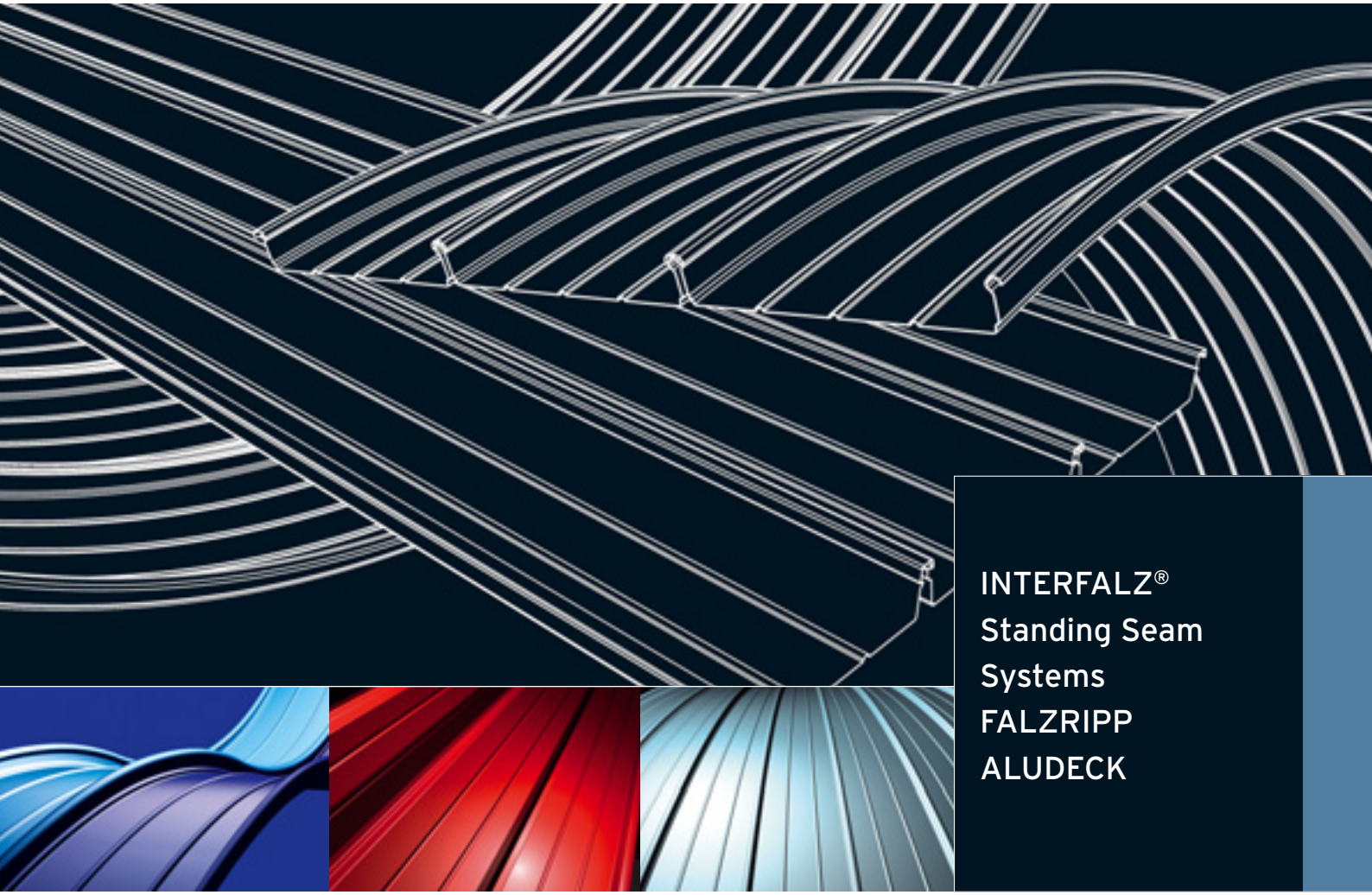
Aluform
SYSTEME



INTERFALZ® Standing Seam Systems
FALZRIPP
ALUDECK

flexible building.
sustainable thinking.

ALUFORM goes green: Invest and build with a Sense of Responsibility for the Future

Sustainability, credibility and honesty at companies affect people and the natural world, more than ever now. So protecting the environment is part of our corporate philosophy. We can only maintain a world where life is worth living for the generations of tomorrow if we act responsibly now. ALUFORM is committed to this long-term perspective.

Green thinking and a pro-active approach – ALUFORM invests in the future

1. ALUFORM manufactures its products by paying the greatest possible attention to the environment and is constantly working on improving its manufacturing technologies.

2. The facade covering for a new production facility at the Bernsdorf business site consists of aluminium sandwich elements and meets all the requirements laid down in the German Energy Conservation Regulations for Buildings 2009.

3. The use of standing seam systems with unformed silicon thin-layer laminates on a roof measuring 3,200 m^2 means that solar energy is used efficiently.

4. The installed ALU SOLAR photovoltaic panel roof system feeds energy into the grid and saves the company 100,000 kWh per annum.

5. Approx. 85 % of the heat required by the factory is produced by a newly constructed biogas combined heat and power plant. This enables ALUFORM to reduce its CO_2 emissions by 500 tonnes per annum.

Ecological building plus generating renewable energy

6. ALUFORM products are environmentally-friendly and are 100 % recyclable at the end of their useful life.

7. Approx. 95 % of energy is saved by recycling aluminium.

8. ALUFORM products and their long serviceable life support sustainable building for industry, offices and residential property.

9. ALUFORM products, like roof-integrated solar power solutions, are an ingenious combination for building in an environmentally-friendly way and saving resources.

10. As a responsible partner for architects, planners and installation companies, ALUFORM represents forward-looking building.

"Building for the future" – creatively and sustainably with ALUFORM products

Sustainable thinking in architecture and the building industry is a milestone towards acting in a responsible manner. ALUFORM products provide architects and planners with creative space for modern architecture design and environmentally-friendly, energy solutions.

INTERFALZ® standing seam systems FALZRIPP®/ALUDECK®
The aluminium all-rounder works for all designs, shapes and colours

(Almost) anything is possible if you use FALZRIPP® and ALUDECK® aluminium profiles to realise the design of innovative architectural projects with durable roof and facade coverings.

Product specifications

For decades, ALUFORM has been manufacturing reliable aluminium roof and wall systems using trapezoidal or sinusoidal profiles as well as the ALUDECK® and ALUFALZ® seam profiles. We have now included the INTERFALZ® product range and have thus expanded and complemented our existing range of seam profiles. (For ALUFALZ products, please see additional brochure.) ALUDECK® and FALZRIPP® are trough-shaped, roll-formed profiled panels with flanges at the edges that are shaped in such a way as to enable joint formation. While the FALZRIPP® profile system requires automated flanging of the joint, ALUDECK® systems are installed by "twisting" the profiled panels over the holders.

