

**SYSTEM BOARDS
WITH FULL-SURFACE
ALUMINIUM FOIL COATING
EPS ALU FC**

**DRY UNDERFLOOR
HEATING**

New system boards for renovations
and buildings requiring low floor profile,
lightweight construction solutions.

new product

EPS ALU FC

System boards with full-surface aluminium foil coating for dry underfloor heating

The system boards made of high-density, compression-resistant expanded polystyrene (EPS) serve as the supporting element for underfloor heating pipes. The boards are laminated with 100-200 micron aluminium layer, which acts as a heat sink, transferring heat from the pipe surface. It distributes heat evenly across the board surface to ensure optimal thermal comfort.

Installation type:

Dry underfloor heating, low profile

Key benefits

- + Screedless system - solution for renovated rooms where screed cannot be applied
- + Low weight
- + Great compressive strength
- + Low profile (complex system starts with 20 mm)
- + Quick installation time, where the system is fully ready to immediate usage
- + Thermal inertia reduced to a minimum causes faster system response and responsiveness to control

Where to use?

Suitable where screed installation is not feasible.

In buildings requiring low floor profile and lightweight construction solutions.

- + Modular and timber frame buildings
- + Tenement houses
- + Objects under conservation supervision
- + Service and commercial facilities
- + Renovations of single-family houses

EPS ALU FC

Specification

Board material: EPS 300 or EPS 400

Covering material: Aluminium

Aluminium foil thickness: 100-200 μm

Pipe spacing: 125, 250 mm (for 1000 x 500 mm)
150, 200 mm (for 1200 x 600 mm)

