warmotech®

# WARMOTECH 550

window assembly systems
multi-layer elements
w-core panels

Rigid materials - flexible solutions

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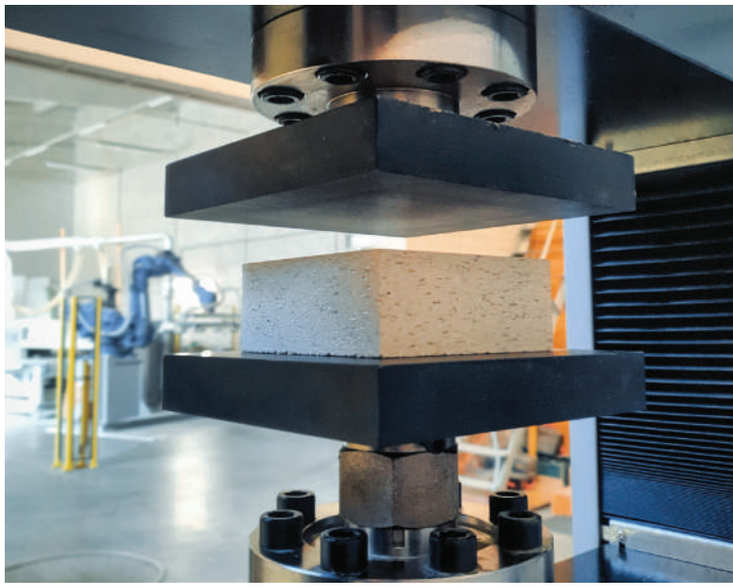
## COMPANY

In Europe a growing number of companies are entering the circular economy with sustainable production models, recycling construction waste that normally ends up in landfills. One of these companies is the Lithuanian company UAB ANDERUS. The company recycles rigid polyurethane foam waste to produce construction panels under the Warmotech brand, a material that meets high mechanical standards and has exceptional properties. UAB ANDERUS can offer solutions and products that are both efficient and environmentally conscious.

## QUALITY

Issued European Technical Assessment (ETA-22/0454) demonstrates our commitment to quality and safety standards. Warmotech boards are compliant with the relevant EU regulations and also has Environmental Product Declaration. The verifications and assessment methods lead to the assumption of working life of the thermal insulation boards of at least 25 years. In addition, Warmotech panels are a low-emission material (formaldehyde-free) that conforms to the M1 emission class.



## PRODUCTS

Warmotech boards are intended to be used as thermal insulation in buildings and construction applications, including floors, walls and roofs. Warmotech panels are widely used in the construction sector for building units where the problem of thermal bridges may occur or by replacing other insulating materials that are not strong enough to withstand heavy loads. Products made of Warmotech boards are widely used for installing windows and doors in the insulation layer.

Warmotech boards are composed of milled PU-residues (can include other materials e.g., craft paper or aluminum foil) and bonding agents. The final product – Warmotech board - is made of at least 90% recycled rigid polyurethane (PU) foam. The residue left after cutting/ processing the board can be milled and reused once more.

# WARMOTECH 550

Warmotech is a recycled PU foam board, with a density of 550 kg/m³. Warmotech boards can be painted, laminated, combined with other materials to create new products for various applications. It is easily fixed by conventional fixing methods, i.e. using screws or adhesives. The color of Warmotech boards (green or yellow) depends on the origins of the recycled polyurethane. However, it has no effect on the flammability, mechanical strength, thermal conductivity and other declared characteristics.

green

yellow

PRODUCT DATA SHEET

| Essential characteristic | Test method | Unit | Performance and characteristics | Standard formats |
|---|---|---|---|---|
| Reaction to fire | EN 13501-1:2019 | | D-s3, d0 | |
| Bending strength | EN 12089:2013 | MPa | ≥ 4,7 | |
| Thermal conductivity, $\lambda_{D(23/50)}$ | EN 12667:2002 | W/ (m·K) | ≤ 0,088 | |
| Compressive strength | EN 826:2013 | MPa | ≥ 7,1[4)] | |
| Water absorption (by short term, partial immersion) | EN ISO 29767 | kg/m² | ≤ 0,4 | |
| Dimensional stability under specified temperature and humidity (DS 70,90) | EN 1604:2013 | % | ≤ 1,0 | |
| Dimensional stability under specified temperature and humidity (DS -20,-) | EN 1604:2013 | % | ≤ 1,0 | |
| Density | EN 1602:2013 | kg/m³ | 550 ± 50 | |
| Nominal thickness | EN 823:2013 | mm | 0.5 | 20, 30, 40, 50, 60, 70[2)] |
| Nominal length | EN 822:2013 | mm | 5.0 | 2750, 3020, 3600[3)] |
| Nominal width | EN 822:2013 | mm | 5.0 | 1150, 1220[3)] |
| Squareness | EN 824:2013 | mm/m | 1.0 | |
| Flatness | EN 825:2013 | mm | 4.0 | |
| Hygroscopic sorption properties [1)] | EN ISO 12571 | % | ≤ 3,0 | |
| Water vapour diffusion resistance coefficient [1)] | EN 12086:2013 | μ | 25-90 | |

1) Laboratory values, not declared in DOP and ETA.