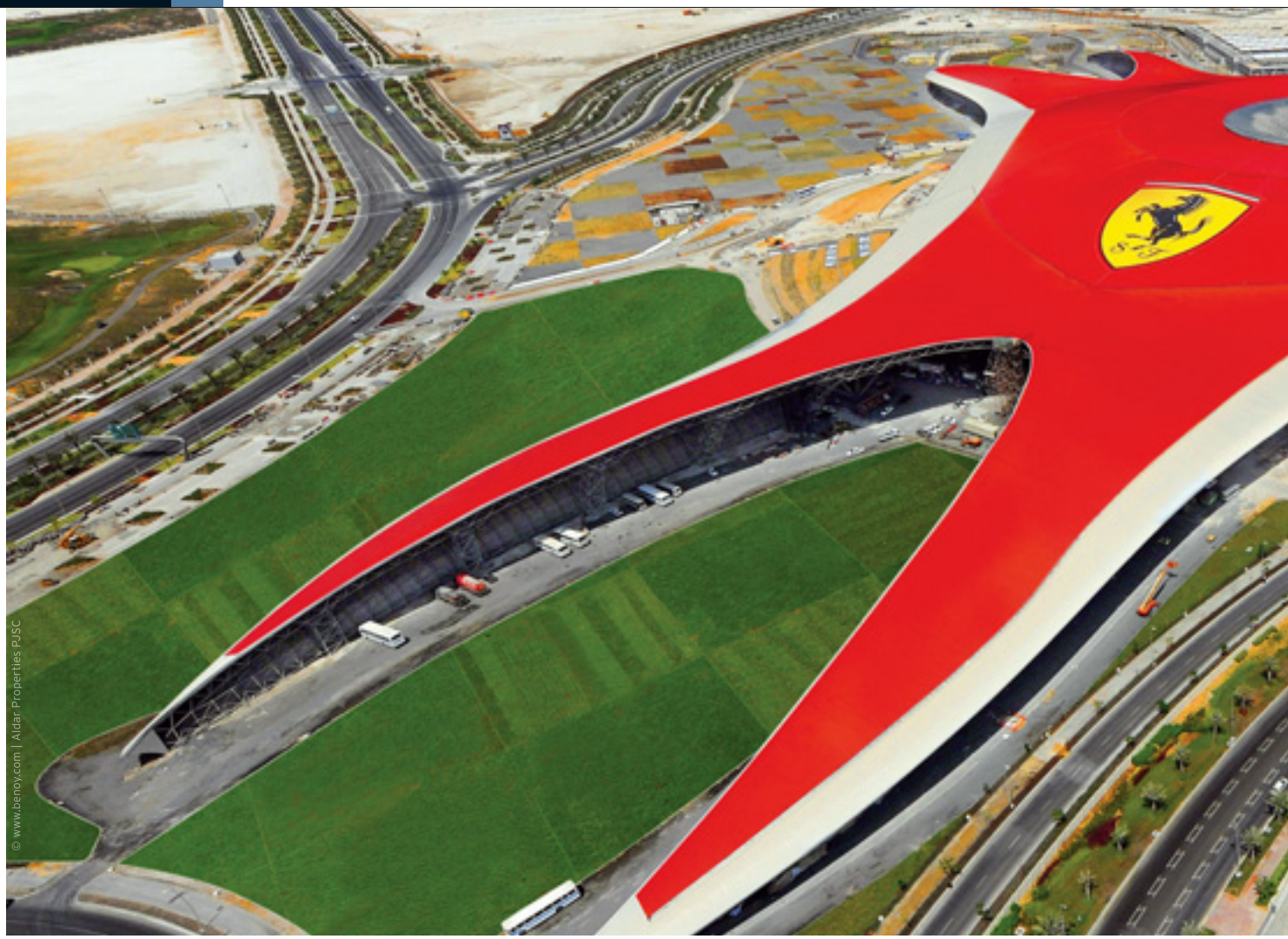
Since we offer a wide range of profile widths and heights, you can choose the one that fits your architectural design, load capacity and usage requirements best.

While ALUDECK® profiles have to be made on a stationary roll-former at the plant, the entire product range of FALZRIPP® profiles can be manufactured on mobile roll-formers, both at the plant as well as on the construction site.

Advantages

Aluminium is a modern material, which allows a virtually infinite variety of shapes, combining durability and design freedom like no other. These properties make aluminium a versatile material for covering walls and roofs.

INTERFALZ® standing seam systems offer limitless creative freedom for completely new architectural dimensions in shapes, colours and functions



With its INTERFALZ® products, ALUFORM can realise individual, first-class projects in all kinds and sizes - around the world.

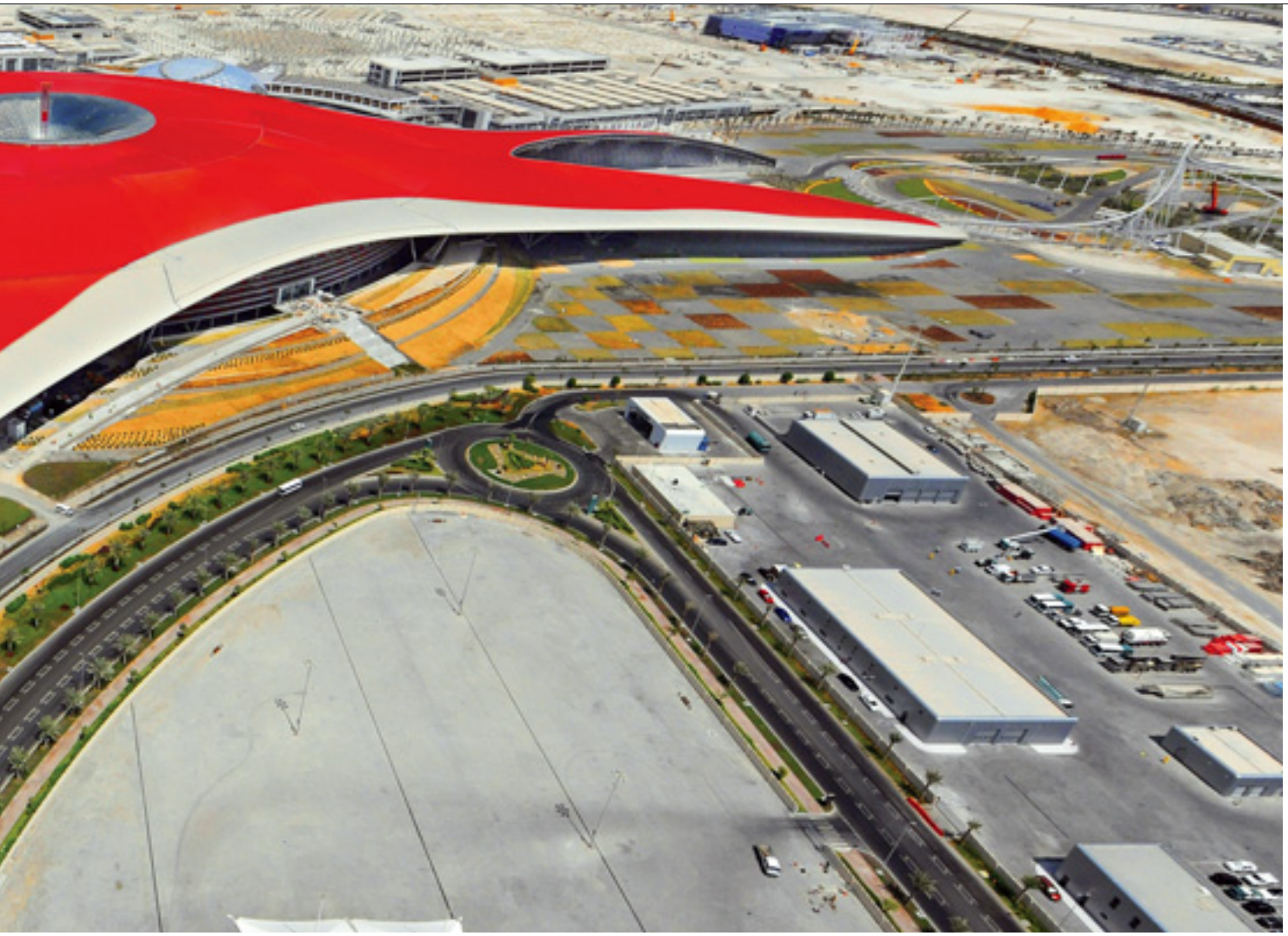
Aluminium standing seam systems have unique advantages thanks to the proven profile and the positive properties of the AlMn1Mg0.5 alloy used:

- Very light, so even suitable for renovating roofs with substructures with low load-bearing capacities
- High load-bearing capacity
- Maintenance-free and durable
- Recyclable
- Aesthetic
- Non-flammable
- Easy to process
- Easy to install
- No penetration of connecting materials due to installation method
- Profile sheets can slide over the holders as a result of temperature expansion, and thus allows long sheets to be used at low roof pitches.