External pipe diameter: 16 mm

Fire class according to PN EN 13501-1:E: Euroclass E

Compressive strength: CS(10)280 and CS(10)400

Average dynamic rigidity: 478 MN/m³

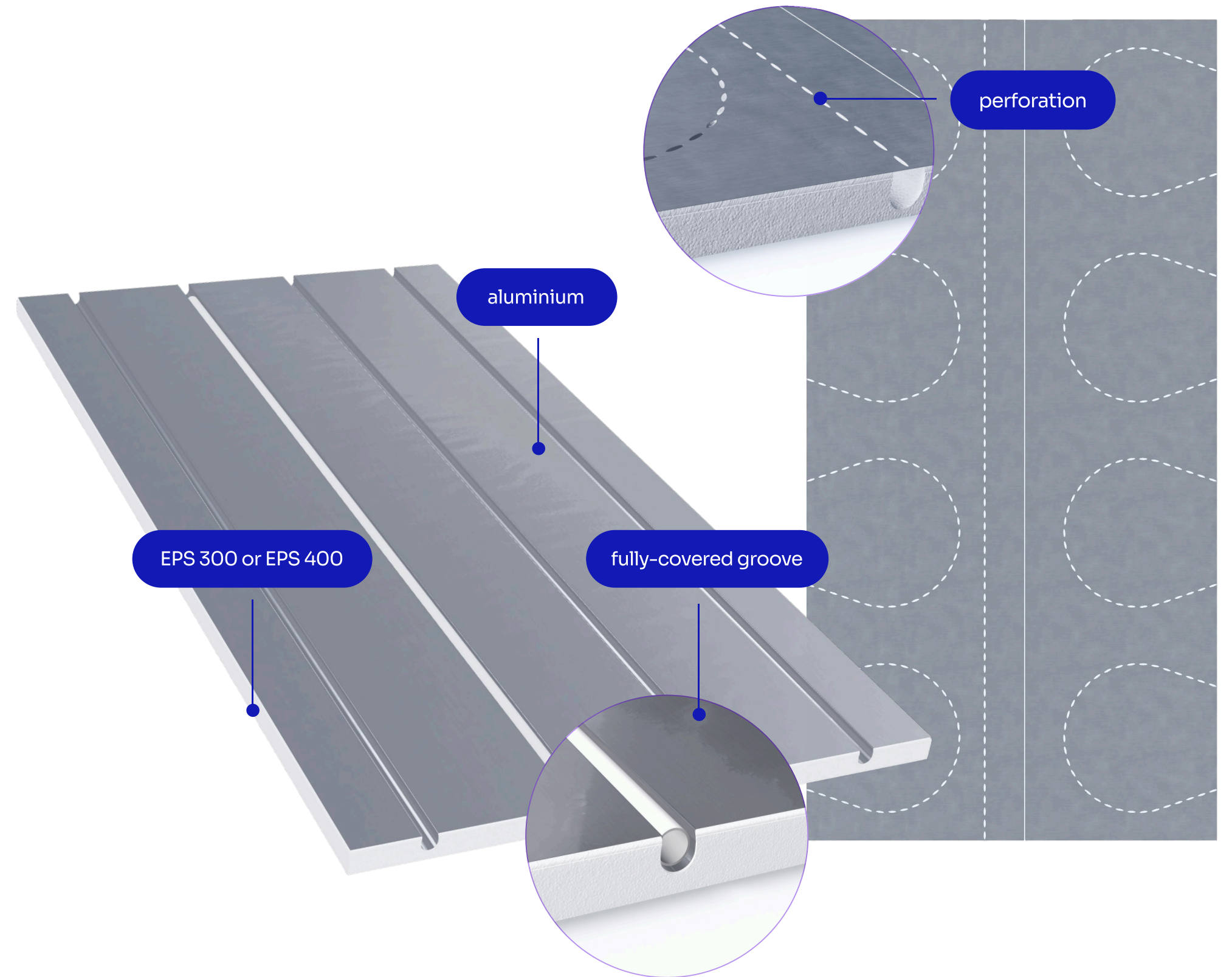
Available configurations

Available boards dimensions:

1000 x 500 mm
and 1200 x 600 mm

Available EPS thicknesses:

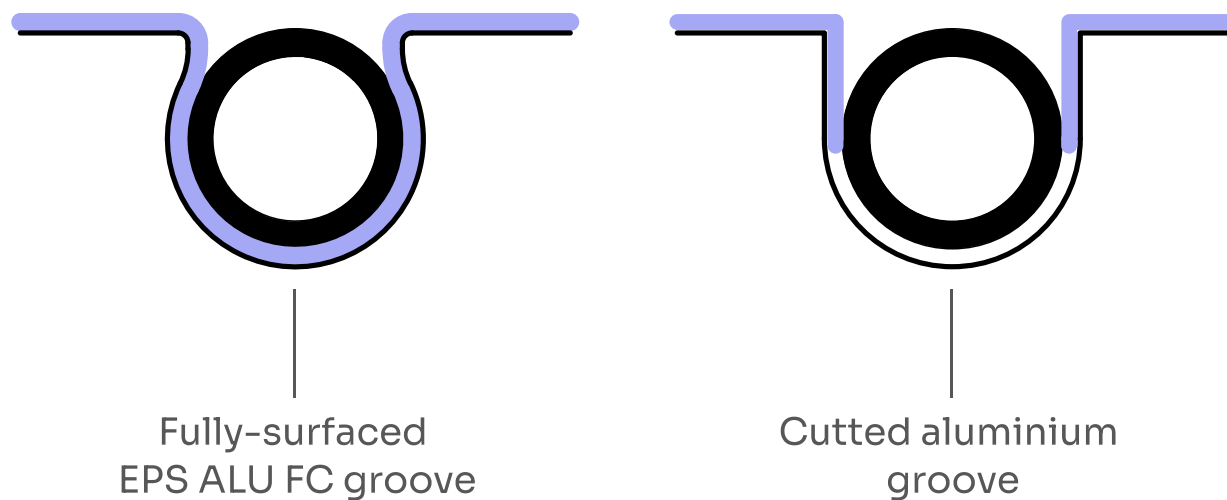
20, 25, 30, 50 mm



Efficiency increased to the FC level

The EPS ALU FC system board has been developed to enhance underfloor heating system efficiency and ensure improved heat transfer from the pipe surface. Thanks to the fully-surfaced groove technology, the pipe is encased in aluminium layer from below as well. This solution prevents heat loss into the lower floor layers.