2) Other thicknesses on request.
Thickness range from **10 mm** to **100 mm**.

3) Standard panel formats:
**1150 x 2750 mm, 1220 x 3020 mm, 1220 x 3600 mm.**

4) Valid for thicknesses up to **60 mm**.

European technical assessment (ETA)

Declaration of performance (DOP)

Environmental product declaration (EPD)

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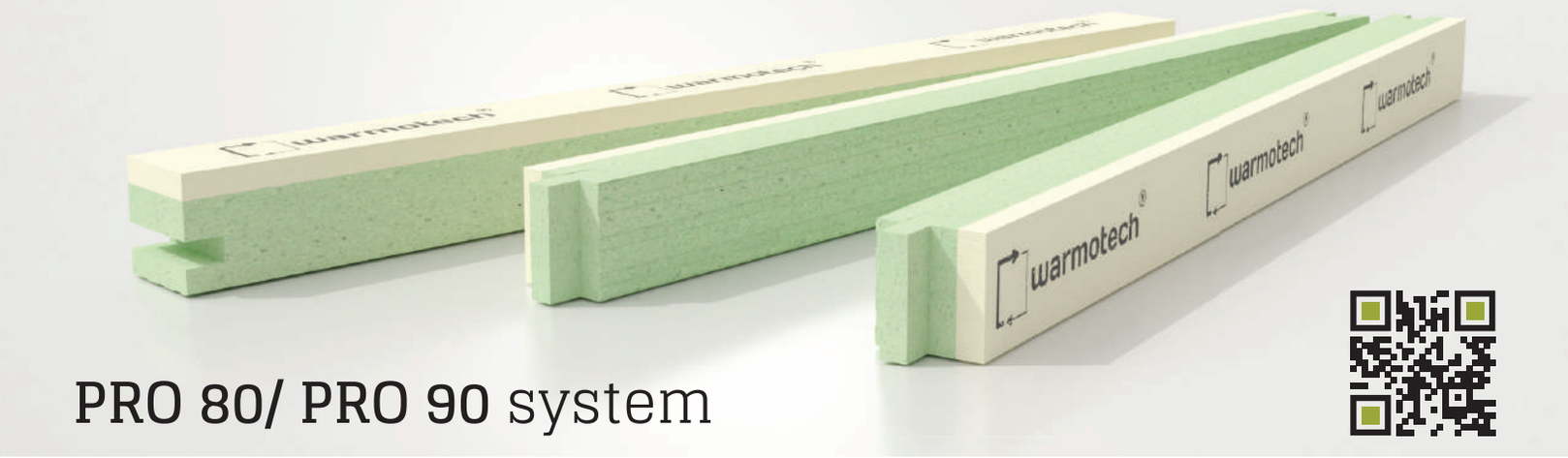
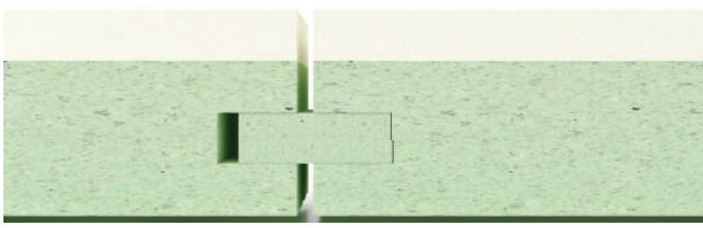



# PRO 80/ PRO 90 system

Warmotech PRO 80 / 90 system is used as a frame system for window installation in the thermal insulation layer. The profiles are made of a solid layer of Warmotech material for durability, dimensional stability, compressive strength and soundproofing characteristics.
Additional layer of extruded polystyrene on the outside provides additional thermal insulation properties. Profiles are sold in units, standard unit length – 1150 mm or 2750 mm.

