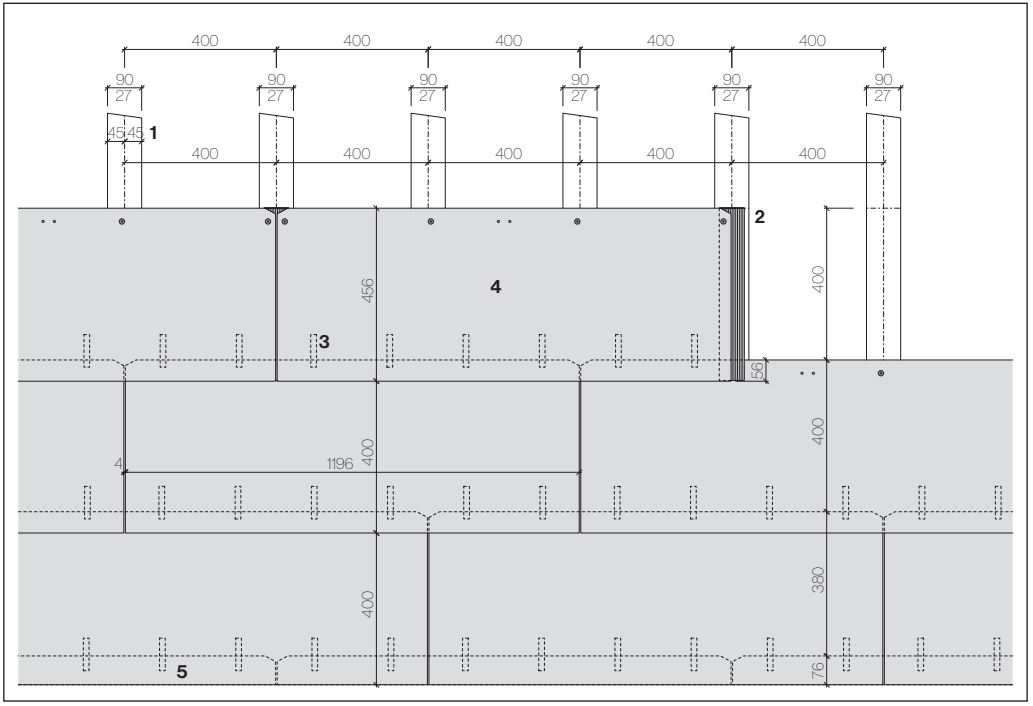
Attachment: 3 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 66×452 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×460 mm, W
5 Clinar Clip starter, 1200×76 mm, W



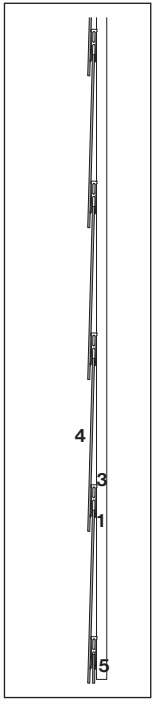
Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×460 mm W, joint ⅓ offset, viewing height 400 mm



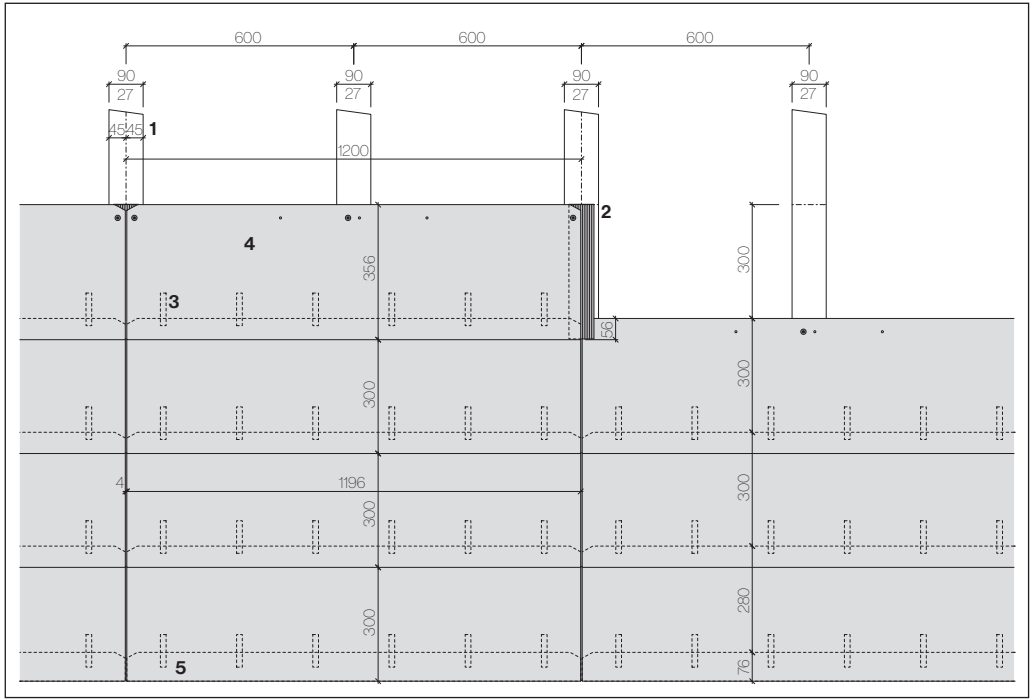
Attachment: 4 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 66×452 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×460 mm, W
5 Clinar Clip starter, 1200×76 mm, W



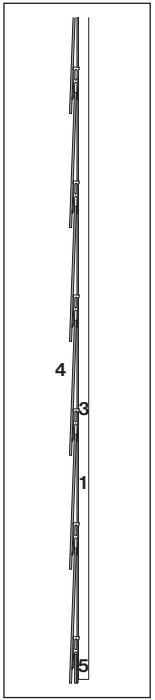
Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×360 mm W, continuous joint, viewing height 300 mm