Surfaces

The ALUFORM standing seam systems are available with the following surface qualities:
Visible side (face)

- Uncoated profiles
  - Mill finish - smooth
  - Mill finish- stucco embossed (coarse-patterned)
- Coated profiles
  - Two-layer polyester
  - Two-layer PVdF coating
- Anodised profiles
  - Natural anodised with a coating thickness of 3 µm



The rear face of coated profiles is finished with a protective coating. A variety of surface versions is available from a quantity of 600 m².

Resistance to weathering and corrosion

Aluminium is an extremely durable material. When exposed to air, it is coated with a microscopically-thin oxide layer, which reforms any time it is broken. This coating protects against moisture and many chemical substances. However, the formation of the oxide layer depends on a variety of weathering factors, which means that colour and gloss changes, as well as irregularities are not predictable.

To ensure that the architectural effect of the shape and surface remains aesthetically pleasing for a long time, we recommend that you choose a paint coating. Where the building use or environmental conditions result in an increasing risk of corrosion for aluminium, the shaped panels should also be protected with a corresponding paint coating.

Anti-condensation coating

In changing weather conditions, condensate could gather on the underside of the roof shell, with uninsulated profile roofs in particular. Coating the profiled panels with Grafotherm (water-based coating) or an anti-drip non-woven material can bind moisture temporarily and prevent dripping in the interior.

Grafotherm coating is available in two different coating thicknesses according to the amount of condensate expected; non-woven material is only available in one thickness. The moisture absorption capacity depends on the roof pitch. Overall, the use of non-woven material coatings is preferable for standing seam systems.

No matter how unusual or unique the design of a building may be, ALUFORM builds perfectly shaped structures in a sustainable way using INTERFALZ® standing seam systems

Anti-drumming coating

As a result of the low inner damping, metal profiled panels can be made to vibrate by rain or hail, which results in an irritating noise. The anti-drumming coating reduces the noise level by approx. 28 dB.

Fire protection

Without certification, aluminium profiled panels are classified as class A1 non-flammable materials. The profiled panels are resistant to sparks and radiated heat in accordance with DIN 4102-4 or resistant to external fire loads B_{ROOF} to DIN 13501-5. This also applies in conjunction with insulating material on the underside.

Lightning protection

Per DIN EN 62305-3, ALUFORM standing seam profiled panels can be used as lightning absorption and conducting devices. The certificate required for paint-coated materials in accordance with this standard has been issued. Proper grounding must be guaranteed. If necessary, ALUFORM walls can also be incorporated in the lightning protection system.

Protection against heat and moisture

Roof coverings made from ALUFORM standing seam systems are suitable for use in both insulated and uninsulated roofs.

In roofs with thermal insulation, care has to be taken that the vapour barrier and air seal work properly. This barrier/seal is also to be designed in dependence on the connections.

The thickness of the thermal insulation depends on the respective structural requirements. Thermal caps, thermal holders made of plastic or thermal bits help to minimise thermal loss at the holding elements.

Design/accessibility

The load-bearing capacity of the profiled panels and their connections must be certified with the characteristic values of the profiled panels listed in the approvals and the external loads which occur. Appropriate fixed points must be implemented to absorb shifts in the roofing. Span tables were drawn up for various applications. They are available in the internet at www.aluform.com or the "ALUFALZ ALUDECK; Planning, application" documentation.

An inexhaustible variety of shapes and more than 4,000 different colours offer boundless freedom for modern architectural projects - in harmony with nature

The profiled panels can be accessed during and after being installed for the purpose of cleaning and maintenance work. Load-distributing measures are not needed. The maximum limit spans can be found in the certification documents.

For bigger spans, load-distributing measures (such as wooden planks) must be used. FALZRIPP®-DF-profiles always require loadbearing structures.

Roof pitch

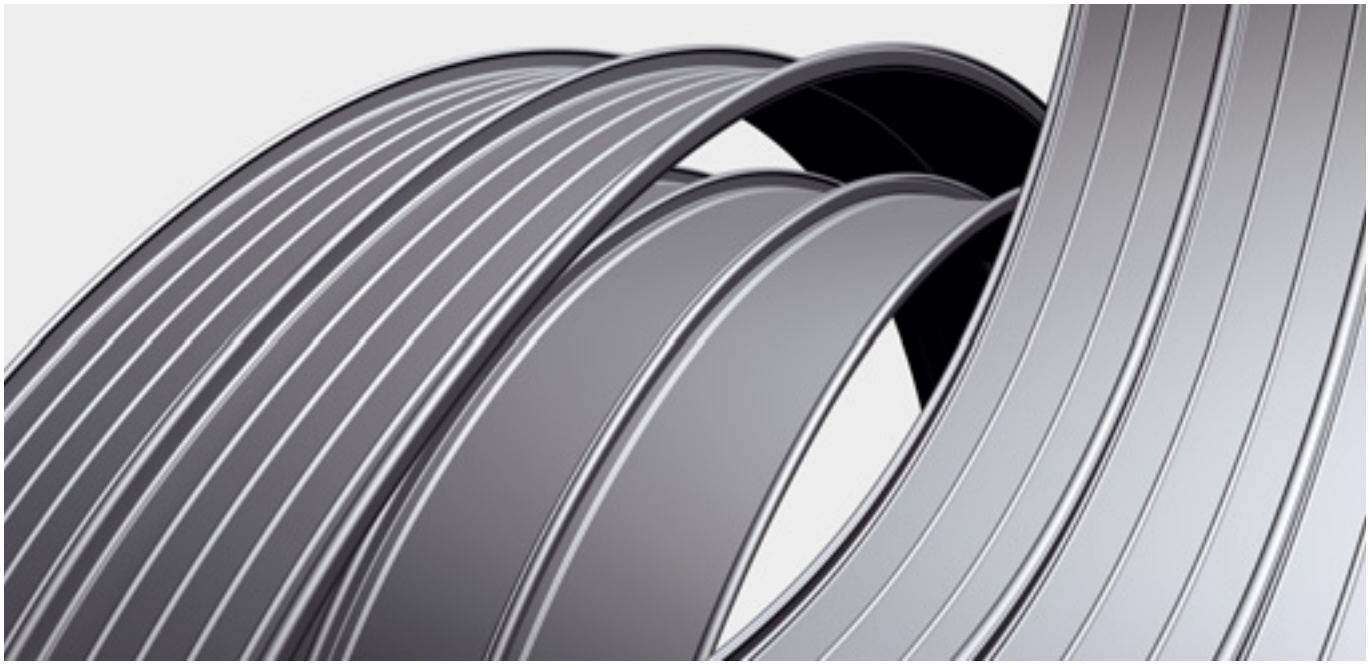
The minimum roof pitch permitted for full-length shaped panels is 2.6 %, if full drainage of the roof surface is guaranteed or additional loads caused by formation of water pockets are taken into consideration. If FALZRIPP® profiles with a ridge seal at the flanges are used, the roof pitch can be lowered to a minimum of 1.0 %.