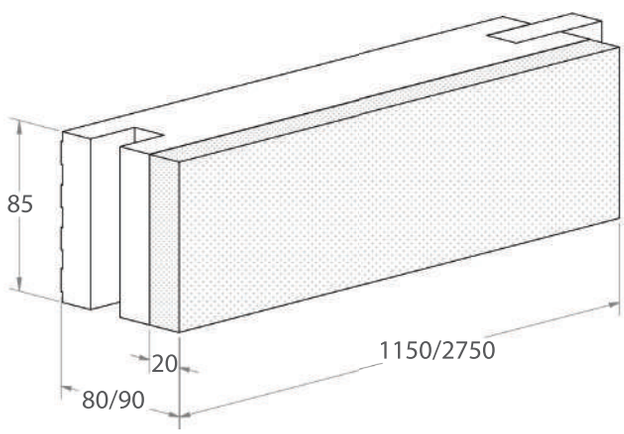


**< 1,0 %**
Dimensional stability

**0,77 W/m²K**
U Value, from

**2750 mm**
Long elements, up to

**100 kg**
Load point, from

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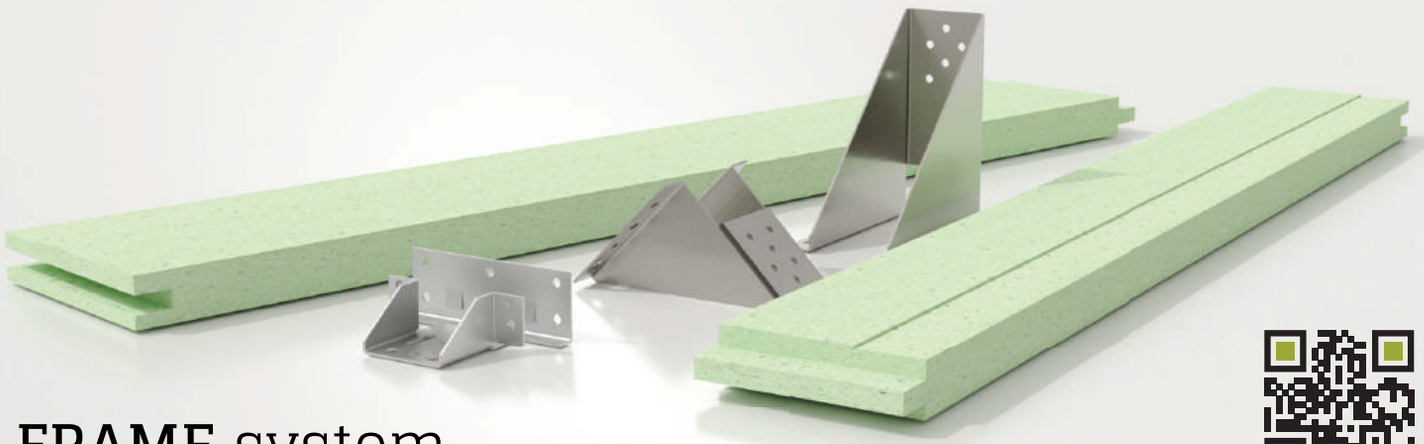
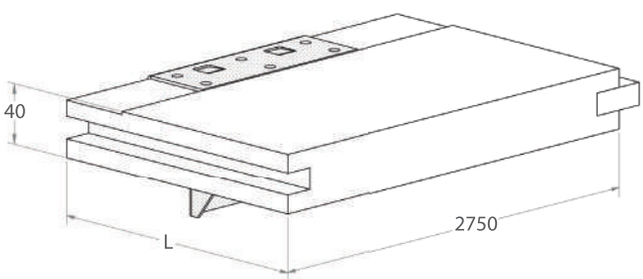


# M FRAME system

Warmotech M FRAME system is used for window installation in the thermal insulation layer. Specifically made to create a wider inner windowsill. The profiles are made of a solid Warmotech material for durability, dimensional stability, compressive strength and soundproofing characteristics. System consists of stainless steel mounting brackets and holders. M FRAME system can also be installed at sub-zero temperatures.
Profiles are sold in units, standard unit length - 2750 mm.