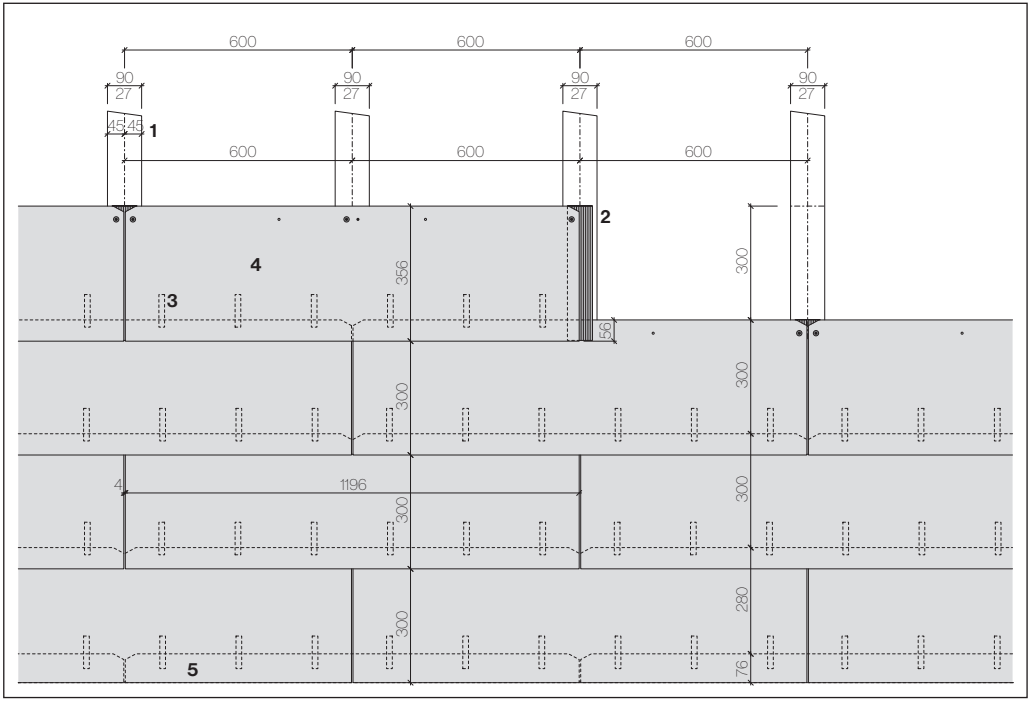
Attachment: 3 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

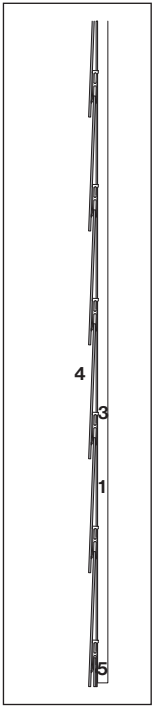
1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 66×352 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×360 mm, W
5 Clinar Clip starter, 1200×76 mm, W



Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×360 mm W, joint ½ offset, viewing height 300 mm



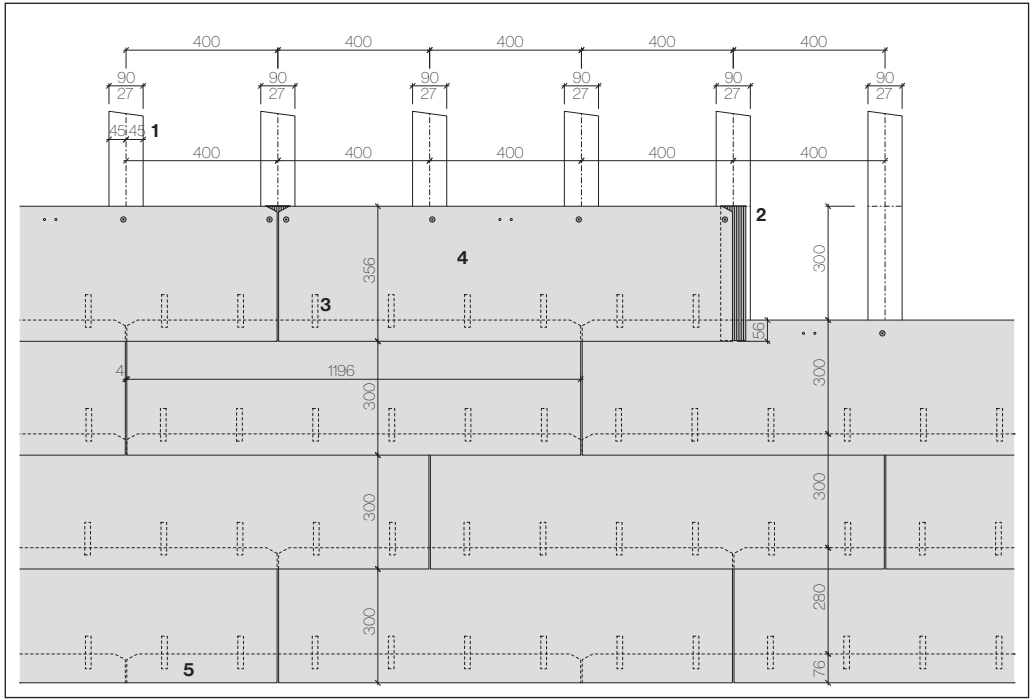


Attachment: 3 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 66×352 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×360 mm, W
5 Clinar Clip starter, 1200×76 mm, W

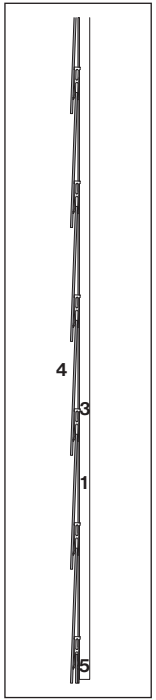
Main cut
Facade base

Clinar Clip lapped cladding 6 mm 1200×360 mm W, joint ⅓ offset, viewing height 300 mm



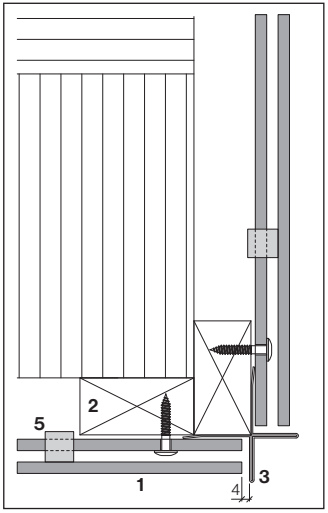
Attachment: 4 screws 4.8×30 mm, blank
Horizontal overlap 51 to 76 mm

1 Support panel, thickness gauged, 27×90 mm
2 Aluminum joint sheets, ribbed, black, 66×352 mm
3 Clip
4 Clinar Clip lapped cladding, 1200×360 mm, W
5 Clinar Clip starter, 1200×76 mm, W