If there are roof penetrations (e.g. light domes) or transverse joints, the roof pitch must be increased to 5 %.

Quality

Aluform standing seam profiles are high-quality products which have been certified by the German Institute of Construction Engineering as Z-14.1-172 (ALUDECK®) and Z-14.1-419 (INTERFALZ®). The quality is controlled constantly, both internally by the plant's quality office as well as externally by authorised institutes.

INTERFALZ® standing seam systems FALZRIPP®/ALUDECK®
Using virtuosity in spanning and opening up spaces



Rounded and conical profiled panels

Both ALUDECK® and FALZRIPP® profiled panels can be curved longitudinally (smooth-curved). It is possible to do natural curving manually on the construction site or mechanically, either at the plant or on site. Natural smooth curving involves applying force to bend the profiled, unbent panels manually; mechanical curving involves special machines.

While natural smooth curving on the building site only allows for relatively large radii, mechanical smooth curving allows for radii as small as 1.0 m.

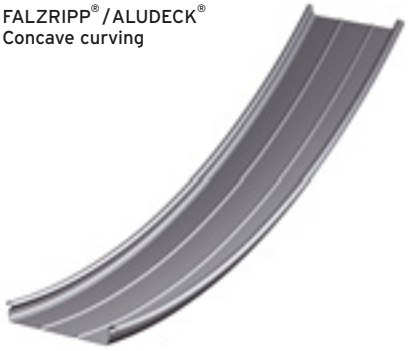
No matter which profile is used, possible radii depend on the following properties:

- Profile shape (ALUDECK®, FALZRIPP® or FALZRIPP® DF)
- Profile height
- Sheet thickness
- Type of smooth curving used (convex or concave)

FALZRIPP®/ALUDECK®
Straight

FALZRIPP®/ALUDECK®
Convex curving

FALZRIPP®/ALUDECK®
Concave curving



Both small arcs as well as arcs with multiple radii plus arcs with one or double-sided straight ends can be manufactured using the mechanical smooth curving method.
A special process allows profiled panels to be crimp-curved as well.

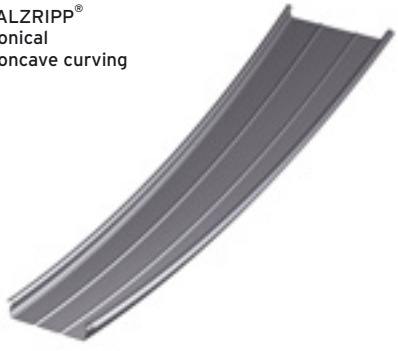
It is possible to manufacture and curve all FALZRIPP® profiled panels (with seam heights of 50 mm and 65 mm as well as DF-profiles) conically.
The minimum construction width of the tapering is 110 mm (or 200 mm if curving is to be done afterwards); the maximum width is 600 mm. The minimum panel length is 4,500 mm.

If the above-mentioned dimensions are used, there is no limit as far as the length is concerned.

FALZRIPP®
Conical

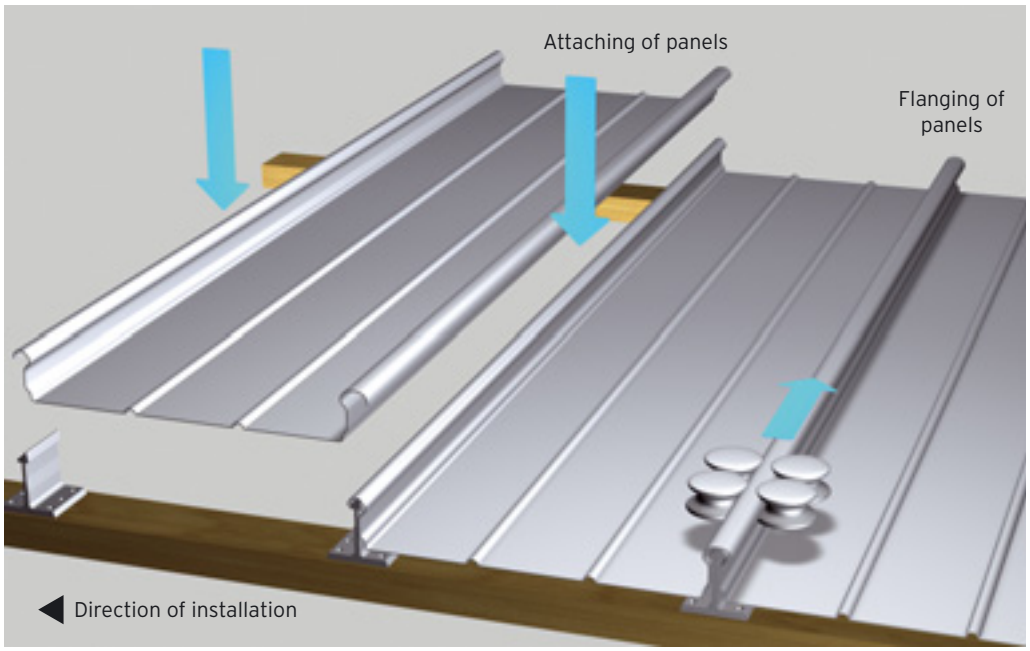
FALZRIPP®
Conical
Convex curving

FALZRIPP®
Conical
Concave curving



INTERFALZ® standing seam systems
FALZRIPP® Installation

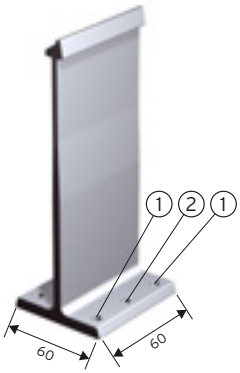
FALZRIPP® installation



INTERFALZ® aluminium holder

① For riveting with claw blind rivets or threaded connection with SFS SDK2- S-377-6.0 x L or Ejot JT3-X-2-6.0 x L or drilling screws

② For threaded connection with sealing screws or Ejot JT3-X-2-6.0 x L



INTERFALZ® thermal holder

For riveting with claw blind rivets or threaded connection with drilling screws or special screws.

