

# **Product range**

Steel, aluminium and sandwich profiles for roofs, ceilings and façades





## PROFILE. QUALITY. MONTANA.

### **GLOBALE KNOW-HOW SINCE 60 YEARS**

Montana Building Systems Ltd. as a Swiss company of Tata Steel has been active in the field of profile plates since 1964. Tata Steel is an international metal company that offers products and services related to steel and aluminium. The more than 80000 employees in over 50 countries combine a huge metal knowhow. As a group member, we have access to the accumulated knowledge within the group.



## **QUALITY**



Certified according to <u>SN EN ISO 9001</u> ☐ and EPAQ Quality Label, we offer complete solutions for metal facades, metal roofs and metal ceilings. Our products are Swiss products. Manufactured in our factory in Villmergen (CH), they meet your and our high demands for premium quality. Our range of metal profiles is suitable for industrial, administrative, sports and residential buildings.

### **SERVICE**

Architects, planners and builders will always find new, diverse and innovative design options with us: individual coatings with product performance guarantee as well as exceptional profile shapes and perforations. We ensure that the entire process chain runs smoothly and with pinpoint accuracy and offer you a comprehensive service, from consultation to delivery. For the benefit of our customers we are constantly developing in order to achieve the best possible results.

### **SUSTAINABILITY**

Along the entire value chain, we take responsibility for the sustainability of our products with the utmost respect. We have also committed ourselves to being CO<sub>2</sub> neutral in our own operations by 2030. Our path to climate neutrality includes measures such as the installation of a large-scale photovoltaic system. Steel, our main raw material, is 100% recyclable. Also, with the MONTARECYCLE of project, packaging pallets used for the delivery of MONTANA-THERM® sandwich panels can be returned. In addition, there are international sustainability standards for building certification, such as LEED, DGNB or BREEAM - we will be happy to support you with the details required for these programmes.



# ROOFS. CEILINGS. FAÇADES.

## **INTEGRAL DESIGN**

From the exterior roof to the load-bearing shell, via cladding profiles and soffits, to the exterior façade or interior walls. Elements are available for various building philosophies such as ventilated façades, sandwich structures or curtain walls. Coordinated elements allow freedom of design and offer individual possibilities: an economical range that is just waiting to be exploited by imaginative planners, architects or builders.

## CONTENT

#### 4–9 **SWISS PANEL®**

Profiles for façades and roofs in aluminium and steel

#### 10−15 • MONTANATHERM®

Sandwich elements in aluminium and steel

### 16−17 • HOLORIB®/SUPERHOLORIB®

Profiles for composite floor slabs in steel

### 18–25 **♦ MONTAFORM® DESIGN**

Cladding profiles in box-, trapeze- or jagged form in aluminium and steel

### 26−27 • MONTALINE®

Cladding profiles with hidden fastening system in aluminium and steel

### 28−29 • MONTAWALL®

Liner trays in steel

### 30−31 • FLAT SHEETS AND FLASHINGS

in aluminium and steel

### 32−35 **COLOUR CHART MONTACOLOR®**

36−37 **PERFORATION** 

38−39 • IMPORTANT NOTES

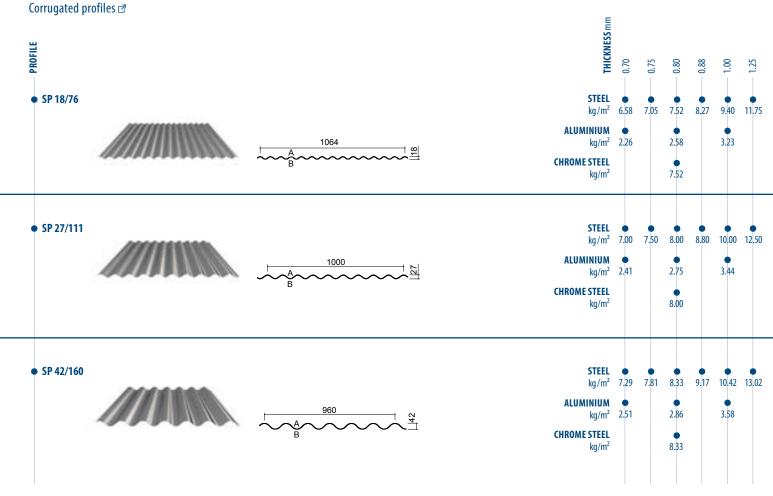
## **SWISS PANEL®**

## **VERSATILE AND PROVEN**

SWISS PANEL® trapezoidal and corrugated profiles are suitable for universal use. On the façade or in the roof, with or without perforation. Single or combined colours from among the MONTACOLOR® colour collection; as an additional option also with fleece coating to minimise condensation, rain noise and optimise room acoustics. Although SWISS PANEL® profiles are mainly fitted to industrial and commercial construction. Many architects, planners and building owners use the elegant profile sheets on administrative buildings and private houses. Thanks to their sinusoidal form, SWISS PANEL® corrugated profiles produce a soft, smooth surface appearance.