**Stainless steel**
Brackets made of

**100 kg**
Load point, from

**2750 mm**
Long elements, up to

**280 mm**
Maximum extension

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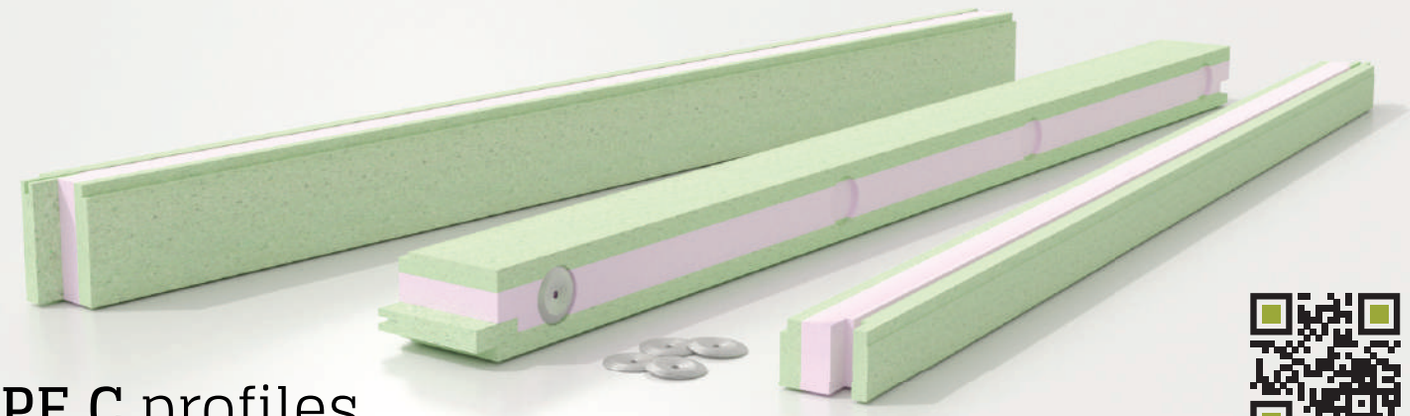
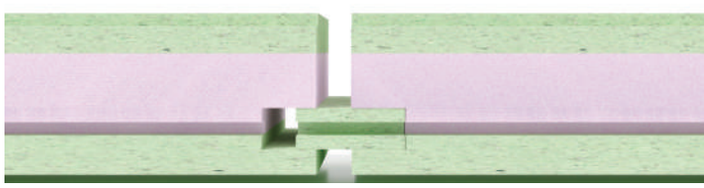
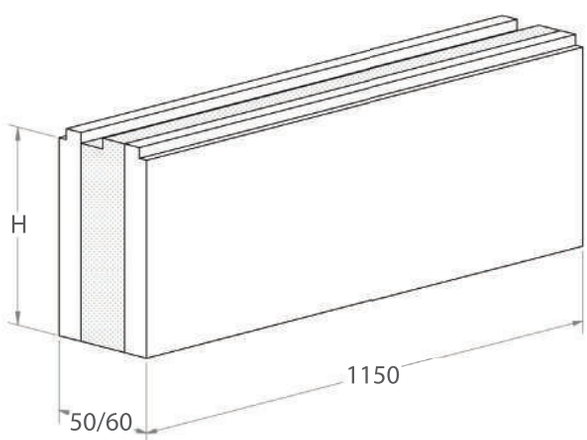


# TYPE C profiles

Warmotech TYPE C profiles are used to lift window to the required height. These profiles come with a set of four washers and screws for which profiles have a milled mounting point. The profiles are made of extruded polystyrene foam (in the middle) for increased thermal insulation features and Warmotech board outer layers for additional strength. The routing of these profiles corresponds to the necessary window system.
Profiles are sold in units, standard unit length - 1150 mm.






**50 or 60 mm**
Standard width

**1,05 W/m²K**
U Value, from

**30 to 220 mm**
Standard height

**150 kg**
Load point, from

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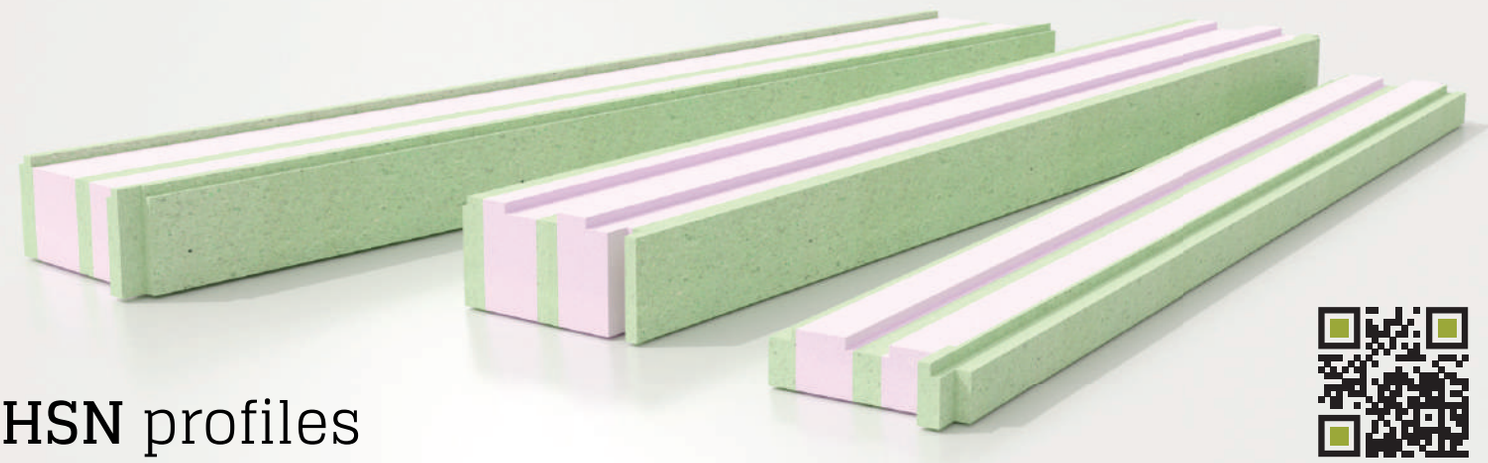
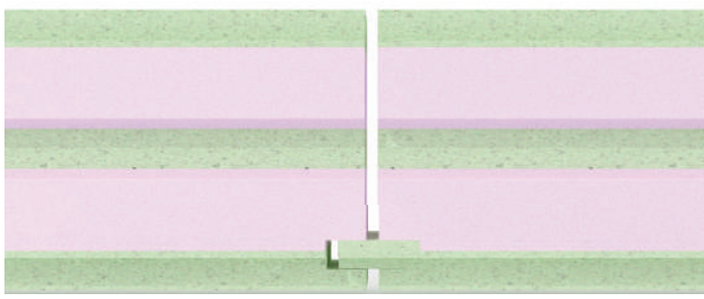


