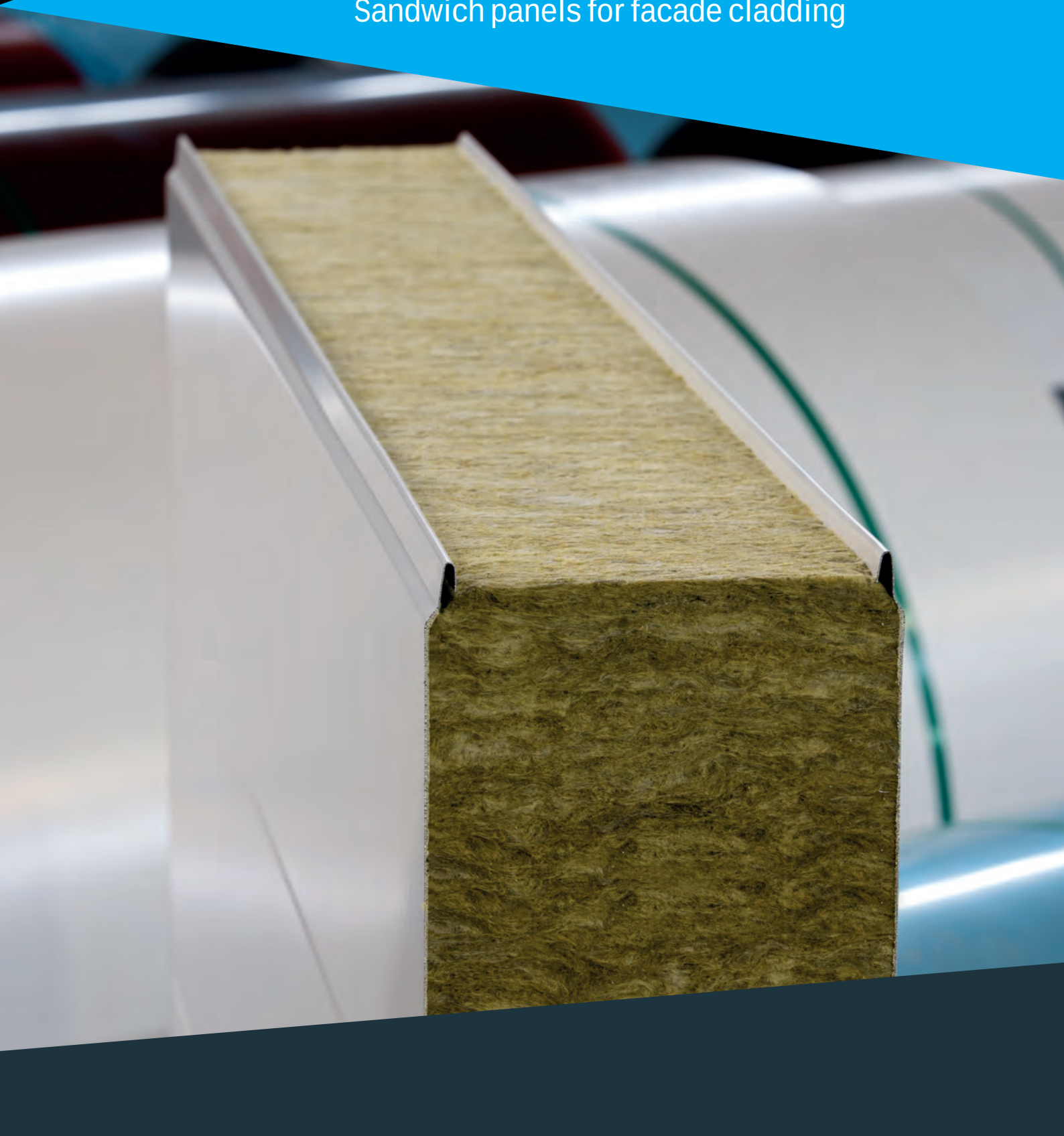
PROFILES
areco

ARECO SPIRIT PANEL

Sandwich panels for facade cladding



Areco Profiles is a leading player in the sheet metal manufacturing industry.

Our business activities are directed to the construction industry, with a comprehensive range of sheet metal building components for residential and commercial properties. We are represented in **four countries with a total of five factories, making us one of the most important players in the sheet** metal segment.

Our customers mean the world to us, and we do our utmost to base our range, product quality, and **price on customer needs. As a team, we are experienced, quick, and flexible. We have a modern and** innovative approach to both the industry and our products. That's why we always try to go our own **way and think innovatively to find effective solutions together with the customer.**

Areco Spirit Panel is a sandwich element consisting of a mineral wool core bonded on each side to **surface-coated steel sheet that is 0.5–0.6 mm thick and has either a patterned or a smooth surface. The element is suitable for external walls, dividing walls, and ceilings for buildings without or with fire** protection requirements.

Typical usage objects for the element are industrial and business premises, sports halls, power plants, and various types of warehouses. Special usage objects are ventilation and cable spaces, fresh-air **chambers, and fire and explosion chambers.**

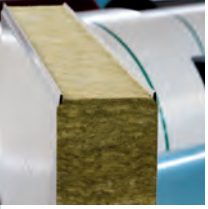
Areco Spirit Panel elements can be mounted on framework with long spans between the structural elements, making installation economical and quick. The ASP element has the best fire properties in its class, as well as excellent thermal and sound insulation.

The elements can be attached to wood, steel, and concrete frames. ASP elements can also be used when renovating or modernising old premises. Expanding or modifying a hall built with sandwich panels is simple and cost effective.

Our Design department offers guidance and support throughout the construction process to help you achieve the best end result possible.

Areco Spirit Panel is manufactured at our factory in Somero, Finland. From there, we deliver to all **Nordic and Baltic countries. We offer quick delivery times for all projects.**

Areco Spirit Panel manufacturing began in 2009, and the elements are now used throughout Europe. **The elements are tested and CE-marked by VTT Technical Research Centre, one of the leading research and technology organisations in Europe. Continuous quality control by VTT ensures that the elements** maintain reliability and quality.



Areco Spirit Panel

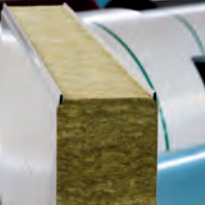
PRODUCT BENEFITS/PROPERTIES

PRODUCT BENEFITS

- Mineral wool core, A2-s1, d0
- High fire resistance EI240
- Excellent thermal and sound insulation
- Lengths: 910–12,000 mm
- Covering width: 1200 mm
- Thicknesses: 100–300 mm
- Intrusion protection according to protection class 2
- Quick deliveries
- Technical support during the entire construction period

PRODUCT PROPERTIES

	Thickness (mm)	Weight (kg/m²)	Fire resistance	U_c value (W/m²K)	Width (mm)	Max. length (mm)
ASP-T 80	80	~17	**EI30**	0,47	1200	910–12,000
ASP100-S RW	100	~20	**EI120**	**0,38**	1200	910–12,000
ASP120-S RW	120	~22	**EI120**	**0,31**	1200	910–12,000
ASP150-S RW	150	~25	**EI120**	0,26	1200	910–12,000
ASP175-S RW	175	~28	**EI120**	0,22	1200	910–12,000
ASP200-S RW	200	**~31**	**EI120**	0,20	1200	910–12,000
ASP240-S RW	240	**~35**	**EI240**	0,16	1200	910–12,000
ASP300-S RW	**300**	~41	**EI240**	**0,13**	1200	910–12,000



Areco Spirit Panel
COLOURS

The brochure's colour templates only serve as a guideline. We also offer other alternatives for colour and surface coating.

White RAL 9010

Signal White RAL 9003

Window Grey RAL 7040

Squirrel Grey RAL 7000

Anthracite Grey RAL 7016

Graphite Grey RAL 7024

Jet Black RAL 9005

Grey Brown RAL 8019

Light Ivory RAL 1015

Sand Yellow RAL 1002

Oxide Red RAL 3009

Traffic Red RAL 3020

Pastel Blue RAL 5024

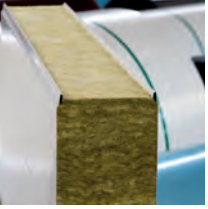
Green Blue RAL 5001

Leaf Green RAL 6002

White Aluminium RAL 9006

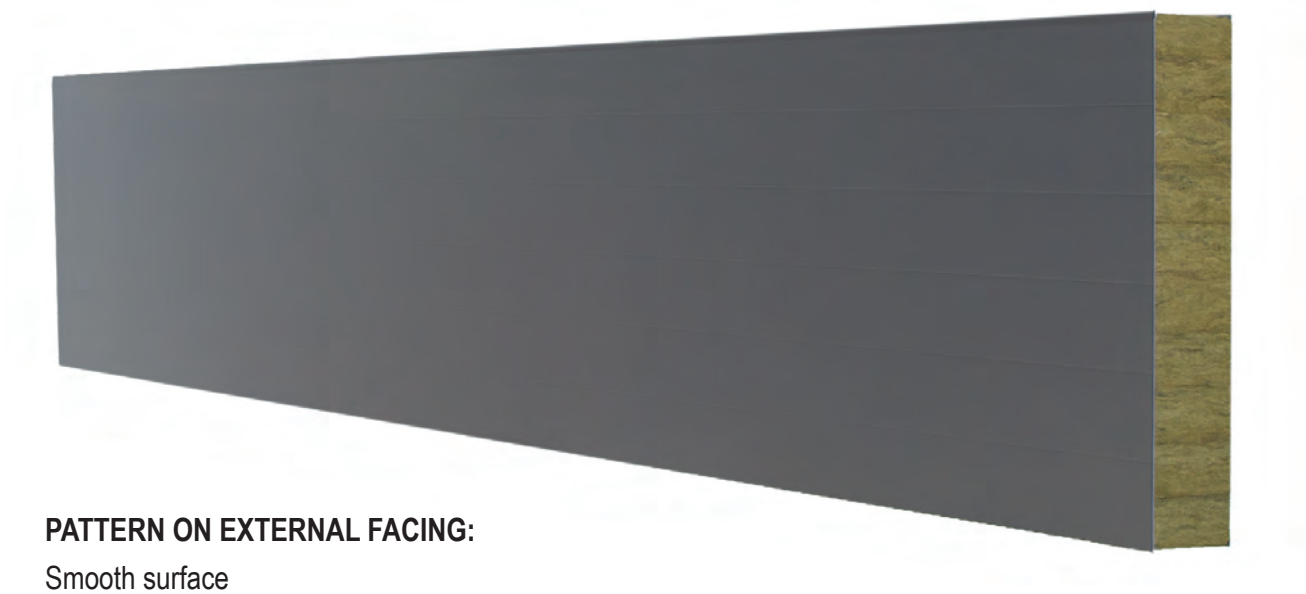
Grey Aluminium RAL 9007

Metallic Graphite RR45



Areco Spirit Panel

PROFILES



PATTERN ON EXTERNAL FACING:

Smooth surface

Shadow groove 150, 200, 600

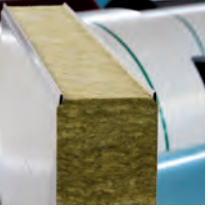
Profiling S50

Microprofiling M10, M15

Perforated interior/exterior

Surface coating alternatives: PE, PVDF and KARAT. Other special coatings available as custom order.