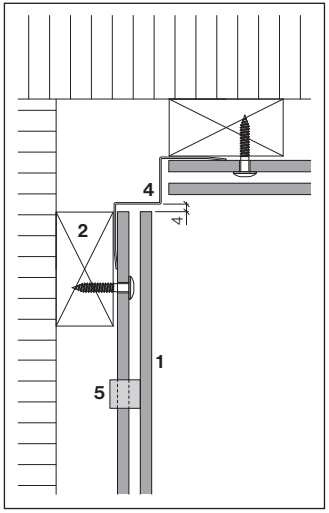
Main cut
Facade base

Exterior corners



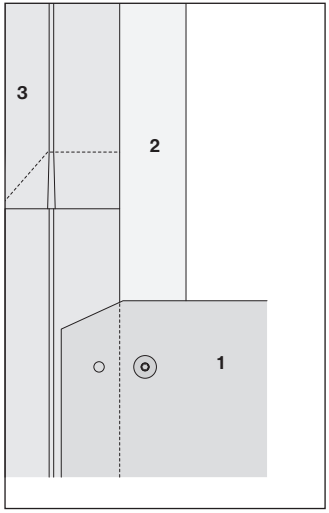
Cross corner profile, seam height 24 mm

Interior corners



Interior corner profile, seam height 24 mm

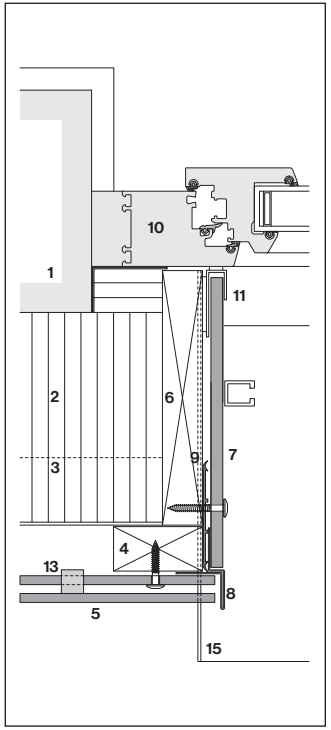
trimming corners



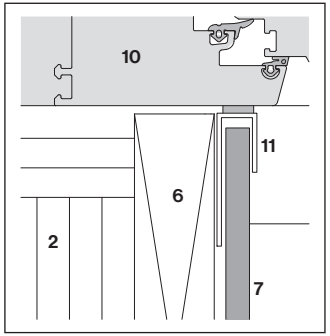
Interior and exterior profiles must be interlocked. The upper corner of the facade panel must be trimmed for all junctions and transitions. Additional attachment holes must be pre-drilled on site, Ø 5.5 mm, for Clinar panels.

1 Clinar Clip lapped cladding 6 mm
2 Vertical batten, 27×60 mm
3 Cross corner profile, seam height 24 mm
4 Interior corner profile, seam height 24 mm
5 Clip

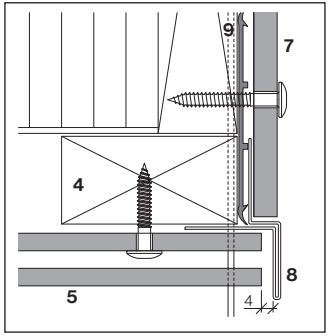
Window reveal



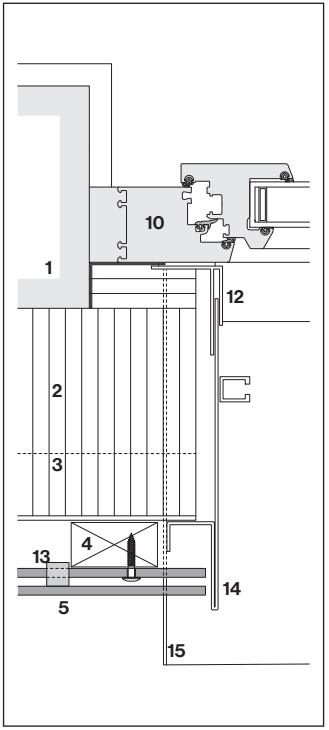
Reveal with Largo



Window connection

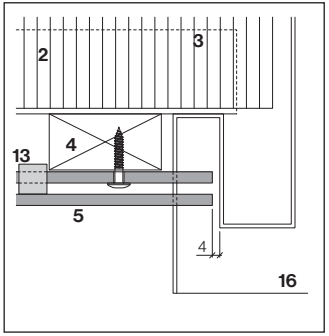


Reveal profile, seam height 24 mm



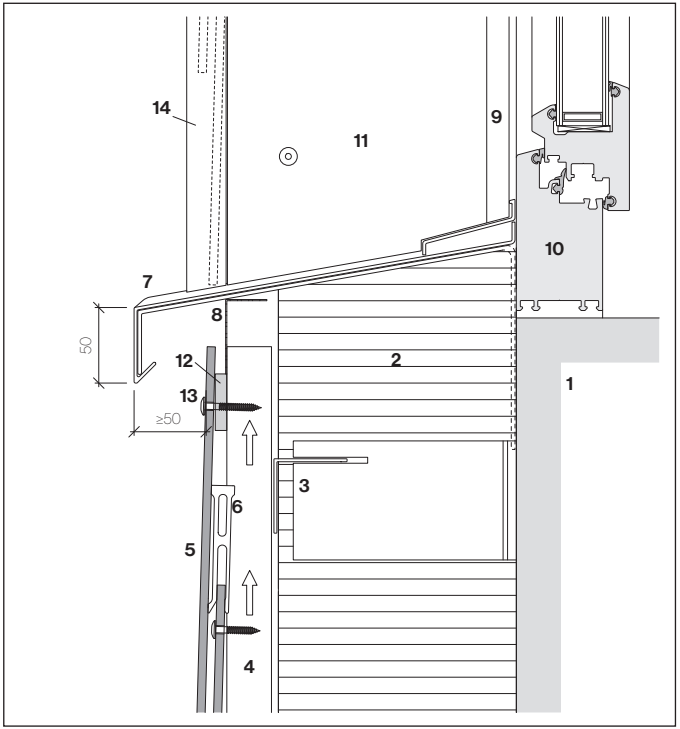
reveal with hidden frame

1 Support structure, below ground
2 Thermal insulation
3 Support profile, horizontal
4 Batten 27×60 mm
5 Clinar Clip cladding panels 6 mm
6 Reveal panel
7 Reveal panel Largo 8 mm
8 Reveal profile, seam height 24 mm
9 EPDM rubber band 60 mm
10 Window frame
11 Connection profile, U-form with sealing
12 Connection profile, F-form with sealing
13 Clip
14 Hidden frame
15 Window ledge
16 Window casing



