



Factory Mutual Catalog





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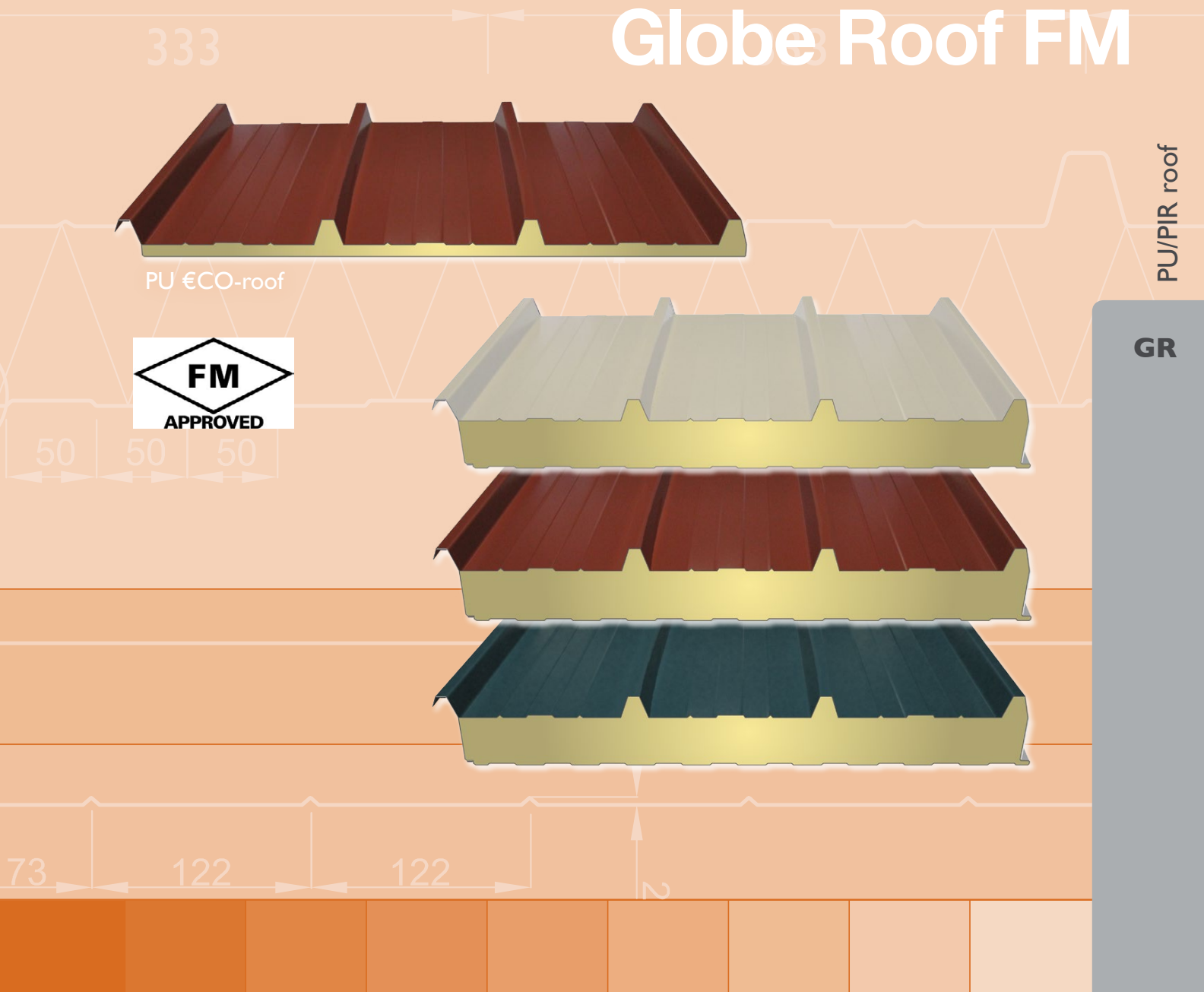
WALL

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Globe Roof FM

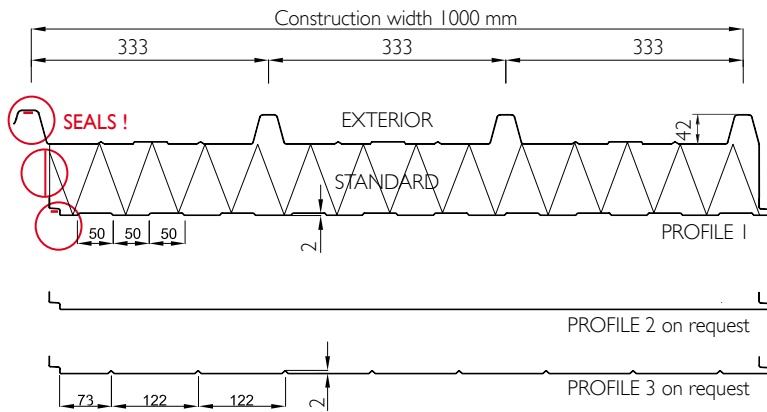


PU/PIR roof panel – **Globe Roof FM**

- for PITCHED AND SINGLE PITCHED ROOFS
- high WEATHER RESISTANCE
- unique TRIPLE SEALING SYSTEM
- high LOAD BEARING CAPACITY
- for ROOF PITCHES from 3° (5.2 %) and above

PU/PIR roof panel – **Globe Roof FM**

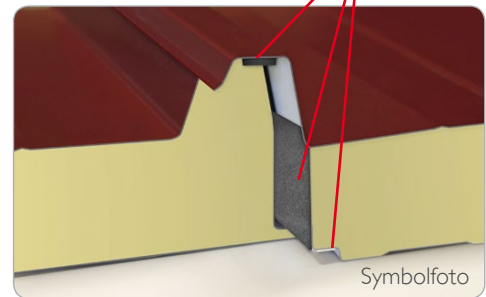
GR FM PROFILES



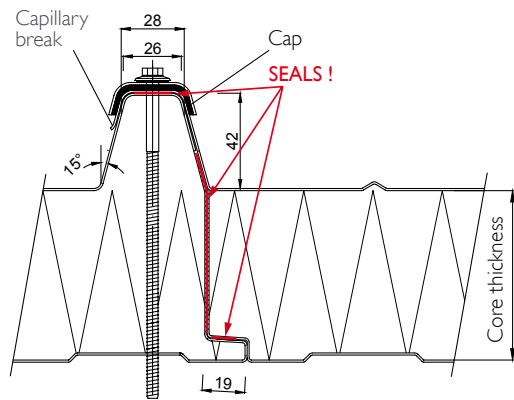
metal gauge: 0.5 mm or 0.6 mm
(smaller metal gauge on request)

Minimum roof pitch 3 (5.2 %) without openings and transverse joint.

optimal condensate protection through TRIPLE SEALING SYSTEM



GR-FM JOINT CONNECTION



Gap-joint connection: 2 mm ± 2 mm tolerance

Panel Type	Core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²
GR 72	30	0.60	0.73	11.4
GR 82	40	0.46	0.57	11.8
GR 92	50	0.38	0.46	12.2
GR 102	60	0.32	0.39	12.6
GR 122	80	0.24	0.30	13.4
GR 142	100	0.20	0.24	14.5
GR 162	120	0.17	0.20	15.2
GR 182	140	0.14	0.17	16.0
GR 202	160	0.13	0.15	16.8

Manufacturing tolerances:	in acc. with EN 14509
Manufactured lengths:	max. 20 m (extra long transport required above 13.6 m)
Span table:	by Dipl.-Ing. Dr. techn. Wilhelm Pilgram – Vienna
Sound insulation:	25 dB for all thicknesses
Temperature stability:	90° C
Fire behaviour:	in accordance with EN 13501-I, Euroclass Bs2d0, Bs1d0 on request

DESIGN AND SURFACES

Standard coil-coated, galvanised flashings

Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile: Trapezoidal profile, 42 mm (according to diagram)
- Crown distance: 333.3 mm
- Metal gauge: 0.6 mm (smaller metal gauge on request)

Interior:

- Visible side 25 µm Polyester coated without protective PVC foil (if required, please specify with order).
- Profile 1 = Standard (Profile 2 and 3 on request)
- Metal gauge: 0.5 mm (smaller metal gauge on request)

Insulation core:

- PIR rigid foam manufactured in continuously foamed process, approx. 95 % closed cells, shear resistant bond with steel sheet.

Fire behaviour:

- Density approx. 40 kg/m³, absolutely no chlorofluorocarbons and halogenated chlorofluorocarbons, pentane foaming system.
- In acc. with EN 13501-1, Euroclass Bs2d0, Bs1d0 on request.

Exterior and interior standard colours:

- Acc. to BASIC range of colours

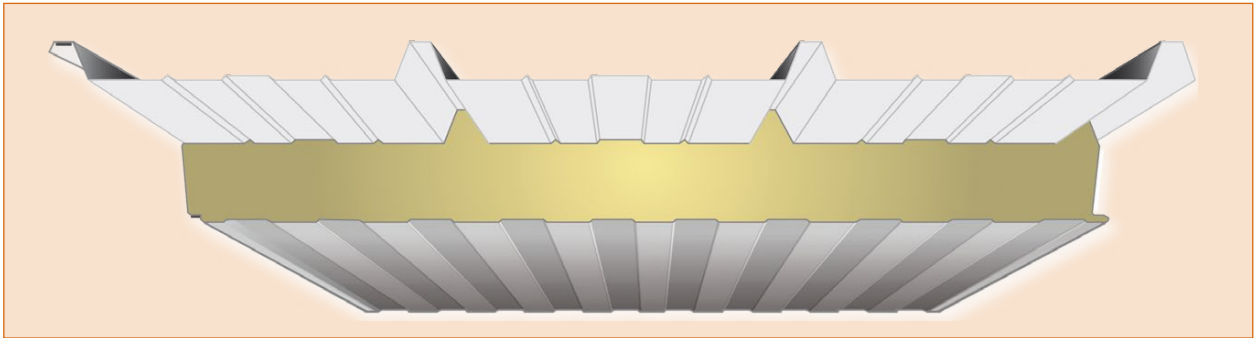
Panel connections:

- External, by overlapping of the corrugations, whereby the non-foamed sheet of a panel is placed over the corresponding section of the next panel.
- On the underside, by special shaping, whereby the complementary profile to the corrugation of one roof panel overlaps the corrugation of the second panel, thus achieving a tight connection.
- Unique TRIPLE SEALING SYSTEM (as per diagram) offers optimal condensate protection. .



