

# **MONTANATHERM®**

Sandwich elements with shells in steel and aluminium





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FAST.
ECONOMICAL.
MONTANATHERM®.

#### **SWISS MADE**

MONTANATHERM® wall elements and the trapezoidal roof elements are Swiss products. Manufactured in our factory in Villmergen (CH), they meet your and our high requirements for the best quality.

### **EXCELLENT CONSTRUCTION PROPERTIES**

The outstanding qualities of MONTANATHERM® sandwich elements — low weight combined with high rigidity — enable substantial bearing widths and easy fitting.

The corrosion-protected and weatherproof outer shells absorb the tensile and compressive forces that occur during load transfer.

### **ECONOMIC EFFICIENCY**

MONTANATHERM® is the predestined construction system for industrial and commercial buildings where rapid building progress, economic efficiency and high insulation value are required.

### INDIVIDUAL ADAPTABLE DESIGN

Through the possibility of attached exterior claddings, the individual ideas of planners and architects can be implemented without having to do without the well-known and proven benefits of the classic MONTANATHERM® sandwich elements.

The MONTANATHERM® Carrier elements thus make a new method of construction possible by combining the well-known strengths of the MONTANATHERM® wall elements with the advantages of a rear-ventilated façade.

### **CREATIVE DESIGN POSSIBILITIES**

MONTACOLOR® colours, different surface textures, decorative pilaster strips and the elegant wall element with hidden fastening offer diverse creative design possibilities.

The trapezoidal MONTANATHERM® roof element is compatible with the SP44 trapezoidal profile, which presents planners and architects additional possibilities for new buildings and extensions.

# **MONTANATHERM®SANDWICHELEMENTS**

Montana Building Systems Ltd. has been producing sandwich elements for roofs, facades and interior walls for over two decades on the first continuous production plant in Switzerland. CFC and HCFC-free foaming agents are used on the 270 m long, highly modern plant. This enables Montana Building Systems Ltd. to offer environmentally friendly sandwich elements for roofs and walls. Continuous investments in modern plant and production technology ensure that the end products meet the high expectations of our customers for a sustainable and high-quality product range.



#### **PACKAGING AND TRANSPORT**

Preparation for transport takes place by means of professional stacking. On request, the elements will be packed in such a way that they can be taken from the stack on the building site using vacuum installation devices (Octopus packaging). The MONTANATHERM® sandwich elements are wrapped in a special stretch film for protection against weather, wind and wetness.

The individual elements are always delivered with a protective film that must be removed immediately after fitting. Please be sure to note the instructions on the package labels. Well-trained contract drivers take care of delivery and transport to the building site.

# ECONOMIC EFFICIENCY AND FUNCTIONALITY

The outstanding features of MONTANATHERM® sandwich elements, which are ready to fit, include their lightweight property combined with high rigidity. This enables substantial bearing widths and easy fitting. The outer shells absorb the tensile and compressive forces that occur and are resistant to outside influences such as weather, temperature and mechanical loading. The polyisocyanurate (PIR) high-resistance foam with a bulk density of approx. 40 kg/m³ fixes the outer shells at the desired intervals and absorbs the shearing and transverse forces during stress on the element.

MONTANATHERM® sandwich elements also achieve outstanding profitability in the installation process thanks to their large surface areas.

# AESTHETICS IN STEEL AND ALUMINIUM

MONTANATHERM® sandwich elements are produced using steel or aluminium shells from the MONTACOLOR® colour collection. As a standard the outer shells are provided with a 25 µm thick polyester coil coating, or in the case of higher aesthetic requirements or for corrosion protection the outer shells are provided with a 65 µm thick coating of Colorcoat PRISMA®. The different surface textures and the optically very elegant wall element with hidden fasteners provide architects, planners and building owners with diverse creative design possibilities.

Individually designable pilaster strip profiles offer enormous scope for your creativity! (see page 7)

### **AREAS OF APPLICATION**

MONTANATHERM® sandwich elements are suitable for the most varied construction projects in which fast installation and excellent heat insulation properties are important. The elements can be used as exterior walls, roof or partition walls.

### **LIGHT IN THE ROOF**

The incidence of light plays a decisive role in the design of roofs. Skylight domes or skylights must not only act as a source of light and heat protection, but also as a roof exit and smoke and heat extraction system. We offer tried and tested solutions with two different types of upstands or light elements.

#### LATERAL JOINT OVERLAPPING

The Montana Building Systems Ltd. can deliver the elements on site with foam-free overlapping (see page 9), so that a clean and reliable lateral joint can be constructed.