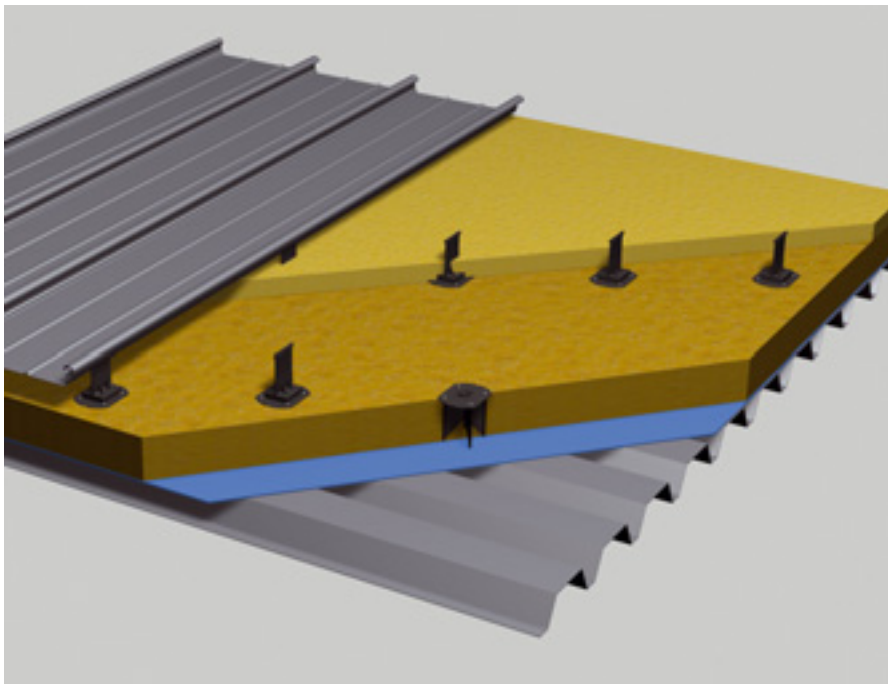
Type of holder	Height of holder (mm)	Application for profiles
65	65	50/65 DF
80	80	50/65/50DF/65DF
100	100	50/65/50DF/65DF
120	120	50/65/50DF/65DF
140	140	50/65/50DF/65DF
160	160	50/65/50DF/65DF
180	180	50/65/50DF/65DF
200	200	50/65/50DF/65DF
220	220	50/65/50DF/65DF
240 *	240 *	50/65/50DF/65DF

* As thermal holder only

When thermal caps or height compensation elements are used, the dimensions increase by 5, 10 or 15 mm. Only 5 and 10 mm height compensation elements are available.

FALZRIPP® on thermal bits

This installation system makes it possible to fasten INTERFALZ thermal bits on pressure-resistant insulation material without using conventional mounting rails. The thermal bits are pressed into the pressure-resistant insulation material and fastened with special screws. Then a respective thermal bracket with an eccentric socket is placed on the upper part of the thermal bit and fastened by turning it. When placed on the bit, the bracket can still be slightly adjusted. Thereafter, the rest of the roofing can be put in place either directly on top of the crush-proof insulation, using FALZRIPP® DF-profiles, or upon an additional layer of compressible insulation material, using normal profiles.

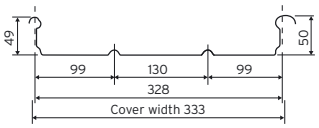


INTERFALZ® thermal bits

For thermal bits, plastic holders that can be turned in are available in the following heights: 80, 100 and 120 mm. The special screws provided at delivery are used for the threaded connection of the thermal bits on the substructure.

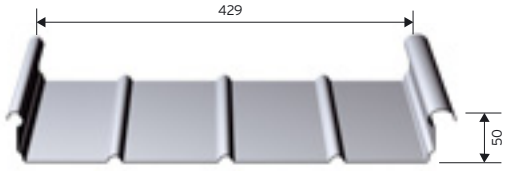
INTERFALZ® standing seam systems
FALZRIPP®

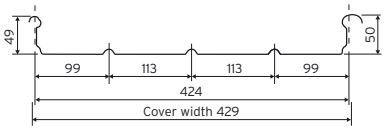
FALZRIPP® 50/333



Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,14
0,9	3,54
1,0	3,93

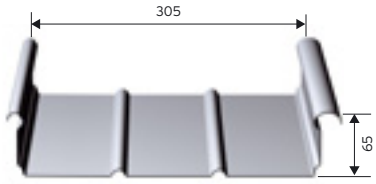
FALZRIPP® 50/429

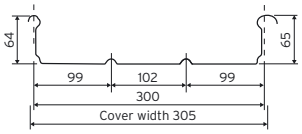




Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	2,95
0,9	3,32
1,0	3,68

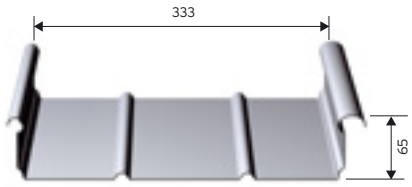
FALZRIPP® 65/305

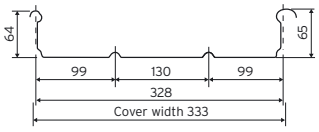




Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,45
0,9	3,86
1,0	4,29

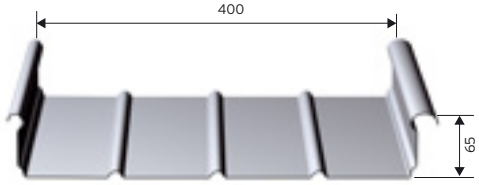
FALZRIPP® 65/333

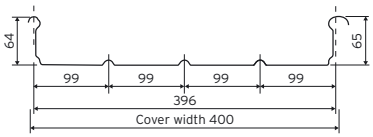




Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,35
0,9	3,76
1,0	4,17

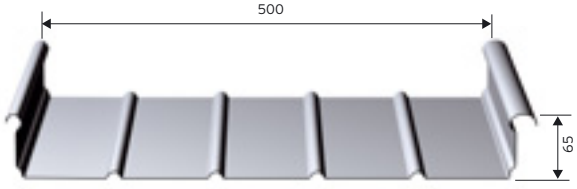
FALZRIPP® 65/400

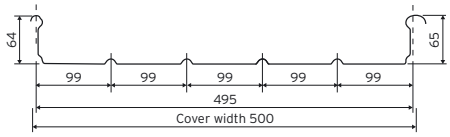




Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,17
0,9	3,56
1,0	3,95

FALZRIPP® 65/500

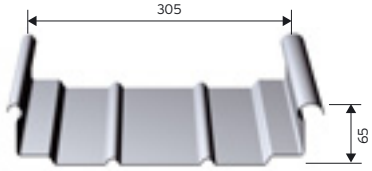


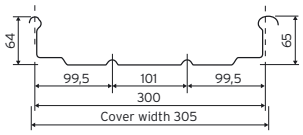


Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	2,97
0,9	3,34
1,0	3,71

The weights apply to profiles made of aluminium. Details for different construction widths and materials can be furnished upon request.

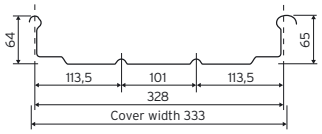
FALZRIPP® 65/305 DF





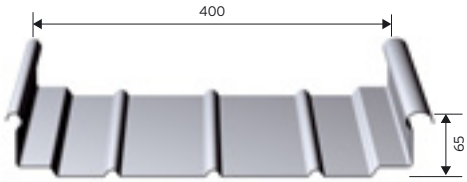
Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,45
0,9	3,86
1,0	4,29

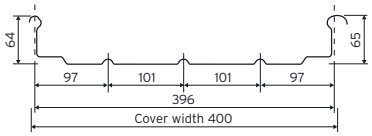
FALZRIPP® 65/333 DF



Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,35
0,9	3,76
1,0	4,17

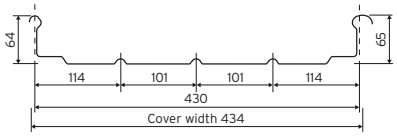
FALZRIPP® 65/400 DF





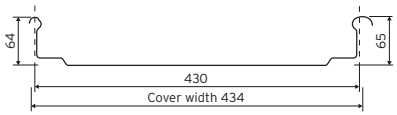
Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,17
0,9	3,56
1,0	3,95