PU/PIR roof panel – **Globe Roof FM**

SHEET SEPARATING CUT – NOTCHES



Notching is recommended in the eave area to prevent the sheet layer from lifting off the insulation body (supplied at additional charge).

A drip nose should also be provided in the eave area to prevent capillary effects (to be done on site only).

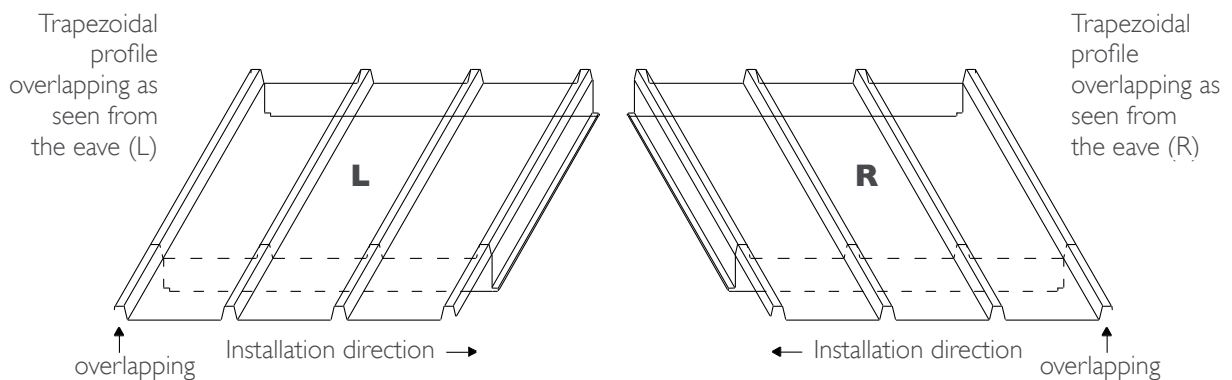
By these measures, corrosion between the sheet layer and insulation is counteracted.

Specify with order	notch length
notch in eave	60 mm (Standard)
notch for overlapping	200 mm (Standard)

Possible notch lengths 60, 100, 120, 150, 200 and 300 mm.

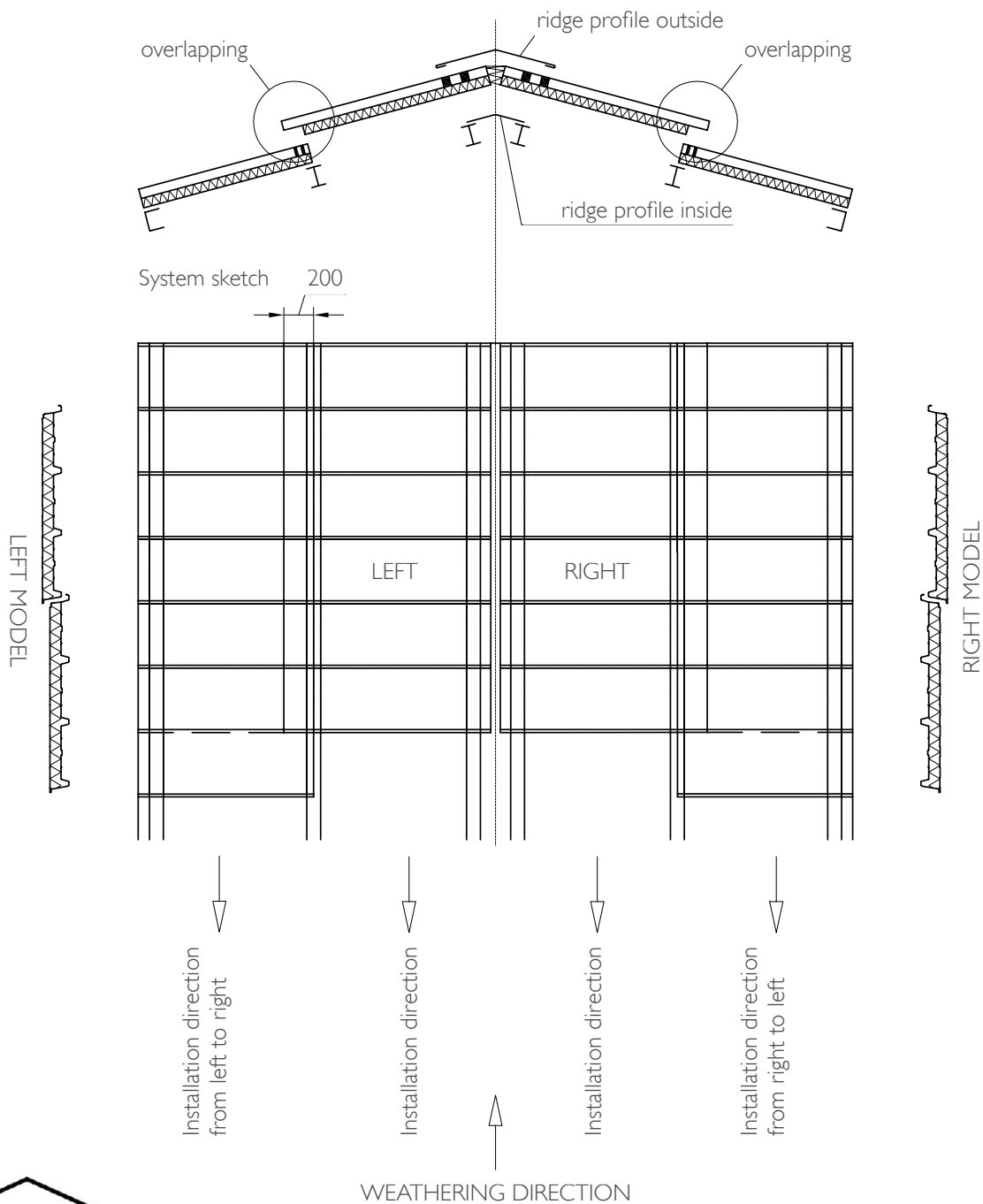
TRAPEZOIDAL SHEET 42/333 to suit DP and DP-F – for details see p. 21.

NOTCH PATTERN (as seen from the eave):



ROOF ELEMENTS WITH BUTT JOINTS AND OVERLAPPING

With butt joints, penetrations or roof lights – minimum pitch of 5° (8.6 %).

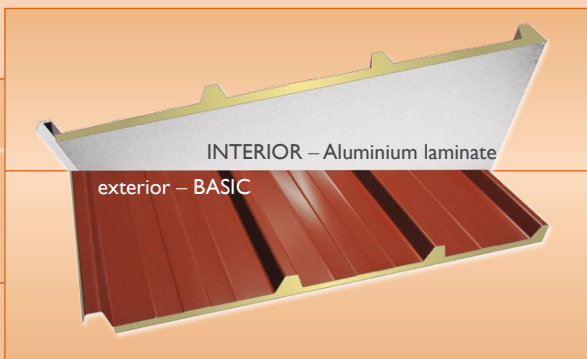
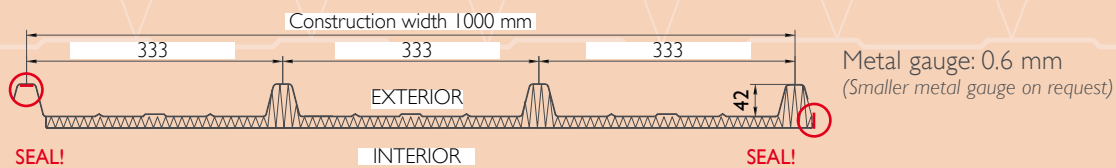


PU/PIR roof panel – GR-E

Globe ECO-Roof FM

Roof pitch at least 3° (5.2 %)

- for agricultural buildings
- protection against condensation
- minimum 15 mm core thickness
- **reasonably priced** alternative to



Panel Type	Core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²
GR E 57	15	1.02	1.24	7.00
GR E 72	30	0.60	0.73	7.60
GR E 82	40*	0.46	0.57	7.95
GR E 102	60*	0.32	0.39	8.80

*on request

Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation). The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile: Trapezoidal profile, 42 mm (according to diagram),
- Crown distance: 333.3 mm
- Metal gauge: 0.6 mm

Interior:

- Aluminium laminate - Stucco white - resistant against organic acid
Due to the thin inner sheet a optical impairment is possible.
For areas where the lower surface has high optical requirements we recommend the BRUCHAPaneel panel PU/PIR roof – DP with inner sheet shell.

Insulation core:

- PU/PIR rigid foam manufactured in continuously foamed process, approx. 95 % closed cells, shear resistant bond with steel sheet.
- Density approx. 45 kg/m³, absolutely no chlorofluorocarbons and halogenated chlorofluorocarbons, pentane foaming system.
Fire behaviour in acc. with EN 13501-1, Ds2d0, normally inflammable.



Acc. to BASIC range of colours BRUCHAPaneel PU/PIR roof panel – DP.

External, by overlapping of the corrugations, whereby the non-foamed sheet of a panel is placed over the corresponding section of the next panel.

Globe Roof Light (GRL) PU PU/PIR

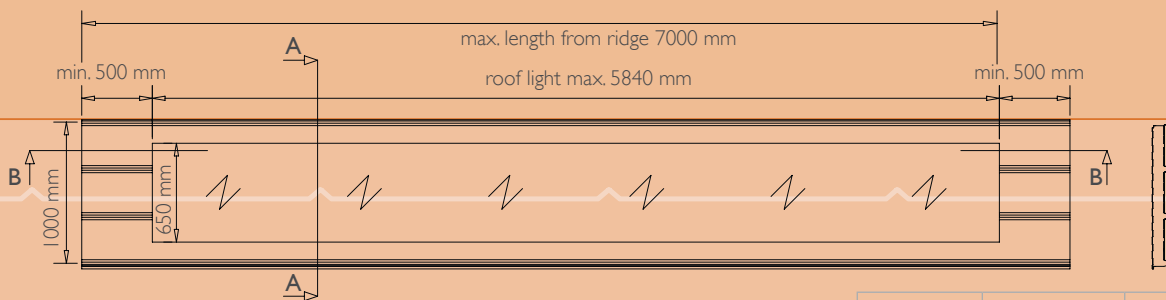
pitch at least 5° (8.6 %)

Quality characteristics and properties:

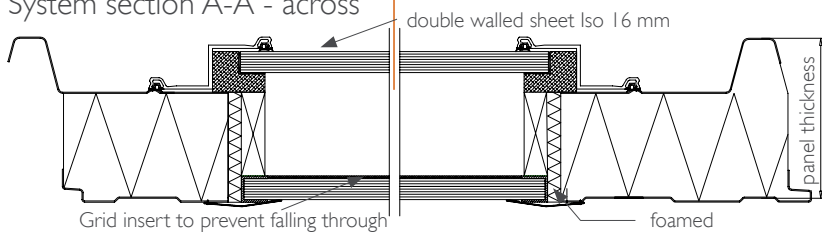


Planning grid: 1000 mm

- Installation possible without GR Panel PU/PIR roof – GR system change.
- Installation of several sequential roof lights possible.
- Greater rigidity through double layered polycarbonate multi wall sheet.
- Grid insert to prevent falling through.
- Transparency 70 %, UV resistant,
- incl. ridge flashing,
- excellent insulating characteristics.
- Fire behaviour in acc. with EN 13501-1, Euroclass B, flame resistant.