#### **SOUND INSULATION**

Despite the low weight of the MONTANA-THERM® sandwich elements, they produce an adequate airborne sound insulation value for most cases. This is due to the combination of the two roof shells through a core with low dynamic flexural strength. An Rw noise insulation value of approx. 25 dB is achieved without any additional structural measures and irrespective of the element thicknesses of 80–180 mm.

#### FIRE CLASSIFICATION

MONTANATHERM® sandwich elements are supplied with fire classification category RF2 (BKZ 5.3) ☑ for Switzerland. The elements also satisfy the European fire class B-s2-d0 according to EN 13501-1.

For even higher fire protection requirements, the hidden fastened wall elements with a core thickness of 140 mm and more, as well as roof elements from 120 mm can also be supplied with an optional fire resistance as El30 or REI30 elements. Of course, official VKF certification is also available for this application. Please note the special El30/REI30 marking on the following pages.

### **QUALITY ASSURANCE**

The manufacturing is subject to regular and certified factory quality assurance and production control. Compliance with the tolerances set under the quality and test provisions of the EPAQ Quality Regulations is also monitored. Continuous internal plant production controls during and after the manufacturing process guarantee that the materials, galvanising, sheet thickness, foam properties and dimensional accuracy of the quality-protected MONTANATHERM® sandwich elements meet the specified quality requirements.

The MONTANATHERM® sandwich elements are designated according to EN 14509 with the CE mark. Upon request the essential product features will be documented with a Declaration of Performance in accordance with Construction Products Regulations.

#### THERMAL INSULATION

The outstanding thermal insulation properties of the PIR core layer are verified and confirmed by continuous measurements and regular external monitoring. The basis for the transparent U-value calculations required for energy verification (see following pages) is an official certified Lambda value of the thermal conductivity.

### **MONTARECYCLE ☑**

We are taking back the wooden pallets that were needed to deliver MONTANATHERM® sandwich panels to you. Completely free of charge for you. Just let us know when the material is ready for collection and we pick it up. We check the material, prepare it and use it again for the next transport. That is recycling in action.

#### HAIL PROTECTION

Optimum protection even in bad weather conditions! Our MONTANATHERM® facade and trapezoidal roof elements also resist hail and verify this with the VKF Hail Protection Certificate 127 of the HW 3 class.

### **MONTANA QUALITY**

Montana Building Systems Ltd. fulfils the most varied customer wishes: from consultation and customer care to excellent production and prompt delivery.

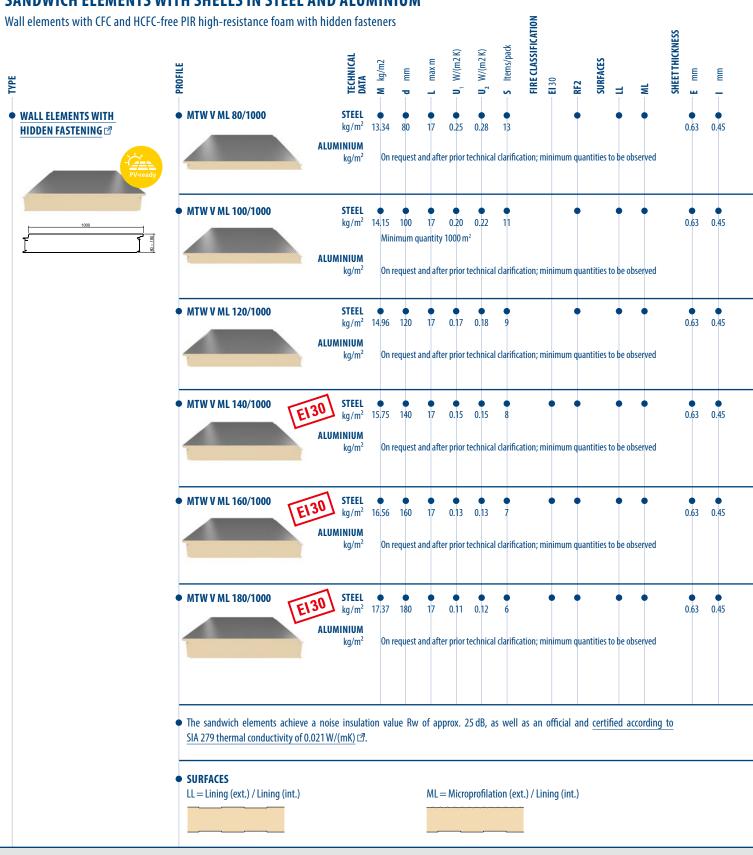
Customer satisfaction is our quality standard! Talk to us if you are looking for an economically and qualitatively perfect solution for your construction project!