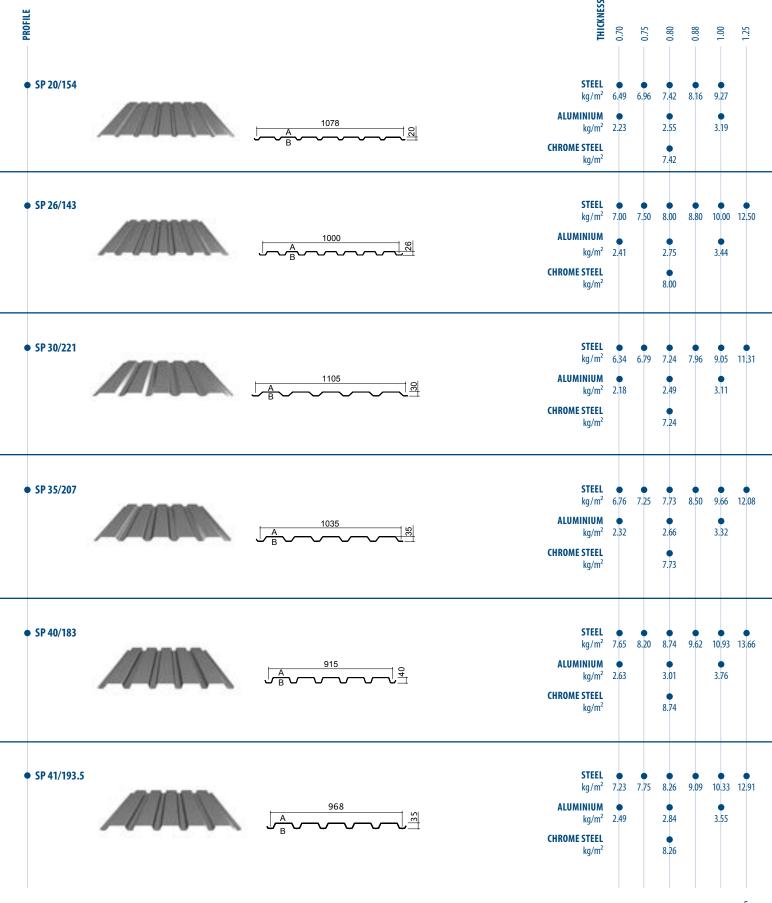


## PROFILES FOR FAÇADES AND ROOFS IN ALUMINIUM AND STEEL



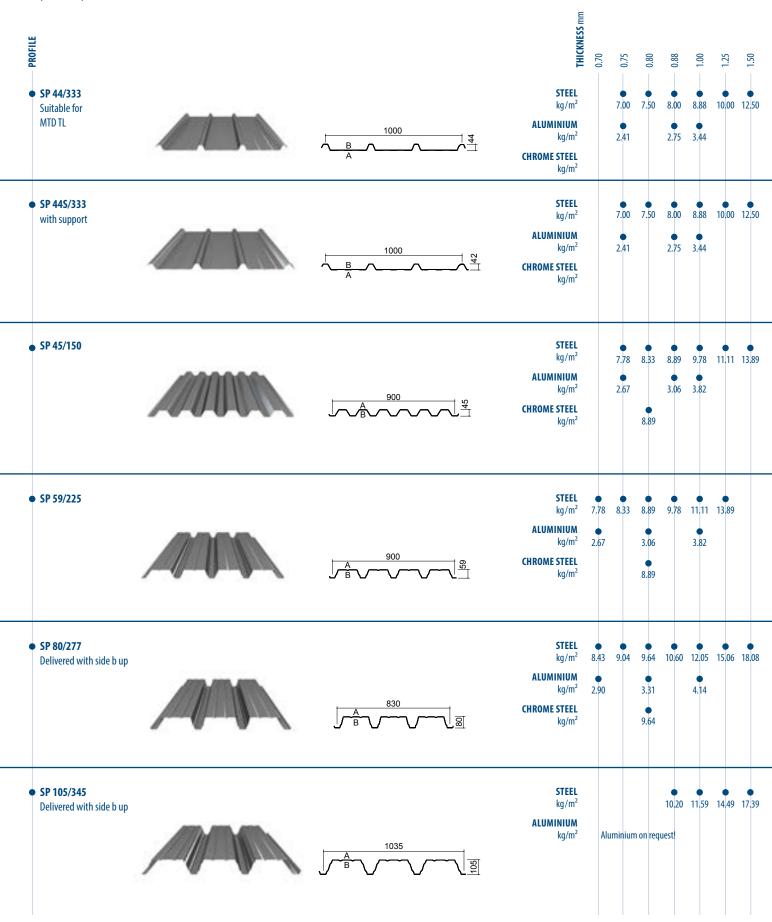
## PROFILES FOR FAÇADES AND ROOFS IN ALUMINIUM AND STEEL

Trapezoidal profiles 🗗

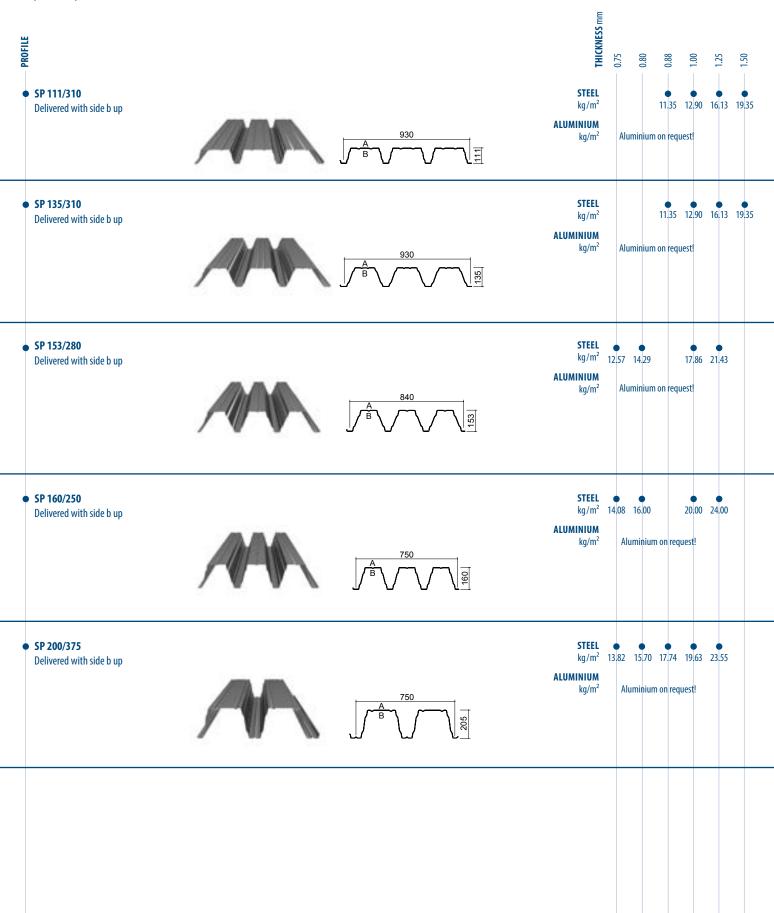


## **SWISS PANEL®**

## PROFILES FOR FAÇADES AND ROOFS IN ALUMINIUM AND STEEL



## **ROOF PROFILES IN STEEL**



## **SWISS PANEL®**

### **ACCESSORIES**

#### PERFORATION <a>T</a>

Perforation is a technique from the area of noise protection and it is still mainly used in that segment. In addition to attaining excellent noise absorption values in industrial acoustics and for traffic installations, more and more architects are experimenting with the optical qualities of perforated Montana profiles. Special attention is paid to the selective translucency of the profile sheets: the inward effect of daylight or the outward effect of artificial light at night. According to feasibility the SWISS PANEL® trapezoidal and corrugated profiles are available with different perforation (see page 32/33). For perforated versions an 'A' will be added to the profile names, i.e. for example SWISS PANEL® SP 35/207 A.

### **MONTANA FELT COATINGS ☑**

For the reduction of dripping condensation, to minimise the noise of rain and to optimise room acoustics:

### ANTI-CONDENSATION FELT

Self-adhesive felt for cold roofs. It absorbs condensation and releases the moisture back into the surrounding area.

#### NOISE ABSORPTION FELT

Self-adhesive felt for deadening the noise of rain and for noise absorption on metal roofs, as well as for absorbing condensation.

#### ACOUSTIC FELT

Self-adhesive felt for improving acoustics and to prevent trickling of insulation in combination with perforated profiles in wall- and roof structure.

### BURN OFF FLEECE

At transversal joints or their sheet metal overlaps and at the gutters in the roof, the fleece must be completely deactivated over a width of approx. 10 cm in order to prevent moisture from being sucked in from the outside. It is possible to thermally treat the fleece at the factory. When ordering, it is necessary to specify the direction of installation.

#### ▶ HAIL RESISTANCE 🗗

The SIA261/1 stipulates that building envelopes in Switzerland must be resistant to the effects of hail. Our SWISS PANEL® <u>trapezoidal</u> and <u>corrugated</u> **T** fulfil the following criteria for use as roof or wall components from a sheet thickness of 1.00 mm:

- Hail resistance appearance HW3
- Hail resistance functionality HW5

## 

Polyethylene PE, coloure anthracite/white (exception SP 27 colour grey) B2 according to DIN 4102, normally flammable Suitable for all SWISS PANEL® profiles Side B roof ridge or side A gutter

### 



Made of steel or aluminium Suitable for all SWISS PANEL® profiles Side B roof ridge or side A gutter straight or folded and/or perforated

### ◆ CROWNS □



Aluminium with EPDM seal suitable for use with Corrugated profiles: SWISS PANEL® SP 18, 27, 42

Trapezoidal profiles: SWISS PANEL® SP 26, 30, 35, 40, 41, 44, 45, 59, 80

### ACCESSORIES AND SERVICE-ELEMENTS

### **SNOW AND ICE STOP SE 88 □**



L profile: Galvanised steel 40 x 45 x 3 - 4000 mm Retention clips: Galvanised steel 1,50 mm, L = 75 mm Waterproof seal: EPDM 40 x 60 x 4 mm, Rolls of 500

### **SNOW AND ICE STOP IN ALUMINIUM**



Suitable for SWISS PANEL® profiles SP 27, 30, 35, 40, 41, 42, 45, 59, 80 in the corresponding lengths, not pre-punched. T-profile: Aluminium mill finish 60 x 40 x 4 Seal: PVC 40 x 60 x 4 mm

#### ACOUSTIC FILLERS



ISOVER Typ MW-EN 13162-T3-MU1-AFr5 Density 16 kg/m3 Rolled stripes in glass wool with black glas felt on both sides. Suitable for trapezoidal profiles: SWISS PANEL® SP 45, 59, 80, 105, 111, 135, 153, 160, 200.

### 



The cold-formed sheet steel profiles with a C-shaped cross-section are used as a substructure for walls, but also as a metal construction for ceilings. The profiles can be optionally perforated (normal or slotted hole). A dimensioning table is available on data sheet 8.1. Profiles C 105, C 120, C 140, C 160, C 180 and C 200 are available.

### **PREBENDING**

The prebending of Montana SWISS PANEL® profiles stimulates the imagination of architects and construction designers alike. Thanks to its top technology, Montana Building Systems Ltd. is able to deliver selected SWISS PANEL® profiles on site with concave or convex prebending for façades or roofs. SWISS PANEL® profiles SP 18, 27, 42 and 45 can be bent according to feasibility.

### PREBENDING BY SNAPPING ☐

Prebending by snapping is a tried-and-tested and technically perfected method for corner and roof finishing. Façades and roofs can be finished elegantly by virtue of being able to achieve minimum radii of as little as 30 cm. Buildings with buckled edges has a softer effect, which can be of decisive advantage in connection with the volume of the structure. The SWISS PANEL® trapezoidal profiles SP 26, 41, 44 and 45 can be bent according to feasibility.

### **SERVICE-ELEMENTS**



DETAILED BROCHURE



DIMENSIONING SOFTWARE





LOAD TABLES



SAMPLES 🗗



STOCK MATERIAL LIST





TENDERING TEXTES (CH) ☐



CONSTRUCTION RECOMMENDATION





<sup>®</sup> BIM ₫



**ROOF PITCH** □



**APPROVALS** □



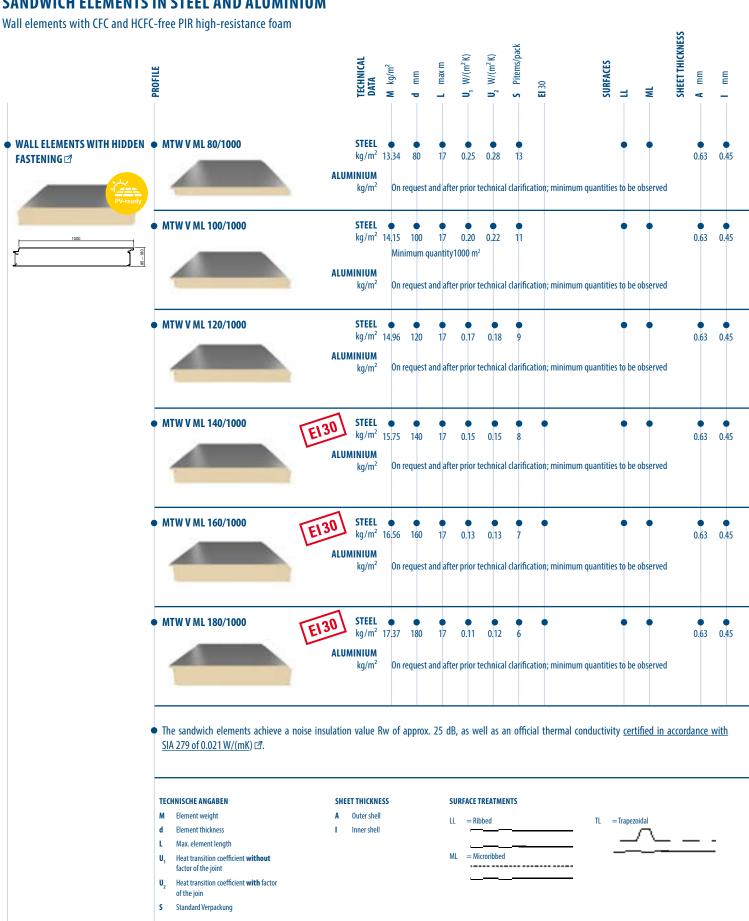
## **MONTANATHERM®**

## **ECONOMIC EFFICIENCY, FUNCTIONALITY AND AESTHETICS MADE FROM STEEL**

MONTANATHERM® sandwich panels are very light with a high degree of rigidity. These qualities enable large spans and easy installation. In addition, the sandwich elements offer excellent thermal insulation values. The outer skin absorbs the tensile and compressive forces that occur and is also resistant to atmospheric corrosion. MONTACOLOR® colours, different surface textures and the elegant wall element with hidden fastening system open up a large number of design possibilities for the customer.

