

VISION. REALISATION. MONTANA.



PRODUCT RANGE ALUMINIUM AND STEELPROFILES AS SANDWICH PANELS FOR ROOFS, FLOORS AS FAÇADES

MONTANA BUILDING SYSTEMS

TAKING ADVANTAGE OF KNOW-HOW LOCALLY AS A COMPANY OF THE CORUS GROUP

Corus is an international metal company offering products and services relating to steel and aluminium. The workforce of over 50,000 employees in over 40 countries combines a huge amount of know-how about metal. As a member of a group, we have access to collective knowledge within the concern. We can take advantage of this valuable asset locally with you.







LOGISTICS

Well-organised logistics ensure fast delivery to the worksite within the desired deadlines.

QUALITY

Montana Building Systems Ltd. is certified according to ISO 9001:2008, and ISRS level 7.





MONTANA. MADE IN SWITZERLAND!

Montana Building Systems Ltd. is a Swiss company specialising in the profile sheeting segment since 1964. The trend towards rapid, lightweight and modern construction has been considerably influenced by Montana's products. The name "Montana" is partly responsible for the production of profile sheets for roofs, ceilings and façades constantly growing in importance. Montana Building Systems Ltd. has extensive know-how in the production of trapezoidal, corrugated and cladding profiles, liner trays, composite floor slabs and sandwich panels made of steel and aluminium.

COLOURS AND SHAPES

With the MONTACOLOR® colour collection, we offer architects, planners and builders new and varied design possibilities. Our range of metal profiles is suitable for industrial, administrative and residential buildings.

THE ENTIRE PROCESS CHAIN

Montana Building Systems Ltd. provides everything, from documentation and production to logistics and delivery on the construction site. Our customers appreciate the competent sales advice and comprehensive after sales service.

TECHNOLOGY

In addition to our products, we provide construction specialists with a large number of technical aids from structural calculation tables to design drawings and installation instructions. These non-binding working aids make the work of planners and architects easier and contribute their share to each successfully completed structure.

Please take note of the pictograms accompanying each product. They give you a general overview of what documentation and technical aids are available to you.



Technical informations

Load tables CD-ROM

ROOFS, CEILINGS, FAÇADES

EVERYTHING THAT BELONGS TOGETHER

With Montana products, you can design your structure in an integrated manner. From the outer roof and supporting shell to cladding profiles and roof soffits, as well as external façades and interior walls – with elements available for different construction philosophies, such as rear-ventilated façades, sandwich constructions and curtaintype façades. Coordinated elements enable freedom of design and open up (virtually) unlimited possibilities.

Montana Building Systems Ltd. offers an economical assortment which is simply begging to be taken maximum advantage of by highly imaginative planners, architects and builders.





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SWISS PANEL®

THE ECONOMICAL ALL-ROUNDERS IN THE MONTANA PROGRAM

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. Although SWISSPANEL® profiles are mainly fitted to industrial and

commercial premises, more and more architects, planners and builders are using 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.







SWISS PANEL®

PROFILES FOR FAÇADES AND ROOFS IN ALUMINIUM AND STEEL

Trapezoidal and corrugated profiles can be supplied also with anti-condensation felt or with acoustic perforation $\emptyset = 5 \text{ mm}$ / pitch 8 mm

Trapezoidai and corrugated promes can be supp			
PROFILE	ACOUSTIC	ANTI-CON- Densation Felt	THICKNESS mm 0.75 0.75 0.80 0.88 1.00
• SP 18/76	• SP 18/76 A	•	STEEL •
• SP 27/111	• SP 27/111 A	•	STEEL •
• SP 42/160	• SP 42/160 A	•	STEEL kg/m ² 7.29 7.81 8.33 9.17 10.42 13.02 ALUMINIUM kg/m ² 2.51 2.86 3.58
• SP 20/154	• SP 20/154 A	•	STEEL •
• SP 26/143	• SP 26/143 A	•	STEEL •
• SP 30/221	• SP 30/221 A	•	STEEL • • • • • • • • • • • • • • • • • • •
• SP 35/207	• SP 35/207 A	•	STEEL •
• SP 40/183	• SP 40/183 A	•	STEEL •