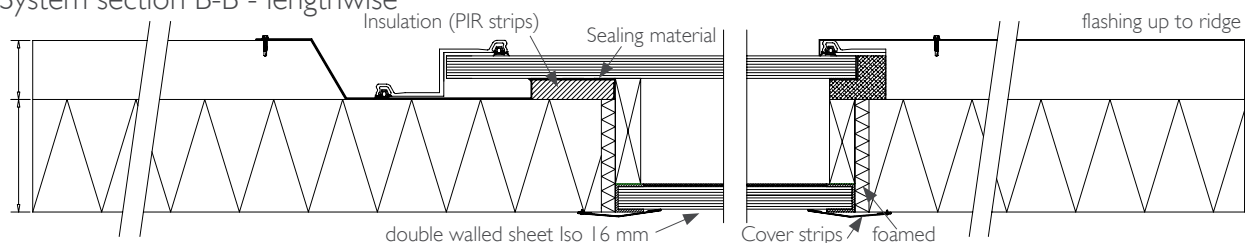
System section A-A - across



Model	Core thickness mm	U-value W/m²K
GR-L 82	40	~0.81
GR-L 102	60	~0.73
GR-L 122	80	~0.73
GR-L 142	100	~0.64
GR-L 162	120	~0.64
GR-L 182	140	~0.64
GR-L 202	160	~0.64

U-values are determined by calculation and are approximate.

System section B-B - lengthwise

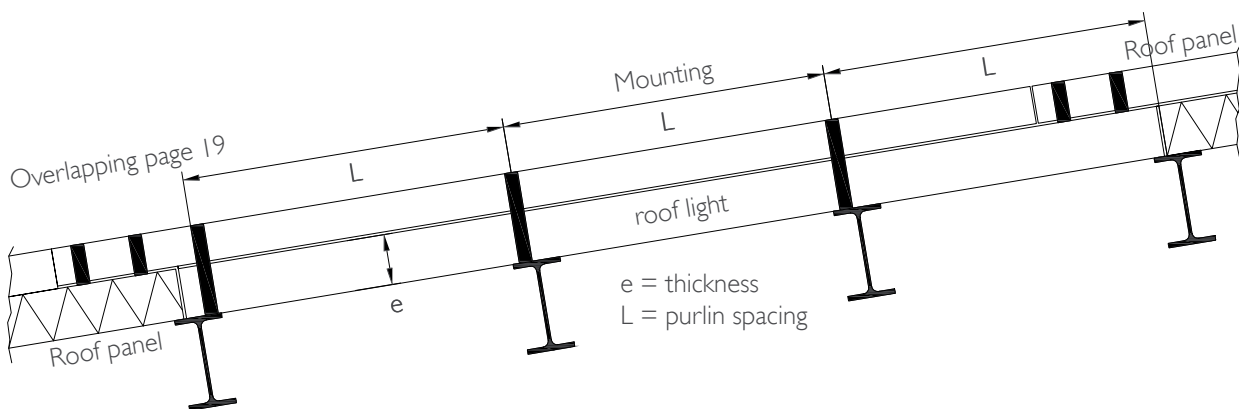
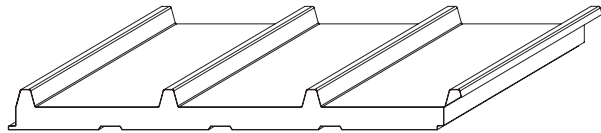


INSULATED ROOF LIGHTS (NOT FOR WALKING ON)

Roof pitch at least 5° (8.6 %)

Double layered, highly transparent, closed, made of glass fibre reinforced polyester or acrylic with the following properties:

- Dimensionally stable for temperature from -40°C to 90°C .
- High transparency (50 %).
- Ageing resistance.
- U-value: approx. $2.7\text{--}2.5\text{ W/m}^2\text{K}$.
- In acc. with EN 13501-1 E – non-drip.
- Upper layer profile matches the Globe Roof panels FM – .
- Polyethylene fill for profile reinforcement not visible from below with purlins.



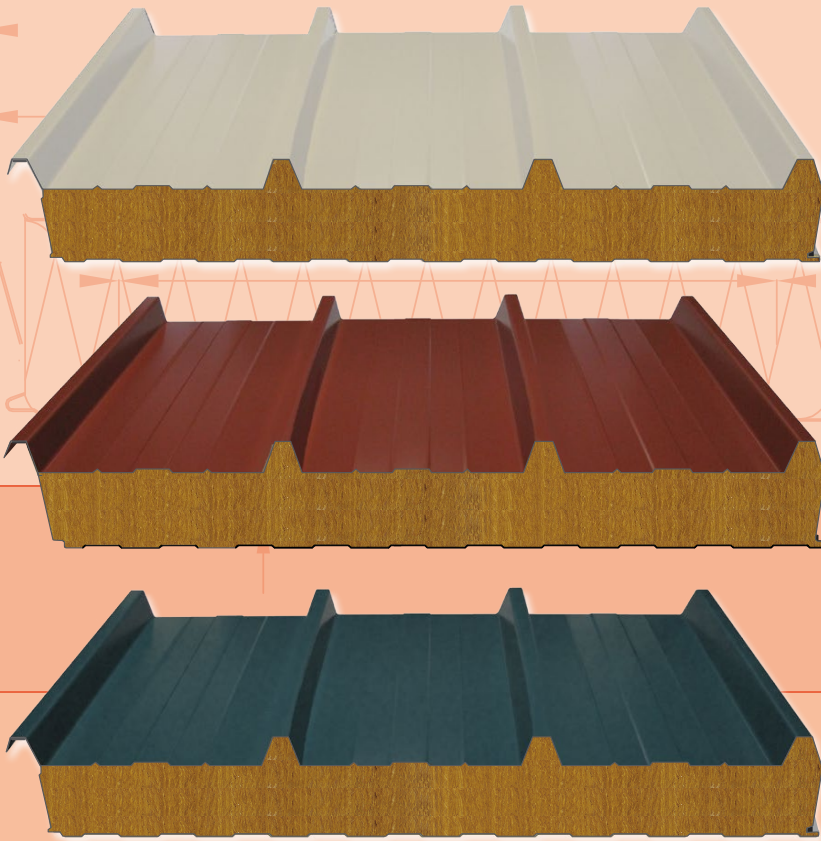
- Exterior and interior sealing using sealing tapes, as well as sealing in the butt joint and longitudinal joint areas is especially important here.
- Max. purlin spacing is 1.5 m (depending on snow load), max. element length is 8.5 m.
- The roof lights are generally affixed to the purlins through the foam core and through the lateral overlaps* to the roof elements, spaced approx. 500 mm apart.

*** Attention!**
Use suitable self-sealing screws!



Cross section – installation/fastening through the foam core.

Globe Roof Fire FM



Fire Protection
roof

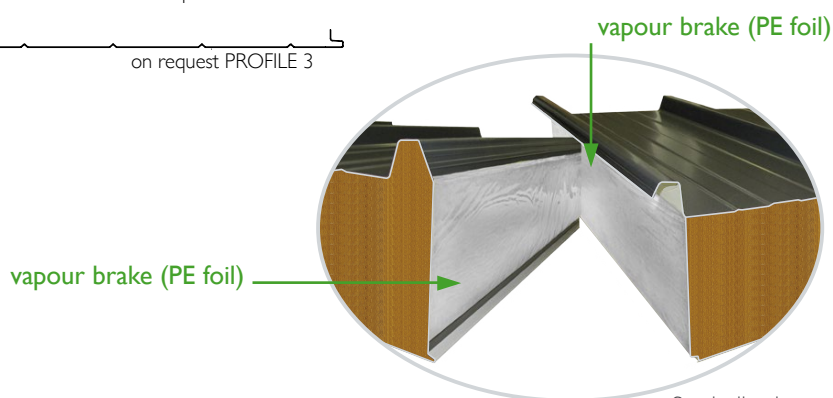
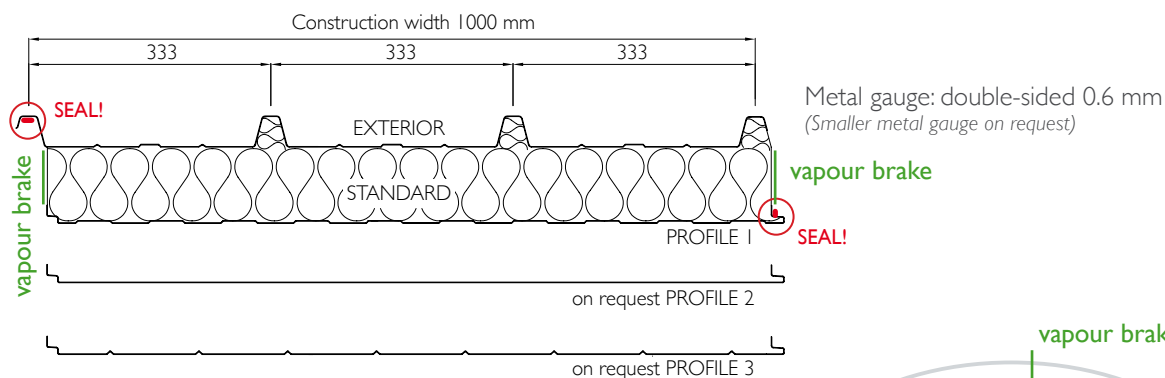
**GRF
FM**

Globe Roof FM Fire - Fire Protection Roof

- for PITCHED AND SINGLE PITCHED ROOFS
- high WEATHER RESISTANCE
- high LOAD BEARING CAPACITY
- NON-COMBUSTIBLE
- for ROOF PITCHES of 3° (5.2 %) and above