# **MONTANATHERM®**

### SANDWICH ELEMENTS WITH SHELLS IN STEEL AND ALUMINIUM



### **SERVICE-ELEMENTS**



CONSTRUCTION RECOMMENDATION





**SAMPLES** □





STATIC TABLES ☐



CAD ₫



STOCK MATERIAL LIST 🗗



SUSTAINABILITY 🗗



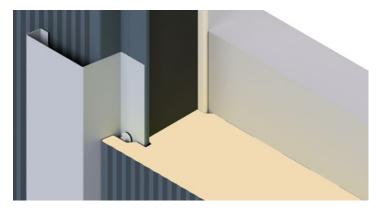
# **SETTING ACCENTS**

Pilaster strips as decorative façade elements subdivide wall areas and accentuate lines. They enable not only an aesthetic design, but also a technically ideal solution to make the joint area as well as visible panel connections disappear in an elegant way. Our pilaster strip profiles are mounted simply and directly in the sandwich joints. Creative highlights can thus be set in the façade design in an inexpensive way.

There are four predefined standard shapes for the pilaster strip profiles. Of course, you can also design your own profile and have it manufactured by our specialists.

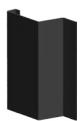
### **TECHNICAL DETAILS**

- Material: Steel in 0.70 mm (polyester 25 m $\mu$ ) or 0.75 mm (Colorcoat PRISMA®)
- Recommended length max. 4'000 mm
- Horizontal or vertical installation possible