PROFILE	EXTERIOR FACING	INTERIOR SURFACE
Microprofiling 10	X	
Microprofiling 15	X	X
Profiling S50	X	
Shadow groove V150	X	X
Shadow groove V200	X	X
Shadow groove V600	X	X
Smooth	X	X
Perforated	X	X



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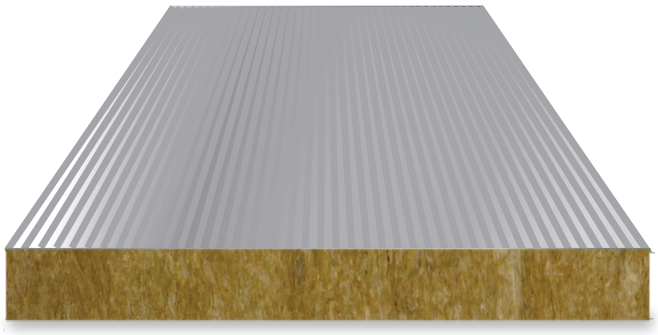
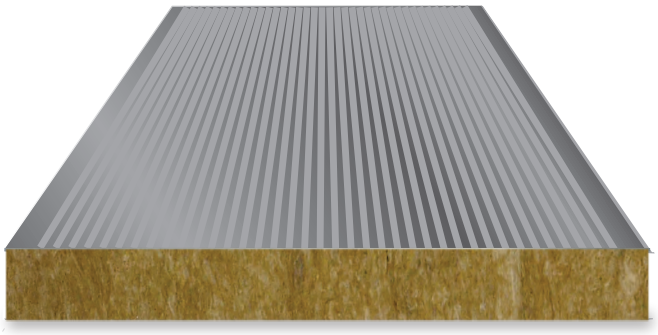
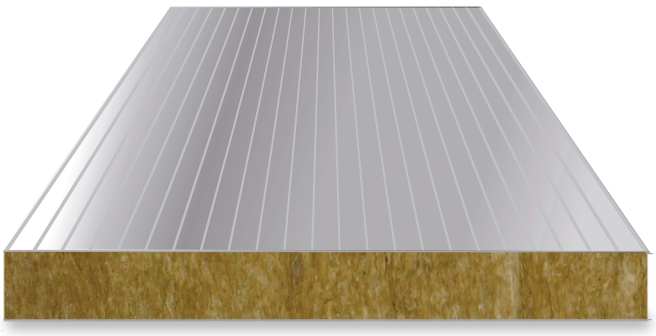
PROFILES



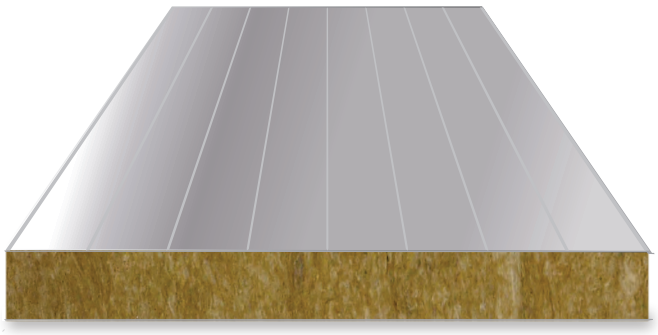
M10



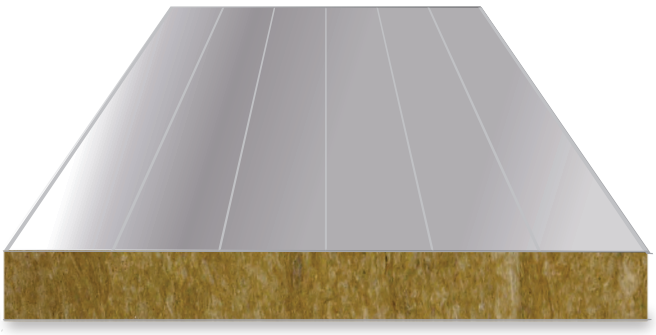
M15



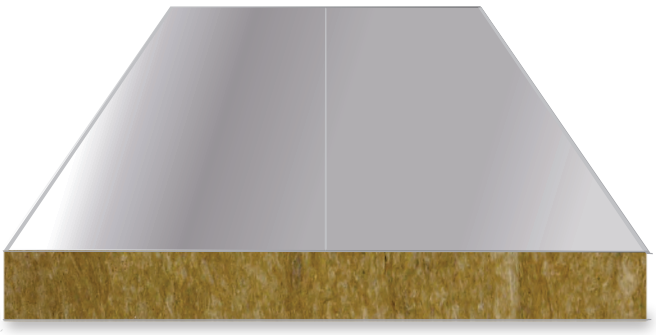
S50



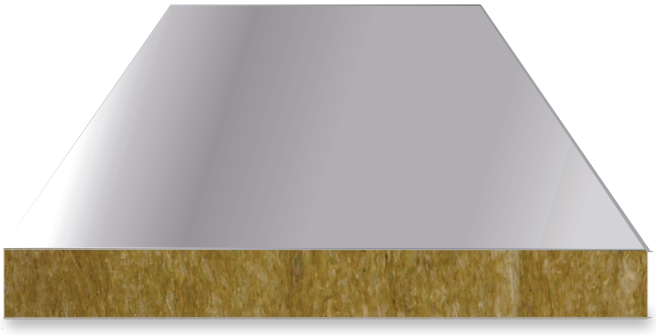
V150



V200

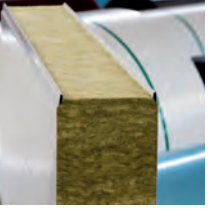


V600



Smooth

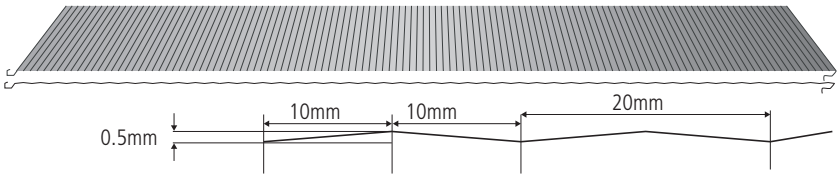
Perforated



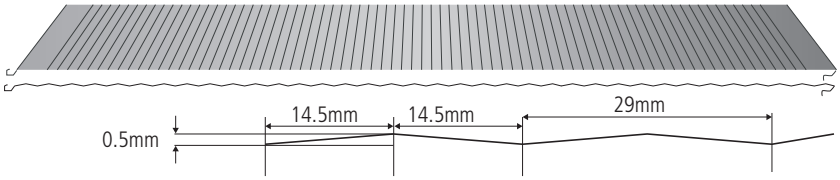
Areco Spirit Panel

PROFILES

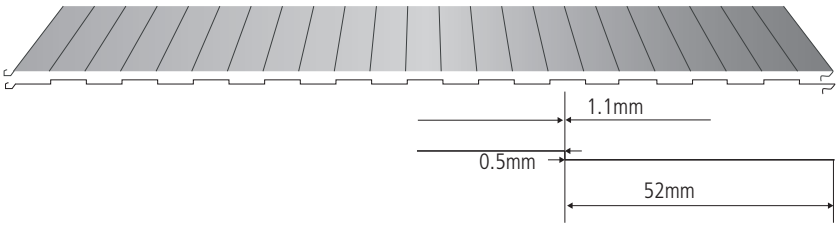
M10



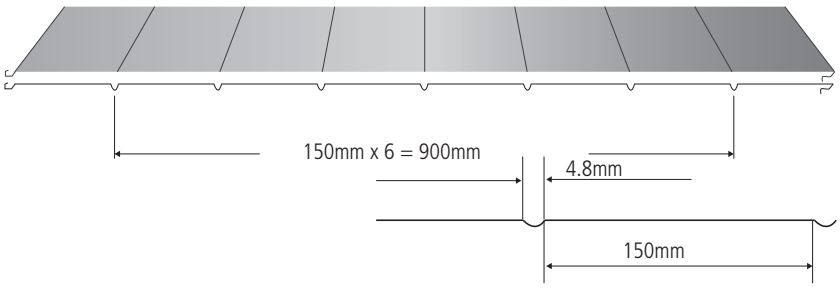
M15



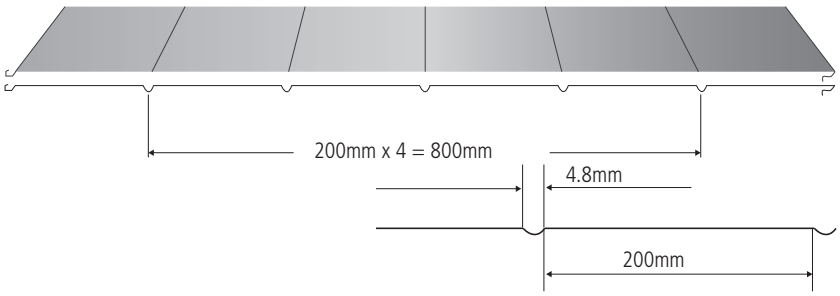
S50



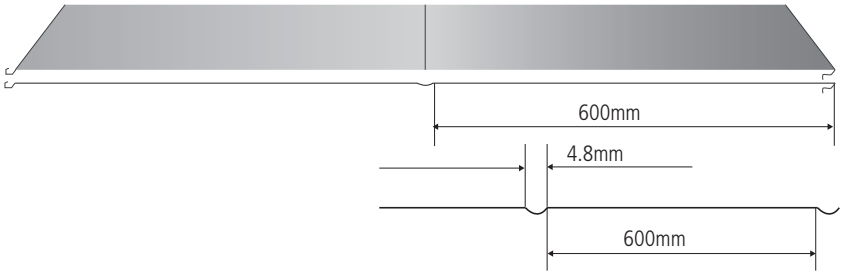
V150



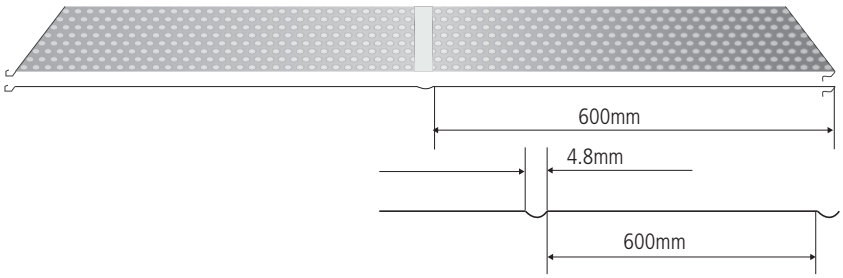
V200

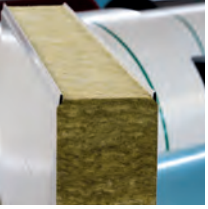


V600



Perf.



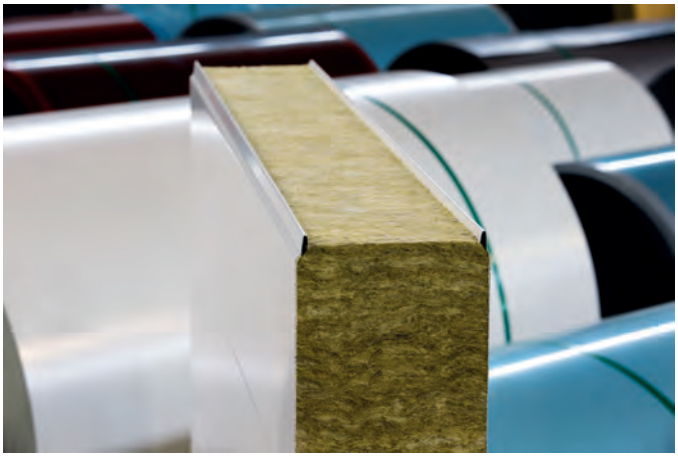


Areco Spirit Panel

PROPERTIES/TECHNICAL INFORMATION

Steel

The exterior facing of the Areco Spirit Panel consists of hot-dip galvanised sheet metal with a plastic surface coating.