PROFILES FOR FAÇADES AND ROOFS IN ALUMINIUM AND STEEL Trapezoidal profiles can be supplied also with anti-condensation felt or with acoustic perforation Ø = 5 mm / pitch 8 mm								
PROFILE	ACOUSTIC	ANTI-CON- DENSATION FELT	THICKNESS mm 0.70 0.75 0.80 0.88 1.00 1.25					
• SP 41/193.5	• SP 41/193.5 A	•	STEEL •					
• SP 44/333 suitable to MTD TL		•	STEEL •					
• SP 44/333 S with support		•	STEEL • • • • • • • • • • • • • • • • • •					
● SP 45/150	● SP 45/150 A	•	STEEL kg/m ² 7.78 8.33 8.89 9.78 11.11 13.89 ALUMINIUM kg/m ² 2.67 3.06 3.82					

SWISS PANEL®

ROOF PROFILES

Trapezoidal profiles can be supplied also with anti-condensation felt or with acoustic perforation $\emptyset = 5 \text{ mm}$ / pitch 8 mm



ROOF PROFILES Trapezoidal profiles can be supplied also with anti-condensation felt or with acoustic perforation Ø = 5 mm / pitch 8 mm							
PROFILE	ACOUSTIC	ANTI-CON- DENSATION FELT THICKNESS mm 0.75 0.88 0.88 1.00	1.25				
	• SP 135/310 A	STEEL 9.68 11.35 12.90 ALUMINIUM kg/m ² Aluminium on request!	16.13 19.35				
• SP153/280	• SP 153/280 A	• STEEL • • • kg/m ² 10.71 12.57 14.29 ALUMINIUM kg/m ² Aluminium on request!	17.86 21.43				
• SP 160/250	• SP 160/250 A	STEEL & & & & & & & & & & & & & & & & & &	20.00 24.00				
• SP 200/375	• SP 200/375 A Perforation Ø 3 mm/Tg 5.5 mm	STEEL kg/m ² 14.08 16.00 18.08					











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. MON-TAWALL[®] 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

Structural protections on request with integrated waterproof strip and / or with acoustic perforation \emptyset = 4 mm / pitch 7 mm

PROFILE		ACOUSTIC		THICKNESS mm 0.75 0.88 1.00 1.25
● MK 60/333	333	• MK 60/333 A	۲۲	STEEL • • • • • • kg/m ² 9.01 10.57 12.01 15.01
● MK 80/333		• MK 80/333 A	٤	STEEL • • • • kg/m ² 9.73 11.41 12.97 16.21
● MK 80/500		● MK 80/500 A	٢	STEEL • • • • • • kg/m ² 8.52 10.00 11.36 14.20
● MK 100/333	333	● MK 100/333 A		STEEL • • • • • • kg/m ² 10.45 12.26 13.93 17.42



MONTANATHERM®

ECONOMIC EFFICIENCY, FUNCTIONALITY, AESTHETICS MADE FROM STEEL AND ALUMINIUM

MONTANATHERM® sandwich panels are very light with a high degree of rigidity. These qualities enable large spans and easy installation. 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.



















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CAD

CAD

Load tables

Assembly recommendation

Colour chart Certificates and approvals

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COMPOSITE PANELS IN ALUMINIUM AND STEEL Wall panels with CFC and HCFC-free PIR foam