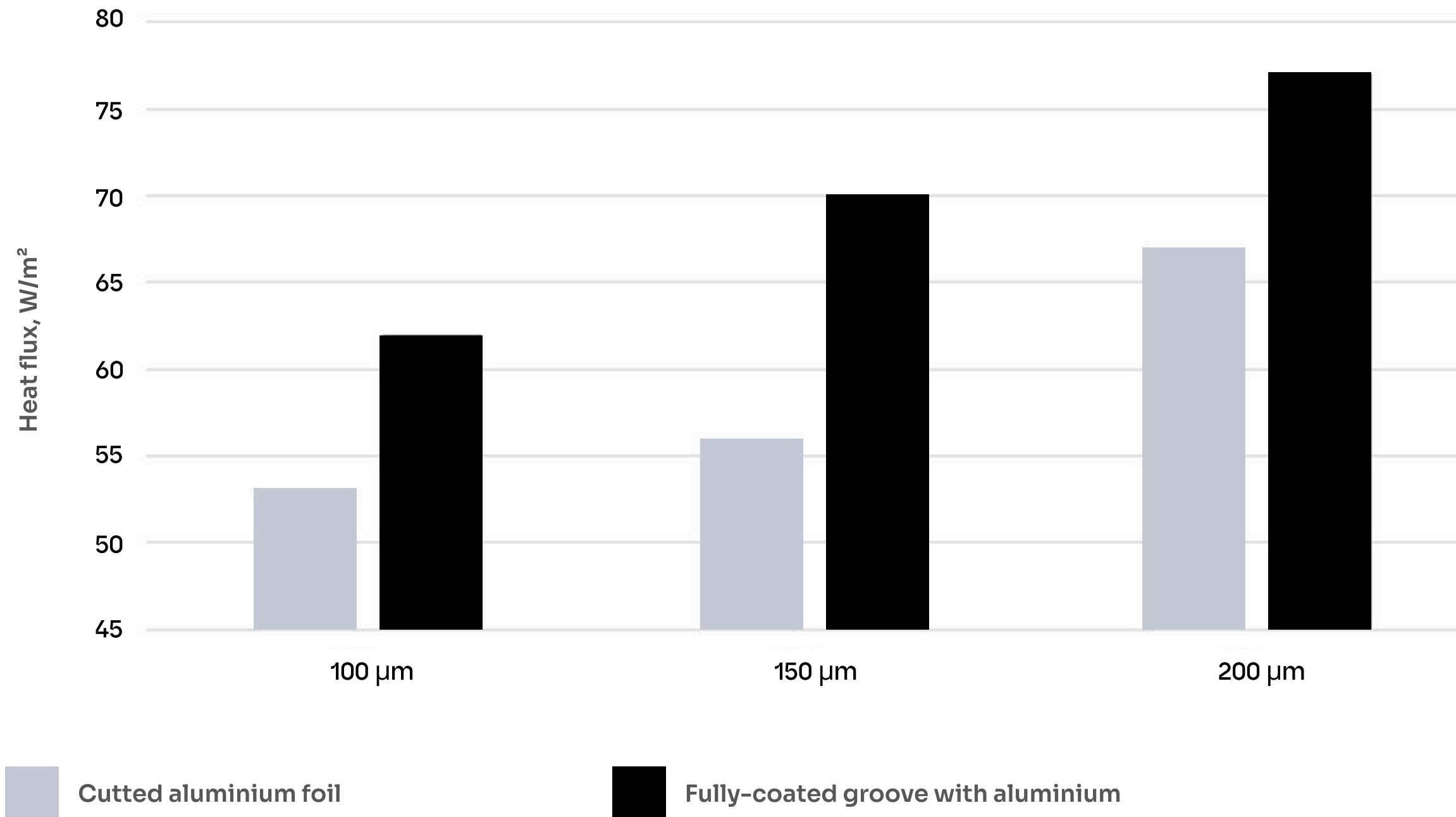
Groove covering with aluminium



Key benefits

- + Efficient heat distribution through full-surface high thermal conductivity aluminium layer
- + Specially developed aluminium alloy that maintains exceptional physical properties while originating from recycled materials
- + Excellent pipe holding thanks to the specially designed groove cross-section shape
- + Excellent thermal performance
- + Exceptional dimension and shape repeatability