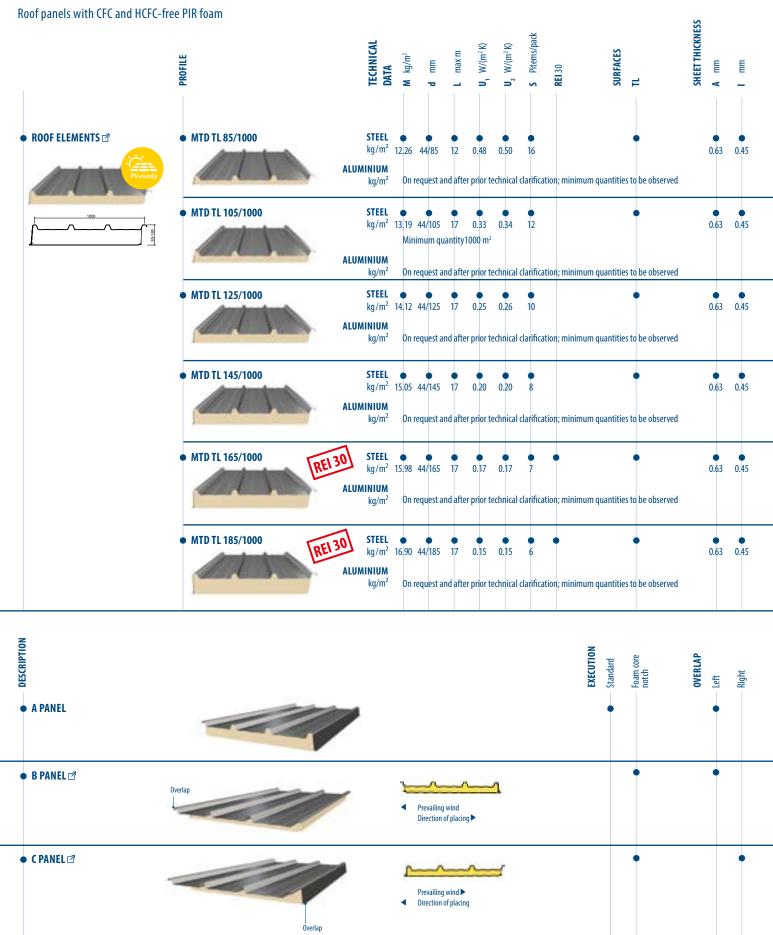


## **SANDWICH ELEMENTS IN STEEL AND ALUMINIUM**



## **MONTANATHERM®**

## SANDWICH ELEMENTS IN STEEL AND ALUMINIUM



### **ACCESSORIES**

MONTANATHERM®

#### **FOAM-FREE OVERLAP ☑**

To ensure that a clean and reliable transversal joint can be formed on site, MONTANATHERM® roof elements can be supplied with a foam-free overlap on request. When ordering, the direction of installation must be specified so that the overlap side can be determined (B element with overlap on the left or C element with overlap on the right).

### 



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

### ◆ 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 all roof panels, as well as the wall elements MTW V ML 120 to MTW V ML 180, we offer you a customised solution with a corresponding rail. Find out everything you need to know in the blog post MONTANATHERM® sandwich panels: ready for photovoltaics.

### 



Wall elements from MTW V ML 140 to MTW V ML 180 and roof elements MTD TL 165 and MTD TL 185 in steel with PIR foam are optionally available with EI 30 certification. Panels with core of mineral wool on request.

### 

For stricter air-tightness requirements. Available for MTW V ML 140 to MTW V ML 180.

### 



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.

### PILASTER STRIP







Setting accents with pilaster strips as decorative façade elements.

4 predefined standard shapes for horizontal or vertical installation (you can also design your own profile).

## **MONTANATHERM®**

## **ACCESSORIES**

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
- also available in combined version with load distribution board

Please refer to the technical data sheet 4.21a.

■ 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
- · also available in combined version with scaffolding bracket

Please refer to the technical data sheet 4.21b.

SNOW AND ICE STOP IN ALUMINIUM ☐



Useable for all MONTANATHERM® roof panels T-Profile: Aluminium mill finish  $60 \times 40 \times 4 - 3000$  mm, preperforated Seal: PVC  $40 \times 60 \times 4$  mm



Polyethylene PE, coloure anthracite/white B2 according to DIN 4102, normally flammable Suitable for all MONTANATHERM® roof elements Side B roof ridge or side A gutter

**■ METAL FILLERS** ☑



Made of steel or aluminium
Suitable for all MONTANATHERM® roof elements
Side B roof ridge or side A gutter
straight or folded and/or perforated

### **ACCESSORIES AND SERVICE-ELEMENTS**

MONTANATHERM®

◆ CROWNS



Aluminium with EPDM seal suitable. Suitable for all MONTANATHERM® roof elements.

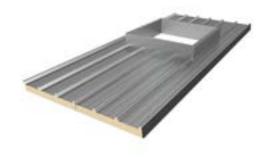
SLIDING PLATE



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

Suitable for all MONTANATHERM® roof panels.

◆ ADJUSTMENT BASE < □</p>



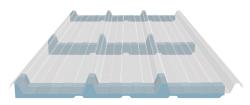
The adjustment base is produced from the same material as MONTANATHERM® roof panels and fits all MONTANATHERM® roof elements. The side walls are insulated with 60 mm mineral wool. The internal height of the Montana adjustment base is 350 mm.

### **ADVANTAGES**

The adjustment base is completely assembled in the factory and delivered to the construction site using special transport and storage equipment. Two MONTANATHERM® roof elements are always bolted together.

Delivery in Switzerland only!

◆ TRANSLUCENT ELEMENTS ☐



Suitable for MONTANATHERM® roof panels MTD TL 85-165Made of glass fibre reinforced polyester. U value until 1.1 W/m2K max. L = 8500 mmUse the order form on our website www.montana-ag.ch > Services > Requests and orders

## **SERVICE-ELEMENTS**



DETAILED BROCHURE



SAMPLES 🗗





TENDERING TEXTES (CH) ☐



CONSTRUCTION RECOMMENDATION ☐



STOCK MATERIAL LIST





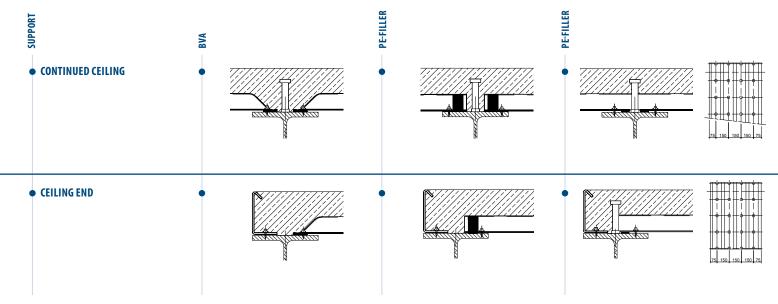
# HOLORIB®/SUPERHOLORIB®

## CASING, REINFORCEMENT, FIRE PROTECTION ALL IN ONE

The HOLORIB® composite floor slab is generally approved under the building regulations for predominantly dead and dynamic loads and is fire-resistant without the need for additional insulation. The dove-tail shape makes it possible to install decorative ceilings, light fittings, ventilation pipes, etc. with simple fastening elements.

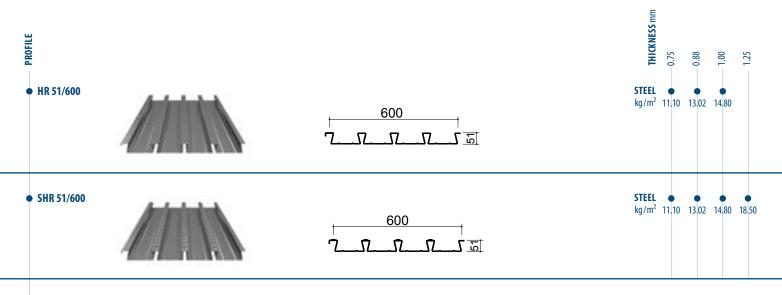


### **SUPPORT DETAILS**



### PROFILES FOR COMPOSITE FLOOR SLABS IN STEEL

On request without reinforcements on the bottom-flange



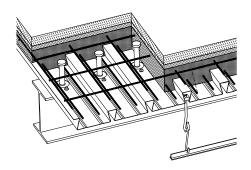
### PERFORATION

The profile sheets can be perforated in the bottom flange for the recesses of the nails that are welded onto composite beams. Use our perforation plan 5.80 for this and send it with the order.

### CRUSHED ENDS

HOLORIB® and SUPERHOLORIB® composite profiles are available with crushed ends (BVA) on one or both sides. This is understood as a crushing of the middle rib ends which gives an additional anchorage between the sheet and the concrete for longitudinal shear stresses.

SUSPENSIONS



The special dovetail shape of HOLORIB® and SUPERHOLORIB® composite profiles can be used as an anchor rail for inserting HOLOBAR bolts and HOLOCLIP nuts. Ceiling systems, pipe and electrical lines can be easily and quickly fixed in this way. HOLOBAR M8 and M10 are available for large loads (loadings with static axial load up to Pmax=2.25 kN) and HOLOCLIP M6 and M8 for smaller loads (loadings with static axial load up to Pmax=1.5 kN). By arranging these elements in groups, even loads up to 9 kN can be suspended. The components of the suspension system HOLOBAR/HOLOCLIP can be obtained from various companies in Switzerland and Germany. Ask us about where to obtain them.

SYNTHETIC FILLERS ☐



Polyethylene PE, coloure anthracite/white B2 according to DIN 4102, normally flammable With 600 mm length or available in single pieces.

### **SERVICE-ELEMENTS**



DETAILED BROCHURE



**TECHNICAL DATA** □



TENDERING TEXTES (CH) ☐



DIMENSIONING SOFTWARE



LOAD TABLES



APPROVALS HR ☑ / SHR ☑



CAD CAD







**SAMPLES ☑** 



STOCK MATERIAL LIST ☑



# **MONTAFORM® DESIGN**



### STRIKING IN EVERY POSITION

It sounds unspectacular: MONTAFORM® Design profiles used for ventilated metal façades in new buildings and renovations — with visible or hidden fastening. The results for residential buildings, but also for industrial, commercial and public buildings speak for themselves. The façade design, decisively shaped, creates a positive attention. With numerous colours and the possibility of different perforation patterns, countless variations in façade design are possible. Architects and planners appreciate the huge variety of possibilities also offered by the vast coating options: Standard colours, special colours and even those with stripes can be realised.