FALZRIPP® 65/434 DF



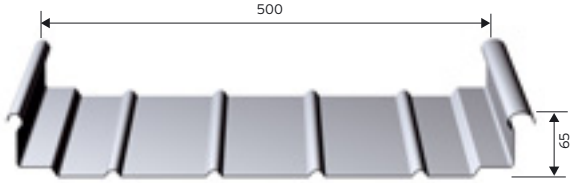
Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,08
0,9	3,46
1,0	3,84

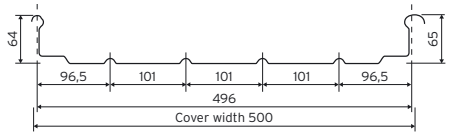
FALZRIPP® 65/434 DF ohne Sicken



Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	3,08
0,9	3,46
1,0	3,84

FALZRIPP® 65/500 DF



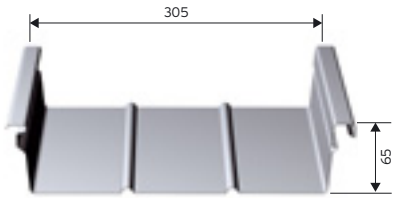


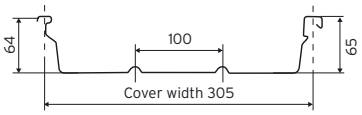
Sheet thickness t_N (mm)	Weight (kg/m²)
0,8	2,97
0,9	3,34
1,0	3,71

The weights apply to profiles made of aluminium. Details for different construction widths and materials can be furnished upon request.

Standing Seam Sytems
ALUDECK®

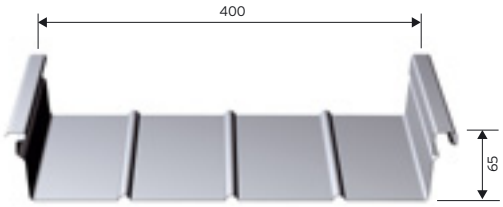
ALUDECK® 65/305

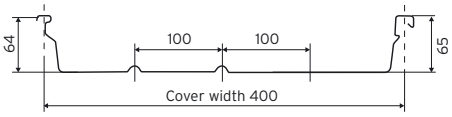




Sheet thickness t_N (mm)	Weight (kg/m²)
0,7	2,96
0,8	3,38
1,0	4,20
1,2	5,05

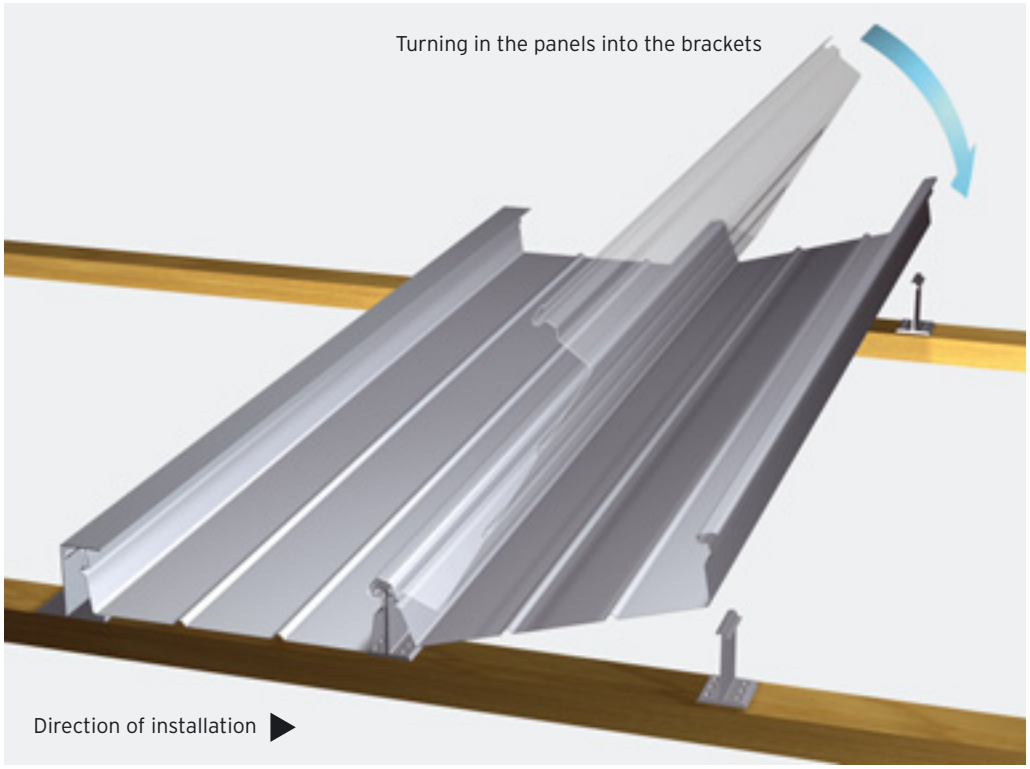
ALUDECK® 65/400





Sheet thickness t_N (mm)	Weight (kg/m²)
0,7	2,74
0,8	3,13
1,0	3,91
1,2	4,64

ALUDECK® installation

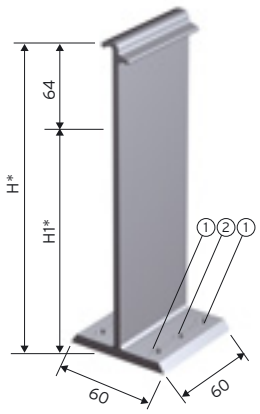


ALUDECK® holders

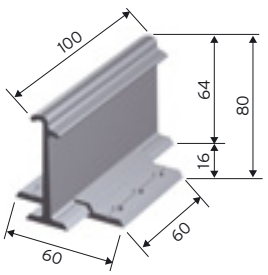
① For riveting via triple claw blind rivets or threaded connection with SFS screws SDK2- S -377- 6.0 x L or Ejot JT3-X-2-6.0 x L

② For threaded connection with sealing screws or Ejot JT3-X-2-6.0 x L

Threaded connection to the substructure with at least 2 fasteners per holder.



ALUDECK® sliding holders



Holder name	Height H1* (mm)	Height H* (mm)
0	16	80
80	80	144
100	100	164
120	120	184
140	140	204

* Dimensions increase 5 or 15 mm for threaded connections with a thermal cap.