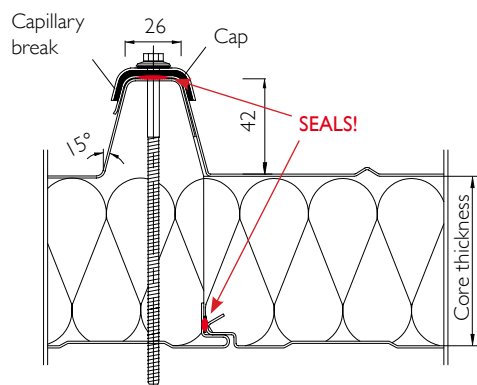


GRF FM PROFILE



Symbolic picture

GRF FM JOINT CONNECTION



Gap-joint connection: 2 mm ± 2 mm tolerance

Panel Type	Core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²	Fire resistance*
GR-F 102	60	0.61	0.65	18.7	REI 30
GR-F 122	80	0.47	0.50	20.9	REI 60
GR-F 142	100	0.38	0.41	24.4	REI 120
GR-F 162	120	0.32	0.35	26.9	REI 120
GR-F 192	150	0.26	0.28	30.8	REI 120
GR-F 202	160	0.24	0.26	31.9	REI 120
GR-F 242	200	0.20	0.21	36.3	REI 120

*certificates on request

Manufacturing tolerances:	acc. EN 14509
Manufactured lengths:	max. 15.0 m (extra long transport required above 13.6 m) ATTENTION! Long panels may buckle due to higher weight!
Sound insulation:	ca. 32 dB (frequency dependent)
Vapour diffusion:	Determined by climatic conditions inside building. Panels must be installed vapour tight. Technical installation tips are provided in the installation guidelines at: www.brucha.com/downloads
Fire behaviour:	acc. EN 13501-1, Euroclass A2s l d0, non-combustible

GLOBE ROOF FIRE FM

Fire Protection

DESIGN AND SURFACES

Standard coil-coated, galvanised flashings

Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile: Trapezoidal profile, 42 mm (as per diagram)
- Crown distance: 333.3 mm
- Metal gauge: 0.6 mm (Smaller metal gauge on request)

Interior:

- Visible side has 25µm polyester coating without protective PVC film (if required, please specify with order).
- Profile 1 = Standard (Profile 2 and 3 on request)
- Metal gauge: 0.6 mm (Smaller metal gauge on request)

Insulation core:

- Structural, web-oriented mineral fibre wool.
- Shear resistant bond with sheet steel covers.
- Density approx. 120 kg/m³, 140 kg/m³ available on request.

Fire behaviour:

- Acc. EN 13501-1, Euroclass A2s l d0,
non-combustible.

Exterior and interior standard colours:

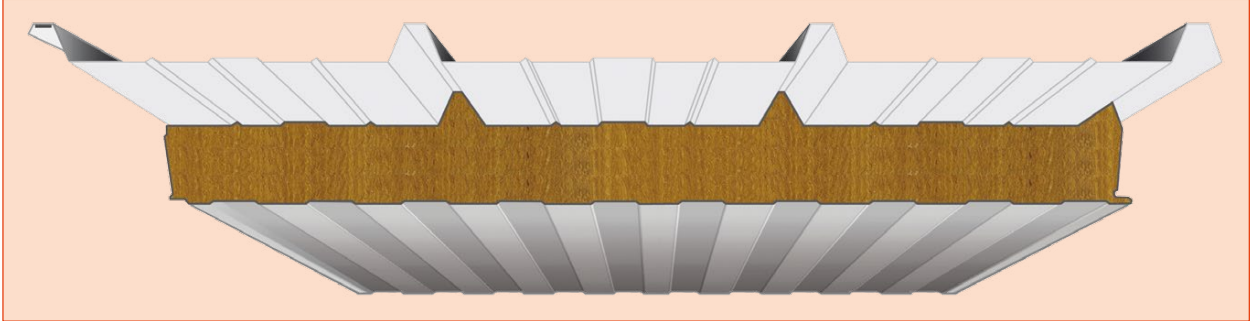
- Acc. to BASIC range of colours

Panel connections:

- External, by overlapping of the profiles, whereby the non-foamed sheet of a panel is placed over the corresponding section of the next panel.
- On the underside, by special shaping, whereby the complementary profile to the profile of one roof panel overlaps the profile of the second panel. The included seals offer additional reliability, achieving a reliably tight connection.
- Capillary break



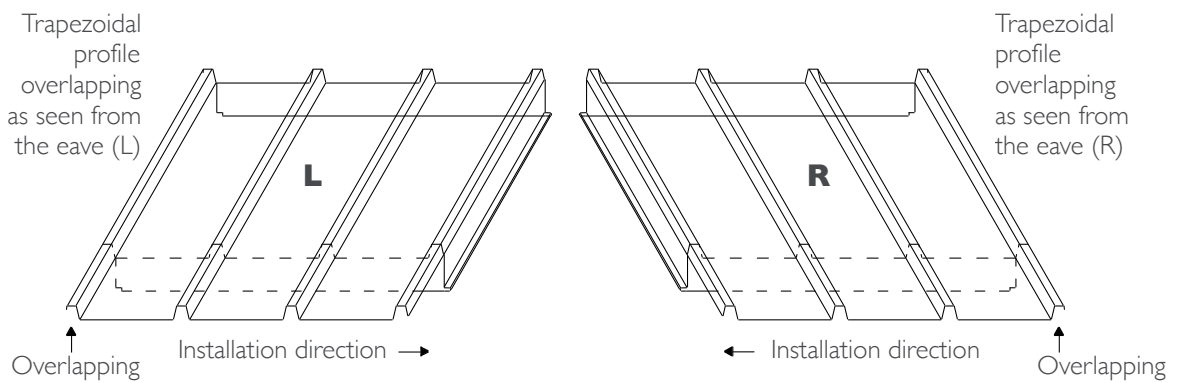
SHEET SEPARATING CUT – NOTCHES



Specify with order	notch length
notch in eave	60 mm (Standard)
notch for overlapping	Minimum 200 mm

Possible notch lengths 60, 100, 120, 150, 200 and 300 mm.

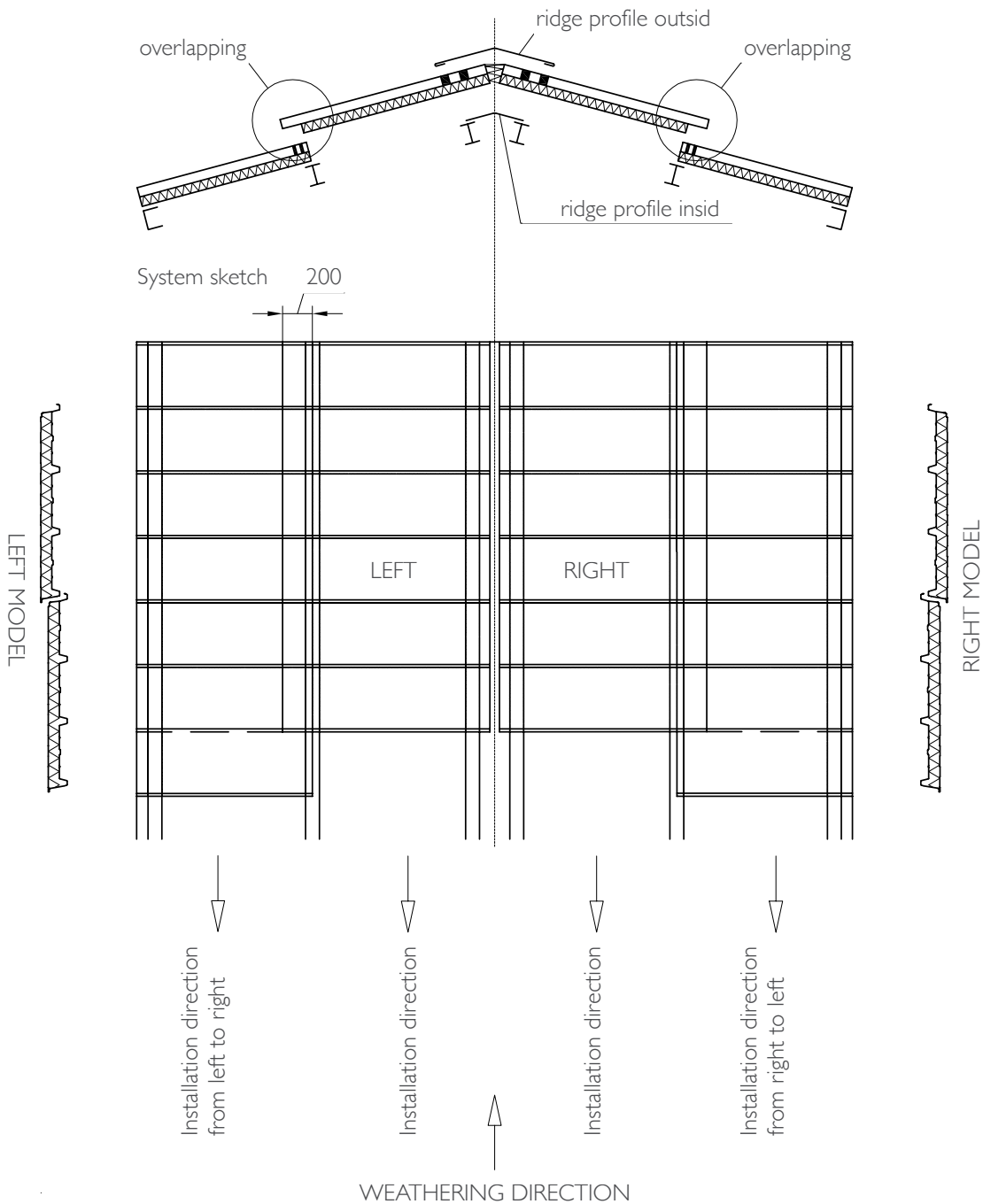
NOTCH PATTERN (as seen from the eave):



GLOBE ROOF FIRE FM

ROOF ELEMENTS WITH BUTT JOINTS AND OVERLAPPING

With butt joints, penetrations or roof lights – minimum pitch of 5° (8.6 %).