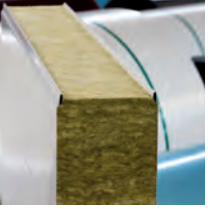
Sheet thickness	
Exterior sheet	0.5 and 0.6 mm
Interior sheet	0.5 and 0.6 mm
Please contact the Areco Profiles Sales department if other sheet thicknesses are needed.	
Steel grade	S280 – S320
Galvanisation (EN 10147)	Standard 275g/m^2
	If needed, 350 g/m^2 (demanding objects)
Plastic surface coating (EN 10169)	
PE (polyester, indoor use)	21–25 µm
PVDF (outdoor use)	27µm
PVDF (outdoor use)	Primer 20µm
PVDF (demanding objects)	Surface coating 40 µm
KARAT (indoor use)	45–50 µm
Foodsafe (outdoor use)	+110 µm

Wool core

The core of the Areco Spirit Panel elements consists of construction engineering grade stone wool, the fibres of which are situated perpendicular to the exterior facing. This ensures good strength properties and long spans without sacrificing the panel's excellent thermal insulation ability. Moreover, stone wool is not capillary and does not absorb water.

Seal

To ensure the tightness of the vapour barrier, it is possible to factory-install a rubber seal in the groove on both the interior and the exterior part of the elements during the production stage.



Areco Spirit Panel

PROPERTIES/TECHNICAL INFORMATION

Tolerances

All materials used in the manufacture of our elements comply with European requirements and standards. The dimension tolerances of Areco Spirit Panel elements correspond to EN 1459 Annex D.

PROPERTY	TOLERANCE
Element length (L)	
L ≤ 3,000 mm	± 5 mm
L ≥ 3,000 mm	± 10 mm
Element thickness (D)	
D ≤ 100 mm	± 2 mm
D > 100 mm	± 2%
Element covering width (W)	± 2 mm
Element curvature	2 mm/m, not over 10 mm
Element straightness	1 mm/m, not over 5 mm
Element uniformity	
l = 200 mm	≤ 0.6 mm
l = 400 mm	≤ 1.0 mm
l > 700 mm	≤ 1.5 mm

Available element lengths

Areco Spirit Panel elements come in lengths ranging from 910 to 12,000 mm. Elements under 910 mm are sawed to the required length at the construction site.

Quality

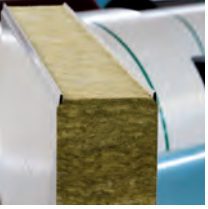
Areco Spirit Panel elements are made of high-quality materials manufactured in a modern production line. Continuous quality control combined with testing by an independent company ensures that the elements maintain reliable quality.

CE-marking

Areco Spirit Panel elements are certified and CE-marked. They comply with European standard EN 14509 regarding self-supporting sandwich elements with stone wool core and sheet metal facing.

Biological properties

Areco Spirit Panel is a building material with very good hygiene limits. This is because stone wool provides very little nutrient source that allows mould and microbes to grow. It is also easy to keep the sheet metal surfaces clean through regular maintenance work.



Areco Spirit Panel

PROPERTIES/TECHNICAL INFORMATION

Technical properties

Areco Spirit Panel is classified as non-combustible in class A2-s1, d0 according to standard EN 13501-1.
The elements are available in intrusion protection class 2 according to SSF 1047, version 2.
Fire resistance times and U-values according to EN ISO 10211-2 are presented in the table below:

PRODUCT		PROPERTY	THICKNESS					
		100 mm	120 mm	150 mm	175 mm	200 mm	240 mm	300 mm
ASP-S	U-value W/m²K	0.38	0.31	0.26	0.22	0.20	0.16	0.13
	Fire classification	EI 60 / 120	EI 60 / 120	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-L	U-value W/m²K	0.37	0.30	0.24	0.21	0.18	0.15	0.12
	Fire classification	EI 30	EI 30	EI 60	EI 60	EI 60	EI 60	EI 60
ASP-E	U-value W/m²K	0.38	0.31	0.26	0.22	0.20	0.16	0.13
	Fire classification	EI 60 / 120	EI 60 / 120	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-EX	U-value W/m²K	0.43	0.36	0.29	0.25	0.22	0.18	0.14
	Fire classification	EI 60	EI 60	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-E/EX	U-value W/m²K	0.38/0.43	0.31/0.36	0.26/0.29	0.22/0.25	0.20/0.22	0.16/0.18	0.13/0.14
(ceiling)	Fire classification	EI 60	EI 60	EI 60	EI 60	EI 60	EI 60	EI 60

Bundles

Areco Spirit Panel are packed in bundles on EPS supports, with the outside facing up. The bottom element is protected with a cellular plastic sheet, and the tongue & groove construction of the top element is protected with metal corner guards. The bundle is wrapped in plastic film to protect against wind and weather. The maximum height of the bundle is 1300 mm.

Element thickness, mm	100	120	150	175	200	240	300
Elements in bundle, max	12	10	8	7	6	5	4

Delivery

All deliveries are transported directly from the factory on a lorry. The customer is responsible for unloading the elements from the lorry.

Installation

Installation instructions are found on pages 22–24.
If necessary, Areco Profiles can also recommend qualified installation companies.

Warranty

Areco provides an object-specific warranty for its sandwich panels based on the local conditions and selected product properties for the object.

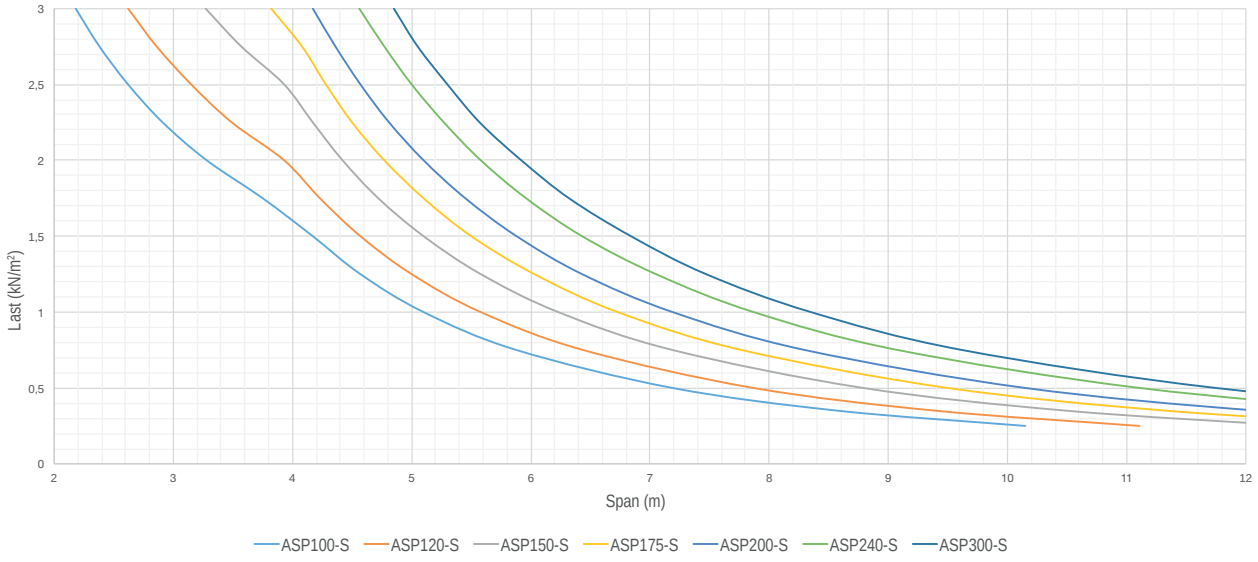
Permitted load

Both the usage limit and the tensile strength must be taken into consideration when dimensioning the element. The maximum permitted curvature value for the usage limit is L/100. On long elements, you must also consider density and appearance when determining the permitted curvature.

Curve diagram of Areco Spirit Panel element's span

The ASP-S load curve diagram is intended for dimensioning the ASP element for wind load. The curve diagram can be adapted for both suction load and pressure load. Contact Areco Technical Support if the element is affected by some other load at the worksite in question.

- The curve diagram below has been calculated for an evenly distributed load for the ultimate limit state.
- The curve diagram contains a partial figure for the element material.
- The curve diagram contains a partial coefficient 1.5 for wind load.
- The load shall contain a design coefficient as well as location-independent coefficients for external and internal pressure.
- Installation must meet the requirements of the support surface as specified in ASP standarddetaljer [ASP Standard Components].

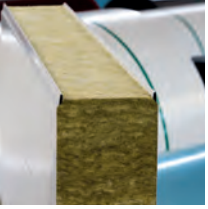


Contact Areco Technical Support if the element being installed has multiple openings.
The minimum dimension of the element's support width is 50 mm. This is checked as required based on the actual load. The maximum permitted vertical load on an edge protected by U-profile is 2.5 kN/m^2, with the U-profile screwed on both sides (cc 600 mm).

Sound insulation

In addition to our standard elements, we offer perforated elements designed to dampen sound in structures.

Sound insulation, dB	Element thickness, mm						
	100	120	150	175	200	240	300
Rw	31	31	31	30	30	29	29



Protect elements in intermediate ceiling spaces against people walking on the surface

The elements are not designed for use as a permanent walkway. If the element will be walked on temporarily or on certain occasions, such as when performing maintenance measures, it must be protected with a board that distributes the load. Walking directly on the element's sheet metal surface could cause local ruptures in the wool fibres beneath the person's feet, which greatly reduces the load bearing capacity of the element. To distribute the load, you can use e.g. a 12–15 mm sheet of plywood when walking on the element.

Attaching the element

Element attachment must be dimensioned for the forces acting on the elements, and the load on the installation site in question. The maximum permitted load values of the drilled element brackets are given in the table below.

The value N_{Rd} is the projected strength value of the screw since the platform's performance values as a minimum fulfil these.

	Pull	Shearing
Element brackets 5.5/6.3 mm	N_{Rd}	V_{Rd}
Underlay panel 19 mm	1.37	1.50
Underlay panel 29 mm	2.09	1.50

Permitted load on crossing element brackets. The screw holding value of the underlay must be reviewed separately.

Attaching the element with panels

The element can also be attached with draw bolts and bolt anchors. This attachment method is useful in e.g. connection pillars or milled pillars with thick flanges. More information on different ways to attach the elements can be found in ASP-principdetaljerna [ASP Principle Components]. During planning, you must take into account the check of the shearing force caused by the weight of the element in connection with attachment. For example, ground vibrations caused by ground covering work that could press on the entire element wall must also be taken into consideration.
When attaching elements with panels, we recommend using a mount that takes up the shearing force (1 piece + attachments) on each element or in every fifth element so that the entire element is attached with element screws (all element brackets with element screws).

Suspension on element surface

If the suspension causes a dynamic load, you must use screws that cross the element at the element bracket. This must be kept in mind when dimensioning element attachment.
The maximum permissible weight of the facade cladding is 30 kg/m^2. The cladding is attached in profiles, and the maximum permissible distance between them is 600 mm.

	Permitted load on surface brackets		
Bracket	**Pull, wall**	**Pull, underside of ceiling**	**Shearing**
Sheet metal screw, diameter > 4.5 mm	250 N	200 N	500 N
Rivet	350 N	200 N	500 N

Permitted load on surface brackets if the distance between brackets is at least 2 mm.