	PROFILE	TECHNICAL Data	M kg/m ²	d mm	L max m	U ₁ W/(m ² K)	U ₂ W/(m ² K)	λ _b W/(m K)	S Pitems/pack	SURFACES	WL 1	NL	ML	SHEET THICK- NESS A mm	Ē
WALL PANELS	• MTW LL 80/1150	STEEL	• 13.24 • 7.78	• 80 • 80	• 17 • 12	•	0.30	• 0.024 • 0.024	• 13 • 13	•	•			0.63	0.50 0.70
<u>1150</u>]] នូខ្ញុន្ម័	• MTW LL 100/1150	STEEL ALUMINIUM	14.04 8.58	• 100 • 100	• 17 • 12	0.23 0.23	•	0.024 0.024	• 11 • 11		•			0.63	0.50 0.70
	• MTW LL 120/1150	STEEL Aluminium	• 14.84 • 9.38	120 120	• 17 • 12	0.19 0.19	•	• 0.024 • 0.024	• 9 • 9		•			0.63 0.70	0.50 0.70
• WALL PANELS WITH HIDDEN FASTENING SYSTEM	• MTW V ML 80/1000	STEEL Aluminium	13.40 • 8.35	80 80 80	• 17 • 12	0.29 0.29		0.024 0.024	• 13 • 13			•		•	0.50 0.70
1000 E	• MTW V ML 100/1000	STEEL ALUMINIUM	• 14.20 • 9.15	• 100 • 100	• 17 • 12	0.23 0.23		0.024 0.024	• 11 • 11			•		0.63 0.70	0.50 0.70
	• MTW V ML 120/1000	STEEL ALUMINIUM	15.00 9.95	• 120 • 120	• 17 • 12	0.19 0.19	•	0.024 0.024	9 9 9		•			•	0.50 0.70
	• MTW V ML 140/1000	STEEL	15.80 10.75	• 140 • 140	• 17 • 12	0.17 0.17	•	0.024 0.024	• 8 8					0.63 0.70	0.50 0.70
	• MTW V ML 160/1000	STEEL ALUMINIUM	16.60 11.55		• 17 • 12	•		0.024 0.024	• 7 7					•	0.50 0.70
1000	• MTW V WL 110/1000	STEEL ALUMINIUM	15.27 9.08		• 17 • 12	•	•	0.024 0.024	• 12 • 12				•	•	0.50
	• MTW V WL 130/1000	STEEL	16.17 10.13		• 17 • 12	•	•	0.024 0.024	• 10 • 10				•	•	0.50 0.70

MONTANATHERM®

COMPOSITE PANELS IN ALUMINIUM AND STEEL Roof panels with CFC and HCFC-free PIR foam

TYPE	PROFILE	TECHNICAL	M kg/m² d mm	L max m	U ₁ W/(m ² K)	U ₂ W/(m ² K)	$\lambda_{\rm b}$ W/(m K)	S Pitems/pack	SURFACES TL	SHEET THICK- NESS A mm I mm
• ROOF ELEMENTS	● MTD TL 85/1000	STEEL	13.02 44/85 7.08 44/85		•		0.024	• 16 • 16	•	0.63 0.50 0.70 0.70
1000 1000 (金麗麗麗麗)	● MTD TL 105/1000	STEEL	13.82 44/105 7.88 44/105	•	•		0.024	• 12 • 12	•	0.63 0.50 0.70 0.70
	● MTD TL 125/1000	STEEL ALUMINIUM	14.62 44/125 8.68 44/125	•	0.28 0.28	•	0.024	• 10 • 10	•	0.63 0.50 0.70 0.70
	● MTD TL 145/1000	STEEL	15.42 44/145 9.48 44/145		•		0.024	• 8 • 8	•	0.63 0.50 0.70 0.70
	● MTD TL 165/1000	STEEL ALUMINIUM	16.22 44/165 10.28 44/165	•			0.024	• 6 6	•	0.63 0.50 0.70 0.70
	● MTD TL 185/1000	STEEL	17.02 44/185 11.08 44/185	•	0.17		0.024	• 6 6	•	0.63 0.50 0.70 0.70
	TECHNICAL DATA M Element weight d Element thickness L Max. element length U, Heat transition coeffi factor of the joint U, Heat transition coeffi of the join	SHEET THICKNESS A Outer shell I Inner shell						SURFACE TREATMENTS LL = Ribbed ML = Microribbed		
	λ _D declared and certifie S Standard packaging								NL = Gro TL = Tra	poved and microribbed
									WL = Co	rrugated
									_	

COMPOSITE PANELS NB (non combustible) Core of mineral wool.

On request

TECHNICAL INFORMATIONS



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. MONTALINE® cladding profiles are also available in aluminium with bent ends on both sides.

This gives the façade the look of a highly expensive flat panel façade. With varying overall widths up to 400 mm, this results in interesting design possibilities for the customer.