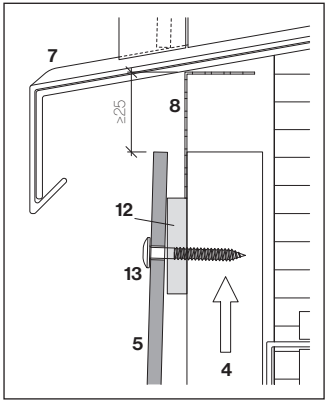
window casing (frame)

Window reveals



Metal window ledge

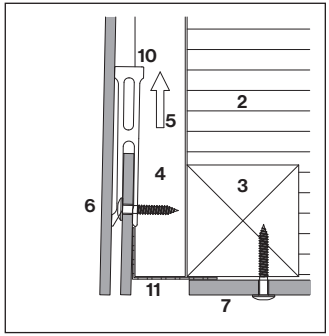
Window ledge



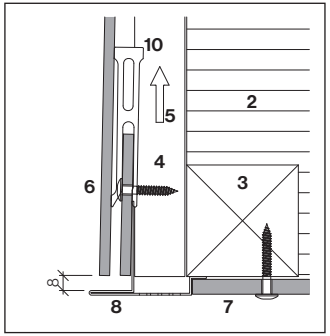
Window ledge connection

1 Support structure, below ground
2 Thermal insulation
3 Horizontal support profile
4 Vertical batten
5 Clinar Clip lapped cladding 6 mm
6 Clip
7 Window ledge
8 Ventilation profile
9 Connection profile with sealing
10 Window frame
11 Reveal panel Largo
12 Rafter support
13 Facade screw, colored
14 Reveal profile, seam height 24 mm

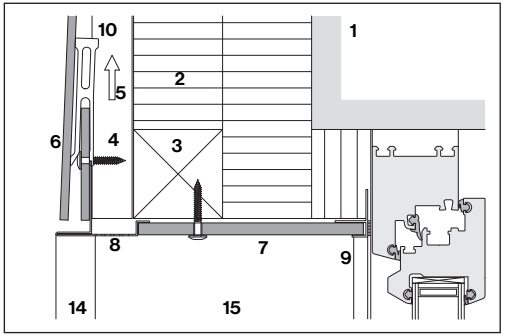
Window lintel



Facade panel, overhanging

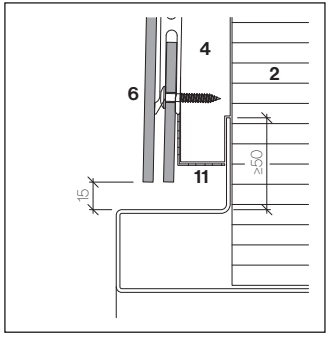


Lintel edge with profile connection

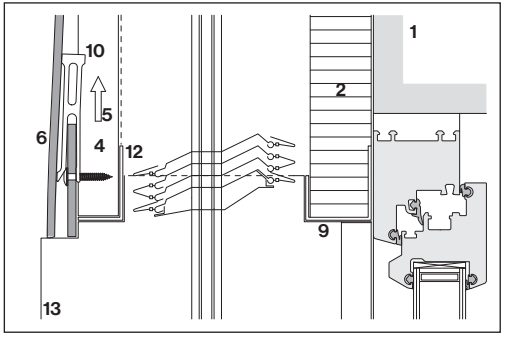


Window lintel with Largo 8 mm

1 Support structure, below ground
2 Thermal insulation
3 Horizontal batten
4 Vertical batten
5 Rear ventilation
6 Clinar Clip lapped cladding 6 mm
7 Support panel, Largo 8 mm
8 Support profile, seam height 24 mm
9 Connection profile with sealing
10 Clip
11 Ventilation profile
12 Reinforcement profile
13 Hidden frame
14 . Reveal profile, seam height 24 mm
15 Reveal panel, Largo 8 mm

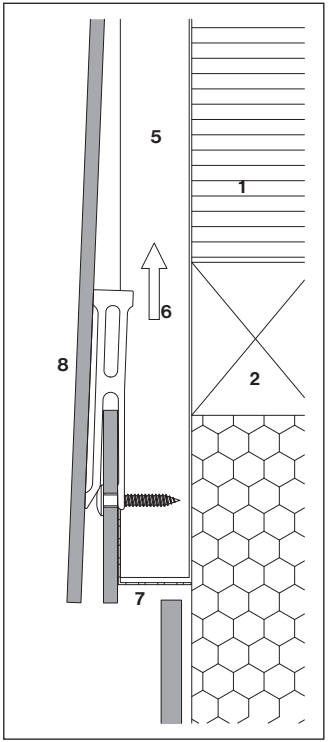


Window casing

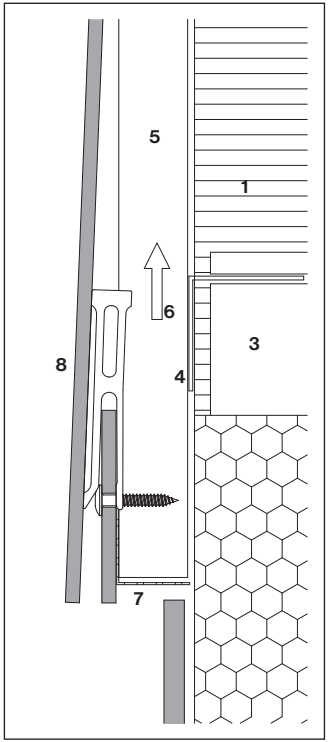


Window lintel with shutters

Facade base

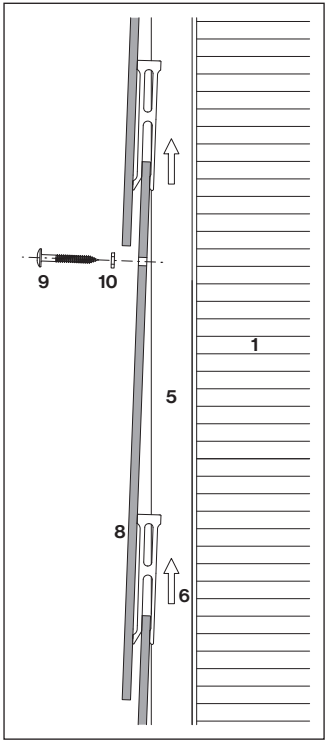


Timber/timber battens



Timber/aluminum supports

Scaffolding anchors



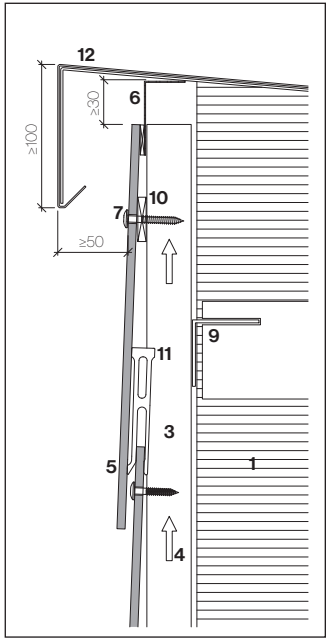
Visible panel attachment for scaffolding anchor