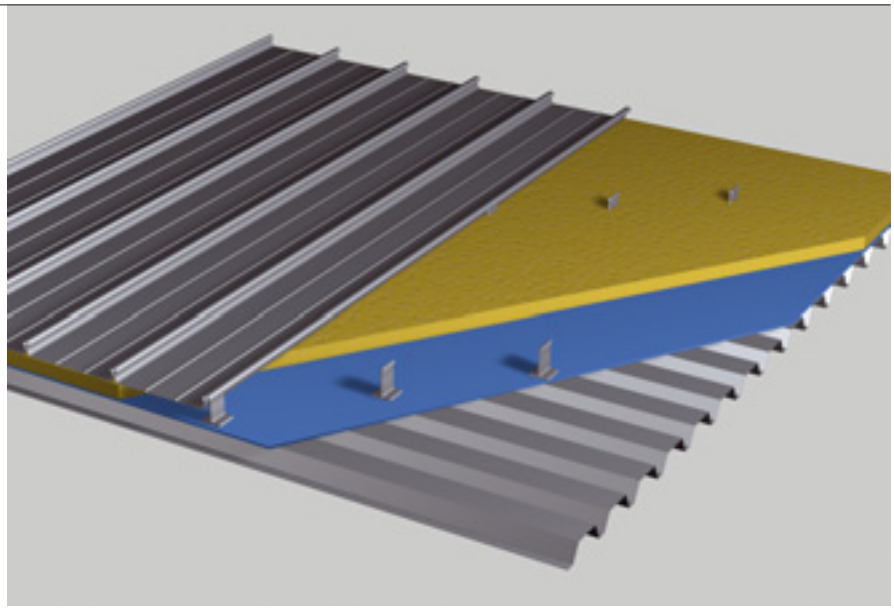
H1 is the max. thermal insulation thickness

Standing Seam Systems
Possible roof structures

Truss roof structure

as a non-ventilated roof

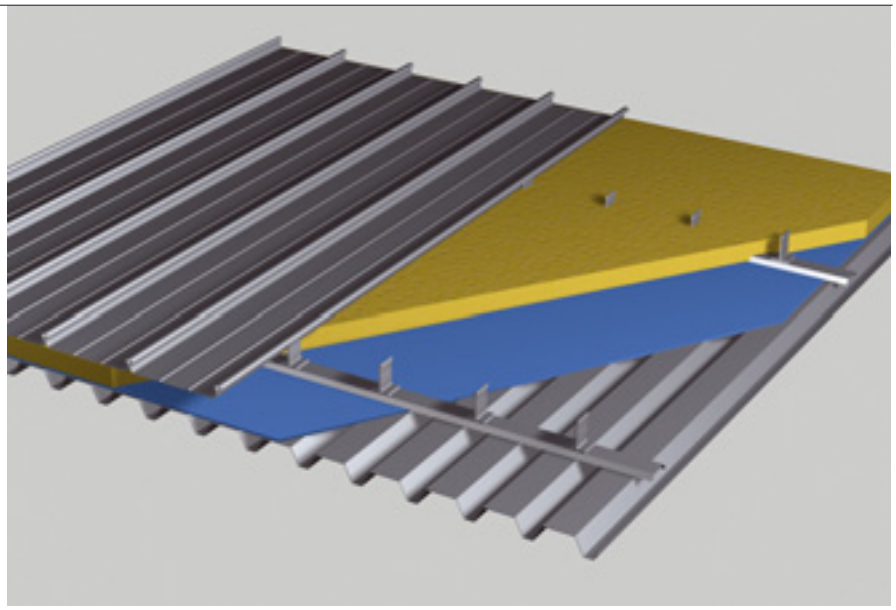
This roof structure is often used in industrial and residential construction. The compressible thermal insulation seals the existing air space between the outer shell and supporting shell. To guarantee even distribution of the load, the holders are aligned diagonally on the supporting shell. As a result of the point loads of the trapezoidal steel profiles due to the holders, the roof load must be increased by 15 % for dimensioning of the supporting shell.



Purlin roof structure

as a non-ventilated roof

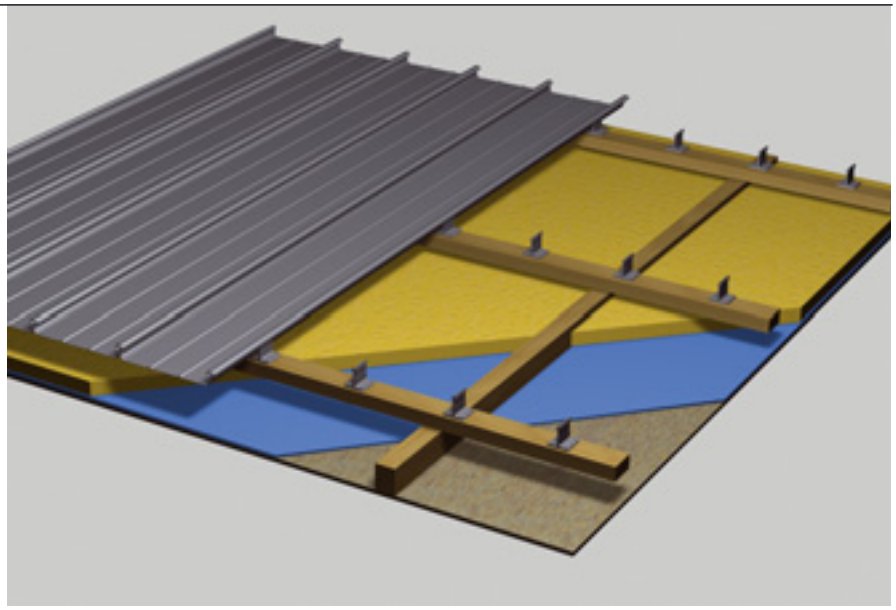
In purlin roofs, the inner shell is parallel to the outer shell. The load is distributed via holders which are installed on spacing profiles on the lower shell. If the distance of the holder spacing and purlin spacing is similar, the load is transferred directly to the purlins via the spacing profiles. In this case, the inner shell only supports the thermal insulation. If the purlin distance are greater, the inner shell is also used to dissipate the load.



Couple roof structure

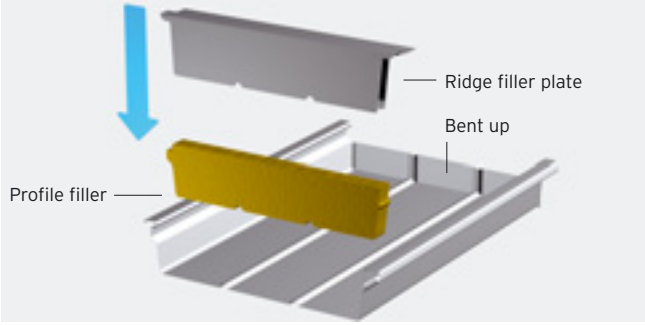
as a ventilated roof

In these roof structures, an air gap remains between the insulation and roof shell. Condensate which gathers underside the outer shell must be dissipated via sufficient ventilation. As additional measures, we recommend an anti-condensation coating on the rear side of the roof panel or an underlay to protect the insulation. In this structure, the holders are installed on the purlins.