CLADDING PROFILES IN STEEL AND ALUMINIUM With hidden fasteners, smooth visible side, with microprofilation on request

PROFILE			TYPE	THICKNESS mm 0.70	u.80 1.00 1.20
ML F PROFILE WITH OPE	N JOINT AND ML G PROFILE WITH CLOSE	тиюца	 ML 26/200 F ML 26/200 G 	STEEL • • • • • • • • • • • • • • • • • •	
	8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4 90 25 25 90 25 25	 ML 26/250 F ML 26/250 G 	STEEL • • • • • • • • • • • • • • • • • •	
			 ML 26/300 F ML 26/300 G 	STEEL kg/m ² ALUMINIUM kg/m ²	10.93 3.76 4.51
			 ML 26/400 F ML 26/400 G 	STEEL kg/m ² ALUMINIUM kg/m ²	10.20 3.50 4.20
www.montana-ag.ch Detail brochure	Technical CAD e informations	Load tables Assemb recommend		CD-ROM	



MONTASTEP®

REBATED FAÇADE PROFILES WITH HIDDEN FASTENING SYSTEM

MONTASTEP® rebated façade profiles are suitable for rear-ventilated façades on new and renovated buildings on liner trays or masonry or as complete system installations with heat insulation and correspond-

ing spacers. MONTASTEP® rebated façade profiles are available in steel and aluminium. The rollformed MS 25/250 profile can be combined with all MONTALINE® cladding profiles.



REBATED FAÇADE Smooth surface, in aluminium and s



www.montana-ag.ch Detail brochure Detail Det

CD-ROM

MONTAFORM[®]

FILIGREE PROFILES WITH VISIBLE FASTENING

MONTAFORM® façade profiles are the finest in the Montana range. With a recommended maximum span of 160 cm, they are predestined for residential buildings and small area façades. MONTAFORM® façade profiles were the first "designer profiles" from Montana and have proved themselves over a period of decades.

Do you have a vision?

Recently you cannot only choose between the types of metal and colours, you can also define the shape of the profile! Under the brand MONTAFORM®-DESIGN, we offer to architects and planners the possibility to realize their own ideas!



CLADDING PROFILES IN ALUMINIUM AND STEEL With visible fastening system, smooth surface

PROFILE		THICKNESS mm 0.70 0.80 1.00
 MF 7-8/1148 		STEEL • • kg/m² 6.10 6.97 ALUMINIUM • • kg/m² 2.10 2.40
• MF 7-11/1135		STEEL • • kg/m² 6.17 7.05 ALUMINIUM • • kg/m² 2.12 2.42
• MF 25-6/1050		STEEL • • kg/m² 6.66 7.62 ALUMINIUM • • kg/m² 2.29 2.62
 MF 25-8/985 	985 A B	STEEL • • kg/m² 7.11 8.12 ALUMINIUM • • kg/m² 2.44 2.79

CAD

CAD

Colour

chart

CD-ROM

Detail

brochure

Technical

informations

CLADDING PROFILES IN ALUMINIUM AND STEEL With visible fastening system, smooth surface

With visible fastening system,	, smooth surface	
PROFILE		ТНІСКИЕSS ттт 0.70 0.80 1.00
• MF 25/250		STEEL kg/m ² ALUMINIUM kg/m ² 2.90 3.63
• MF 25/333		STEEL kg/m ² 9.84 ALUMINIUM kg/m ² 3.39
• MF DESIGN 35-5/440		STEEL • • • • kg/m ² 7.76 8.87 11.09 ALUMINIUM • • • kg/m ² 2.67 3.05 3.81
• MF DESIGN 35-5/250 with hidden fastening system		STEEL ● ● ● kg/m ² 9.16 10.47 13.09 ALUMINIUM ● ● ● kg/m ² 3.15 3.60 4.50
• MF DESIGN 110-4/800		STEEL • • • • kg/m ² 8.68 9.92 12.40 ALUMINIUM • • • kg/m ² 2.98 3.41 4.26
• MF DESIGN 25-13/816		STEEL • • • • kg/m ² 8.44 9.65 12.06 ALUMINIUM • • • kg/m ² 2.90 3.32 4.15
• MF DESIGN 100-3/825		STEEL • • • • • kg/m ² 7.94 9.08 11.35 ALUMINIUM • • • kg/m ² 2.73 3.12 3.90
• MF DESIGN 40-6/1000 SINUS		STEEL kg/m ² 6.94 7.94 9.92 ALUMINIUM kg/m ² 2.39 2.73 3.41

MONTATWIN®

UNIQUE THANKS TO THE "TWIN FORM"

MONTATWIN® façade profiles differ considerably from traditional trapezoidal and corrugated profiles. The additional micro-lining in the bottom flange and the new closing up of the profile ribs to produce the "TWIN" form result in technically perfect rigidity of the MONTATWIN® façade profiles. The special arrangement of the profile ribs gives the façade an unmistakable character, setting new architectural emphases in façade technology.