UFH output

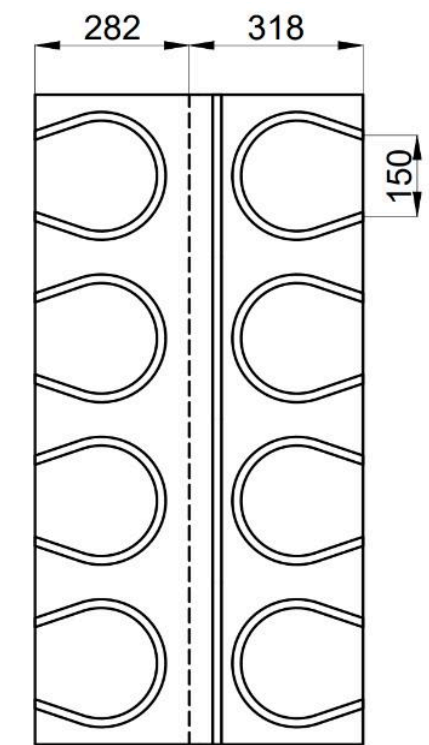
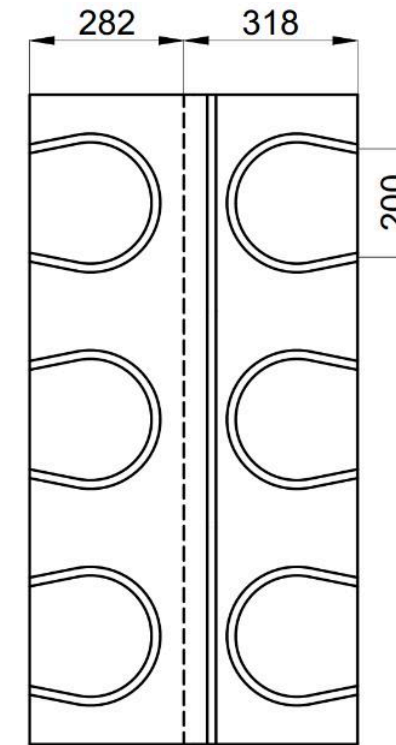
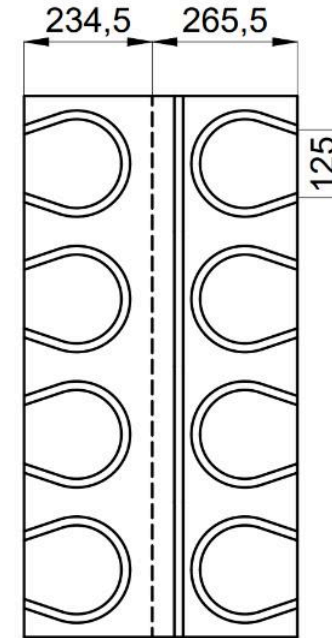
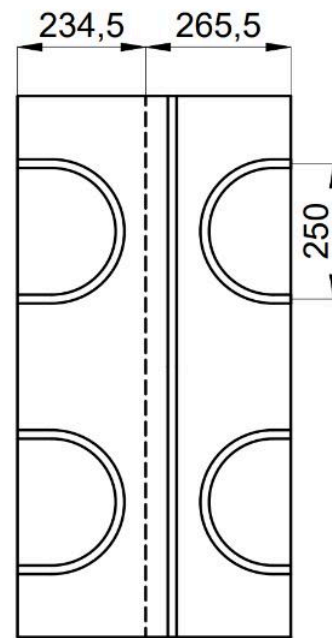


The graph illustrates a performance comparison between boards featuring full-surface aluminium foil coverage versus those with cutted aluminium layer.