### **ACCESSORIES**

DESCRIPTION

RETAINING CLIP ☐ FOR MFD Z 35-5/250 V AND MFD T 43-3/225 \



For exposed façade areas (e.g. in edge areas and buildings with high wind suction loads). The retaining clip prevents the closure from possibly slipping out. The video explains how to use it:



## **SERVICE-ELEMENTS**



DETAILED BROCHURE



TECHNICAL APPLICATION DRAWINGS FOR MFD Z 35-5/250 V



**SAMPLES** □



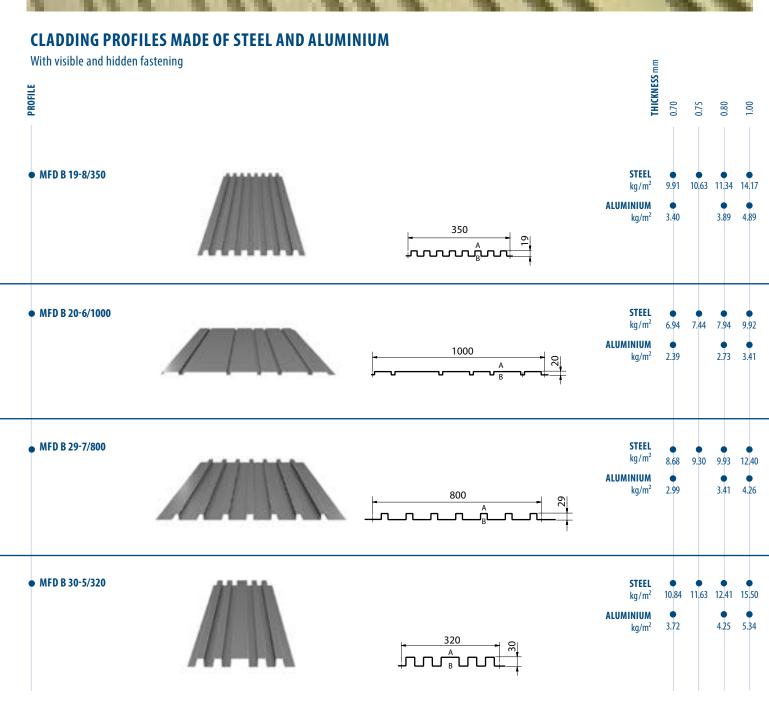


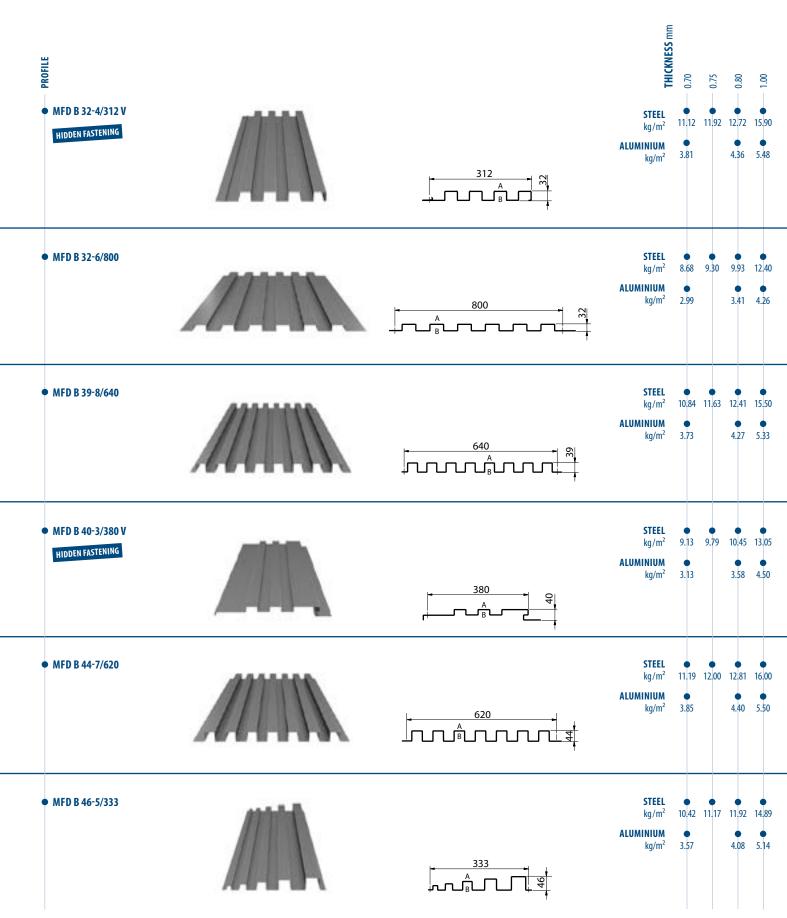
XLS TENDERING TEXTES (CH) ☑



## **MONTAFORM® DESIGN BOX**



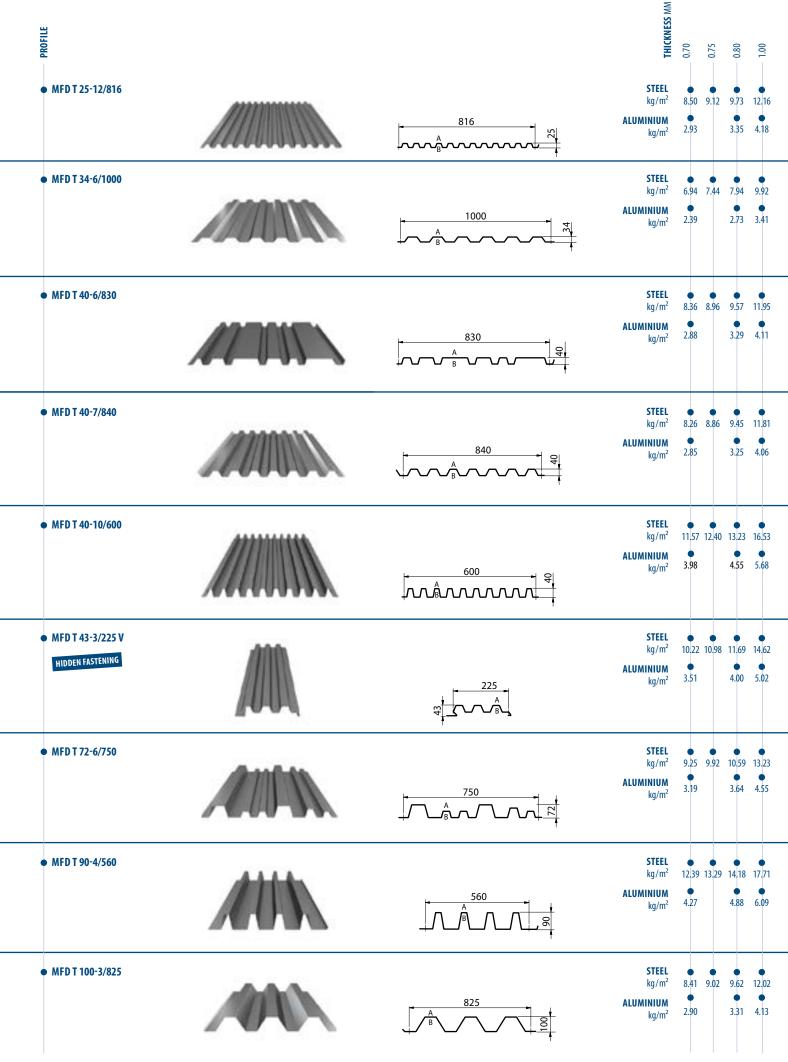




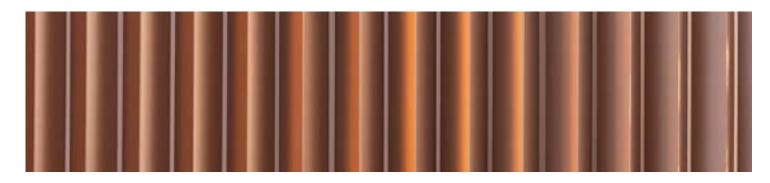
## **MONTAFORM® DESIGN TRAPEZOID**



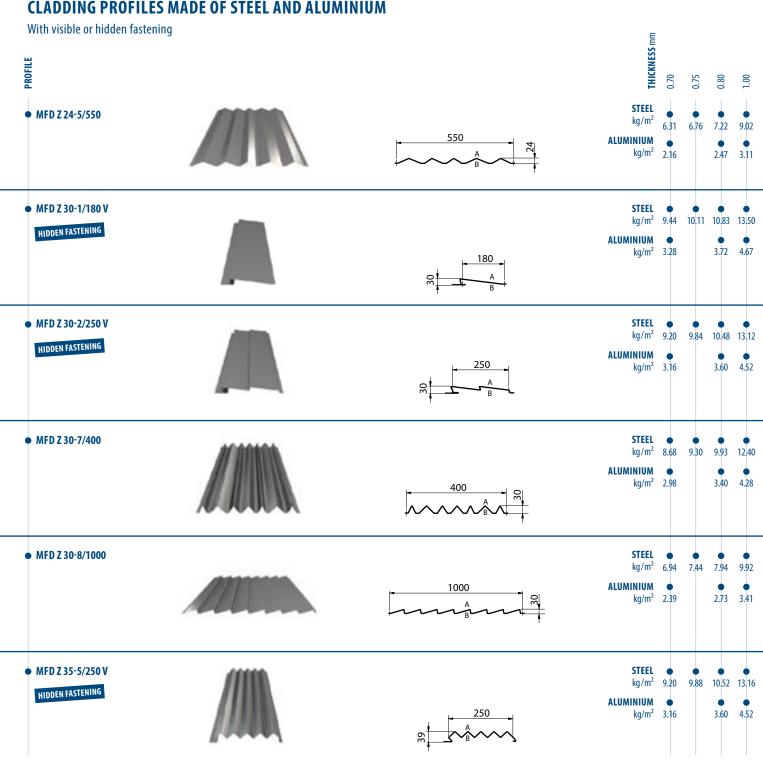
### **CLADDING PROFILES MADE OF STEEL AND ALUMINIUM** With visible and hidden fastening PROFILE ● MFD T 8-7/1170 STEEL kg/m² 5.93 ALUMINIUM kg/m<sup>2</sup> STEEL ● MFD T 8-10/1160 kg/m² 5.98 6.84 6.41 **ALUMINIUM** 2.35 2.94 2.06 kg/m<sup>2</sup> MFD T 11-3/330 V STEEL 7.45 kg/m<sup>2</sup> 6.97 7.94 HIDDEN FASTENING ALUMINIUM 2.73 3.42 kg/m<sup>2</sup> MFD T 25-1/333 kg/m<sup>2</sup> 7.87 6.91 **ALUMINIUM** 2.70 3.39 kg/m<sup>2</sup> **♦ MFD T 25-5/1050** STEEL $kg/m^2$ 7.09 7.56 6.61 ALUMINIUM 2.60 3.25 2.28 kg/m² STEEL MFD T 25-7/985 kg/m<sup>2</sup> 7.05 8.06 10.07 **ALUMINIUM** 2.43 2.77 3.46 kg/m²