Globe Wall FM



PU/PIR wall

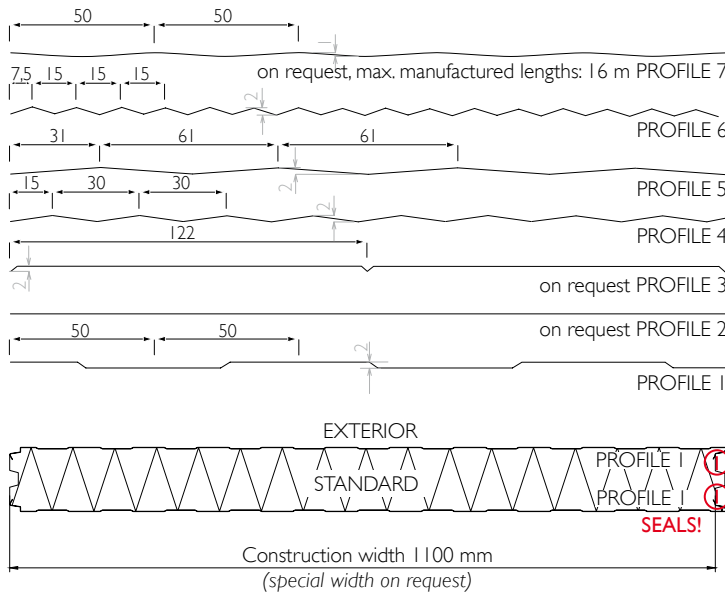
GW

PU/PIR wall panel – **Globe Wall**

VISIBLE FASTENING

- rich DIVERSITY OF PROFILES
- more ECONOMIC PROCESSING through greater construction width
- EXCELLENT static load characteristics
- SPECIAL WINDPROOFING through labyrinth joint from 100 mm
- SHORT delivery time

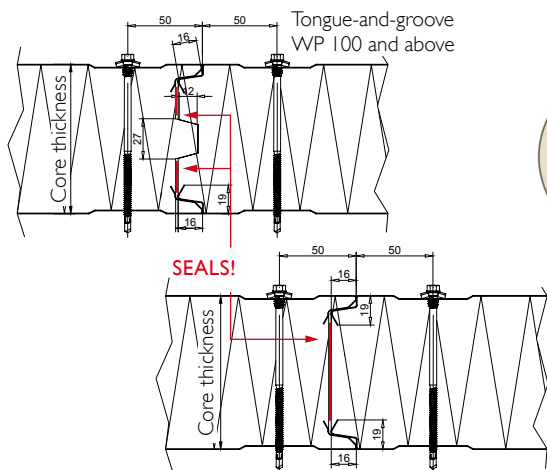
GW FM PROFILES



Panel Type	Core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²
GW 40	40	0.53	0.65	12.0
GW 50	50	0.42	0.51	12.4
GW 60	60	0.34	0.42	12.8
GW 80	80	0.25	0.31	13.6
GW 100	100	0.20	0.25	14.4
GW 120	120	0.17	0.21	15.2
GW 140	140	0.14	0.18	16.0
GW 150*	150	0.14	0.17	16.4
GW 160	160	0.13	0.15	16.8
GW 170	170	0.12	0.15	17.2
GW 180*	180	0.11	0.14	17.6
GW 200	200	0.10	0.12	18.4
GW 220*	220	0.09	0.11	19.2
GW 250*	250	0.08	0.09	19.8

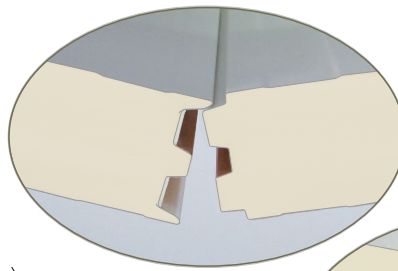
* on request, above 500 m² (WP180 above 300 m²), max. production length 16 m

GW FM JOINT CONNECTION

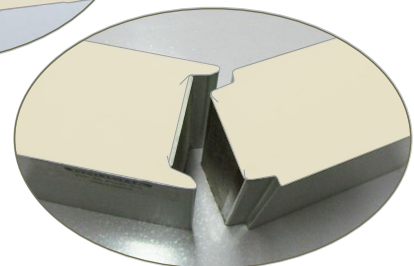


Gap-joint connection: 2 mm ± 2 mm tolerance

Metal gauge: 0.5 mm or 0.6 mm (Smaller metal gauge on request)



Symbolic picture



Tongue-and-groove joint up to WP 80

Manufacturing tolerances:	acc. EN 14509
Manufactured lengths:	max. 18.4 m (extra long transport required above 13.6 m)
Span table:	by Dipl.-Ing. Dr. techn. Wilhelm Pilgram – Vienna
Sound insulation:	25 dB for all thicknesses
Temperature stability:	90° C
Fire behaviour:	acc. EN 13501-1, Euroclass Bs2d0, Bs1d0 on request

DESIGN AND SURFACES Standard

coil-coated, galvanised flashings for cold store and foodstuffs industry – certification mark for clean room suitability



Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 1 = Standard,
- Metal gauge: 0.6 mm (Smaller metal gauge on request)

Interior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 1 = Standard (Profile 2 and 3 on request)
- Metal gauge: 0.5 mm (Smaller metal gauge on request)

Insulation core:

- PIR rigid foam manufactured in continuously foamed process, approx. 95 % closed cells, shear resistant bond with steel sheet.
- Density approx. 40 kg/m³, absolutely no chlorofluorocarbons and halogenated chlorofluorocarbons, pentane foaming system.

Fire behaviour:

- Acc. EN 13501-1, Euroclass Bs2d0, Bs1d0 on request.

Exterior- and Interior- Standard colours:

- Acc. to BASIC range of colours

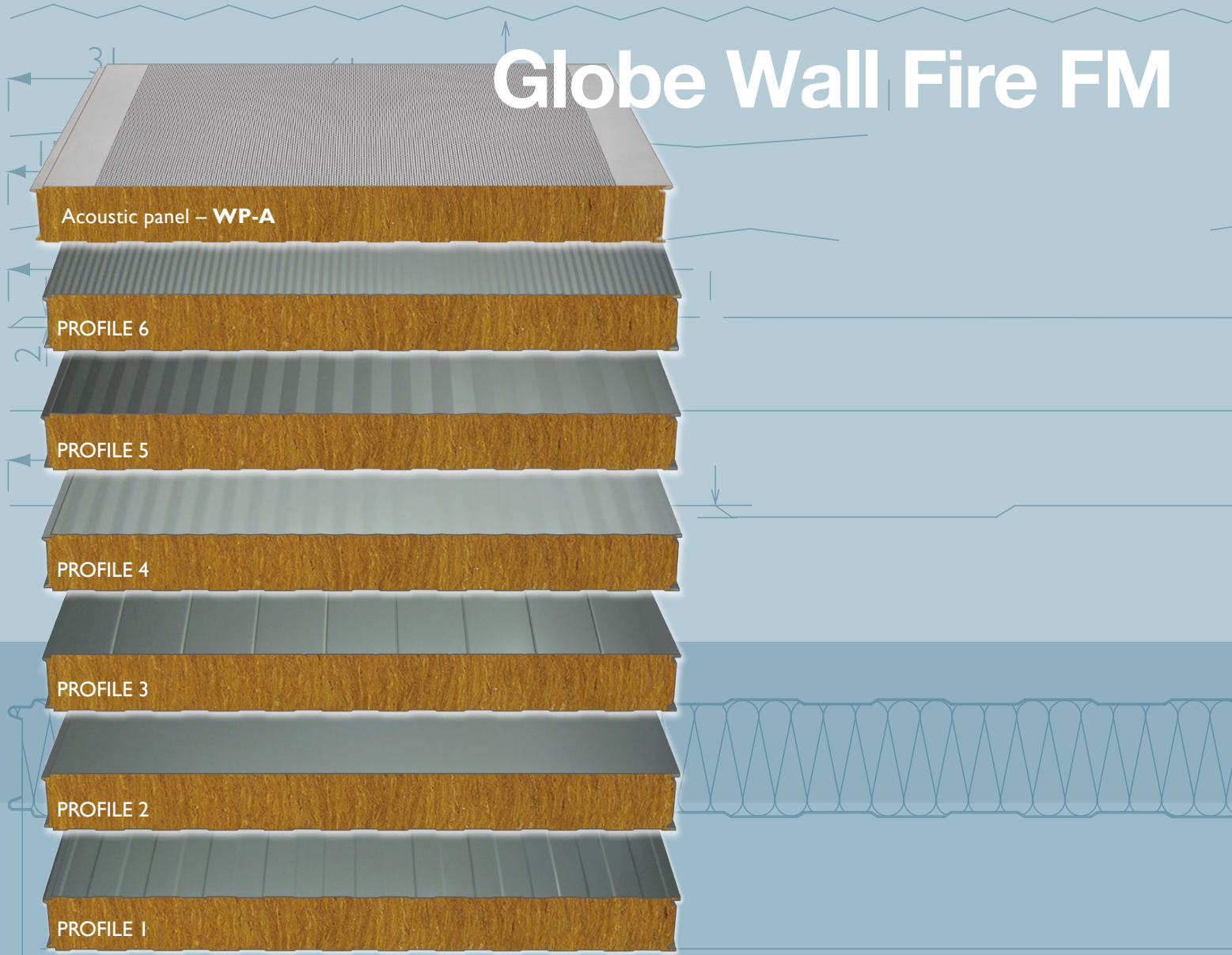
Panel connection:

- "Tongue and groove system" and from 100 mm thickness with labyrinth system. The exterior and interior sheet steel covers are not connected to each other.
The integrated seal guarantees max. possible wind tightness.
The panels interlink precisely, with no thermal bridge.



Certificates furnished upon request!