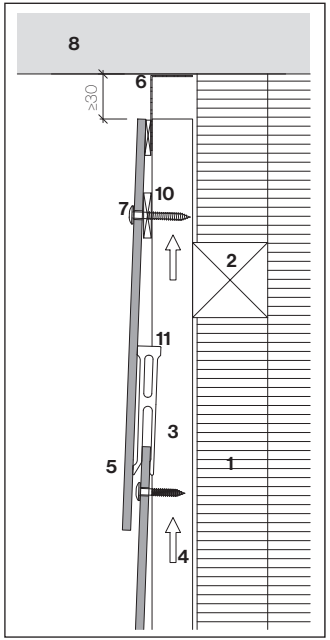
Position below the window ledge as far as possible. This allows the missing panels to be mounted when the scaffold is disassembled. If the scaffolding anchors are within the facade surface, the panels are inserted later and are visibly attached using colored screws, 4.8×38 mm, mounted directly into the vertical battens (minimum of 3 screws per panel, except with ⅓ staggered joints where 4 screws are used). If the horizontal overlap is too large, the panels are trimmed accordingly (min. overlap of 51 mm).

- The Clinar panels are pre-drilled with Ø 5.5 mm holes.

1 Thermal insulation
2 Horizontal batten
3 Bracket with Thermostopp
4 Horizontal support profile
5 Vertical batten
6 Rear ventilation
7 Ventilation profile
8 Clinar Clip lapped cladding 6 mm
9 Screws 4.8×38 mm, colored
10 Screw sealing washer

Roof edge and soffit





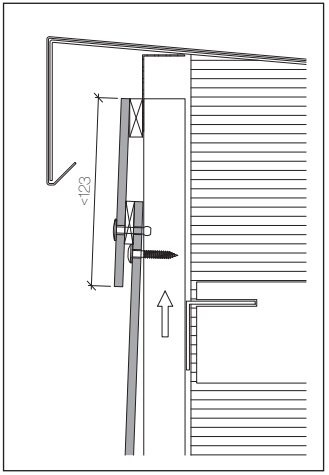
Roof edge

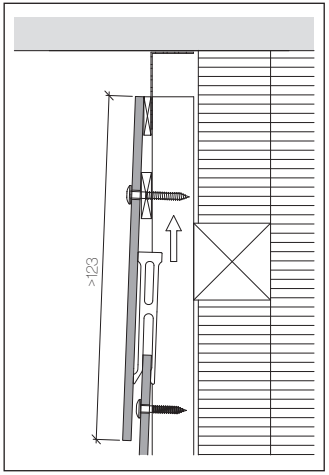
1 Thermal insulation
2 Horizontal batten
3 Vertical batten
4 Rear ventilation
5 Clinar Clip lapped cladding 6 mm
6 Ventilation profile

Connecting to the soffit

7 Facade screw, colored
8 Soffit
9 Horizontal support profile
10 Rafter support
11 Clip
12 Roof capping

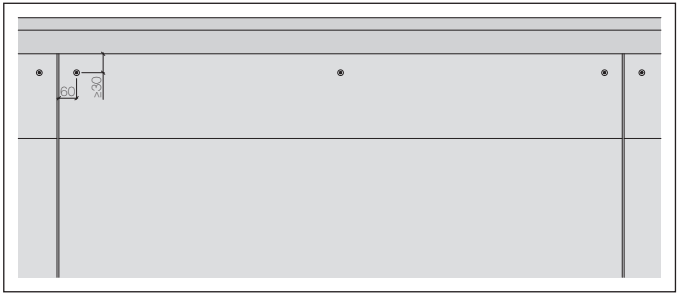
Upper end panels



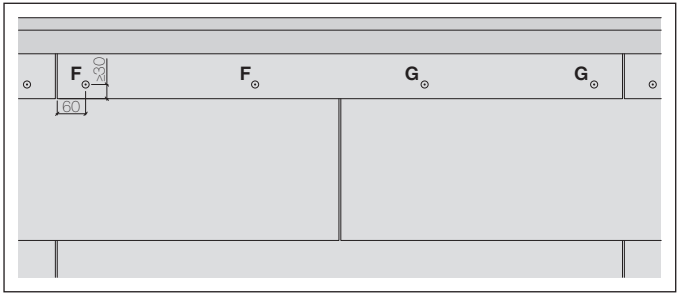


Attach upper end panels that are narrower than 123 mm using rivets, without a clip and with a 6 mm spacer panel as an intermediate layer on the lower panel. Use 4 rivets 4.0×30-K15 mm per panel (drill hole Ø 4.1 mm) (for staggered joints, note the fixed and sliding points on page 47).

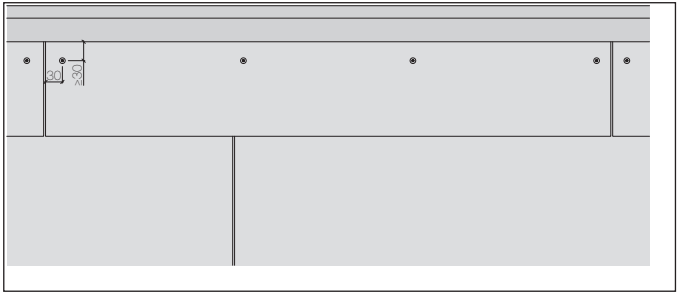
Mounting panels under horizontal facade connection



Clinar Clip lapped cladding 6 mm continuous or ½ offset, attach with 3 screws for panel heights ≥123 mm.

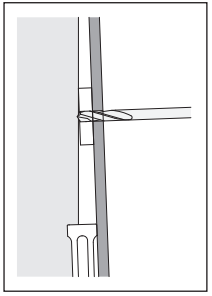


Clinar Clip lapped cladding 6 mm ½ offset, , attach with 4 rivets for panel heights ≤123 mm.