# **HSN** profiles

Warmotech HSN profiles are made specifically for sliding door systems. They are used to lift the windows (HS systems) from the plinth to the required height. The profiles consist of multiple layers of extruded polystyrene foam and Warmotech panels. XPS layers reduce overall profile weight and increase thermal insulation properties. Layers of Warmotech board increase profile strength and rigidity. The routing of these profiles corresponds to the necessary window system.
Profiles are sold in units, standard unit length - 1150 mm.

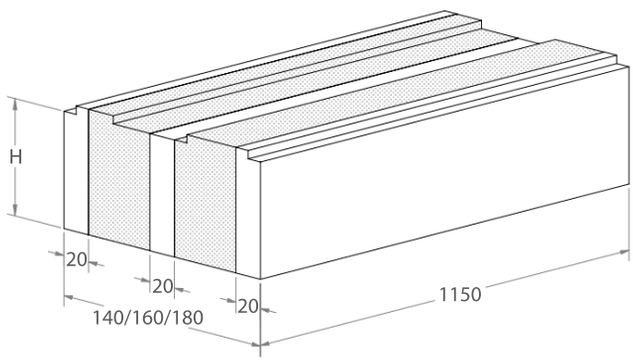


**40 - 260 mm**
Standard height

**0,34 W/m²K**
U value, from

**140/160/180 mm**
Standard width

**200 kg**
Load point, from

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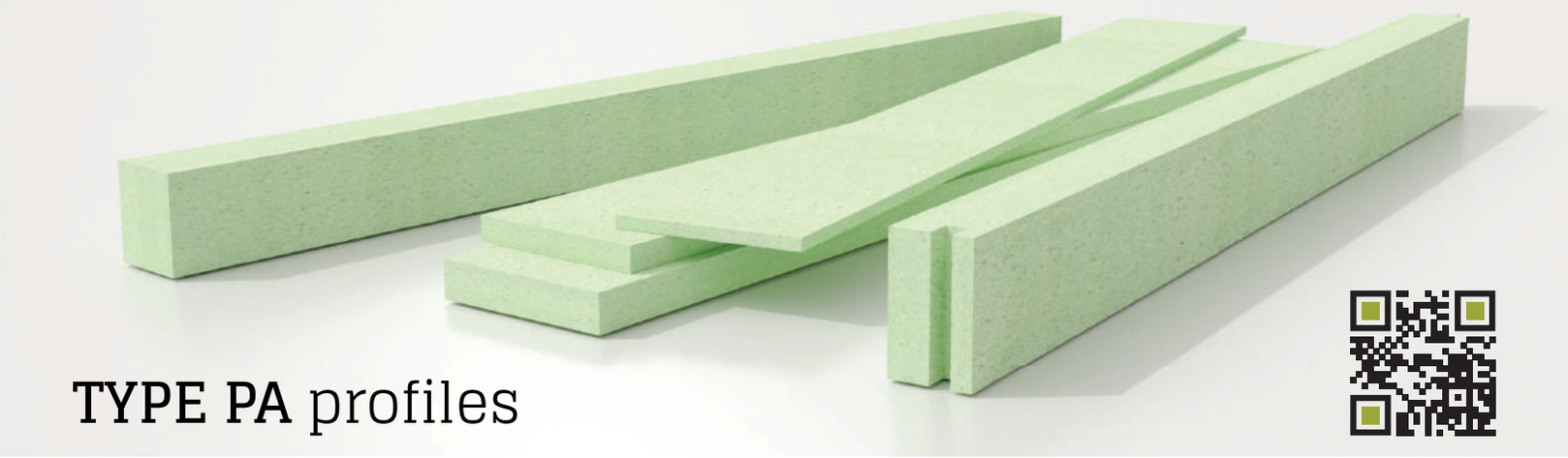
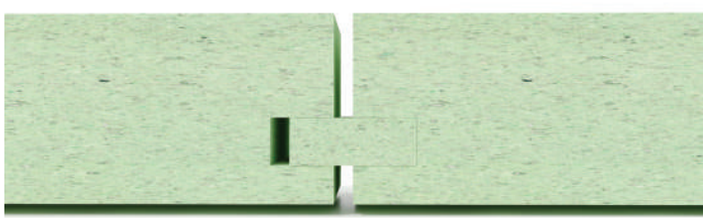
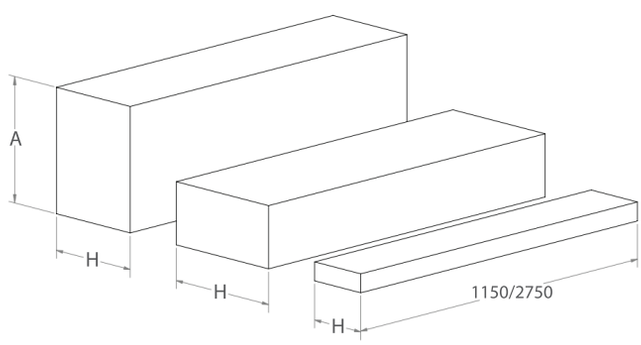