Pilaster strip Construction with pilaster strip art. 410

### STANDARD SHAPES



Pilaster strip 410 e.g. in Colorcoat PRISMA® ZEUS



Pilaster strip 411 e.g. in Colorcoat PRISMA® KRONOS



Pilaster strip 412 e.g. in Colorcoat PRISMA® SEREN GOLD

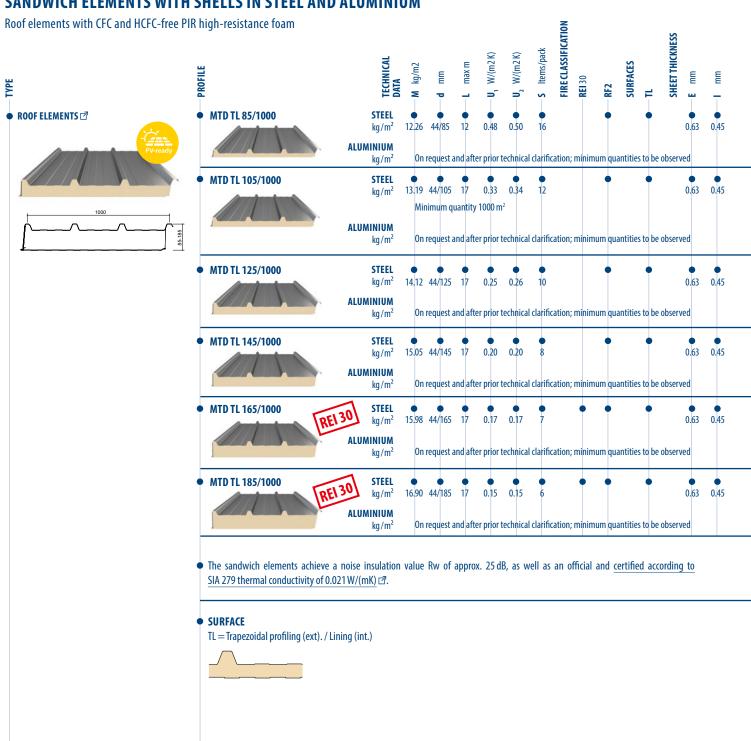


Pilaster strip 413 e.g. in Colorcoat PRISMA® SIRIUS II



# **MONTANATHERM**<sup>®</sup>

### SANDWICH ELEMENTS WITH SHELLS IN STEEL AND ALUMINIUM



### **SERVICE-ELEMENTS**



CONSTRUCTION RECOMMENDATION



CAD ₫

TENDERING TEXTES (CH) ☐



**SAMPLES** □



STATIC TABLES



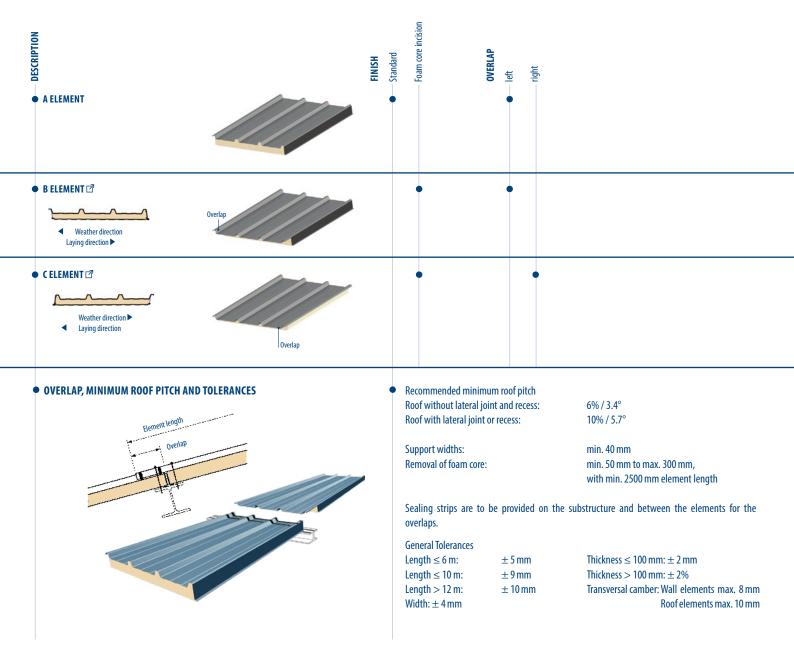
STOCK MATERIAL LIST 🗗



SUSTAINABILITY 🗗

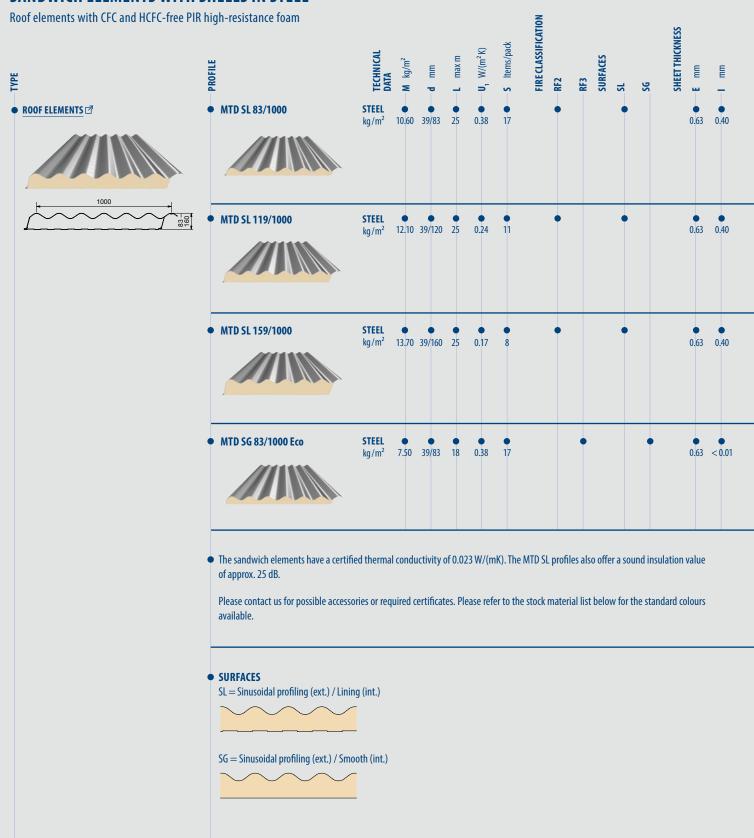
# **TECHNOLOGY**

# **TECHNICAL INFORMATION**



# **MONTANATHERM®**

# **SANDWICH ELEMENTS WITH SHELLS IN STEEL**



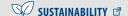
# **SERVICE-ELEMENTS**













# **ACCESSORIES**

# **FOR WALL ELEMENTS**

DESCRIPTION

FITTING EQUIPMENT MONTATOOL® ☑



INISH

Equipment for the installation of MONTANATHERM® wall elements.
 Easy handling thanks to the telescopic tube and clamping mechanism.
 2 fitting equipments including accessories packaged in a handy plastic box.
 Weight approx. 16 kg
 Suitable for all MONTANATHERM® wall elements.

**◆ LOAD DISTRIBUTION BOARD ♂** 



- Load distribution board, suitable for MONTANATHERM® wall elements with hidden fastening
  - for safe transfer of high bolt forces due to wind suction into the sandwich joint
  - Material stainless steel 1.4301
  - Thickness 1.5 mm
  - Dimension: 40 × 200 mm
- Box of 50 pcs.