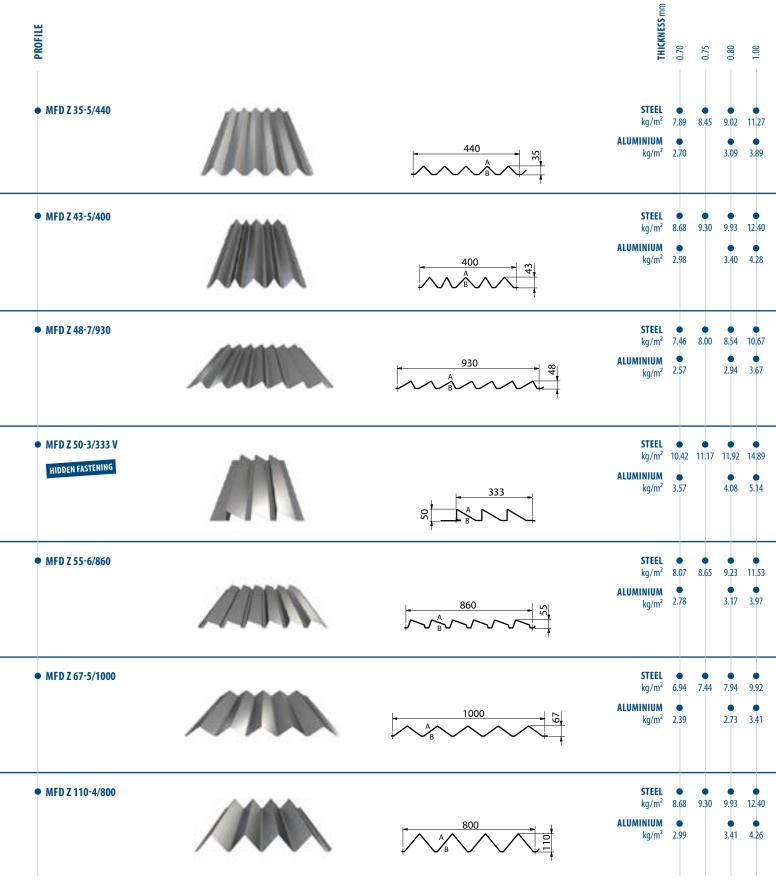


## MONTAFORM® DESIGN JAGGED



## **CLADDING PROFILES MADE OF STEEL AND ALUMINIUM**





## **MONTALINE®**

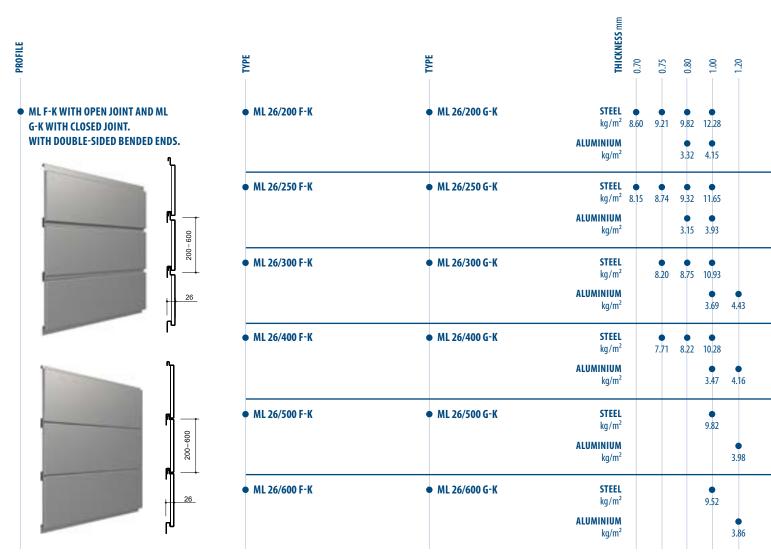
## OR: CAN A FAÇADE LOOK MORE EXPENSIVE THAN IT IS?

MONTALINE® cladding profiles form the basis for an elegant façade with no fastening or securing devices visible. The double-sided bended ends give the façade the look of a highly expensive flat panel façade. The various overall widths up to 600 mm combined with metal or concave/convex rounded MONTALINE® profiles produce interesting design possibilities for architects and planners.



### **CLADDING PROFILES IN STEEL AND ALUMINIUM**

With hidden fasteners and smooth visible side

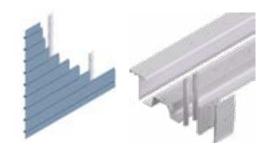


### **ACCESSORIES AND SERVICE-ELEMENTS**

MONTALINE®

#### **MICROPROFILATION**

MONTALINE® profiles ML 26/200 to ML 26/400 can be produced with microprofilation on request. This must be specified when ordering. As standard they are supplied with a smooth visible side.



The fastening system for MONTALINE® cladding profiles is suitable for both new buildings and renovation projects.

Fast, economical fitting times through simply hooking the MONTALINE® cladding profiles into the aluminium holders. Fitting is carried out from the bottom upwards.

In the MONTALINE® installation recommendation (2.90) ☐ you will find detailed information on the substructure.

### **PERFORATION ☑**

Perforation is a technique from the area of noise protection and it is still mainly used in that segment. In addition to attaining excellent noise absorption values in industrial acoustics and for traffic installations, more and more architects are experimenting with the optical qualities of perforated Montana profiles, with special attention paid to the selective translucency of the profile sheets the inward effect of daylight or the outward effect of artificial light at night. According to feasibility the MONTALINE® cladding profiles are available with different perforation (see page 32/33). For perforated versions an 'A' will be added to the profile names, i.e. for example MONTALINE® ML 26/500 A.

### MONTALINE® FITTING PIECES

Matching fitting and end pieces are available with tongue and/or groove in a smooth finish. As the installation of MONTALINE® profiles is continuous, it is advisable to order the corresponding parts in advance. This means that there is no interruption in installation and the construction tolerances can be adjusted directly.

CONVEX AND CONCAVE ROUNDING



MONTALINE® profiles are available with concave and convex bends, without or without joints, only in aluminium.

Radius (r) > 1500 mm

Angle (a)  $\geq$  90°

Maximum sheet length (b): 4500 mm

For technical production reasons, approximately 200 mm is left straight per element at the beginning and the end.

CORNER AND DOUBLE CORNER FORMATION



Execution is carried out by means of mitre cut and edging.

The trimmed edges are not welded.

Total length max. 1200 mm (individual side lengths according to feasibility on request). Standard angle 90°

#### FITTING RECOMMENDATION

In visible hight it is advisable to cut notches on the inside of the two MONTALINE® end ribs on the building side using metal shears so that the panel mountings cannot be seen.

### **SERVICE-ELEMENTS**



DETAILED BROCHURE

**CONSTRUCTION RECOMMENDATION ☑** 



**SAMPLES ☑** 



STOCK MATERIAL LIST





TENDERING TEXTES (CH) ☐



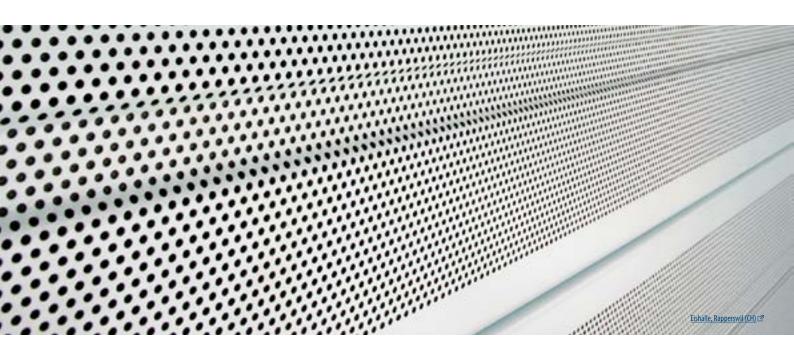
**SUSTAINABILITY** 



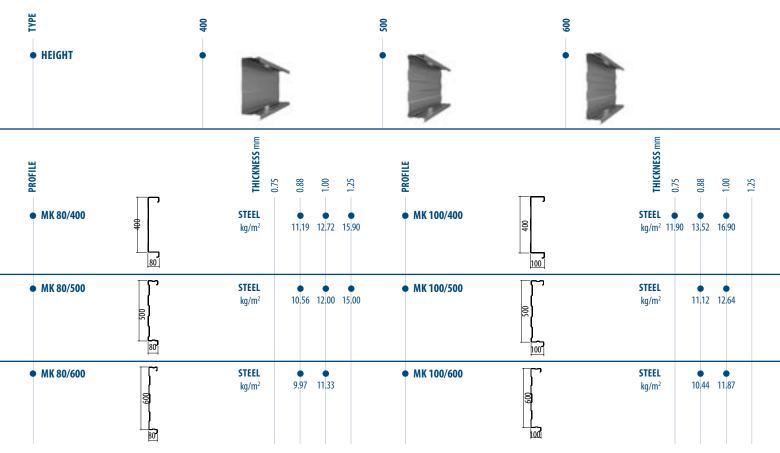
## **MONTAWALL®**

### SUCCESSFUL AND ECONOMICAL IN WALL AND CEILING CONSTRUCTION

The MONTAWALL® liner tray program from Montana comprises a variable system of supporting coffers in different designs, dimensions and lengths. The height and depth of the coffers are optional. MONTAWALL® liner trays enable simple, economical construction with very good insulation values. Perforated liner trays guarantee high sound absorption values in technically important frequency ranges and are used very successfully to ensure economical compliance with noise protection stipulations. MONTAWALL® liner trays have also proven successful as wall and ceiling elements in the building of stadiums.