Globe Wall Fire FM



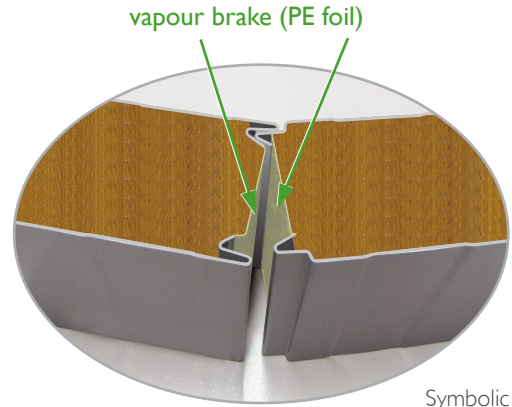
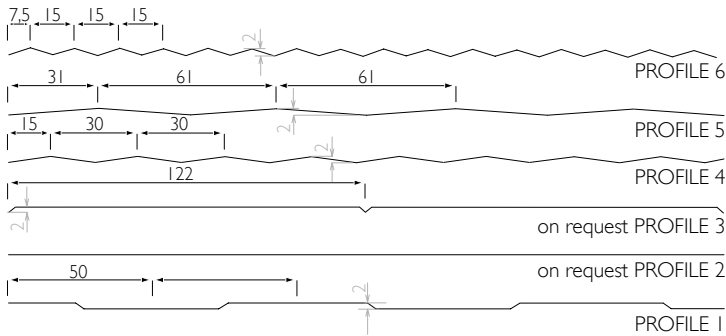
Globe Wall Fire - Fire Protection wall

- good SOUND INSULATION
- rich DIVERSITY OF PROFILES
- more ECONOMIC PROCESSING through greater construction width
- HIGH FIRE RESISTANCE
- non-combustible

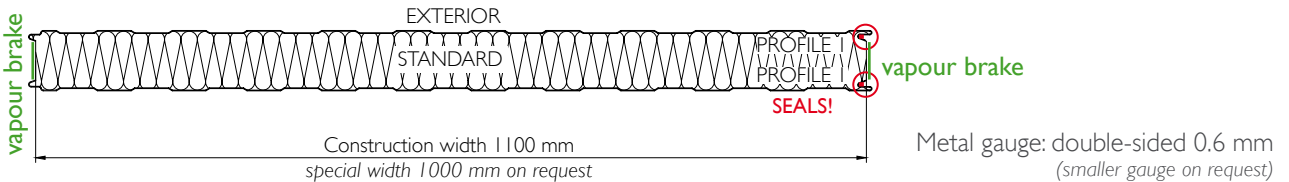


Fire Protection
wall
GW-F

GW-F PROFILES

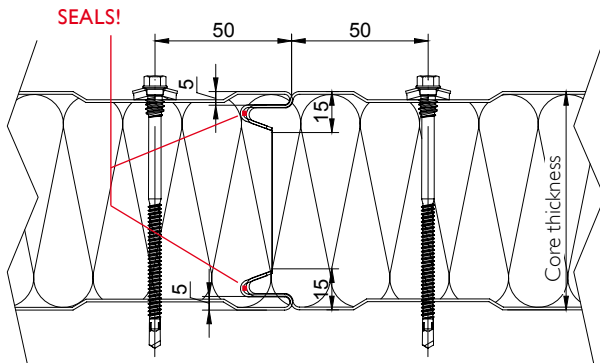


Symbolic picture



In the exterior section of the BRUCHAPanel FIRE PROTECTION wall panel WP-F the wool material must be cut back in the plinth area on the outside 45°.

GW-F JOINT CONNECTION



Gap-joint connection: 2 mm ± 2 mm tolerance

Panel Type	Core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²	Fire resistance*
GW-F 60	60	0.64	0.70	17.4	EI 30
GW-F 80	80	0.48	0.52	19.8	EI 60
GW-F 100	100	0.39	0.41	22.2	EI 90
GW-F 120	120	0.33	0.35	24.6	EI 120
GW-F 150	150	0.26	0.29	28.2	EI 120
GW-F 160	160	0.25	0.27	29.4	EI 120
GW-F 200	200	0.20	0.22	34.2	EI 120
GW-F 240	240	0.17	0.18	39.0	EI 120

*certificates on request

Manufacturing tolerances:	in acc. with EN 14509
Manufactured lengths:	max. 15.0 m (extra long transport required above 13.6 m) ATTENTION! Long panels may buckle due to higher weight!
Span table:	by Dipl.-Ing. Dr. techn. Wilhelm Pilgram – Vienna
Sound insulation:	ca. 32 dB (frequency dependent)
Vapour diffusion:	Determined by climatic conditions inside building. Panels must be installed vapour tight.
Fire behaviour:	acc. EN 13501-1, Euroclass A2s l d0, non-combustible

DESIGN AND SURFACES

Standard coil-coated, galvanised flashings

Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 1 = Standard, other profiles - see **WP-F PROFILES** · Page 42
- Metal gauge: 0.6 mm (smaller gauge on request)

Interior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 1 = Standard (Profile 2 and 3 on request)
- Metal gauge: 0.6 mm (smaller gauge on request)

Insulation core:

- Structural, web-oriented mineral fibre wool
- Shear resistant bond with sheet steel covers
- Density approx. 120 kg/m³, 140 kg/m³ available on request

Fire behaviour:

- Acc. EN 13501-1, Euroclass A2s1 d0,
non-combustible.

Exterior and interior standard colours:

- Acc. to BASIC range of colours

Panel connection:

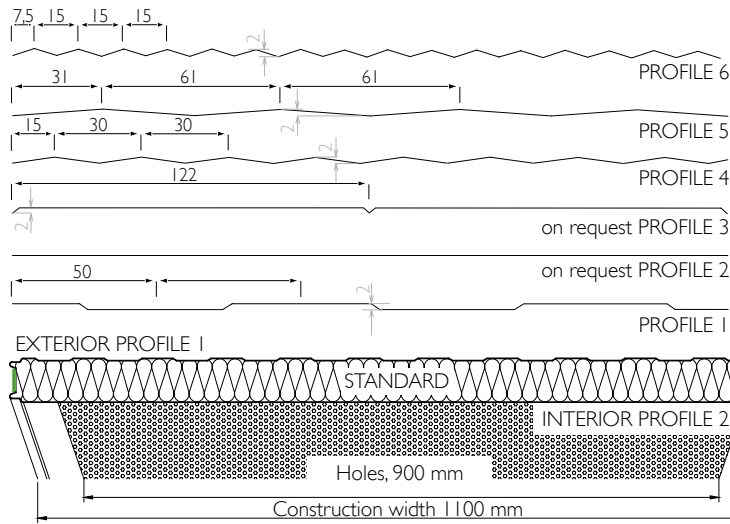
- Tongue and groove interconnect; panels interlink precisely with no thermal bridge.



Globe Wall Sound FM

SOUND PROTECTION

GW S PROFILES



Globe Wall Sound FM (GWS)

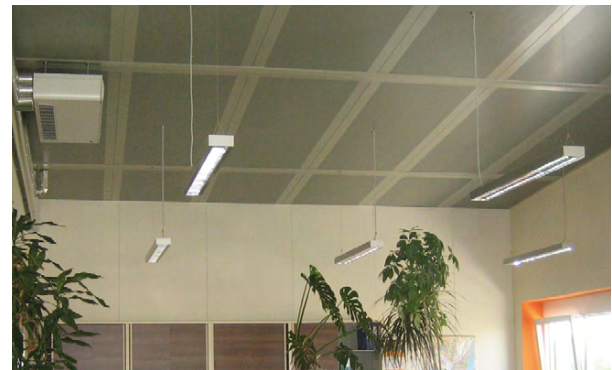
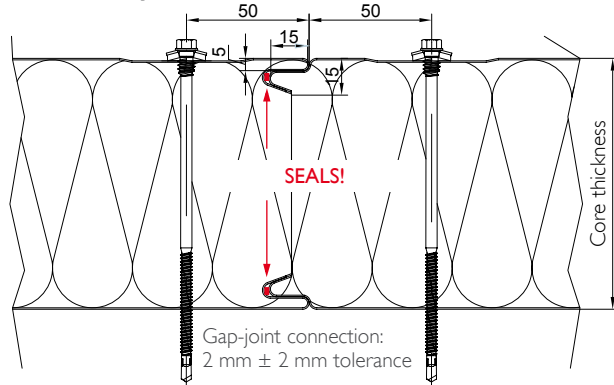
provides a practical and clean solution for **sound absorption** and insulation against airborne sound, for interior walls and false ceilings, significantly improving room acoustics. Following definition of the technical and static feasibility the acoustic panels may also be used for wall cladding of unheated buildings.

vapour brake (PE foil)
SEALS!

Metal gauge: double-sided 0.6 mm

Bore diameter: 3 mm round bore 5 mm spacing

GW S JOINT CONNECTION



Panel Type	core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²	Sound insulation Rw dB	Sound absorption loss α_w	Fire resistance*
GWS 60	60	0.64	0.70	15.7	~32	0.85	EI 30
GWS 80	80	0.48	0.52	18.1	~32	0.85	EI 60
GWS 100	100	0.39	0.41	20.5	~32	0.85	EI 90
GWS 120	120	0.33	0.35	22.9	~32	0.85	EI 120
GWS 150	150	0.26	0.29	26.5	~32	0.85	EI 120
GWS 160	160	0.25	0.27	27.7	~32	0.85	EI 120
GWS 200	200	0.20	0.22	32.5	~32	0.85	EI 120
GWS 240	240	0.17	0.18	37.2	~32	0.85	EI 120

*Certificates on request

Manufacturing tolerances:	in acc. with EN 14509
Manufactured lengths:	max. 15.0 m (extra long transport required above 13.6 m)
Sound absorption loss α_w:	0.85 gem. Prüfbericht MA39-VFA 2008-0448.01
Absorber class:	B
Approval:	According to the [General Technical Approval] Z-10.49-610

DESIGN AND SURFACES

Standard coil-coated, galvanised flashings

Exterior:

- Visible side with 25 µm polyester coating with a protective PVC film to be removed when construction work is complete (protect from direct sunlight).
- Profile 1 = Standard, other profiles - see **GWS PROFILES** ·
- Metal gauge: 0.6 mm (smaller gauge on request)

Interior:

- Visible side 25 µm polyester coating with a protective PVC film to be removed when construction work is complete, no later than 10 weeks from production date - visible on longitudinal joint of panel (protect from direct sunlight).
- Profile 2
- Hole proportion: 32,5 %
- Bore diameter: 3 mm round bore, offset
- Holes: DIN RV 3-5 (R3T5) (730-000)
- Metal gauge: 0.6 mm (smaller gauge on request)

Insulation core:

- Structural, web-oriented mineral fibre wool
- Shear resistant bond with sheet steel covers
- Density approx. 120 kg/m³, 140 kg/m³ available on request

Fire behaviour:

- Acc. EN 13501-1, Euroclass A2s1 d0, **non-combustible**.
- Membrane: glass fibre mat SM60/10 for non-drip protection

Exterior and interior standard colours:

- Acc. to BASIC range of colours

Panel connection:

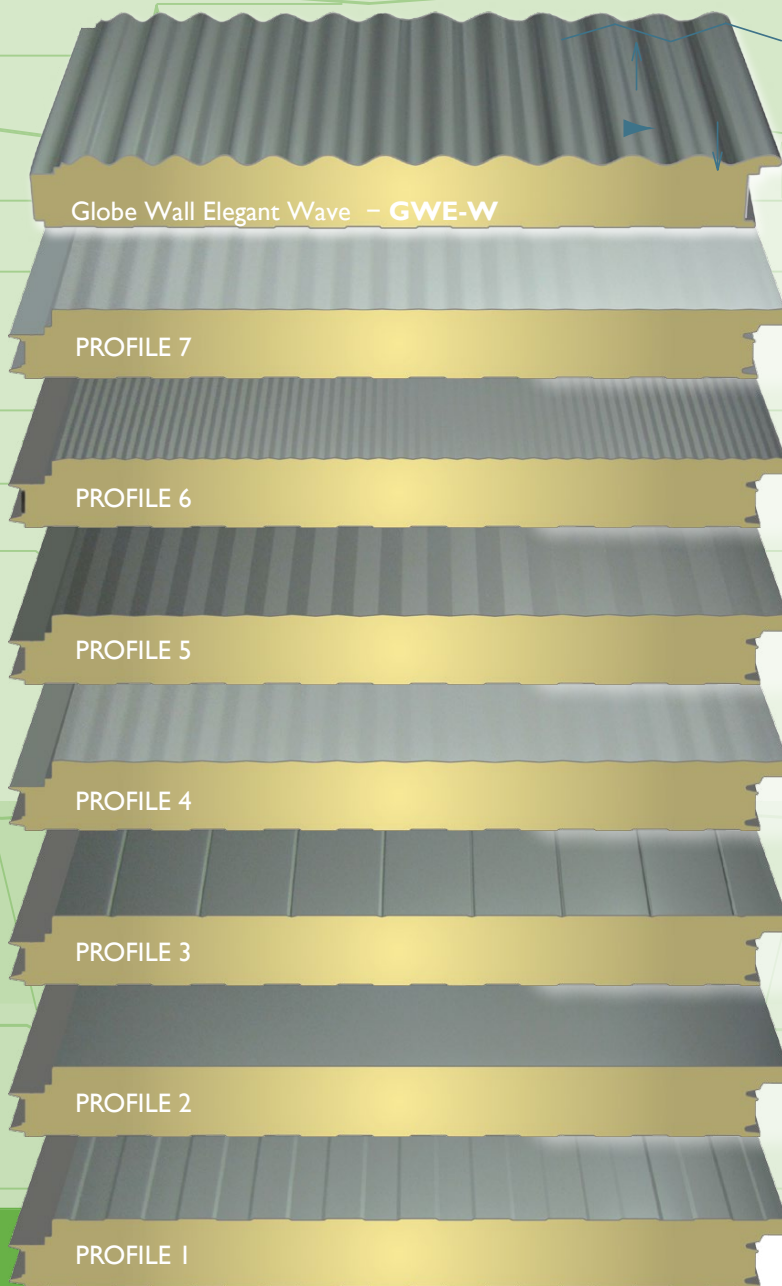
- By „tongue and groove system“.
The panels interlink precisely, with no thermal bridge.

Vapour diffusion:

- Due to the vapour permeable inside cover, the use as an exterior wall for wet rooms and heated buildings is only conditionally possible, or not recommended.



Globe Wall Elegant FM



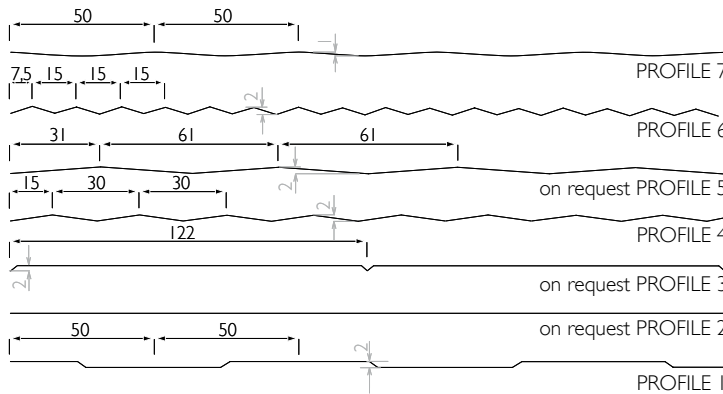
GWE

Globe Wall Elegant FM (GWE) PU/PIR facade

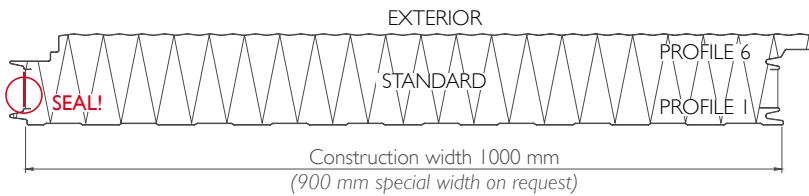
- rich DIVERSITY OF PROFILES
- Excellent structural properties
- unique INSULATION THICKNESSES up to 200 mm
- special WINDPROOFING through accurate joint geometry



GWE PROFILES



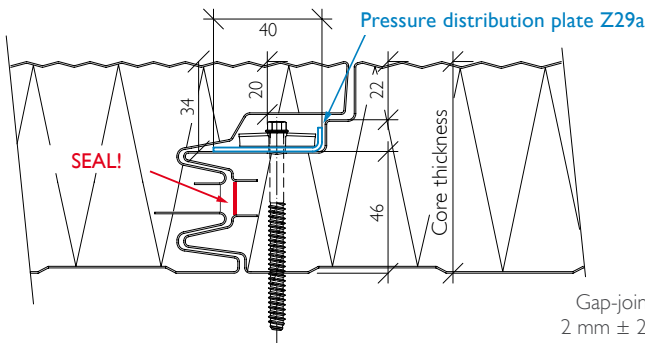
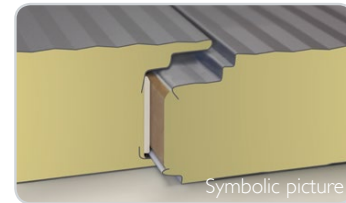
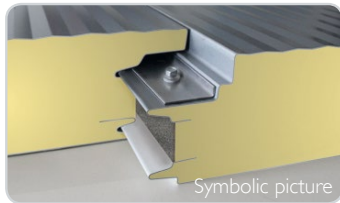
	Panel Type	Core thickness mm	U-value W/m²K acc. EN 12667 incl. joint	U-value W/m²K acc. EN 14509 incl. joint	Weight kg/m²
GWE	60	60	0.34	0.42	13.2
GWE	80	80	0.27	0.32	13.8
GWE	100	100	0.21	0.25	14.6
GWE	120	120	0.17	0.21	15.4
GWE	140	140	0.15	0.18	16.2
GWE	150	150	0.14	0.17	16.8
GWE	160	160	0.13	0.16	17.0
GWE	180	-180	0.11	0.14	17.8
GWE	200	-200	0.10	0.13	18.6



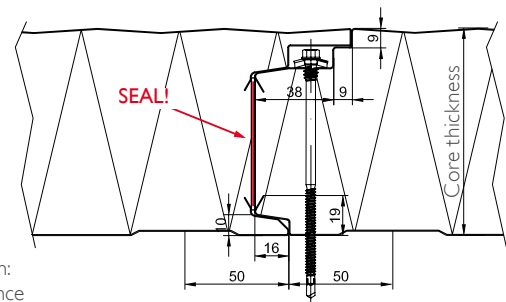
Metal gauge: 0.5 mm or 0.6 mm
(Smaller metal gauge on request)

GWE JOINT CONNECTION

Width 1000 mm, 80–200 mm Core thickness



Gap-joint connection:
2 mm ± 2 mm tolerance



Manufacturing tolerances:	acc. EN 14509
Manufactured lengths:	max. 16.0 m (extra long transport required above 13.6 m)
Span table:	by Dipl.-Ing. Dr. techn. Wilhelm Pilgram – Vienna
Sound insulation:	25 dB for all thicknesses
Temperature stability:	90° C
Fire behaviour:	acc. EN 13501-1, Euroclass Bs2d0, Bs1d0 on request

Globe Wall Elegant FM (GWE)

DESIGN AND SURFACES

Standard coil-coated, galvanised flashings

Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 6 = Standard, other profiles -
- Metal gauge: 0.6 mm (Smaller metal gauge on request)

Interior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 1 = Standard (Profile 2 and 3 on request)
- Metal gauge: 0.5 mm (Smaller metal gauge on request)

Insulation core:

- PIR rigid foam manufactured in continuously foamed process, approx. 95 % closed cells, shear resistant bond with steel sheet.
- Density approx. 40 kg/m³, absolutely no chlorofluorocarbons and halogenated chlorofluorocarbons, pentane foaming system.

Fire behaviour:

- Acc. EN 13501-1, Euroclass Bs2d0, Bs1d0 on request.

Exterior and interior standard colours:

- Acc. to BASIC range of colours

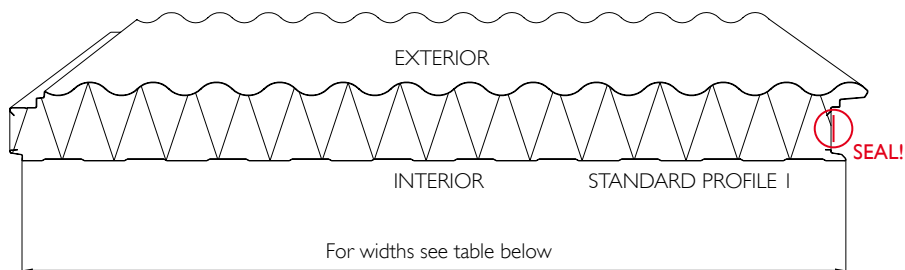
Panel connection:

- Double tongue and groove system in which the special labyrinth profile allows the screw head to be counter-sunk and fully covered by the next panel – covered, hidden fastening.
The integrated seal guarantees max. possible wind tightness.
The panels interlock precisely, with no thermal bridge.
The **GWE** offers **excellent structural properties** and **enables longer spans** through the use of a pressure distribution plate.