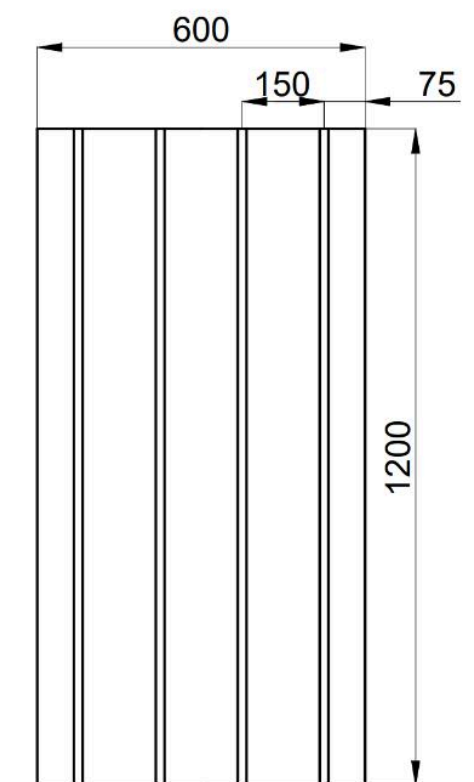
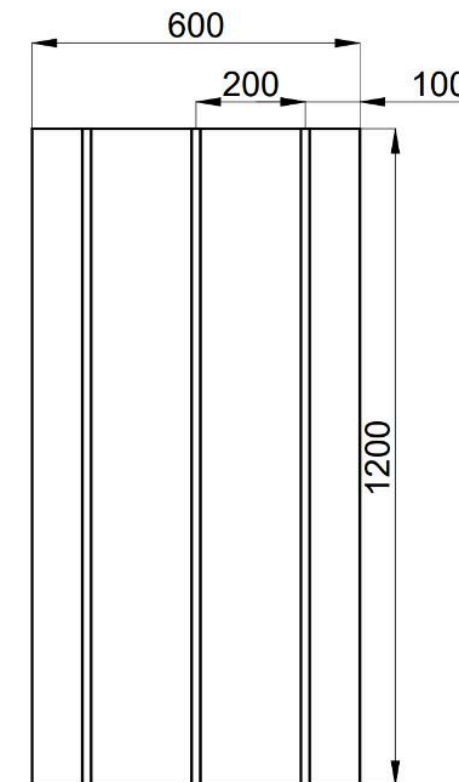
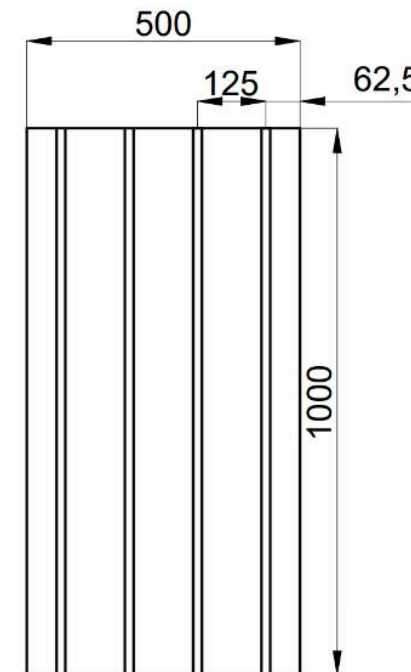
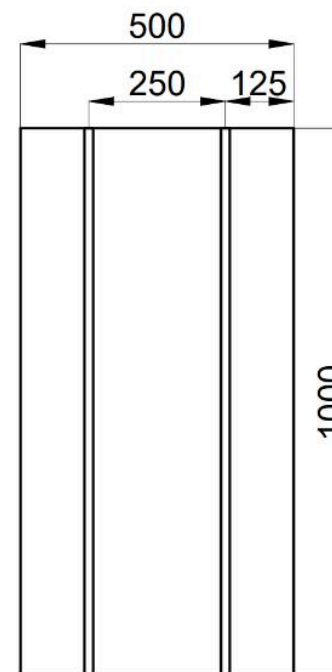
Test results indicate superior performance and enhanced heat transfer efficiency from the pipe lateral surface for boards with fully-surfaced installation grooves.