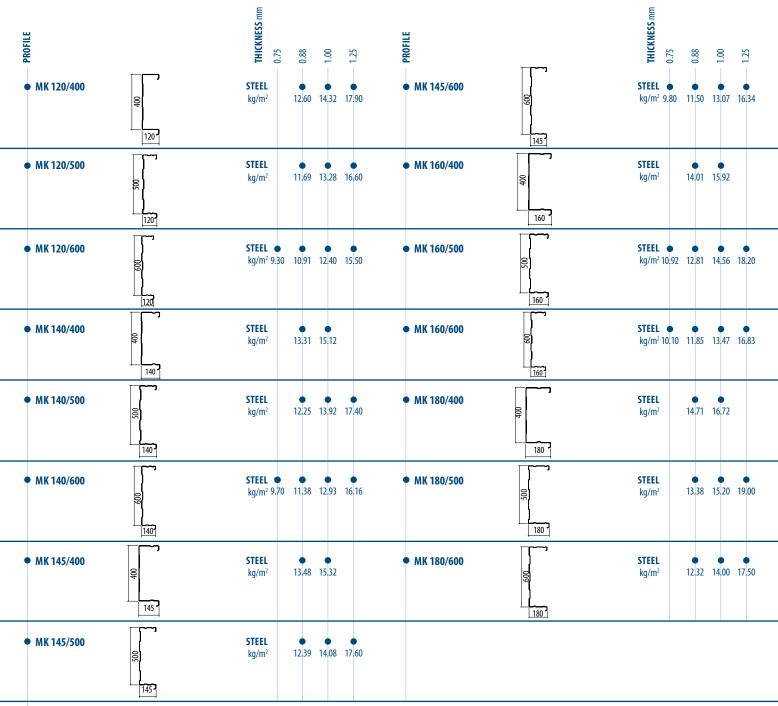


## **LINER TRAYS IN STEEL**



## **LINER TRAYS IN STEEL**

Load-bearing cassettes **♂** 



### • SEALING TAPE

The longitudinal joints of the cassettes must be sealed with a special sealing tape. If desired, this can be applied to the cassettes at the factory during production.

### ◆ PERFORATION ☐

Perforation is a technique from the area of noise protection and it is still mainly used in that segment. The MONTAWALL® liner trays can be perforate in the belt with perforation 4/7 (see page 32/33). For perforated versions an 'A' will be added to the profile names, i.e. for example MONTAWALL® MK 140/600 A.

### **SERVICE-ELEMENTE**













**CONSTRUCTION RECOMMENDATION ☑** 



TENDERING TEXTES (CH) ☐







**SAMPLES ☑** 



STOCK MATERIAL LIST ☐



**SUSTAINABILITY** 

## **FLAT SHEETS AND FLASHINGS**

## (NEARLY) ALL THE SHAPES IN THE WORLD IN ALUMINIUM AND STEEL

Montana flashings are available in the most diverse shapes and finishes according to the customer's wishes. Different connectors and ends for façades and roofs, as well as corresponding substructures, spacers and reinforcing profiles can be supplied thanks to industrial production techniques using folding and double-bending presses. You have a special need? Please let us help you!



## **FLAT SHEETS**





**AS COILS** Lengths: from 10 m



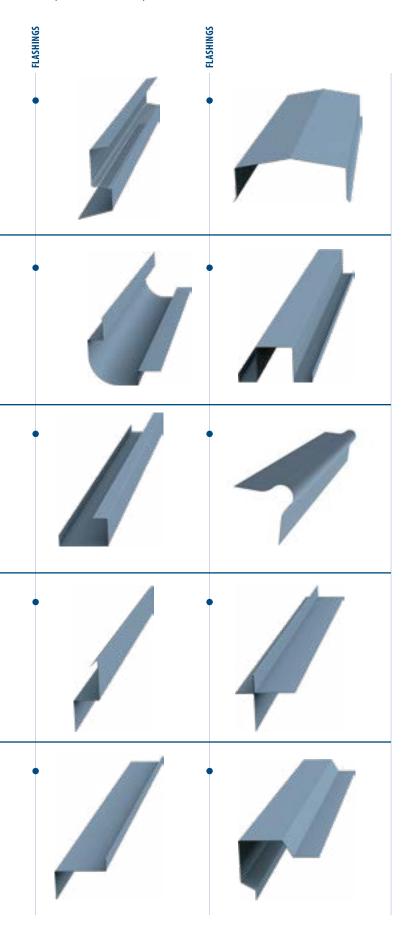
### **SERVICE-ELEMENTS**





## FLASHINGS IN ALUMINIUM AND STEEL

on request with acoustic perforation

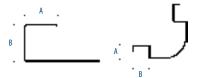


**PECIFICATIONS** 

A number of important limitations of the bending press have to be observed with regard to processing the shaped parts. You must present a sketch of the shaped parts with full details of dimensions and angles! In our <u>digital flashing catalogue</u> 17 you will find the most common pieces.

- MEASUREMENT B
- At least 5 mm greater than A
- RADIUS

Min. 80 mm



FOLD OR DOUBLE FOLD

Min. 15 mm

CLOSED ANGLE

Must be at least 45°



MEASUREMENT A

Min. 30 mm / max. 60 mm

MEASUREMENT B

Min. 50 mm / max. 120 mm



MEASUREMENT C

Double fold normally closed Can be supplied also with 2 mm or 9 mm open

LENGTHS

0.20-8.00 m

MATERIAL THICKNESSES

0.70-1.50 mm

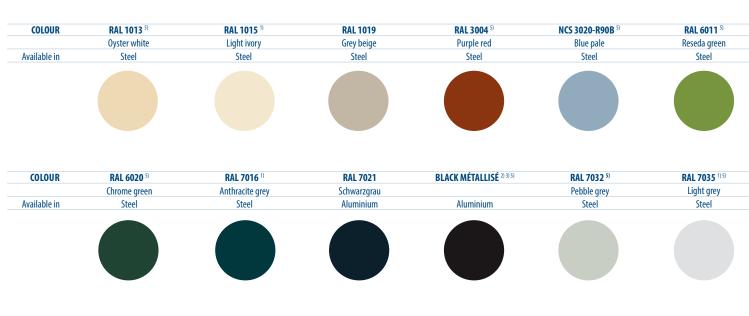
DEVELOPMENTS

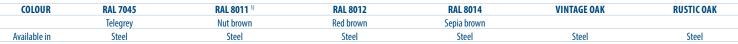
30-1240 mm

## **MONTACOLOR®**

## **COLOUR COLLECTION**

## **COLORCOAT POLYESTER**

















COLOUR	RAL 9002 1)	RAL 9006 1) 2)	RAL 9007 1) 2)	RAL 9010 1)	GOLD BRUSHED 5) 6)
	Grey white	White aluminium	Grey aluminium	Pure white	
Available in	Aluminium, Steel	Aluminium, Steel	Aluminium, Steel	Aluminium, Steel	Aluminium









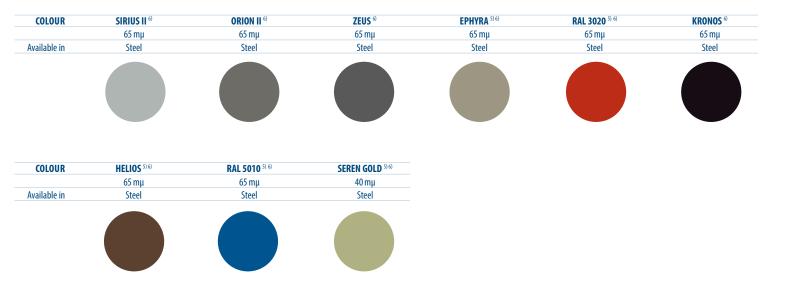


COLOUR	ELOXAL OPTIK 2) 3) 4) 5) 6)	TITAN OPTIK 2) 3) 4) 5) 6)
Available in	Aluminium	Aluminium

- 1) Colour shade only similar to RAL; matching of colour not guaranteed within a delivery, either.
- 2) Rear protective lacquer provided with arrow marking! Colour differences can occur with the use of metallic paints due to the metal pigments.
- 3) Matching of colours not guaranteed within a delivery, either!
- 4) Clear lacquer
- 5) Limited storage, longer terms of delivery
- 6) Additional charge

The colour samples are printouts of the original colours, they represent the colour only similar.

## **COLORCOAT PRISMA®**



## MATT ANODIZED®

COLOUR	CHAMPAGNER GREY II 3) 5) 6)	STONE GREY II 3) 5) 6)	BROWN GREY II 3) 5) 6)	DEEP GREY II 3) 5) 6)
Available in	Steel	Steel	Steel	Steel



## **MONTACOLOR®**

### START WITH THE RIGHT BASE

**BASIC MATERIALS** 

CTEEL

S320GD zinc coating both sides

Z275 or ZA255 according to DIN EN 10346 or Magnesium-Zinc according to the building inspectorate approval. On demand available with additional coating. Weathered outdoor use only recommended in combination with additional coating.

**ALUMINIUM** 

EN AW-3005 [AlMn1Mg0.5] or EN AW-3105 [AlMn0.5Mg0.5] or

EN AW-5005 (AIMg1) according to DIN EN 485-2

On demand available with additional coating. Weathered outdoor use only recommended in combination with additional coating.