Pressure caused by suspension

The pressure caused by the piece attached to the element surface can be assessed as the product of the pressed area and the permitted pressure of the element (ASP-S, $F_{press, valid} = 0.059\ N/mm^2$, CE-marked).

$$F = \frac{F_{press, valid} \times A_{piece}}{\gamma_{element} \times \gamma_{load}}$$

F = maximum permitted pressure caused by a piece connected to the surface
A = area pressed in the piece attached
$\gamma_{element} \times \gamma_{load}$ = the shared partial coefficient of the element and the load = 1.9

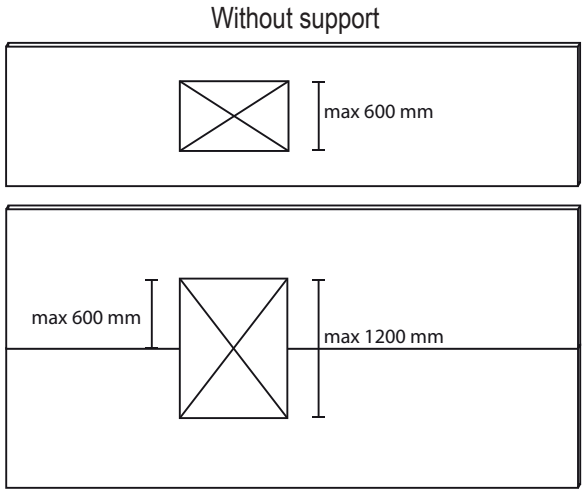
At individual attachment points, load durability can be increased with support panels attached to the sheet metal with adhesive and screws. Step structures and the like are an example of this.

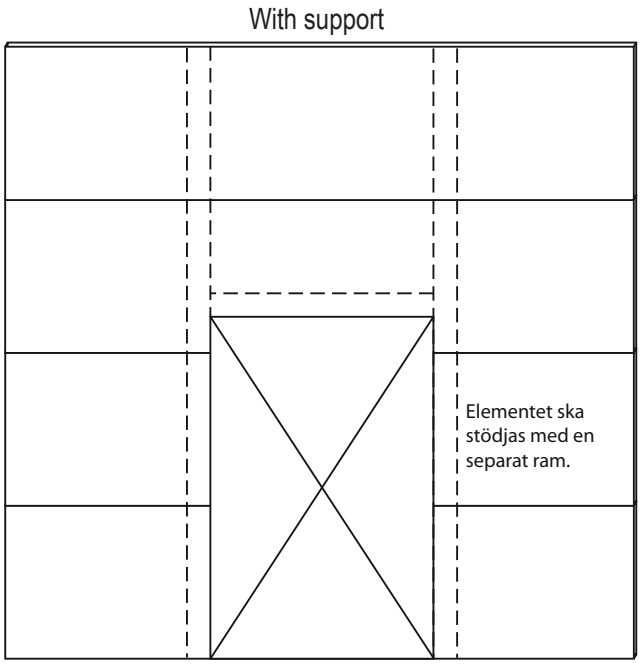
Attachment in element structures that are dividing points for fire sections

In case of fire, the element's sheet metal surface that faces the fire detaches from the wool and forms an isolating air pocket against the fire. Attachment on the surface of an element structure that is a dividing point for fire sections weakens the strength of the surface structure in case of fire. You are permitted to attach small devices (e.g. switches) in the walls, but must avoid all types of brackets and suspensions in firewalls.
In a fire situation, a hatch or frameless door must be a type certified wool element like a firewall or a fireroof.

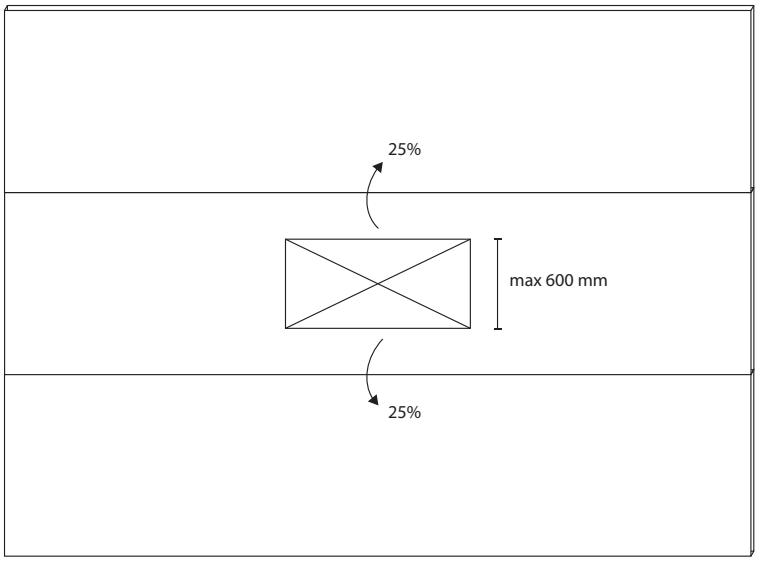
Openings in the element and transfer of the load around an opening

If you make openings in the element, this weakens the load bearing capacity of the element when it is loaded. You can make an opening that is 1/2 of the element's height without any separate support in the element. For openings larger than this, you must support the element with a separate opening frame. In some cases, you can also support the opening with a U-profile attached in the element.





The load on an element with openings can be transferred to the adjacent element via the element tongue and groove according to the formula 25% + 25%. The designer must ensure that the adjacent element's load bearing capacity is not exceeded as the result of the transferred load.



The opening in the element is 500 mm x 500 mm
The standard height of the element is 1,200 mm

Q = calculated wind load for element 1 kN/m^2, including partial safety
Q_{ae} = wind load for element where opening is located
Q_{ve} = load for element adjacent to element with opening
F_{Rd} = element's permitted strength with span in question 1.3 kN/m^2
$F_{Rd,r}$ = reduced element's strength

$$F_{Rd,r} = F_{Rd} \times \frac{\text{intact part of the element}}{\text{element's total height}} = 1.3 \text{ kN/m}^2 \times \left(\frac{1200 \text{ mm} - 500 \text{ mm}}{1200 \text{ mm}}\right) = 0.75 \text{ kN/m}^2$$

Q_{ae} = Q x (1- (part of load to be transferred [%])) = 1 kN/m^2 x (1- (0.25+0.25)) = 0.5 kN/m^2
Q_{ve} = Q x part of load to be transferred to element [%] = 1 kN/m^2 x 1.25 = 1.25 kN/m^2
$Q_{ae} < F_{Rd,r}$ → OK
$Q_{ve} < F_{Rd}$ → OK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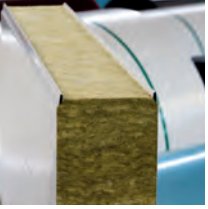


Areco Spirit Panel

PERFORMANCE DECLARATION [No. 002-2020-08-19-ASP]

1. Codes for individual product types:
   Areco Spirit Panel / ASP-S/-S+/-T/-L/-E/-EX

2. Product labelling:

Labelling	**Nominal thickness**	**Actual thickness**	Weight **kg/m²**	Core material	Outer surface	**Inner surface**
ASP100- S/-S+	100 mm	100 mm	17 - 19	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP120- S/-S+	120 mm	119 mm	18 - 21	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP150- S/-S+	150 mm	151 mm	21 - 25	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP175- S/-S+	175 mm	173 mm	23 - 27	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP200- S/-S+	200 mm	202 mm	25 - 30	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP240- S/-S+	240 mm	242 mm	29 - 35	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP300- S/-S+	300 mm	300 mm	34 - 41	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP100-T	100 mm	100 mm	17 - 19	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP120-T	120 mm	119 mm	18 - 21	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP150-T	150 mm	151 mm	21 - 25	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP175-T	175 mm	173 mm	23 - 27	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP200-T	200 mm	202 mm	25 - 30	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP240-T	240 mm	242 mm	29 - 35	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP300-T	300 mm	300 mm	34 - 41	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5
ASP100-L	100 mm	100 mm	17	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP120-L	120 mm	119 mm	18	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP150-L	150 mm	151 mm	21	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP175-L	175 mm	173 mm	22	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP200-L	200 mm	202 mm	24	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP240-L	240 mm	242 mm	27	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP300-L	300 mm	300 mm	31	Stone wool	PE/PVDF 0,5/0,6	PE/PVDF 0,5/0,6
ASP100-E	100 mm	100 mm	18 - 20	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP120-E	120 mm	119 mm	19 - 22	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP150-E	150 mm	151 mm	22 - 26	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP175-E	175 mm	173 mm	24 - 28	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP200-E	200 mm	202 mm	26 - 31	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP240-E	240 mm	242 mm	30 - 36	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP300-E	300 mm	300 mm	35 - 42	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP100-EX	100 mm	100 mm	21	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP120-EX	120 mm	119 mm	17 - 19	Stone wool	PE / PVDF 0,6	PE/PVDF 0,5/0,6
ASP150-EX	150 mm	151 mm	27	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP175-EX	175 mm	173 mm	30	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP200-EX	200 mm	202 mm	33	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP240-EX	240 mm	242 mm	38	Stone wool	PE / PVDF 0,6	PE / PVDF 0,6
ASP300-EX	300 mm	300 mm	45	Stone wool	PE/PVDF 0,6	PE/PVDF 0,6

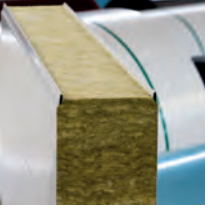
3. **Intended application:**
   Self-supporting sandwich element with mineral wool core and sheet metal facing; external walls, dividing walls, ceilings.

4. **Manufacturer:**
   Areco Profiles Oy
   Tehdastie 17
   31400 Somero
   Finland

5. **AVCP data:**
   Reaction to fire: 1
   Fire classification: 3
   Other properties: 3

6. **Certification body:**
   VTT Expert Services Oy
   Code no. 0809
   EC Certificate of Conformity:
   0809-CPR-1083

VTT Expert Services has conducted testing on the facility and its internal quality control. They also monitor and assess production quality control on a continuous basis to ensure that the products meet the requirements.



Areco Spirit Panel

PERFORMANCE DECLARATION [No. 002-2020-08-19-ASP]

7. Performance level specified:

Base properties	ASP100-300-S/-S+	ASP100-300-T	ASP100-300-L	ASP100-300-E	ASP100-300-EX
Tensile strength	0,095 MPa	0,070 MPa	0,090 MPa	0,0950 MPa	0,210 MPa
Compressive strength	0,062 Mpa	0,052 MPa	0,042 MPa	0,062 MPa	0,100 MPa
Shear strength	0,059 MPa	0,055 MPa	0,040 MPa	0,059 MPa	0,085 MPa
Sliding coefficient	3,5 Mpa	2,0 MPa	3,0 MPa	3,5 Mpa	8 Mpa
Wrinkling stress	125 Mpa	110 MPa	80 MPa	125 Mpa	165,0 MPa
Thermal conductivity	0,040 W/mK	0,040 W/mK	0,038/0,039 W/mK	0,040 W/mK	0,045 W/mK
Reaction to fire	A2-s1, d0	A2-s1, d0	A2-s1, d0	A2-s1, d0	A2-s1, d0
Air permeability	0,66 m^3/hm^2	0,66 m^3/hm^2	0,66 m^3/hm^2	0,66 m^3/hm^2	0,66 m^3/hm^2
Water permeability	Class A	Class A	Class A	Class A	Class A
Water vapour permeability	Impermeable	Impermeable	Impermeable	Impermeable	Impermeable
Creep rupture limit	Approved	Approved	Approved	Approved	Approved

Product type	Property	Nominal thickness						
		100 mm	120 mm	150 mm	175 mm	200 mm	240 mm	300 mm
ASP-S/S+ (wall)	U-value W/m^2K	0,38	0,31	0,26	0,22	0,20	0,16	0,13
	Fire classification	EI 120	EI 120	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-S+ (wall)	U-value W/m^2K	0,38	0,31	0,26	0,22	0,20	0,16	0,13
	Fire classification	EI 120	EI 120	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-T (wall)	U-value W/m^2K	0,37	0,30	0,24	0,21	0,18	0,15	0,12
	Fire classification	NPD	NPD	EI 60	EI 60	EI 60	EI 60	EI 60
ASP-L (wall)	U-value W/m^2K	0,38	0,31	0,26	0,22	0,20	0,16	0,13
	Fire classification	EI 120	EI 120	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-E (wall)	U-value W/m^2K	0,43	0,36	0,29	0,25	0,22	0,18	0,14
	Fire classification	EI 120	EI 120	EI 120	EI 120	EI 120	EI 240	EI 240
ASP-E/-EX (ceiling)	U-value W/m^2K	0,38/0,43	0,31/0,36	0,26/0,29	0,22/0,25	0,20/0,22	0,16/0,18	0,13/0,14
	Fire classification	EI 60	EI 60	EI 60	EI 60	EI 60	EI 60	EI 60

8. The product performance levels specified in points 1 and 2 above fulfil the performance levels stated in section 7.
This statement of performance has been provided with the exclusive liability of the manufacturer stated in point 4.