CLADDING PROFILES IN ALUMINIUM AND STEEL

With visible fastening system, surface with microprofiling, on request with acoustic perforation \emptyset = 3 mm / pitch 5.5 mm



MONTACLIP®

EASY FITTING INSTALLATION VIA CLIP-ON CONNECTIONSORS

 $MONTACLIP^{\circledast}-$ these surface area of the new roof system comprises just one component part. Unlike other metal roof covering systems, no further accessories or attachments like holding clips, brackets etc. are

needed. This means that MONTACLIP[®] is not only particularly easy to fit; it can also be installed very quickly.



ROOF SYSTEM IN STEEL Surface ribbed



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.



PROFILES FOR COMPOSITE FLOOR SLABS IN STEEL

Formwork, reinforcement and fire protection on request without reinforcements on the bottom-flange



DOVETAILS

Standard accessories can be used to suspend technical installations in the dovetails. For example HOLOBAR conical pivots M6 or M8.



INTERMEDIATE AND END SUPPORT



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, spac-

ers 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!



FLASHINGS IN ALUMINIUM AND STEEL on request with acoustic perforation



MONTACOLOR®

COLOUR COLLECTION



- 5) Limited storage
- 6) Additional charge

chart



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MONTACOLOR®

HOW TO CHOOSE THE RIGHT COATING

Choosing the right coating for a façade profile is an important part of good building.

Depending on where the building is constructed, different demands are made on the outer shell. The most important component is deemed to be the composition of the ambient air.

Surrounding commercial and industrial operations with emissions can require a corresponding coating, for example, but proximity to the coast or foreseeable mechanical loads also have an influence on the choice of this. Ask the Montana Building Systems specialist. He will help you.

BASIC MATERIALS Steel

S320GD zinc coating both sides + Z275 or +ZA255 according to DIN EN 10346 Material no. 1.0250 Strain limit min. 320 MPa On demand with additional coating available to increase the corrosion

protection class

Aluminium

EN AW-3005 [AIMn1Mg0.5] or EN AW-3105 [AIMn0.5Mg0.5] Material no. 3.0525 or Nr. 3.0505 according to DIN EN 485-2 Strain limit min. 165 MPa On demand with additional coating available

Chrome steel

Base material Z7CN 18-09 (AISI 304) Material no. 1.4301 Surface 2B/IIIc-DIN ED 1985 Cold rolled, heat treated and pickled Strain limit Rp 240 MPa

GLOSS ACCORDING TO GARDNER

Prepainted steel Polyester 30°-60° PVDF 25°-40° Prepainted aluminium Polyester 35°, PVDF 30°

HEAT RESISTANCE

Polyester up to 80° C, PVDF up to 110° C (values by experience for inconstant temperatures)

CORROSION PROTECTION CLASS

Prepainted steel

Polyester III, PVDF III (according to DIN 55928, part 8) Prepainted aluminium Polyester III, PVDF III (according to EN 1396)

THIN COATING (DU)

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, we cannot guarantee evenness of colour under 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.

POLYESTER

Polyester coating is a smooth layer based on polyester resins and can only be used in a non-aggressive environment. We supply this coating with a layer thickness of approx. 25 µm as standard, with the rear always provided with a lightcoloured lacquer.

A special type with a layer thickness of 25 μm on both the front and rear is also possible on request.

PVDF

COATING TYPES

PVDF is a coating based on polyvinyl difluorides and other bonding agents. The properties of this coating are determined mainly by the number of polyvinyl difluorides. Our PVDF coating contains at least 70 – 80% polyvinyl difluorides.

The PVDF coatings supplied by Montana Building Systems Ltd. are elastic and (mechanically) hardwearing.

They are equally durable and resistant to solvents, chemicals and UV radiation.

The PVDF coatings are supplied with a layer thickness of approx. 25 µm as standard, with the rear always provided with a light-coloured lacquer.

PRISMA®

Prisma[®] 50 µm is designed around a thick-film coating formulation, providing a greater level of durability than PVDF (Pvf2). A high-performance primer provides excellent corrosion resistance, complemented by a robust top-coat with good scratch and abrasion resistance for easier handling and processing. Prisma® is a technically and aesthetically advanced product, allowing flexible colour choice with outstanding colour and gloss retention.