**STAINLESS STEEL** 

Corrosion-resistant stainless steel 1.4526 to EN 10088-2 High gloss surface Tolerances to EN ISO 9445

Yield strength approx. 300 MPa

MINIMUM QUANTITIES FOR

SPECIAL PURCHASES

1250 mm: 7 t 1500 mm: 28 t 1250 mm: 2 t (smaller quantities on request)

1500 mm: 7 t

**REAR PROTECTIVE LACQUER** 

similar to RAL 9002 Layer thickness 10-12 μm similar to RAL 7035

Layer thickness 4-6 µm

For objects where the colour of the rear protective lacquer is relevant, please enquire specifically, as it may differ from the above information.

**DELIVERY OPPORTUNITIES** 

Check the standard colours and material thicknesses in our MONTACOLOR® stock material list.

**STORAGE** 

Blog post 

Proper storage: avoid damage to components

**PROTECTION FOIL** 

The protective film must always be removed as quickly as possible and, above all, completely.

 $SWISS\ PANEL\ ^{\circ}\ profiles\ can\ be\ supplied\ without\ film\ on\ request.\ In\ these\ cases,\ slight\ scratches\ from\ production\ and/or\ transport\ cannot\ be\ ruled$ 

out and do not entitle the customer to give notice of defects.



### **CHOOSE THE RIGHT COATING**

Choosing the right coating for a facade profile is an important part of good building. Depending on where the building is constructed or what corrosive environmental conditions are present, different demands are made on the outer shell. Ask the Montana specialist. He will support you in choosing the right coating system!

### **ALUMINIUM MILL FINISHED**

This material is an ideal base material for finishing processes such as powder coating or wet painting. Products made of mil finished aluminium can develop a natural patina that turns out unevenly or is perceived as partial discolouration/staining. A specific decorative effect or surface finish is therefore not guaranteed. Any intermediate storage on the construction site must be protected from the weather and absolutely dry, regardless of the intended use, and must be kept as short as possible.

#### STEEL GALVANISED

This material is suitable for indoor applications, such as ice halls. It is an ideal base material for finishing processes such as powder coating or wet painting. Galvanised steel may show differences in gloss or varying degrees of oxidation. A certain decorative effect or surface finish is therefore not guaranteed. Any intermediate storage on the construction site must be protected from the weather and absolutely dry, regardless of the intended use, and must be kept as short as possible.

#### THIN COATING (DU) ☐

~ 15 µm

Thin coating is polyester-based and applied with a thickness of approx. 15 µm. The colour is similar to RAL 9002 or RAL 9010. The rear is provided with light-coloured lacquer. In view of the low layer thickness, the colour shade cannot be guaranteed and colour uniformity cannot be guaranteed among the coils. The thin coating is mainly used on the inside of buildings as the inner skin of sandwich elements, coffers or bearing profiles. Thin coating is not suitable for outside use by virtue of weathering and corrosion signs occurring within a short period of time. This also applies to canopies or similar constructions.

#### **POLYESTER**

 $\sim$  25  $\mu$ m  $\square$  /  $\sim$  35  $\mu$ m  $\square$ 

The polyester coating is a smooth layer based on polyester resins and can only be used in a non-aggressive environment. We supply this coating as standard with a layer thickness of approx. 25  $\mu$ m. The exception are the two colours Vintage Oak and Rustic Oak, which are supplied with a layer thickness of 35  $\mu$ m each. The rear side is always provided with a protective lacquer. A special version with a layer thickness of 25  $\mu$ m on both sides is also available on request. The 25  $\mu$ m polyester coating in steel is not suitable in perforated version for weathered outdoor applications. In this case, we recommend using aluminium 25  $\mu$ m or Colorcoat Prisma® coated on both sides (on request).

#### **COLORCOAT PRISMA®** □

 $\sim 40-65\,\mu m$ 

Colorcoat Prisma® uses the unique and proven Galvalloy® metallic coating. Galvalloy® is made with a special mix of 95% Zinc and 5% Aluminium. This composition offers an increased barrier and sacrificial protection and provides unrivalled corrosion protection, even at the cut edges. Colorcoat Prisma® is offered with the Confidex® Guarantee 🗗 for up to 40 years, and colour stability for up to 20 years for standard colours. We supply this coating with a layer thickness of about 40 µm, or about 65 µm (depending on the colour). Due to its robustness and durability, Colorcoat Prisma® is also recommended for roofs with a photovoltaic system. A special guarantee can also be applied for this application.

### PVDF 🗹

 $\sim 35 \, \mu m$ 

This special coating with an extremely low gloss level of approx. 2 % forms the basis for the Matt Anodized colour range. These trendy colours can be used to create matt and elegant facade surfaces with an anodised effect. With steel as the substrate material, the coating impresses with maximum flexibility in forming.

### **COLORFARM® ☑**

 $\sim 35\,\mu m$ 

Due to its excellent corrosion and chemical resistance, Colorfarm® is ideal for aggressive and very humid indoor areas with ammonia exposure (e.g. stables). The resistance of Colorfarm® against ammonia and many other chemicals occurring in agriculture has been tested. For this reason, we offer a functional guarantee of 20 years when using Colorfarm® for the interior of agricultural buildings. Colorfarm® is particularly suitable for the inside of rooms in combination with sandwich elements or profile structures.

#### **ADVANTICA® L CONTROL**

 $\sim 120\,\mu m$ 

Advantica® L Control is a proven and extremely durable coated steel for use in controlled environments. The outer layer is made of PVC and was developed in close cooperation with leading film manufacturers. The material is food safe and meets the strictest specifications for continuous contact with food. It is also extremely stain and corrosion resistant, anti-static, robust and suitable for long-lasting performance in high traffic areas.

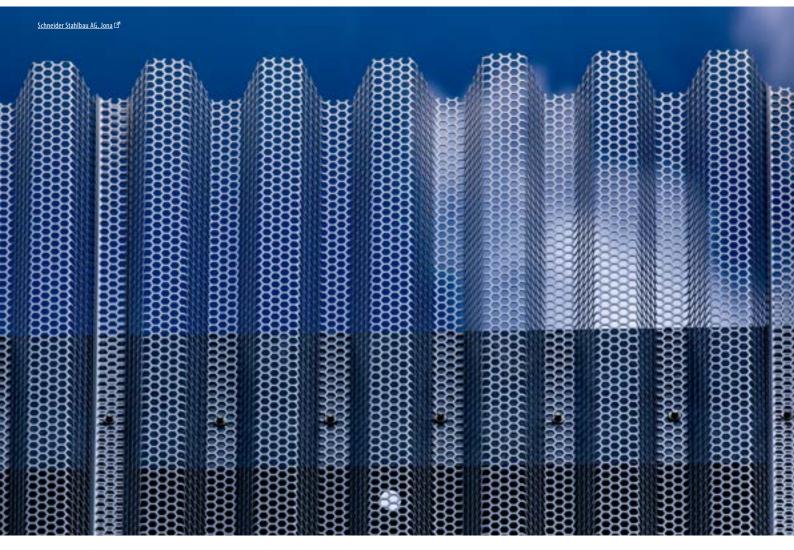
Further coating systems for special requirements are available on request. Our sales team will be happy to advise you on this!

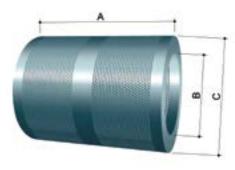
	POLYESTER 25 μm	<b>POLYESTER 35 μm</b> Vintage Oak, Rustic Oak	PRISMA® Helios, Kronos, Sirius II, Orion II, Zeus, Ephyra, RAL 3020, RAL 5010	Seren Gold	<b>PVDF</b> Champagner Grey II, Stone Grey II, Brown Grey II, Deep Grey II
Available in	Steel, Aluminium	Steel	Steel	Steel	Steel
Nominal coating thickness	~ 25 μm	~ 35 μm	~ 65 µm	~ 40 µm	∼ 35 µm
Specular gloss (60°)	30 – 50 %	15-25 %	25 – 35 %	30 – 40 %	~ 2%
Flexibility	3 T	3 T	0.5 T	0.5 T	3T
Corrosion resistance [1 – 5]	RC 3	RC3	RC 5	RC 5	RC 3
UV resistance [1 – 4]	RUV3	RUV3	RUV4	RUV4	RUV4
Max. continuous temperature liability	Steel 90° / Alu 80°	80°	90°	90°	110°
Fire performance	A1	A1	A1	A1	A1

## **PERFORATION**

## FROM ACOUSTIC TO VISUAL APPLICATION

Perforation is a technique from the area of noise protection and it is still mainly used in that segment. In addition to attaining excellent noise absorption values in industrial acoustics and for traffic installations, lots of architects are experimenting with the optical qualities of perforated Montana profiles, with special attention paid to the selective translucency of the profile sheets the inward effect of daylight or the outward effect of artificial light at night.





### **COIL MATERIAL**

min. lengths = 15 m

### MAX. WEIGHT

steel 10 t aluminium 2.5 t

### MEASUREMENT

A = min. 300 mm (Aluminium: 360 mm) max. 1500 mm

B = min. 500 mm / max. 600 mm

C = max. 1200 mm

## **ON REQUEST**

The performated coils can be cut to flat sheets and bend until max. 8 m.

Flat sheets cannot be perforated.