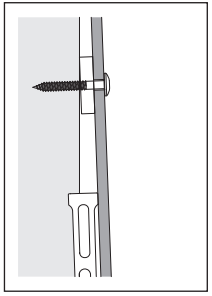


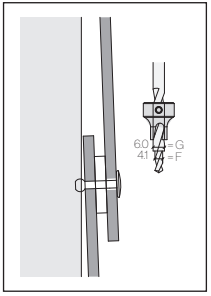
Clinar Clip lapped cladding 6 mm ⅓ offset, attach with 4 screws.

Fixed points must always be positioned on the same lower panel.



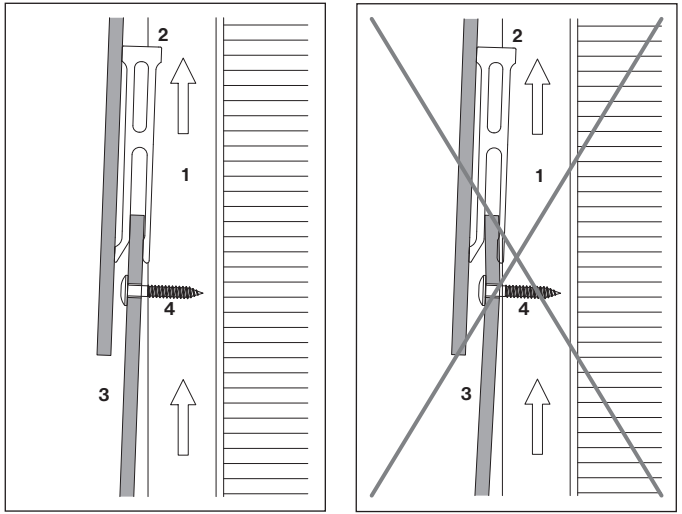
Attachment holes for Clinar Clip must be pre-drilled at Ø5.5 mm. Attach using colored screws 4.8×38 mm.





Sliding point attachment with rivet, rivet head Ø15.0 mm, 4.0×30-K15 mm.

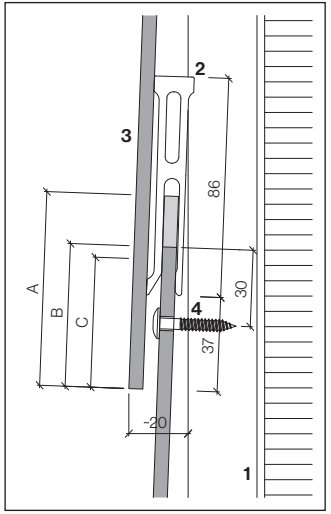
Mounting on timber



Restraint-free mounting

Mounting on timber is done without restraints using a depth stop. Each panel is attached using at least 3 screws 4.8×30 mm.

Overlap



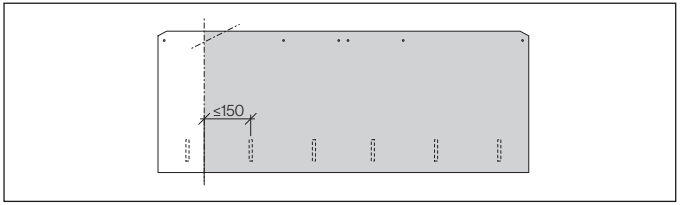
1 Vertical batten
2 Clip
3 Clinar Clip lapped cladding 6 mm
4 Facade screw
A Max. overlap 76 mm
B Standard overlap 56 mm
C Min. overlap 51 mm

Horizontal cuts
1. Panels with pre-assembled clips are always trimmed at the top edge of the panel.

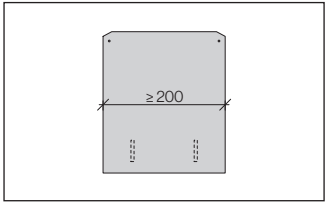
2. If the lower edge of the panel must be cut (e.g. for a window lintel), additional self-adhesive clips must be attached within the array of original clips for the remaining panel height (more than 300 mm). A starter piece is required. This is the only exception when more than one additional clip per panel is permitted.

3. If the remaining panel height is less than 300 mm, the panel must be joined from below accordingly.

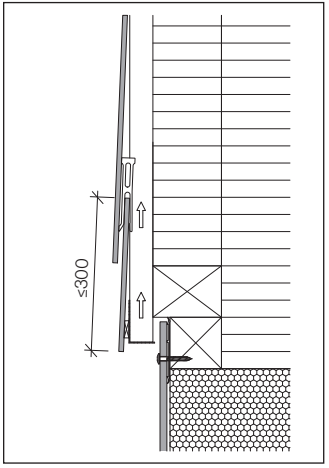
Vertical cuts
4.+ 5. If panels need to be trimmed laterally, the lateral panel overlap from the last clip must be ≤150 mm. If the gap is ≥150 mm, an additional self-adhesive clip must be attached. Panels with small remaining widths must be attached with a minimum of 2 clips. Panel width must be ≥200 mm.

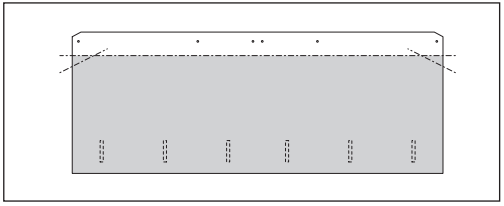


4

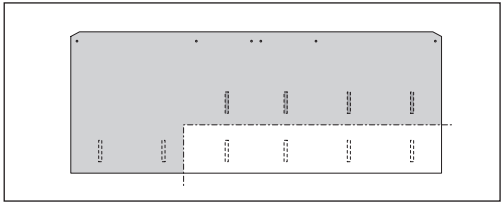


5





1



2

3

Connection to a window ledge or roof edge

6. In order to be able to angle in the top Clinar Clip panel when connecting to a window, the following opening must be created between the upper panel and the joint:

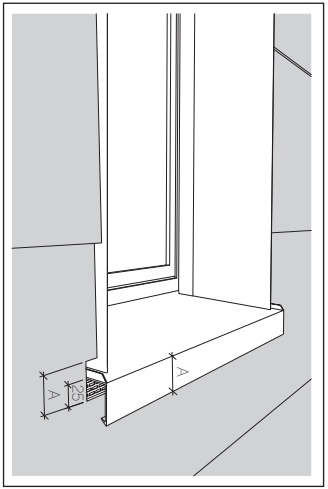
Angling in is possible with a standard overlap of 56 mm and an air outlet of 25 mm.