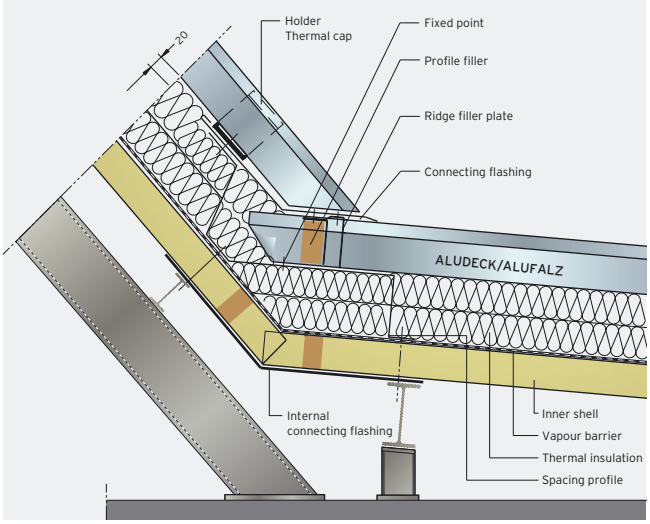


Standing Seam Systems
Possible details

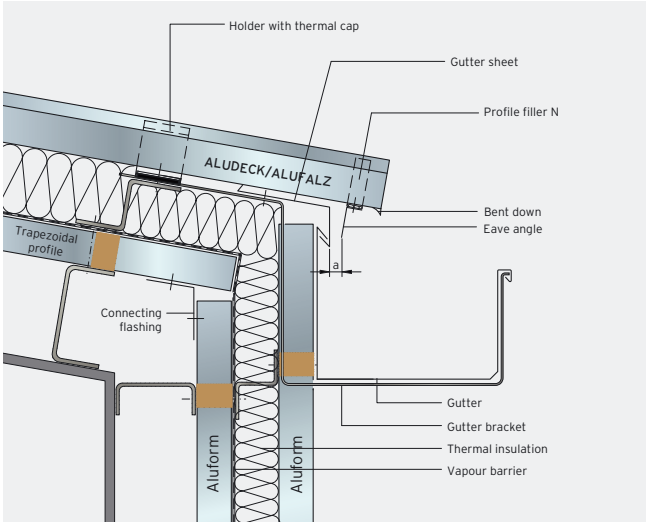
Ridge/eaves seals



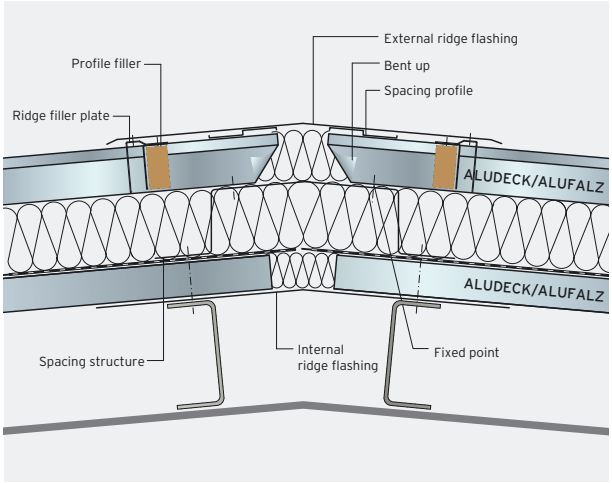
Change in roof slope



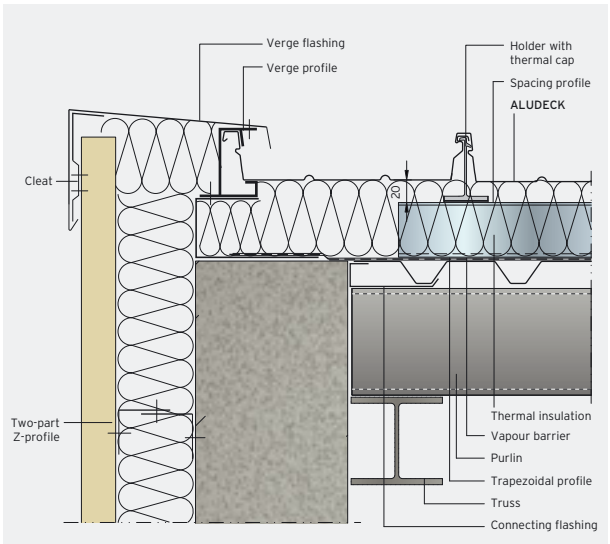
Eaves with external gutter



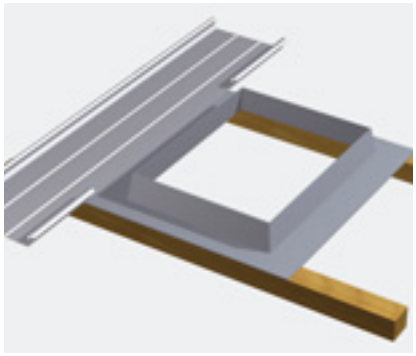
Ridge with fixed point example

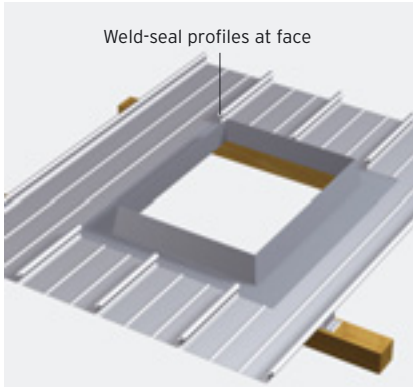


Verge seal

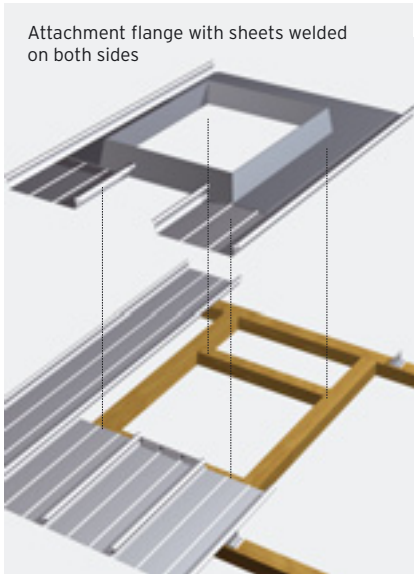


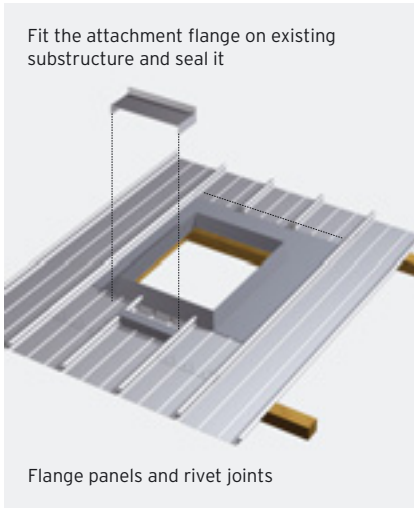
Attachment flange welded in





Installation of attachment flange with sealants





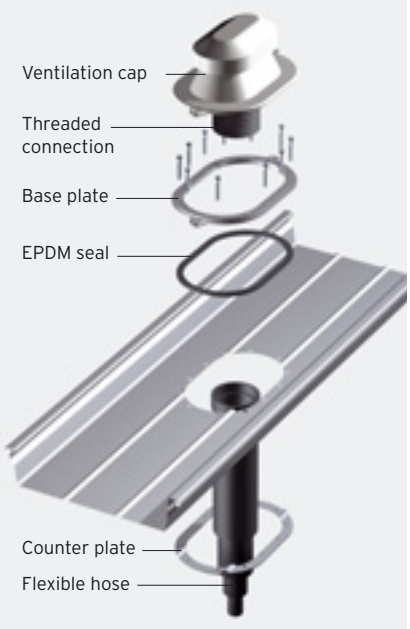
Accessories

In addition to standard accessories such as holders, ridge filler plates, profile fillers, fasteners and extruded profiles for ridges and verges, the following accessories are also available:

- ALUFORM roof ventilation systems
- Snow guards
- Step grids

In addition to the accessory materials, installation tools such as flanging machines, hand flanging pliers and upwards and downwards folding tools can be provided. For installing RWA systems, light domes or striplights, and fall protection devices, our company cooperates with special companies.

ALUFORM ventilation system



Aluform System GmbH & Co. KG
Dresdener Strasse 15
D-02994 Bernsdorf

Phone: +49 (0) 35723 99-0
Fax: +49 (0) 35723 99-401
Email: info@aluform.de
www.aluform.com