**◆ SCAFFOLDING BRACKET** □



- Scaffolding brackets, suitable for MONTANATHERM® wall elements with hidden fastening
  - for simple and secure fastening of the scaffolding during the construction phase  $\,$
  - Material stainless steel 1.4301
  - Thickness 1.5 mm
  - Dimension: 70 × 105 mm
  - Box of 50 pcs.

COMBINATION LOAD DISTRIBUTION BOARD /
 SCAFFOLDING BRACKET ☑



- Combination of load distribution board and scaffolding bracket, suitable for MONTANATHERM® wall elements with hidden fastening
  - One component for maximum safety
  - Material stainless steel 1.4301
  - Thickness 1.5 mm
  - Dimension: 200 × 105 mm
  - Box of 50 pcs.

**◆ MONTANATHERM® CARRIER** ☑



The well-known strengths of MONTANATHERM® façade elements are combined with the advantages of a ventilated façade. Consisting of the sandwich element as the substructure (available in thicknesses of 120 to 180 mm), an extruded profile and the matching SFS self-drilling screws a multitude of design options in various materials are available for the design of the outer skin.

# **FOR WALL ELEMENTS**

PV-READY 

Our sandwich elements are ideally suited for the easy integration of photovoltaics. We will be happy to support and advise you on the choice of possible systems. For MTW V ML 120 to MTW V ML 180, we offer you a customised solution with a corresponding carrier rail. Find out everything you need to know in the blog post MONTANATHERM® sandwich panels: ready for photovoltaics.

From MTW V ML 140 to MTW V ML 180 in steel with PIR foam and EI 30 certificate. Panels with core of mineral wool on request.

For stricter air-tightness requirements. Available for MTW V ML 180.



# **ACCESSORIES**

# **FOR ROOF ELEMENTS**

DESCRIPTION

◆ CROWNS



# HSINI

Aluminium with EPDM seal

Suitable for all MONTANATHERM® roof elements.



Adjustment base with fixed glazing:
 Made from one MONTANATHERM® sandwich element
 Maximum daylight incidence thanks to variable glass sizes up to 700 x 3000 mm
 Breakthrough-proof glass with hail resistance, available as double or triple insulating glass
 Deliveries only within Switzerland

More information in this video ☐

Adjustment base made from two MONTANATHERM® sandwich elements (with the same base material)
 Fully pre-assembled ex works

Various light dimensions available (length variable between 1300 and 2800 mm / width max. 1300 mm) Insulated side walls with 60 mm mineral wool

Element length max. 10 000 mm

Deliveries only within Switzerland

Please use the order form  $\square$  on our website.

Both versions are suitable for all MONTANATHERM® MTD TL roof elements.

The applicable laws and ordinances as well as regulations regarding fall protection and fall-through safety during roof work must be observed!

**◆ LIGHT ELEMENTS** ☑



Double-walled thermo elements made of glass fibre reinforced polyester. Montana light elements are
delivered ready for installation and can be fitted in one operation together with the sandwich elements.
 Under the laws and regulations currently in force, appropriate fall protection devices must be fitted
when carrying out roof works.

U value up to  $1.1 \text{ W/m}^2\text{K}$ max. L = 8500 mm

To place your orders, use this form □

Suitable for MONTANATHERM® roof elements TL 85 - 165.

SLIDING PLATE



SWISS PANEL® SP 44/1000 Overall width 1000 mm Steel or aluminium coil-coated polyester 25 μm Lengths up to 15 000 mm

Suitable for all MONTANATHERM® roof elements.

# **FOR ROOF ELEMENTS**

**♦ SNOW AND ICE GUARD IN ALUMINIUM** ■ ◆ T-profile Aluminium polished 60 x 40 x 4 − 3000 mm Securing holes ø 10 mm pre-punched Powder-coated on request Sealant PVC 40 x 60 x 4 mm Suitable for all MONTANATHERM® roof elements. Polyethylene PE, anthracite/white B2 according to DIN 4102, normal inflammability Face B for ridge and face A for eave Suitable for all MONTANATHERM® roof elements. **● METAL FILLERS** □ Steel or aluminium Face B for ridge and face A for eave Straight or canted Suitable for all MONTANATHERM® roof elements. ● PV-READY 🗗 • Our sandwich roof elements are ideally suited for the easy integration of photovoltaics. We will be happy to support and advise you on the choice of possible systems. Find out everything you need to know in the blog post MONTANATHERM® sandwich panels: ready for photovoltaics. ◆ SANDWICH ELEMENTS WITH 30 MIN FIRE RESISTANCE (VKF CERTIFIED) ☑ • MTD TL 165 and MTD TL 185 in steel with PIR high-resistance foam and REI 30 certification.

# www.montana-ag.ch

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