CE

0809

Areco Spirit Ltd
Tehdastie 17
FI-31400 SOMERO

20

DoP No. 001-2023-01-26-ASP

EN 14509

Self supporting metal faced mineral wool cored sandwich panel

Use: external wall, dividing walls, ceilings

	ASP-S,-S+, -T, -L, -E, -EX				
Core material:	Stone wool				
Thickness:	100 - 300 mm				
Facings:	0,50 - 0,60 mm steel sheet (EN 10346)				
Coating:	PE, PVDF				
Reaction to fire:	A2-s1, d0				
Air permeability:	0,66 m^3/hm^2				
Water permeability:	Class A				
Water vapor permeability:	Impermeabale				
Durability (DUR 2):	Approved				
	ASP-S / -S+	ASP-T	ASP-L	ASP-E	ASP-EX
Tensile strength:	0,090 MPa	0,065 MPa	0,060 Mpa	0,090 MPa	0,210 MPa
Compressive strength:	0,062 Mpa	0,050 Mpa	0,042 Mpa	0,062 Mpa	0,100 MPa
Shear strength (core layer):	0,059 MPa	0,055 MPa	0,040 MPa	0,059 MPa	0,085 MPa
Shear modulus (core layer):	3,5 MPa	2,0 MPa	3,0 MPa	3,5 MPa	8,0 MPa
Wrinkling stress:	115 MPa	105 MPa	80 MPa	115 MPa	165,0 MPa
Thermal conductivity:	0,040 W/mK	0,040 W/mK	0,038 W/mk	0,040 W/mK	0,045 W/mK
U-values:					
ASP100	0,38	0,38	0,37	0,38	0,43
ASP120	0,31	0,31	0,30	0,31	0,36
ASP150	0,26	0,26	0,24	0,26	0,29
ASP175	0,22	0,22	0,21	0,22	0,25
ASP200	0,20	0,20	0,18	0,20	0,22
ASP240	0,16	0,16	0,15	0,16	0,18
ASP300	0,13	0,13	0,12	0,13	0,14
Fire resistance:					
ASP100 (walls)	EI 120	EI 120	NPD	EI 120	EI 120
ASP120 (walls)	EI 120	EI 120	NPD	EI 120	EI 120
ASP150 (walls)	EI 120	EI 120	EI 60	EI 120	EI 120
ASP175 (walls)	EI 120	EI 120	EI 60	EI 120	EI 120
ASP200 (walls)	EI 120	EI 120	EI 60	EI 120	EI 120
ASP240 (walls)	EI 240	EI 240	EI 60	EI 240	EI 240
ASP300 (walls)	EI 240	EI 240	EI 60	EI 240	EI 240
ASP100-300 (ceilings)	NPD	NPD	NPD	EI 60	EI 60

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Areco Spirit Panel
ELEMENT HANDLING

Care must be taken when handling and installing Areco Spirit elements as the surface of the elements is prone to scratching. To help with this, the surface layer is protected with a thin plastic film.
It is easier to remove the protective film after installation.

TRANSPORT AND UNLOADING

The elements are normally transported to construction sites using lorries. Before loading, the condition of the transport vehicle's bed and its edges should be checked and ensured. Nails and other sharp objects could easily damage the elements during transport, loading, and unloading.

The bed of the transport vehicle must be sufficiently long. The element bundles can be up to 12 m long, and they are permitted to protrude over the rear edge of the vehicle bed by no more than 1.5 m. The bundles can be stacked in two layers for transport. The driver must make sure that the load of elements is properly secured. The recommended bed width for element transporters is 2.5 m, which gives enough room for 2 bundles of elements to lie side-by-side.

The straps used to secure the bundles must have a width of at least 50 mm. The number of straps depends on the length of the bundles. We recommend that straps are spaced about two metres apart. There must always be edge protection between the strap and the element to protect the edges from damage. If other materials or products are included in the same transport, these must be secured with separate straps.

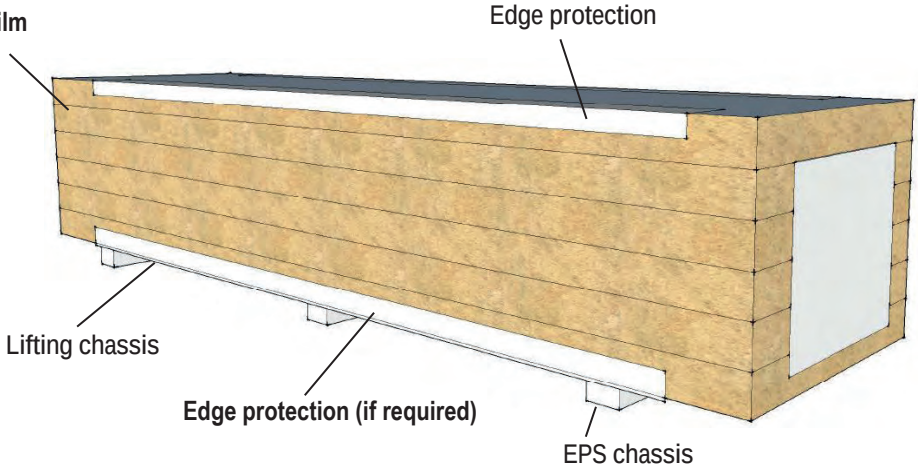
PACKAGING

The elements are packed with EPS platform and wrapped in shrink film. The bundle's maximum dimensions are 12 m x 1.23 m x 1.3 m. Good planning of the bundle leads to good efficiency at the construction site.
If elements of different lengths are packed in the same transport/packaging, the shortest elements should be positioned at the top.

If a length of less than 910 mm is required, the element must be cut at the construction site prior to installation. Elements of the same colour are packed in the same bundle. The package number provided makes it easy to find the right bundle.

The figure below shows the standard packaging of the elements. Different types of packaging can be contracted separately at the time of order. The number of elements in a bundle varies depending on element thickness.

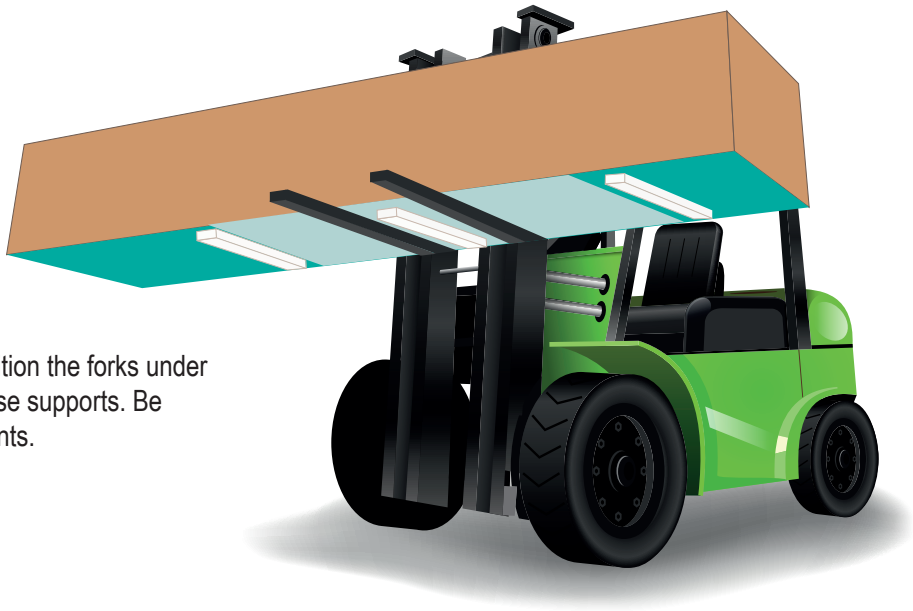
ASP100	12 per bundle
ASP120	10 per bundle
ASP150	8 per bundle
ASP175	7 per bundle
ASP200	6 per bundle
ASP240	5 per bundle
ASP300	**4 per bundle**



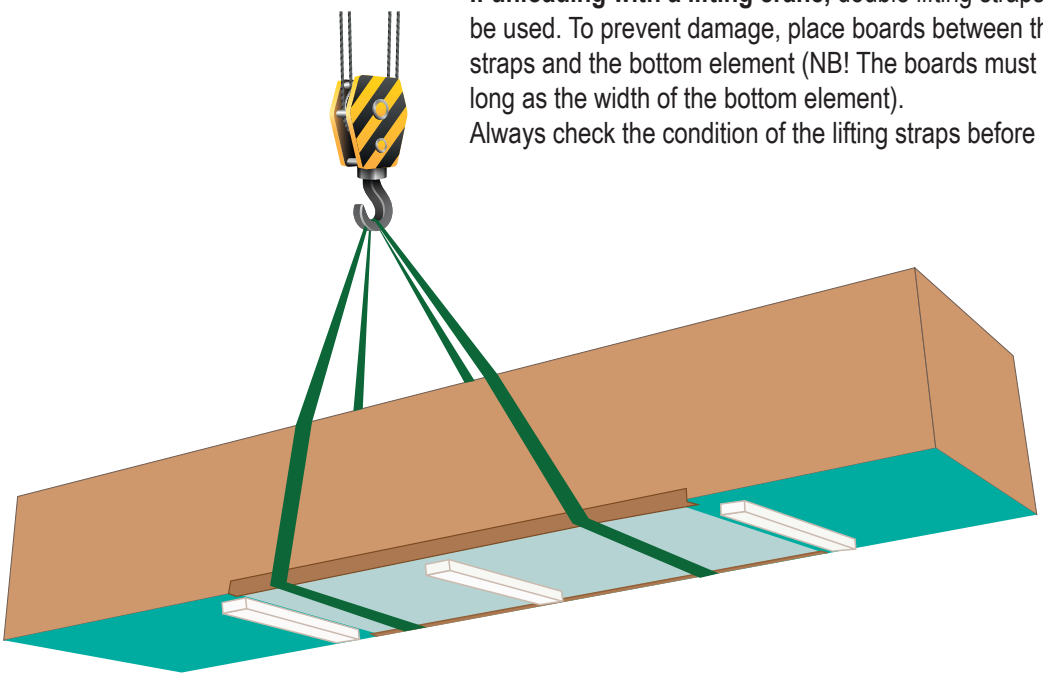
RECEIPT AND UNLOADING

Upon arrival of the delivery, first check the quantity and condition of the elements. If the dimensions do not match those found on the packing list or if there is transport damage, please contact Customer Support at Areco Profiles immediately.