# TYPE PA profiles

Warmotech PA type profiles are made of solid Warmotech material and are available in various dimensions. Used for the installation of wooden windows or extremely heavy structures. Also used in aluminum constructions, concrete industry and other fields.
Profiles are sold in units, standard unit length - 1150 mm or 2750 mm. On request, additional waste-free joint are possible.






**10 - 100 mm**
Standard thickness

**2750 mm**
Long elements, up to

**10 - 500 mm**
Standard width

**≥ 7,1 MPa**
Compressive strength

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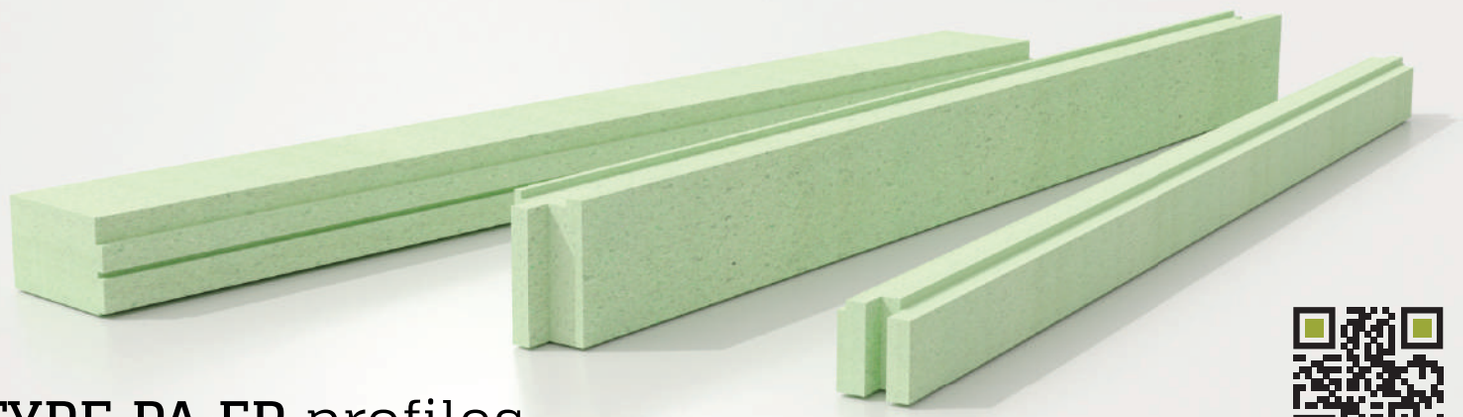
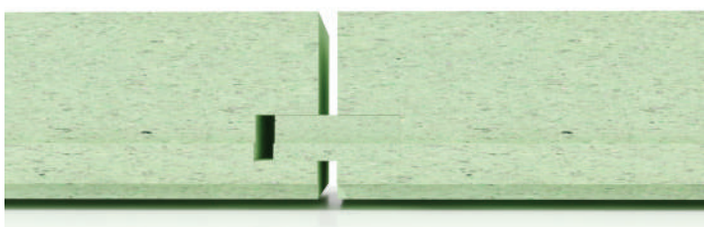
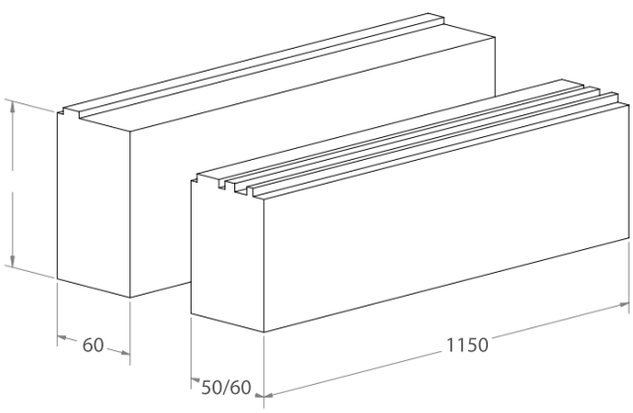