CORROSION GUARANTEE PRISMA®

Wall up to 25 years, roof up to 20 years. The guarantee depends on the local situation and requires analysis beforehand.

AVOIDING COLOUR DIFFERENCES

The so-called metallic finishes (such as RAL 9006 and RAL 9007) require special attention, with aluminium particles providing for a special gloss and colour effect which differs according to the material batch. When using this coating, Montana Building Systems Ltd. recommends that the façade areas be taken into account in the order specifications so that these can be produced from a single batch of material.

The metallics have arrow marking on the B side or on the protective foil so as to clearly indicate the texture direction for perfect fitting.

DELIVERY OPPORTUNITIES

You could check the standard colours, material thicknesses, developments and profiles in our colour chart MONTACOLOR®!

MINIMUM QUANTITIES FOR SPECIAL PURCHASES

1250 mm: Steel 7 t / Aluminium 2 t 1500 mm: Steel 15 t / Aluminium 7 t



- K Core steel or aluminium Z Galvanisation Z 275 (steel core only)
- C Chemical surface pretreatment
 - Ρ Primer 5 um
 - D Polyester or PVDF prepainting 20 µm
 - Protective sheet (optional) Protective paint on back

PREBENDING

CURVES IN ARCHITECTURE

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.





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Technical informations



PREBENDING IN FACTORY SWISS PANEL® SP 18 / 27 / 42 / 45 IN ALUMINIUM AND STEEL



PREBENDING IN FACTORY SWISS PANEL® SP 18 / 27 / 42 / 45



Chord Arc length b) c) Straight end (overlap/supports) SP 18 = 180 mm SP 27 = 240 mm SP 42/45 = 260 mm r) Inner radius α) Angle

PREBENDING NOTES

For technical production reasons, there is a straight section on the ends of the profiles. The transition from the straight end section to the radius is visible in the form of a slight curve (the smaller the radius, the greater the visible curve).

In the case of radii < 3 m, it is advisable to order the profile sheets approx. 500 mm longer because there is a gap in the overlaps as a result of the straight end section (see Mass C illustration above). These profile sheets have to be adjusted in length and cut to size on site.

In the case of rounded roofs comprising several segments, this end section is to be included in the overlap and distribution of the supports. Depending on the material and length of the sheets, attention has to be paid to the necessary expansion and appropriate waterproofing.

horizontal assembly on For facades, the type of overlap and the external side of the profile have to be determined in advance. The requirements are generally stricter for rounded façades. In this case, it is essential to take account of the overall width tolerances and calculation for more difficult installation. including additional fastening elements at the ends of the profiles, as well as for corners, vertical joints, seals and overlaps.

The prebending of profiled panels can provide a means of making modifications to the useful width in relation to straight panels. To enable these different tolerances to be better compensated for, we recommend that assembly be carried out by placing a straight panel and a bent panel together in one operation.

PREBENDING BY SNAPPING

ELEGANTLY AROUND THE CORNER WITH A SMALL RADIUS

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.



PREBENDING BY SNAPPING SWISS PANEL® SP 26 / SP 41 / SP 44 / SP 45



PREBENDING BY SNAPPING SWISS PANEL® SP 26 / SP 41 / SP 44 / SP 45







TECHNICAL SPECIFICATIONS

INNER RADIUS

r = min. 300 mm for SP 26, SP 41, **SP 44** r = min. 400 mm für SP 45

DISTANCE BETWEEN FOLDS b = min. 45 mm

START / END a = min. 200 mm

ANGLE OF INCLINATION

 $\alpha = \min.3 \text{ degrees/fold}$ max. 8 degrees/fold min. 12 folds for 90° angle







Technical www.montana-ag.ch informations CD-ROM

SHEET LENGTHS

To define the exact length, add

at least an additional mesure per

3 mm

5 mm

4 mm

(small radius, with gaps)

(large radius, without gaps)

Standard edge rib

Flat edge rib

Max. 6–7 m

• SP 26, SP 41

fold of:

SP 44

SP 45



FINISHING OF INNER RIBS

b = less than 200 mm (for small radius/blind boxes): flat edge rib b = 200 mm or more (curved roofs, etc.): standard edge rib

NOTES

- · Bent profiles always require a protective sheet.
- Depending on the length of the sheets, the radius or deflection, transversal overlaps should be used because of production, handling and transport requirements.
- A waterproof strip should be used on the longitudinal overlaps of bent profiled sheets.
- The location of the profile or the prepainting side A or B must appear on the order (see diagram).
- · For bent profiled sheets, a straight sheet and a bent sheet should be placed simultaneously.