The elements must be unloaded one bundle at a time with a forklift or lifting crane.



If unloading with a forklift, position the forks under the bundle between the transverse supports. Be careful not to damage the elements.



If unloading with a lifting crane, double lifting straps must be used. To prevent damage, place boards between the lifting straps and the bottom element (NB! The boards must be as long as the width of the bottom element).

Always check the condition of the lifting straps before lifting.

SPLITTING AND OPENINGS

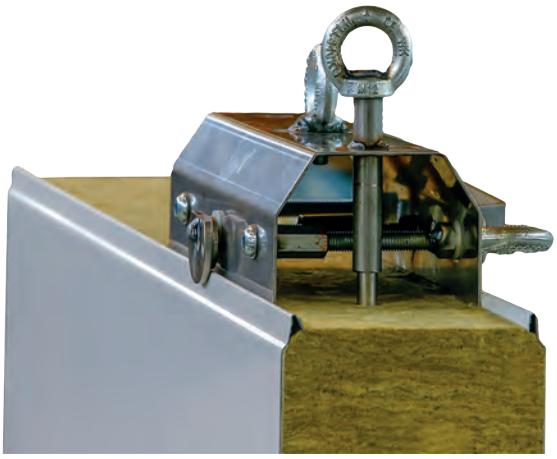
A suitable sabre saw or jigsaw must be used to split elements and/or make openings in elements. Long cuts should be carried out using a circular saw.

We advise against cutting elements with an angle grinder since the very hot metal swarf could damage the coating of the element. Always brush away metal swarf after cutting to prevent corrosion.

ASP LIFT

We recommend use of our ASP lift when lifting elements. These can be ordered for delivery by Areco.

There are several types of lifting devices for the different element types. Shown below is a special lifting device for split elements. A vacuum lift (suction cup lift) can be used when lifting dividing wall elements.



Tongue lift

Lift for split elements

Vacuum lift (suction cup lift)

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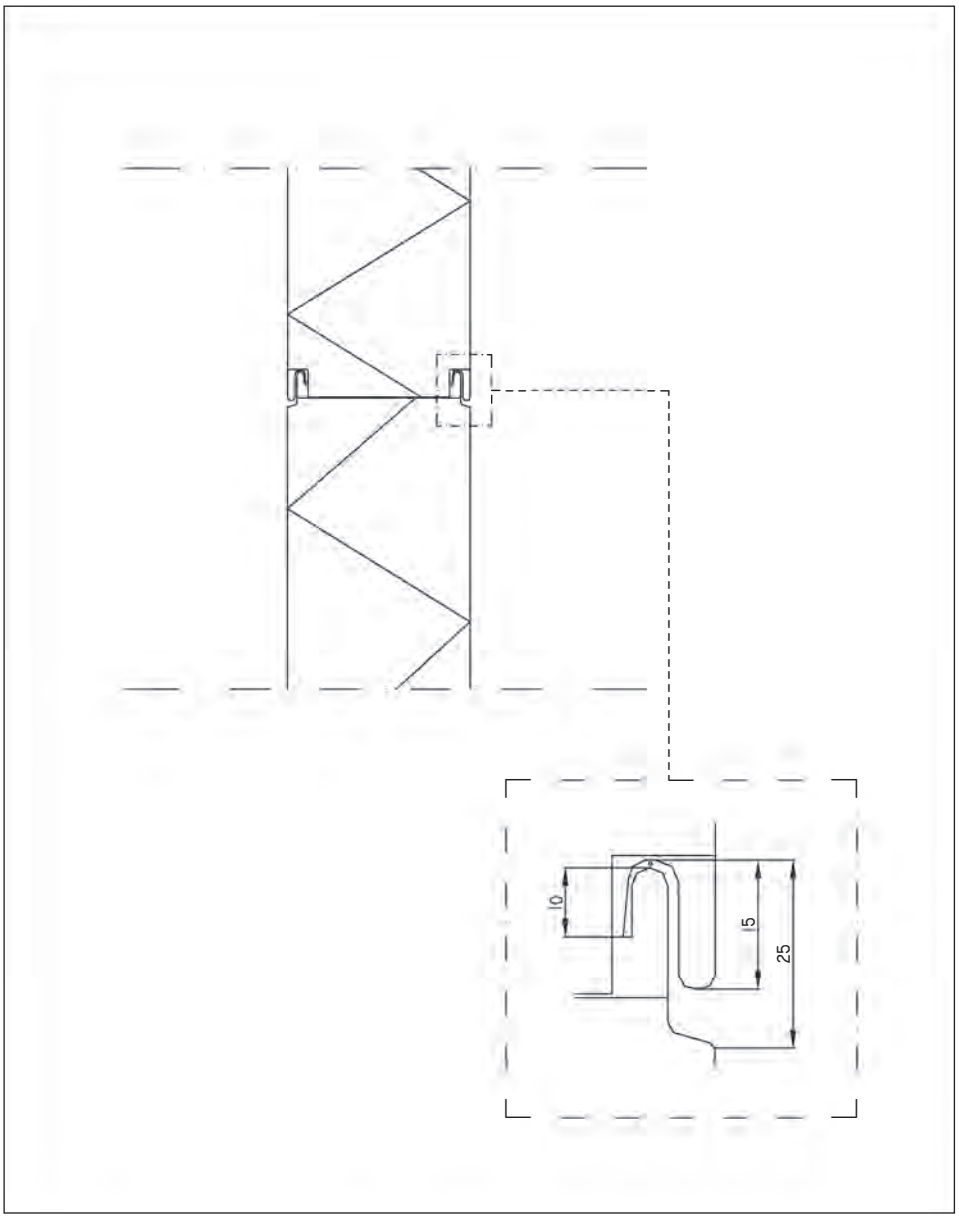
INSTALLATION

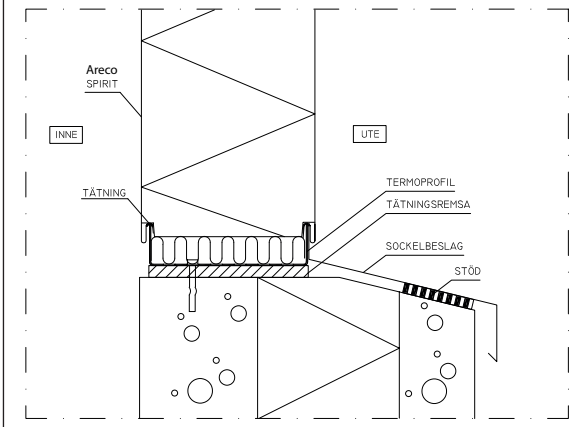
Fasteners, strips, profiles, seals, and lifting devices (tongue and vacuum) form a whole that ensure the elements are installed in compliance with generally accepted requirements. Proper installation is a prerequisite if the element wall is to meet set tightness, thermal insulation and appearance requirements.

Areco Spirit Panel elements are installed either horizontally or vertically. For external walls, the groove comes with a factory-installed (thermoplastic elastomer) sealing strip. If necessary, tightness can be improved by sealing the joint/ seam (sealant).



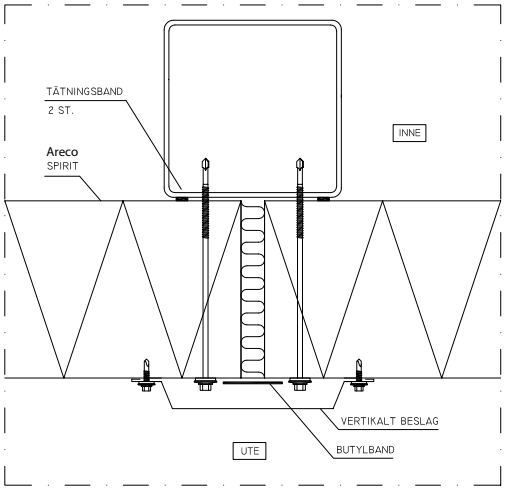
HORIZONTAL INSTALLATION

Installation is done as specified in the drawings. It is easiest to start in one corner with the tongue visible upwards. Before installing, check that the element is positioned straight. Start by installing the base felt strip on the base and bonding the sealing strip to the pillar.



ALLMÄNNA INSTRUKTIONER

TERMOPROFILENS/SOCKELSKENANS OCH PANELENS MELLANRUM TÄTS MED ULL. PANELENS AVSTÅND FRÅN SOCKELBETONGEN ~15 MM. ENSKILDA DETALJER GÄLLANDE STRUKTURER OCH LUTNINGAR ENLIGT KONSTRUKTÖR.



ALLMÄNNA INSTRUKTIONER

MELLANRUM MELLAN ELEMENTEN ~20MM, STÄNGS MED EN ULLREMSA. INFÄSTNINGENS MINIMI AVSTÅND FRÅN PANELENS KANT 30 MM. MINIMI STÖDBREDD FÖR PANELEN 50 MM. STÖDYTAN TÄTAS. ULLSKARVEN TÄCKS PÅ UTSIDAN MED BUTYLBAND >60 MM.

A base rail is mounted on the base felt strip.

A gap of approx. 7 mm should be left between the base rail and the pillar where the element's groove will be installed.

After checking the straightness of the base rail, it is attached to the base (e.g. with spike anchorings for a concrete base).

Insulating wool is fitted to the base rail, and a skirting strip is fitted to the rail edge. (See detail drawing) A suitable overlap for the strips is approx. 100 mm.

Next, the top element (i.e. the element that installation starts with) is put into place. Check that the element is positioned straight, and then attach it to the pillar as indicated in the installation instructions. Once the first element is secured, continue installing the elements as indicated in the installation drawings. A gap of approx. 20–40 mm must be left in the vertical element joints as specified in the detail drawings. The gap is filled with soft wool.

A self-adhesive sealing strip is then bonded to the joint/seam. The horizontal joint/seam can be sealed if required.

DIVIDING WALLS AND VERTICAL INSTALLATION

Dividing walls are installed either horizontally or vertically. Always follow the detail drawings and, where applicable, the Areco Spirit Panel installation instructions. We recommend use of a vacuum lift (suction cup lift) when lifting long dividing wall elements.

ATTACHMENT/ANCHORING

The elements can be attached using fixing screws or similar types of fasteners. The most common way of securing an element is to screw straight through all the way into the framework. Fasteners must be at least 30 mm from the edge.