# TYPE PA FR profiles

Warmotech PA FR profiles are used for lifting the window to the required height or floor level. The profile is rigid – made of a solid one-piece layer of Warmotech material. The top part of profile is routed according to window profiles. This tight connection ensures good thermal insulation properties.
Profiles are sold in units, standard unit length - 1150 mm.






**~550 kg/m³**
Density

**50 or 60 mm**
Standard width

**10 - 500 mm**
Standard height

**≥ 7,1 MPa**
Compressive strength

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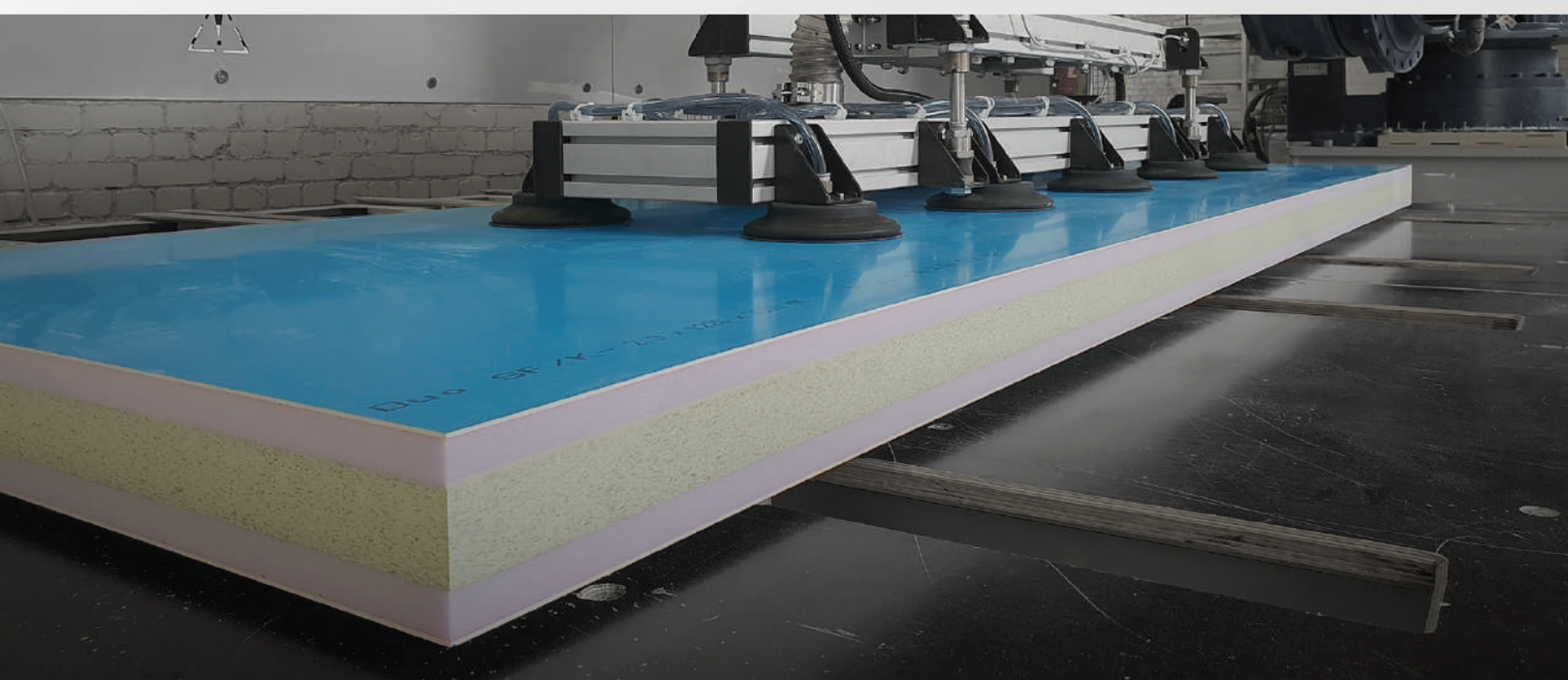
# **MULTI-LAYER** elements

Our company produces various multi-layer sandwich elements with a wide range of materials (Warmotech, PVC, HPL, EPS, XPS, etc.). Warmotech board is ideal core substrate to different other materials. The characteristics of the thermal, mechanical and other factors of use are taken into consideration while manufacturing multi-layer products. On request, further work (such as milling, drilling or sanding) could be performed.