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, 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.



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COIL MATERIAL min. lengths = 15 m

MAX. WEIGHT

steel 10 t aluminium 2.5 t

MEASUREMENT

A = min. 300 mm (Aluminium: 400 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!



SYSTEM ELEMENTS

IMPORTANT RATHER THAN TRIVIAL

Who only notice what system elements you should actually have when something is missing. That is why Montana Building Systems Ltd. has developed a range of accessories with a system. From thermal bridge

profile to snow and ice stops and dome lights, everything is optimally coordinated with Montana's profiles and elements.





SYSTEM ELEMENTS

SYSTEM ELEMENTS MONTANA THERMAL BRIDGE PROFILE Suitable for all MONTAWALL® wall protections Hard PVC foam in lengths of 2500 mm Not sensitive to temperature differences Resistant to humidity and water Self-extinguishing Easy assembly on the lip of each protection Suitable for all MONTAWALL® wall protections MONTANA THERMAL SPACER (PAT.) Hard PVC foam in lengths of 2500 mm Not sensitive to temperature differences Resistant to humidity and water Self-extinguishing Easy assembly thanks to the limit stop (no adjustment required). The fastening is made directly in the core of the protection. Fast assembly of additional insulation 20–25 mm. SYNTHETIC FILLERS Polyethylene PE, coloure anthracite/white (exception SP 27 coloure grey) B2 according to DIN 4102, normally flammable Suitable for all SWISS PANEL® profiles and MONTANATHERM® roof panels Side B roof ridge or side A gutter METAL FILLERS Made of steel or aluminium Suitable for all SWISS PANEL® profiles and MONTANATHERM® roof panels Side B roof ridge or side A gutter straight or folded 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 Sandwich panels: MONTANATHERM[®] MTD TL 65–165 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 Useable for all MONTANATHERM®-roof panels T-Profile: Aluminium mill finish 60 x 40 x 4–3000 mm Seal: PVC 40 x 60 x 4 mm SLIDING ELEMENTS WITH BASE PANEL Suitable for use with SWISS PANEL® SP 42 With a fixed point flange, this system avoids slippage of profiles with sliding elements.

01 IMPORTANT NOTES

ORDERS

Your orders must contain the following information: • type of profile

- material
- thickness
- colour
- painting side
- number of parts
- lengths
- deadline 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.

STORAGE ON THE WORKSITE

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. Store the sheets at a slight angle to eliminate any water that may be deposited. Our steel or aluminium sheets must not be stacked without spacers.

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 selftapping 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 calculation tables. The substructure must be perfectly flat and level. For thinwalled 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 sections in the roof area (>6 m). In practice, this is carried out in part by means of fixed screw fastening in the middle as well as large holes and, possibly, additional spherical caps. The best solution, however, is the one with matching sliding elements to prevent "clicking noise" or screws stripping. 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 doublelayer 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 aluminium 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.



02 IMPORTANT NOTES

at the securing points, so this is not really recommended for façades.

Trapezoidal and sinusoidal sections can be overlapped in a vertical position in the case of lateral butt joints. This is to be avoided for sinusoidal sections 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. Trap-



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

ezoidal 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

Sections 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. Removal of the foil requires greater effort at temperatures over +25° C or below +1° C!

RETOUCHING OF PAINTED SURFACES

The surfaces must be retouched to cover any scratches that may occur during assembly.

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

Dr. A. Schoch AG

Industrielacke

CH-3401 Burgdorf

Tel. +41 0 34 421 42 42

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.

- 3. Eliminateanyfilingsimmediately, 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.
- When carrying out any cleaning, a small surface should first be tested.



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Every construction project is a challenge. An experienced, highly competent Montana team ensures the smooth course of consultancy, planning and production up to and including punctual delivery on site.





TK-Log, Worns (D)



Zentrum Paul Klee, Bern (CH)



Design-Villa, Bodensee (CH)



Kraftreaktor Klettereldorado, Lenzburg (CH)

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