7. With an overlap of >60 mm, the air outlet is 30 mm. The second to last panel must be trimmed accordingly.

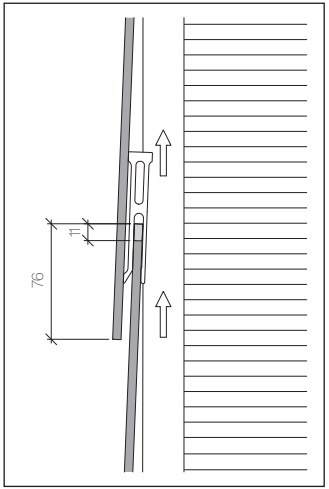
Example: Overlap is 76 mm, air outlet is 30 mm.

In order to be able to angle in the final panel, the second to last panel must be trimmed by 11 mm.

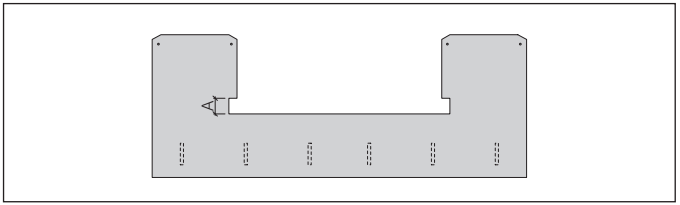
8. If a Clinar Clip panel extends across the entire width of the window, the lateral cuts must be increased accordingly to angle in the panel at the window ledge. This is approximately equal to the level of the window ledge [A].



6



7



8

Method
- Mount the support profile or batten vertically on the substructure ensuring proper alignment
- Close off levels
- Determine lateral arrangement using chalk lines
- Clinar Clip lapped cladding, 6 mm, with continuous seams is specified for the lateral arrangement with a aluminum supports with an aluminum edging profile.

Lateral arrangement
All claddings are fitted with a 4 mm lateral seam.

Vertical arrangement
To ensure that the horizontal lines of the Clinar Clip panels line up on all facades, a horizontal chalk line is needed for each panel row.

.

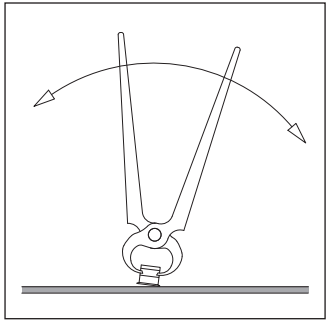
Lateral connections
Connections to other elements (corner profile, window frames etc.), require 4 mm joint widths. The top panel corners are trimmed on the connection side.

Upper connections
The minimum distance between the facade panel and the other component (support profile, window frame etc.): 8 mm.

Sealing
The side panel joints are backed with ribbed aluminum joint sheets (66 or 100 mm width depending on format height).

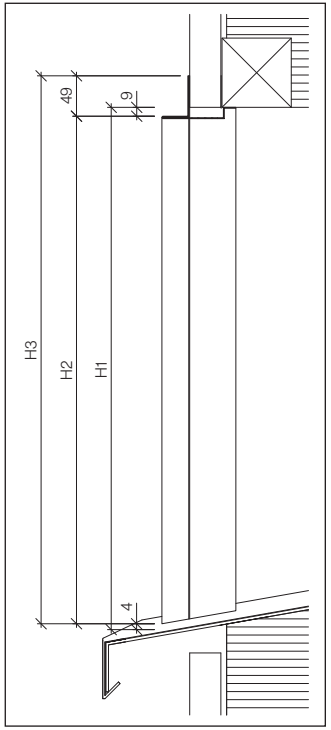
Minimum width of edge panels
Panel height 600 mm = 200 mm
Panel height 460 mm = 200 mm
Panel height 360 mm = 200 mm

Removing a clip
In exceptional instances, if a clip must be removed, grip carefully with pliers and carefully move left and right a few times.

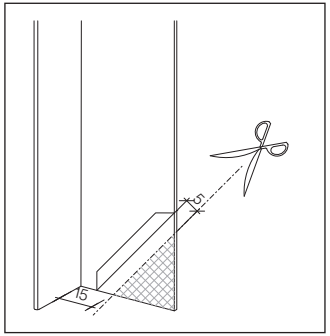


Attaching an additional clip
- The back of the Clinar Clip panel must be dry and free of dust, oil and grease
- Pre-treat according to the package directions
- Remove the cover band and press the clip on tightly
- If the temperature is below +5 °C, panels and clips must be heated (hot-air gun)
- Use a maximum of one additional clip per panel

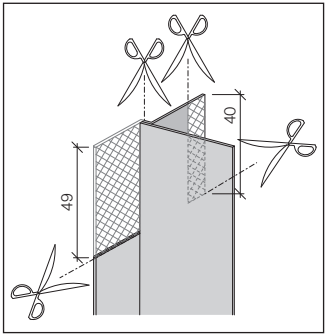
Window connection profiles



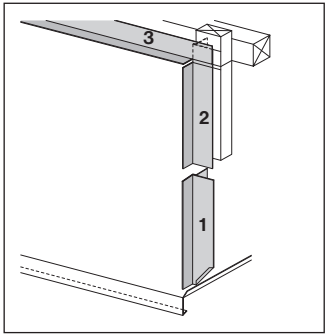
1



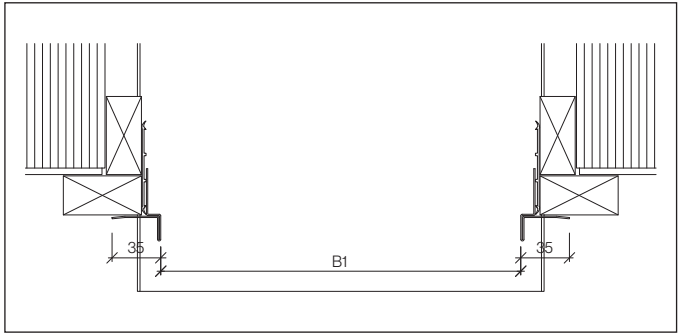
2



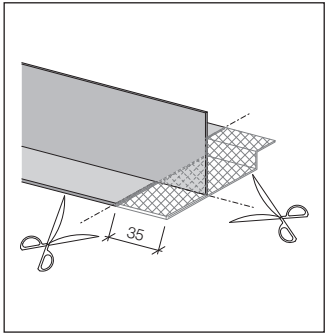
3



4



5

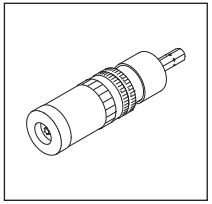


6

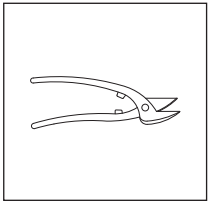
Window connection profiles

1 Determine the height of the reveal profile
Mass H1 = reveal height
Mass H2 = H1 - 9 mm - 4 mm
Mass H3 = H2 + 49 mm
2 Cut the reveal profile bottom
3 Reveal profile top (cut with a hacksaw)
4 Profile arrangement
5 Determine the support profile mount the reveal profile Mass B1 + 70 mm (2×35 mm AK-reveal sheet)
6 Lateral support profile (cut with a hacksaw)