## **SERVICE-ELEMENTS**





ROOM ACOUSTICS ☐



BLOG POST SOUND INSULATION & ROOM ACOUSTICS ☐

### PERFORATION OF STEEL AND ALUMINIUM FURTHER PERFORATIONS ON REQUEST! **OPEN AREA WITH FULL PERFORATION % TOLERANCES** mm Distance of the edge with special perforation **CIRCULAR PERFORATIONS SCALE 1:1** MAX. WIDTHNESS OF COILS mm MIN. MARGIN OF THE EDGE mm ARRANGEMENT staggered in-line **DIAMETER** mm PITCH (TG) mm **MATERIAL** mm Pitch Steel 3.0 5.0 32.7 0.70 1.00 0.70 1.00 1500 7.5 +<del>/</del> 3.0 <sup>+</sup>/- 0.30 23.4 0.70+0.80 0.70+1.00 1500 7.0 +/- **0**.30 **½** 3.0 3.0 5.5 40.3 0.70 1.00 0.70 1.00 1500 7.0 <del>1</del>/- 3.0 +/- **0.30** 4.0 6.0 0.70-1.25 0.70-1.00 1500 4.0 +/- 3.0 <sup>+</sup>/- **0.30** 7.0 29.6 8.0 5.0 0.70+1.25 0.70+1.20 1500 <sup>+</sup>/- 3.0 35.4 <sup>+</sup>/- 0.30 8.0 8.0 12.0 +/- **0.30** 40.3 11.0 0.80-1.50 1250 <del>1</del>/- 3.0 +/- **0.30** 14.0 64.3

## **IMPORTANT NOTES**

#### **ORDERS**

The selection of the right product, material and coating is generally the the responsibility of the customer.

Your orders must contain the following information:

- type of profile
- material
- thickness
- colour
- · painting side
- · number of parts
- lengths
- delivery date and address for delivery
  Our order confirmations must be checked
  very carefully, in particular as regards the
  types of profiles, thicknesses, materials,
  paint quality, painting side, colour, dimensions and number of parts. Any disagreements must be notified to us at the latest 3
  working days following the date of confirmation of the order. At the time of delivery,
  the goods must be checked to ensure that
  they are complete.

Any complaints must appear on the signed delivery note and must be transmitted in writing to the relevant sales office according to the general conditions of sale and delivery. We would like to point out that slight surface scratches cannot be ruled out when ordering without a colour protection film.

#### STORAGE ON THE WORKSITE ☑

The storage time on the construction site should always be kept as short as possible. The sheets must be stored in a dry and ventilated place. Do not cover them with a sheet as internal condensation may cause the appearance of white rust (in the summer months already possible with a short storage time). Store the sheets at a slight angle to eliminate any water that may be deposited. All products delivered by us in steel or aluminium must never be stacked in packages – in order to avoid pressure marks – if there are no transport wooden on top of each other. These storage instructions also apply in particular to bare metal surfaces (galvanised steel, mill finished aluminium,

## GENERAL SECURING AND FITTING INSTRUCTIONS

Securing must be carried out in accordance with the latest DIN, SIA and SZS-B7 norms as well as the general IFBS guidelines. This means after measuring wind suction and pressure forces as well as snow loading depending on the form of the building, dimensions and location.

The roof and wall sections are secured using approved and normal commercially available fasteners. These include self-tapping fasteners and threaded screws, the correct length of which must be chosen depending on whether the substructure is timber or steel. When selecting the measurement, attention must be paid to the stripping values stated by the manufacturer. Only corrosion-free fasteners and washers with seals are to be used on the outside skin. The drill screw setter must have a depth-control stop. The correct setting of the depth-control stop is essential for clean fastening with sealing washers and to prevent visible pressure marks.

The side sheet overlaps are to be screw-fastened about every 50–66 cm or according to the distance between the purlins or crosspieces in the roof and wall.

The structural strength of the different section types can be seen from our load tables. The substructure must be perfectly flat and level. For thin-walled sections, it is advisable to choose a metal substructure, and this is absolutely essential for aluminium profiles. Please also consult our general documentation and the various design details in this regard.

Depending on the choice of material and sheet lengths, allowance must be made for expansion of the sections, especially in the case of long aluminium. In practice, we therefore recommend observing our maximum length recommendations of 5.0 m for aluminium profiles and to work with the recognised rules of fastening technology when fastening the profiles (fixed screw connection in the middle and towards the edges with large holes as sliding points). The connections and surrounds should therefore also be executed as sliding elements using additional retaining clips or strips.

Detailed planning, correct handling of the metal sections, good knowledge of the material and the choice of suitable tools are essential for faultless installation.

#### **USE ON THE ROOF**

Trapezoidal sections are laid in the roof in a negative position as an outer shell, i.e. side B to the exterior. This means that the overlapping point is on the crest, thus preventing water penetration.

According to the information given by the screw suppliers, high or low-bead installation is possible in the roof with trapezoidal sections. This also applies to sandwich elements if the correct screw type is chosen. For low-bead installation, the "state of the art" is a drill fastener with a supporting thread (e.g. SPEDEC-SXC or SXCW). Aluminium sandwich elements may only be secured on the crest by means of spherical caps. The wave or sinusoidal sections are secured in the roof on the crest, referred to as exterior side A.

The bearing sheets for flat roofs and the inner shell of double-layer roofs are generally laid in a positive position, i.e. side B to the inside. This forms a good support for the vapour seal and heat insulation. The inner shell is normally gunned onto the steel substructure in the low bead, but can also be secured using screws. Lateral butt joints on the outer skin of the sectional sheets must always be adapted to local conditions, i.e. they must be sealed appropriately, as must the longitudinal overlaps in the case of minimum roof pitch.

To what extent the structure can be walked on depends on the thickness of the sections, material and sheets as well as the bearing distance chosen. In the case of high aesthetic requirements concerning the bottom view of the roof, only 0.80 or 1.00 mm thick sheets are chosen in some cases. The rule of thumb here for steel sheets with a sectional height of 40 mm and 0.70–0.75 mm thick is accessibility of approximately 1.20–1.85 m though not in excess of 2 m (see limit bearing spans). In the case of aluminum sections in the roof, a minimum thickness of 0.80 or, better still, 1.00 mm is recommended, otherwise appropriate safety measures must be taken during installation.

#### **USE ON THE WALL**

On façades, the trapezoidal sections are normally laid in the positive position, i.e. side A to the outside. Securing is therefore carried out in the low bead or rib. This also applies to sinusoidal sections correspondingly. As a rule of thumb, securing is executed on each support in every second rib. This profile position has a more aesthetic effect and also provides for optimum rear ventilation. In the case of a trapezoidal section layout with side B to the outside, there is normally a slight "dent" apparent in the flat area at the securing points, so this is not really recommended for facades.

Trapezoidal and sinusoidal profiles can be overlapped in a vertical position in the case of lateral butt joints. This is to be avoided for sinusoidal profiles in a horizontal section layout for aesthetic reasons. For this purpose, the lengths of wave sections should have corresponding intermittent joints or pilaster strips. This allows the sections the necessary dilatation for expansion and avoids four-fold overlapping points on the cross joint, which otherwise have to be partly mortised in a concealed manner on façades for aesthetic reasons.

Special fasteners with ring nuts are available for anchoring the scaffolding and these must be continuously replaced when dismantling the scaffold. Our general instructions and the IFBS guidelines otherwise apply.

## INSTRUCTIONS FOR ASSEMBLY AND USE FOR ALUMINIUM AND METALLIC SURFACE TREATMENTS

The manufacture of metallic paints requires the addition of aluminium pigments or (according to a new process) mica pigments to the base material. The metallic effect is obtained by the reflection of rays of light on the aluminium or mica particles and depends on the direction of application. In order to obtain uniform façade surfaces, we recommend you order not only the profile, but also the corresponding finishing elements or flat sheet so that we can supply you with identical material for the entire façade. Trapezoidal profiles, corrugated elements, covering profiles and finishing elements must be assembled in the same direction to ensure that the aluminium pigments are also in the same direction (to avoid colour variations!).

Our packs have an arrow to indicate the direction of profiling. In addition, the protective film helps identify this direction.

The arrow or the protective film of the same surface must always be pointing in the same direction

#### PROTECTIVE FOIL

Profiles and flat sheets with colour protection films must be installed or processed within 4 weeks of delivery or the foil removed within such period! The colour protection foils must be protected against ultraviolet rays. If these instructions are not observed, it is possible that adhesive film residues will remain on the profiles. Removal of the foil requires greater effort at temperatures over +25° C or below +10° C! Partial removal of the protective film is not recommended, as water and dirt accumulation on film edges can lead to non-removable residues or paint changes.

#### **RETOUCHING OF PAINTED SURFACES**

Touch-up means the partial reworking of occasional scratches that may occur due to assembly.

- 1. Check the type of paint (polyester, PVDF, PVF Tedlar, etc.).
- 2. First clean the places to be retouched. They must be clean, dry and free from grease.
- 3. Best colour conformity will be obtained if you use the original paint.

#### **CLEANING OF PAINTED SURFACES**

Occasional soiling of the surfaces cannot always be avoided, which means that further cleaning will be required. To limit additional costs, the following instructions should be followed at the time of assembly:

- 1. Work carefully, taking care not to dirty or scratch the paintwork, especially when cutting sheets.
- 2. The protective sheet can be left on during assembly, but remove it immediately after the completion of the work within the specified deadlines.
- 3. Eliminate any filings immediately, preferably by blowing. This will prevent corrosion due to humidity.
- 4. Eliminate any stains, if possible before they dry, especially stains containing tar or bitumen.
- 5. Do not use abrasive cleaning agents. Instead, use mild cleaning agents (soap) and water.
- 6. Rinse off impurities with as much water as possible, use the least possible mechanical action to avoid changes to the coating or the gloss level.
- 7. When carrying out any cleaning, a small surface should first be tested.

## www.montana-ag.ch

### **Trademarks of Tata Steel**

Montana is a registered trademark of Tata Steel.

While care has been take to ensure that the information contained in this publication is accurate, neither Tata Steel, nor its subsidiaries, accept responsibility or liability for errors or for information which is found to be misleading.

Before using products or services supplied or manufactured by Tata Steel and its subsidiaries, customers should satisfy themselves as to their suitability.

Copyright © 2024 Montana Bausysteme AG

### **MONTANA BAUSYSTEME AG**

Durisolstrasse 11 CH-5612 Villmergen +41 56 619 85 85 www.montana-ag.ch info@montana-ag.ch MONTANA SYSTÈMES
DE CONSTRUCTION SA
CH-1028 Préverences

CH-1028 Préverenges +41 21 801 92 92 **MONTANA BAUSYSTEME AG** 

Zweigniederlassung D-86845 Großaitingen +49 8203 95 90 555