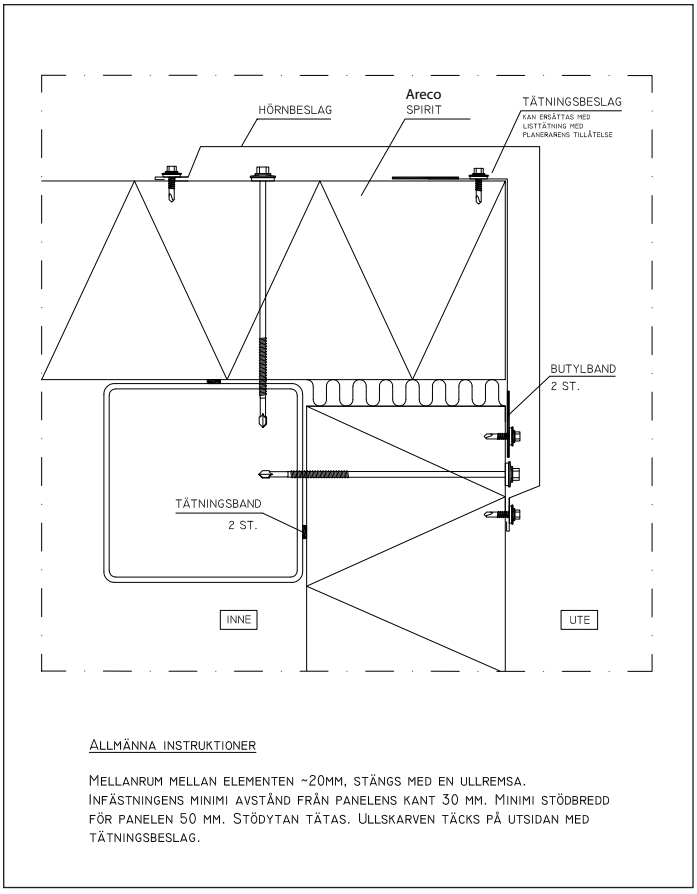
The width of the support surface must be taken into account when attaching elements. It must protrude at least 50 mm from the end of the element.

Fasteners must be selected based on the material, thickness, and conditions of the support, and dimensioned in accordance with the requirements of the building, such as load, fire protection requirements, etc.

For the correct tightening torque for fasteners in the elements, please refer to the instructions of the respective screw supplier.

STRIPS AND FITTINGS

The joints and corners of the elements are always covered with strips. The recommended overlap is approx. 100 mm. Areco can provide standard and special strips for all objects. For more information, please visit www.arecoprofiles.se



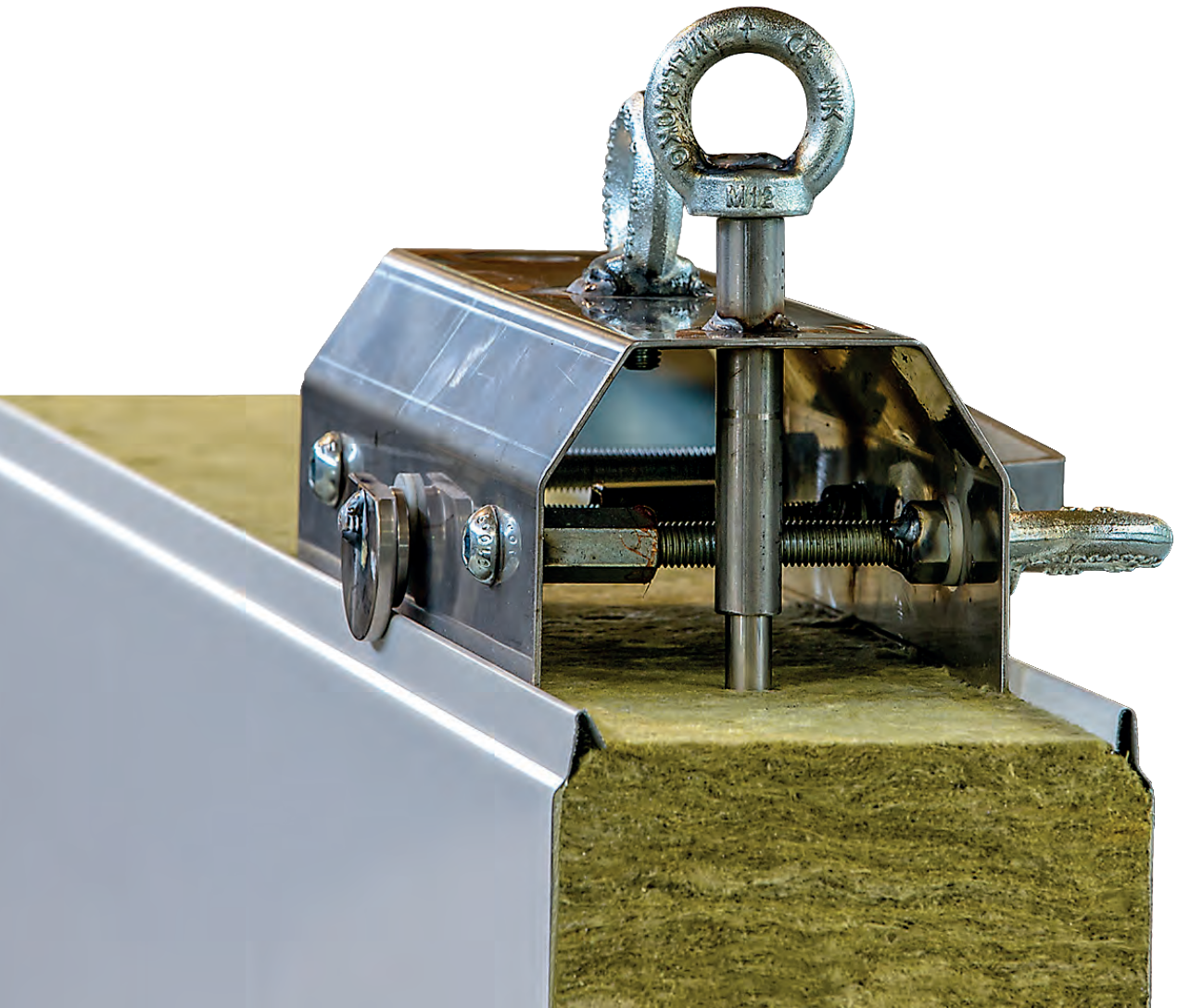
Areco Spirit Panel

TONGUE LIFT

• The tongue lift is used during horizontal lifting and installation of Areco Spirit Panel elements.

• Each element thickness has its own lift. Areco does not approve use of the tongue lift for anything other than lifting Areco Spirit Panel elements.

• If there is visible damage to the lift, stop using it immediately and discard it.

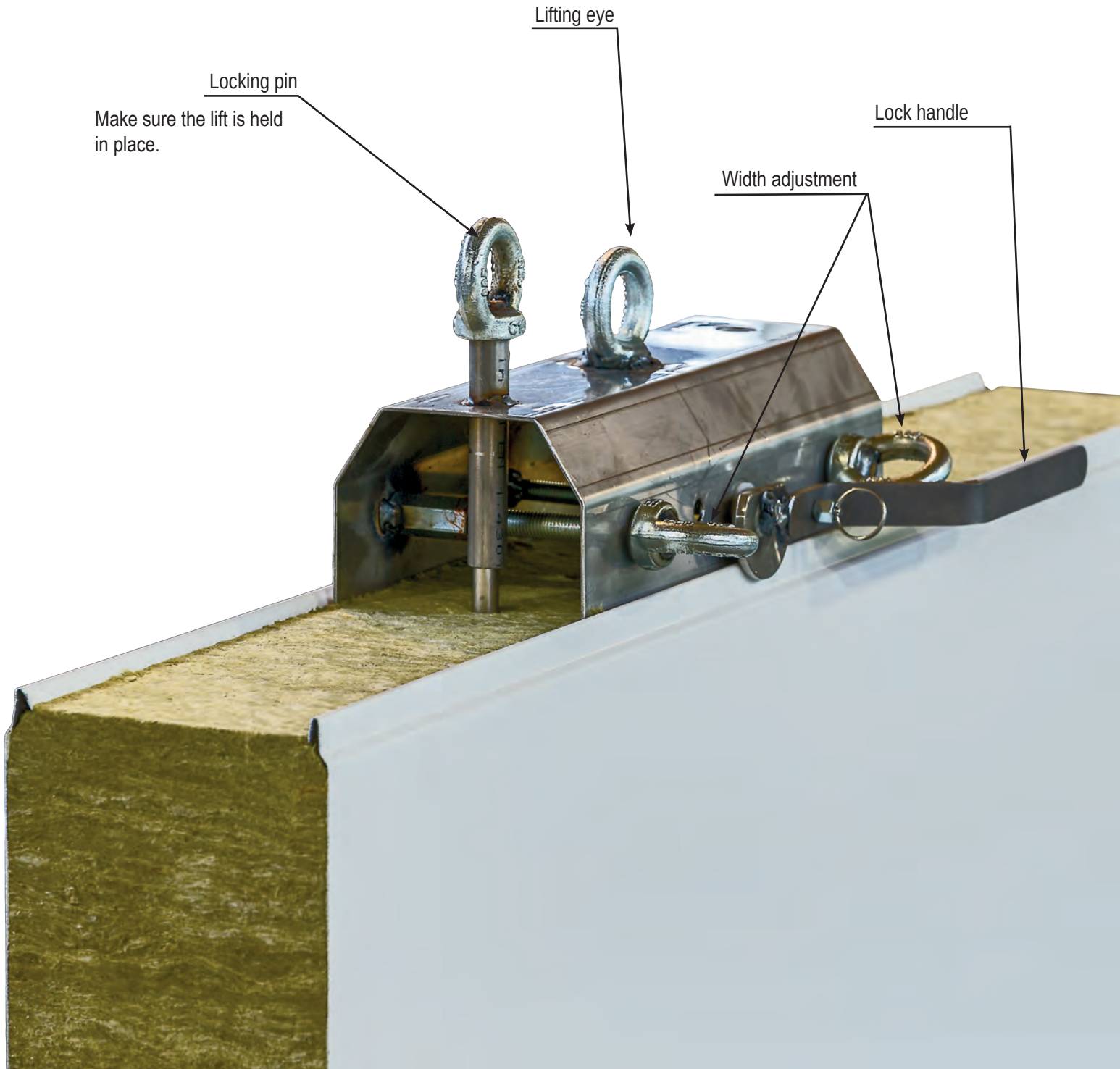


Areco Spirit Panel

FITTING THE TONGUE LIFT

1. Position the edge of the tongue lift (not the lock handle side) in the tongue and groove area of the element.
2. Turn the other edge of the lift into the tongue and groove area as well.
3. Check that both sides of the lift are in place in the tongue.
4. Turn the lock handle 180 degrees to the locked position.
5. Slide the locking pin down into the wool.

TONGUE LIFT PARTS

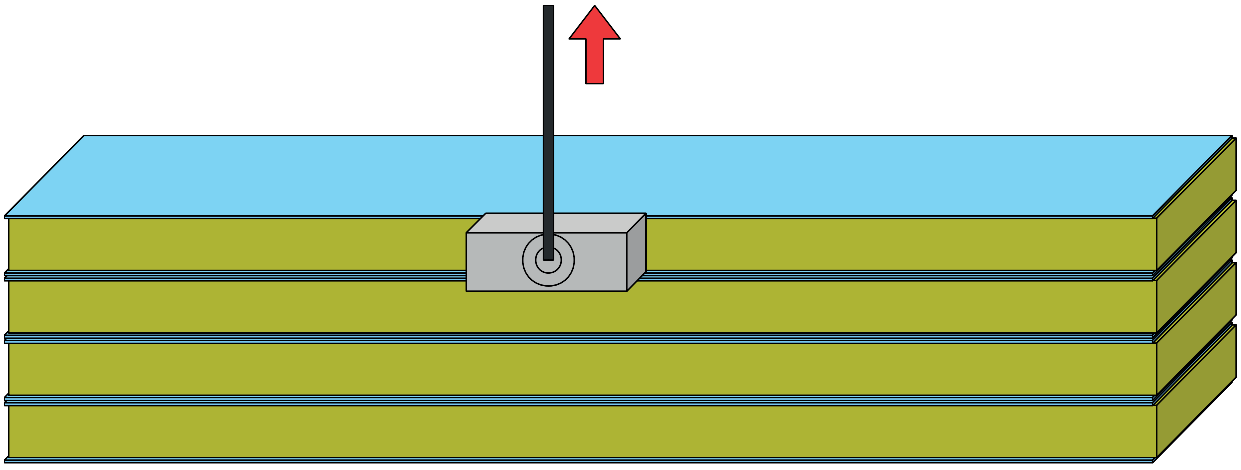


Areco Spirit Panel

USING THE TONGUE LIFT

1. Position the edges of the lift under the tongues of the ASP element and turn the handle to the locked position. Slide the locking pin into the wool to prevent the lift from moving sideways.