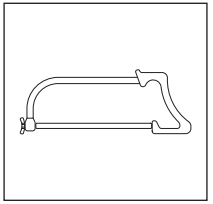
Tools



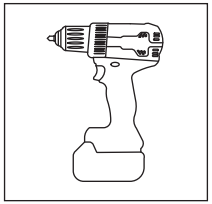
Depth stop (mandatory for timber sub-frame)



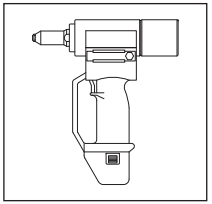
Metal shears



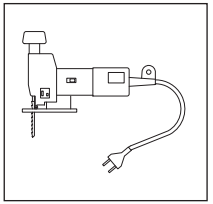
Hacksaw



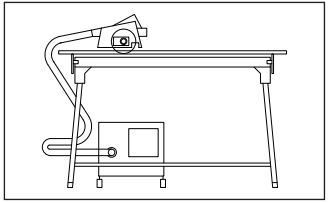
Drill battery



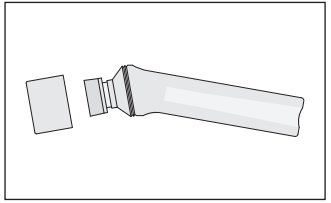
Rivet gun



Jig saw

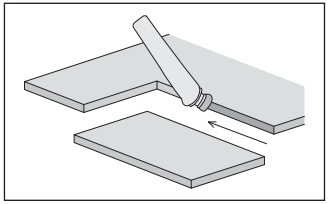


Circular hand saw with guide rail and dust extraction



LUKO hand applicator

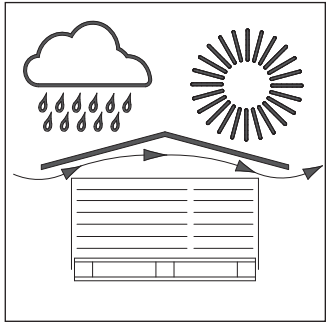
Sealer to cut edges



All cut edges must be sealed with impregnation liquid LUKO. Immediatly wipe Luko off the face of the material.

On site storage
Pallets must be stored under cover i.e. out of rainfall and direct sunlight. Where this is not possible, store under tarp. Ingress of water into stacked panels will cause permanent staining to panel surface. Excess heat to stacked panels can cause damage to panel surface. Overseas pallets can be stacked several above one another.

Provisional roofing or tarp covers are to be used in a manner that allows cross ventilation as shown.



Storage on site

Instructions
Follow the relevant accident prevention measures to avoid injuries and damage to property.

Risk of injury during transport and installation
All measures must be taken to avoid risk of injury, damage to property and consequential damage during transport, storage and installation. Appropriate work clothes, work gloves and safety shoes must be worn. Panels bundled onto pallets may be moved only if the panels are secured with safety devices.

Use of accessories
Use and correct installation of original Swisspearl accessories ensures perfect functionality and is a prerequisite for any warranty claims.

Working with fiber cement products
If fiber cement panels must be cut on site, use equipment that does not generate fine dust or use devices that extract it.

Consult Swisspearl if questions arise.

Cuts and trims
A hand milling machine with a hard metal blade is suitable for longer, straight cuts on fiber cement. This should be equipped with an industrial vacuum. Guide rails are available in various lengths for precise cuts. Good quality cuts can also be achieved with a table milling machine. A pendulum jig saw with a hard metal blade is suitable for smaller cut outs.

Masking
When masking fiber cement panels for connection work, note that conventional standard masking tapes are generally not UV-resistant. They leave behind adhesive residues after just a short time; these residues cannot be removed without damaging the panels.

We therefore recommend
- for temporary use (1-2 weeks), 3M 2090 blue masking tape

- for longer use (up to 6 months) Super Gold 3M 244 masking tape

Reinigung
When installing Swisspearl facade panels, drilling, cutting and grinding dust, as well as dirt from scaffolding and the surroundings, can get onto the facade. These dirt deposits are made up of coarse, sandy and fine dust particles that also contain lime compounds and are quickly converted into water-insoluble calcium carbonate under the effects of moisture and carbon dioxide. If a dirty facade is cleaned when dry, the coarse and find particles and calcium carbonate can smear the surface, leaving a white veil and scratching the surface of the paint.

For this reason, cleaning a dry Swisspearl facade is not recommended.

Cleaning during installation
Remove drilling and cutting dust immediately after working.

• Dry dust
Best removed with a suction tool or a clean and dry soft cloth or microfiber towel.

• Wet dust
Wet dust can result in stains on the coating. Therefore remove immediately using plenty of water and a sponge. If necessary, use a vinegar-based cleaner.

Final cleaning of calcareous soiling
1. Spray vinegar-based cleaner (9.5%) onto soiled areas using a garden sprayer. Ensure that as little of the cleaning fluid gets in to the ground or groundwater as possible (Caution: Cleaning vinegar must not come into contact with bare metal components).

2. Allow to work for 5-20 minutes but do not allow to dry on!

3. Rinse facade with cold water using a high pressure washer. Working pressure: 40-80 bar. Be sure to test the pressure setting on an inconspicuous area.

4. Heavily soiled areas: Repeat steps 1-3.

5. Dry cladding with a microfiber cloth.

Non-calcareous soiling
Rinse facade with cold water using a high pressure washer. Working pressure 40-80 bar. Be sure to test the pressure setting on an inconspicuous area.

Important!
Do not clean the surface in direct sun light, and always use appropriate safety equipment.

PRINTEDINSWITZERLAND_062020_ENG