## PVC
Polyvinyl chloride

## XPS / EPS
Extruded / expanded polystyrene foam

## HPL
High pressure laminate



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# W- core panels

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High pressure laminate (HPL) coatings are applied to a Warmotech board to create the laminated panel known as W-core. This panel can replace the regular particle boards or other panels that do not meet today's requirements. It is the perfect choice for furnishings and decoration that require high resistance to water, mold and rot. W-core is an eco-friendly material. The middle layer of the product is made from recycled polyurethane foam and is formaldehyde-free.

**≤ 1,0 %**
Thickness swelling

**Water resistance**
Suitable for high humidity and wet environments

**10 - 60 mm**
Thickness range

**1150 x 2800 / 1220 x 3020 / 1220 x 3600**
Standard panel formats

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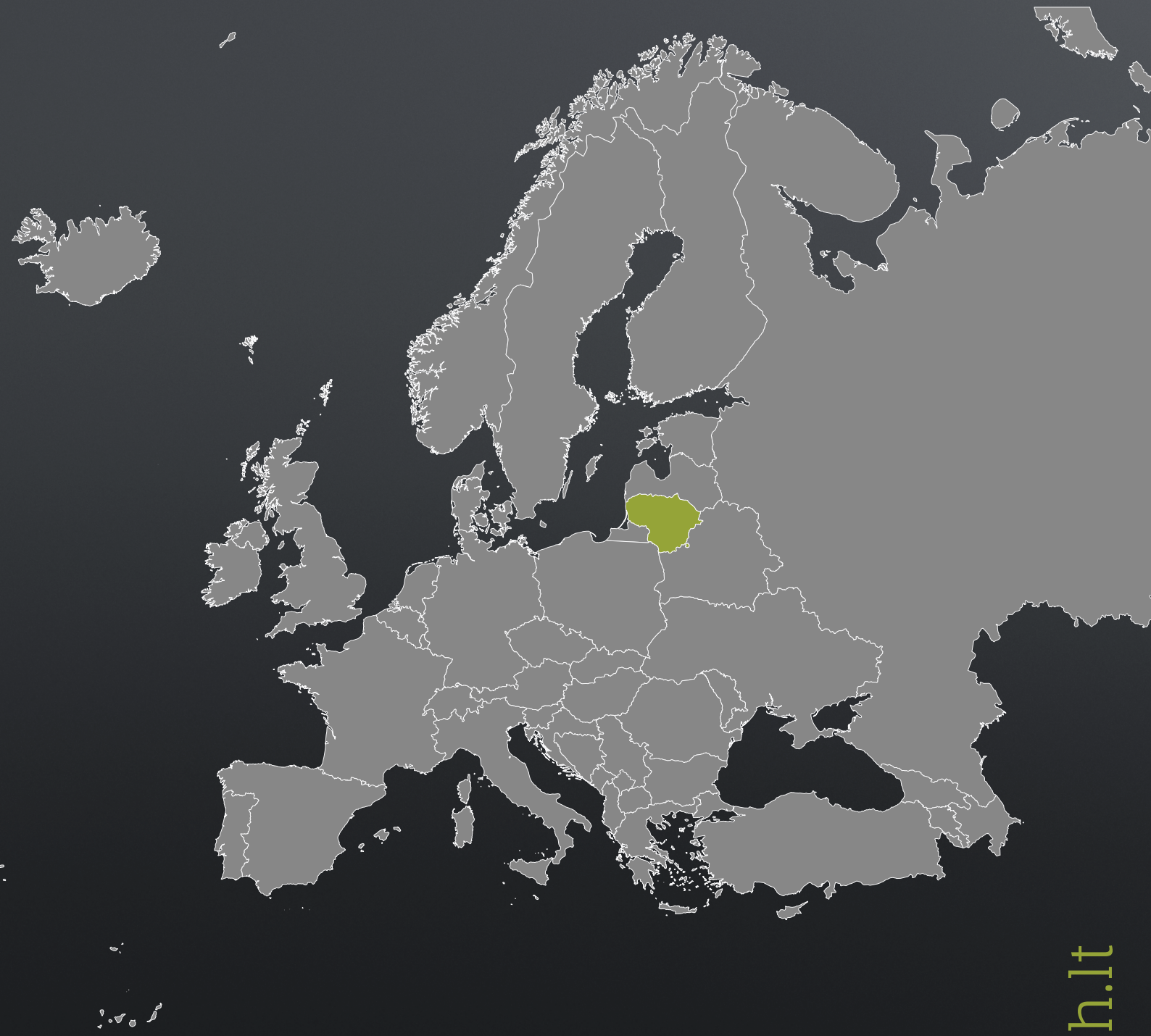

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