2. Locking of the lift must be checked from both sides. Make sure the lift is seated properly in the tongue.



Lift the element from the stack.

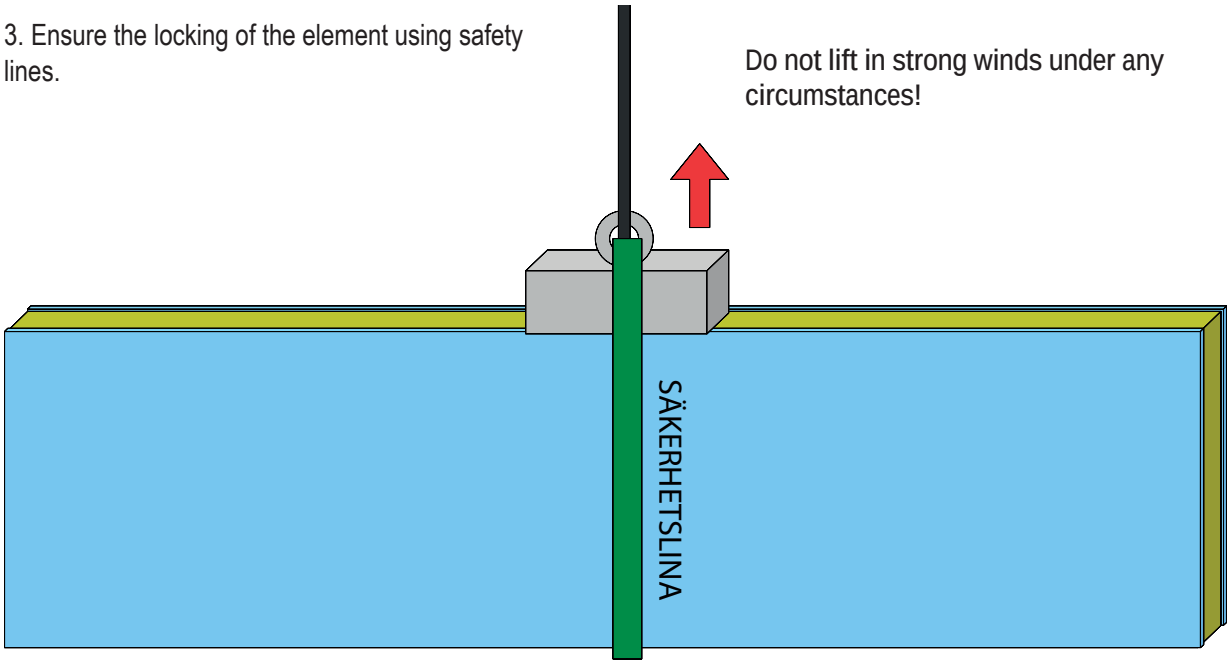
When starting to lift, be careful not to scratch the surface of the next element in the stack. At the lifting stage, you can protect the groove so it does not scrape this.

The lift must be carried out carefully. Avoid rapid movements. Also make sure there is no person or object nearby who could be injured or damaged if the element were to fall.

Make sure that the lifting process is not subjected to any other external load that could cause the tongue lift to come loose.

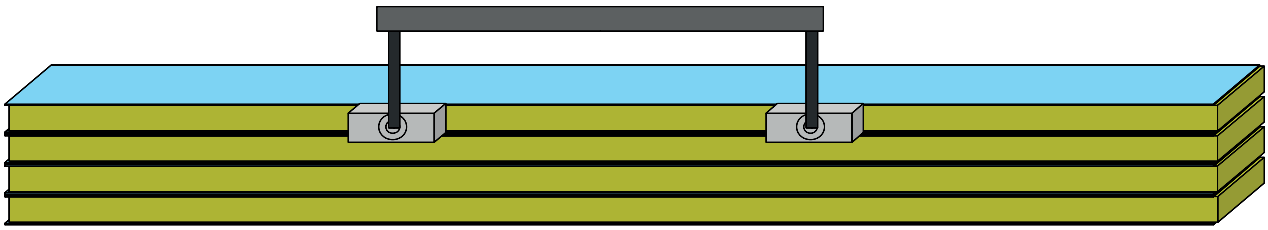
3. Ensure the locking of the element using safety lines.

Do not lift in strong winds under any circumstances!

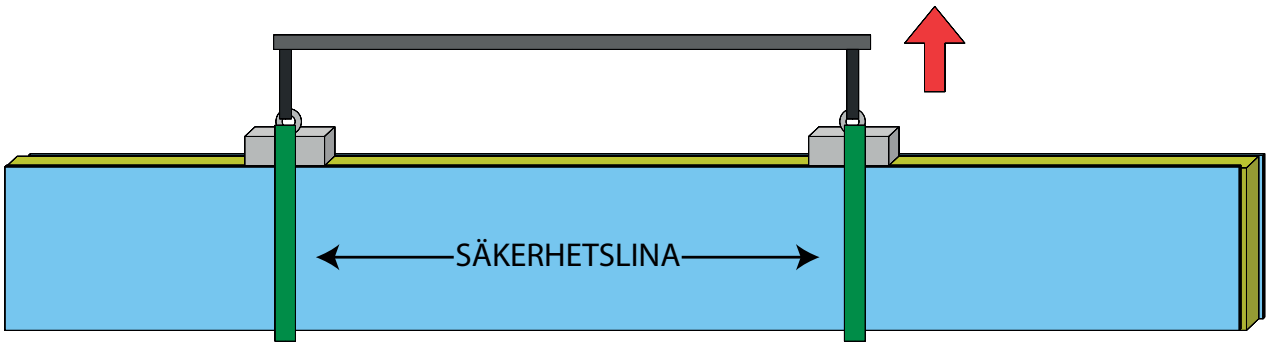


Lifting the element up, using safety lines.

Use two tongue lifts when lifting long elements (> 4.0 m).



Long elements must be lifted with two tongue lifts and a lifting beam.



Both of the lifts must use safety lines.

4. The safety lines can be detached and remove right before the element is lowered to its installation site.

5. Once the element is in place and secured to the framework, the lift can be removed.

Areco Spirit Panel

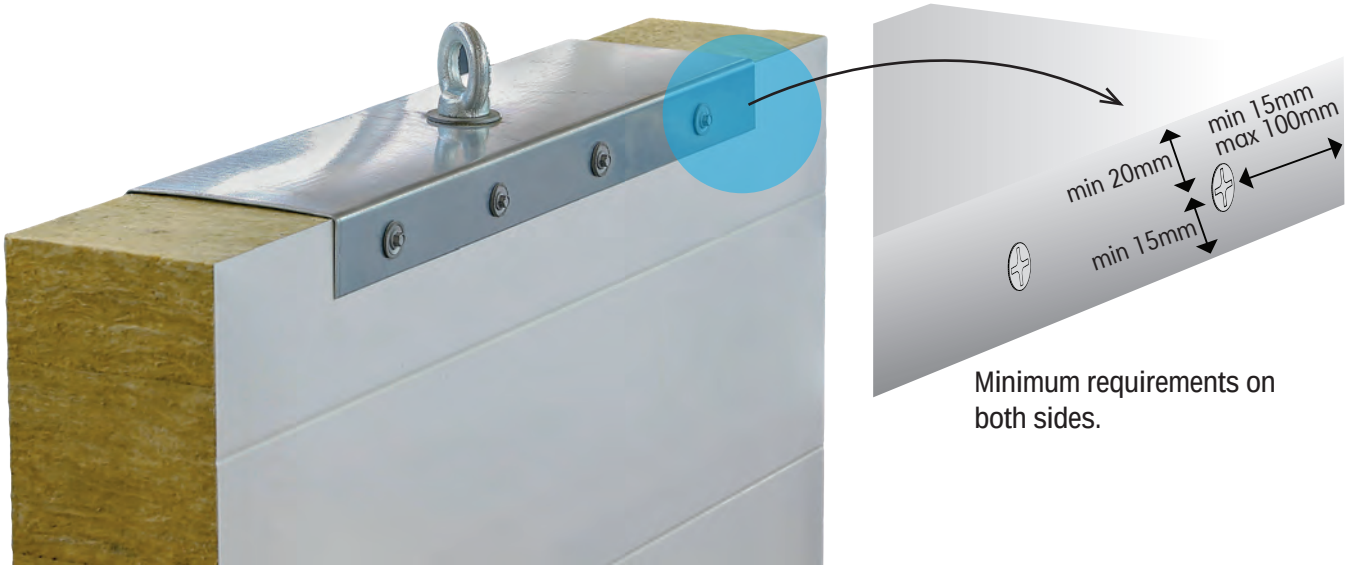
LIFTING SPLIT ELEMENTS

1. Check the lift and place it over the edges of the split element. Remove any debris or other residue that may have come between the lift and the element.

2. Check that the lift is positioned as close to the wool as possible, and screw it in place with at least 4 penetrating element screws.

If the element is stacked, lift it upright or move it so that the elements beneath it are not damaged when the screws are attached.

3. Check that the screws have gone through the element by at least 20 mm as illustrated below.



Minimum requirements on both sides.

Attaching the lift.

4. When starting to lift, be careful not to scratch the surface of the next element in the stack. The lift must be carried out carefully. Avoid rapid movements.

Also make sure there is no person or object nearby who could be injured or damaged if the element were to fall.

Make sure that the lifting process is not subjected to any other external load that could cause the tongue lift to come loose.

THE FOLLOWING POINTS MUST BE OBSERVED WHEN LIFTING ELEMENTS:

1. Only use safety lines that can be tensioned/tightened.
2. No one may be under the lift under any circumstances.
3. Do not lift in strong winds under any circumstances (> 10 m/s).
4. Always follow the safety regulations of the construction site.

TO BE OBSERVED WHEN LIFTING SPLIT ELEMENTS:

1. The lift may only be used with ASP elements!
2. The element lift is designed for ~15 lifts/tongue lifts and may only be used at that specific construction site (no transferring between sites). Drilling in the same hole is permitted max. 3 times. Several new holes can be drilled into the element lift. However, the new holes must be at least 10 mm from the old holes, and the distance between the edge and the outer edge of the lift must be at least 15 mm. Moreover, the outer holes must not be more than 100 mm from the edge of the lift.
3. Use at least four screws when drilling through the element.
4. The minimum diameter for the screws/fasteners is 5.5 mm.
5. The max. lifting angle for two lifts is 60 degrees.

TONGUE LIFT'S LIMITATIONS
2 lifts: max. lifting angle for two lifts is 60 degrees. Max. 550 kg.
1 lift: max. 400 kg

SPLIT ELEMENT'S LIFTING LIMITATIONS:
2 lifts: max. lifting angle for two lifts is 60 degrees. Max. 500 kg.
1 lift: max. 350 kg

Always read the instructions for use before using the lift.

Always use safety lines when lifting.

No one may be under the lift under any circumstances.

Always follow the safety regulations of the construction site.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CE The basis for CE-marking, such as measurement, working methods, and documentation, was carried out by VTT Technical Research Centre in Finland.

Please contact your local sales representative for more information.

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