Available patterns

Curved Arc element
- cutted aluminium
or without aluminium layer



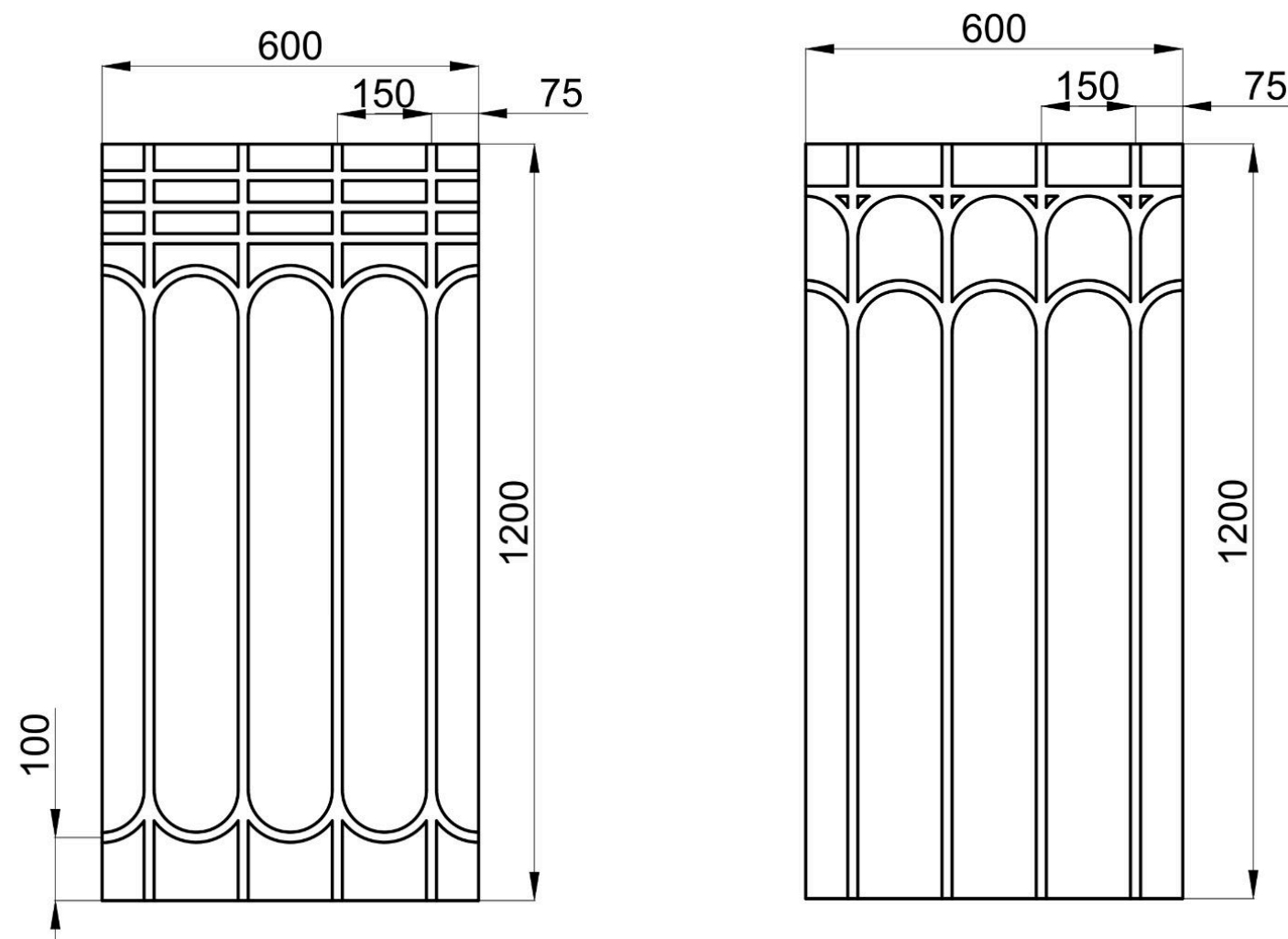
Straight Line element
- fully aluminium covered



ask for all available OEM options

OEM Do it your way

Through our OEM manufacturing model, we can produce boards with full-surface aluminium covering in your bespoke milling pattern. The straight installation channels feature fully-surfaced aluminium lining, while the curved sections and bends are foil-covered and prepared for cutting during the installation process when needed.



Possible floor coverings and cross-sections

Subsequent layers placed on the system board depend on the chosen floor covering. These may include underlays for floating floors, tension-reducing mats and adhesive layers bonding the individual system components.

Applicable floor coverings:

- + Ceramic tiles
- + Laminate and engineered wood panels (floating floors)
- + Vinyl panels: glued or tongue-and-groove jointed

When selecting a floor covering, attention should be paid to the thermal conductivity coefficient λ for the material in consideration, which should not exceed a value of $0.15 \text{ m}^2\text{k/W}$ in order to maintain the intended performance of the system.

Great oaks from little acorns grow.
Do not hesitate to reach us.

TIA Ltd.
Headquarters:
Głęboka 34 Street
37-200 Przeworsk, Poland
VAT: PL7941513356

export@tia.com.pl
tia.com.pl