Globe Wall Elegant Wave FM

GWE-W PROFILES

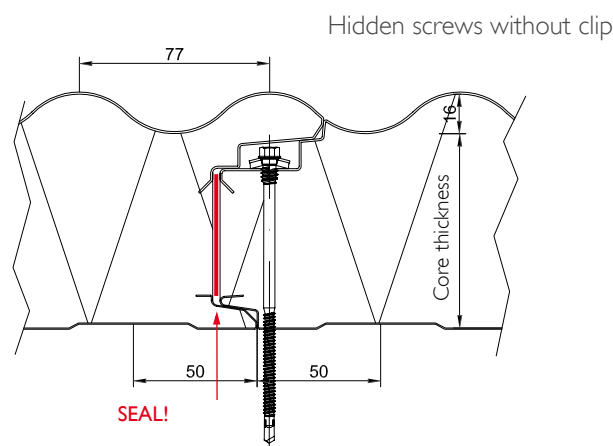


Metal gauge: 0.6 mm exterior
0.5 mm interior

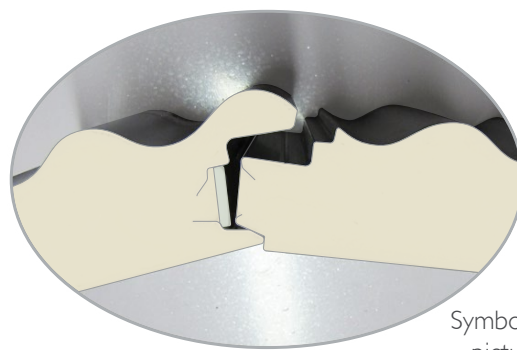
Panel Type	Core thickness mm	Construction width mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²
GWE-W 60	60	999	0.31	0.36	12.8
GWE-W 80	80	997	0.27	0.30	13.6
GWE-W100	100**	995	0.21	0.23	14.4

** Core thickness 100 mm on request

GWE-W JOINT CONNECTION



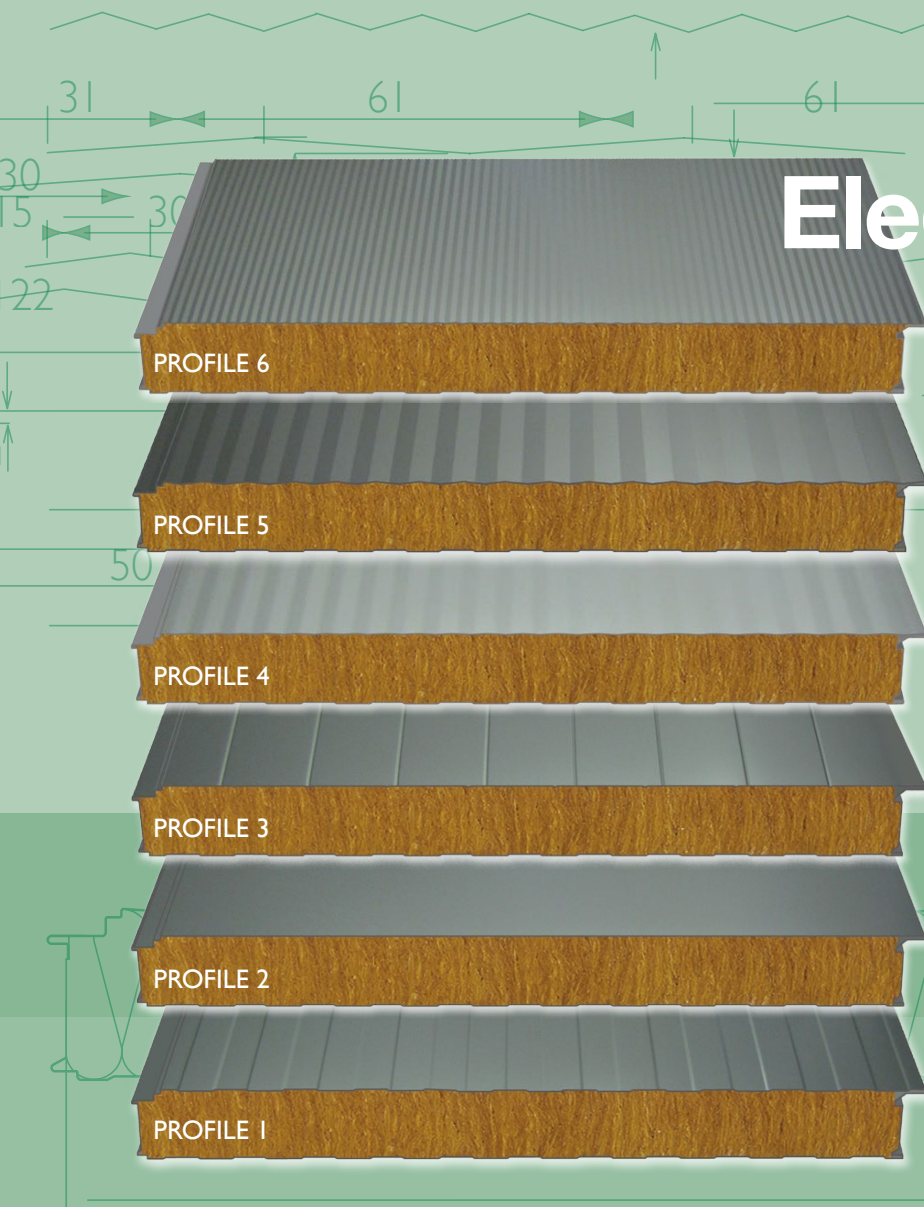
Gap-joint connection: 2 mm ± 2 mm tolerance



Symbolic picture

Manufacturing tolerances:	acc. EN 14509
Manufactured lengths:	max. 16.0 m (extra long transport required above 13.6 m)
Sound insulation:	25 dB for all thicknesses
Temperature stability:	90° C
Fire behaviour:	acc. EN 13501-1, Euroclass Bs2d0, Bs1d0 on request
Exterior standard colours:	acc. to BASIC range of colours
Interior standard colour:	RAL 9002 Grey white

Globe Wall Elegant Fire FM

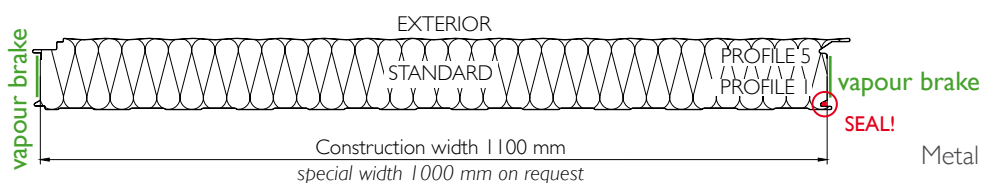
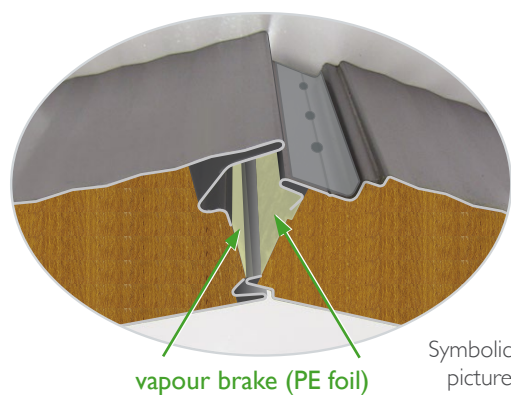
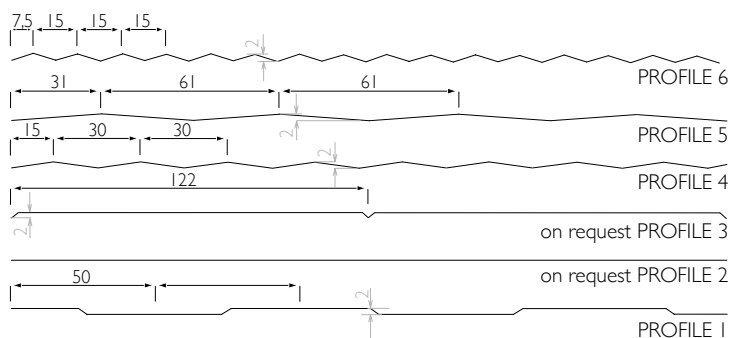


Globe Wall Elegant Fire FM (GWE-F)

- good SOUND INSULATION
- rich DIVERSITY OF PROFILES
- more ECONOMIC PROCESSING through greater construction width
- high load bearing capacity
- HIGH FIRE RESISTANCE
- non-combustible



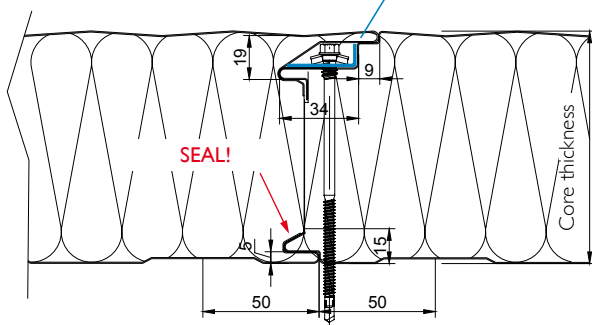
GWE-F PROFILES



Metal gauge: double-sided 0.6 mm
(Smaller metal gauge on request)

GWE-F JOINT CONNECTION

Pressure distribution plate (Z29b) for improving static load properties of the system available according to the list of accessories!



Gap-joint connection: 2 mm ± 2 mm tolerance

Panel Type	Core thickness mm	U-value W/m ² K acc. EN 12667 incl. joint	U-value W/m ² K acc. EN 14509 incl. joint	Weight kg/m ²	Fire resistance*
GWE-F 60	60	0.62	0.67	17.8	EI 30
GWE-F 80	80	0.48	0.51	20.2	EI 60
GWE-F 100	100	0.39	0.42	22.6	EI 90
GWE-F 120	120	0.33	0.35	25.0	EI 120
GWE-F 150	150	0.26	0.28	28.6	EI 120
GWE-F 160	160	0.25	0.27	29.8	EI 120
GWE-F 200	200	0.20	0.22	34.6	EI 120
GWE-F 240	240	0.17	0.18	39.3	EI 120

*certificate on request

Manufacturing tolerances:	acc. EN 14509
Manufactured lengths:	max. 15.0 m (extra long transport required above 13.6 m) ATTENTION! Long panels may buckle due to higher weight!
Span table:	by Dipl.-Ing. Dr. techn. Wilhelm Pilgram – Vienna
Sound insulation:	ca. 32 dB (frequency dependent)
Vapour diffusion:	Determined by climatic conditions inside building. Panels must be installed vapour tight. Technical installation tips are provided in the installation guidelines at: www.brucha.com/downloads
Fire behaviour:	acc. EN 13501-1, Euroclass A2s1 d0, non-combustible

Globe Wall Elegant Fire FM

DESIGN AND SURFACES

Standard coil-coated, galvanised flashings

Exterior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 5 = Standard,
- Metal gauge: 0.6 mm (Smaller metal gauge on request)

Interior:

- Exposed side 25 µm polyester coating with a PVC protective film (protects against solar radiation).
The film must be removed no later than 10 weeks after the production date (visible on the longitudinal panel seam).
- Profile 1 = Standard (Profile 2 und 3 on request)
- Metal gauge: 0.6 mm (Smaller metal gauge on request)

Insulation core:

- Structural, web-oriented mineral fibre wool
- Shear resistant bond with sheet steel covers
- Density approx. 120 kg/m³, 140 kg/m³ available on request

Fire behaviour:

- Acc. EN 13501-1, Euroclass A2s1 d0,
non-combustible.

Exterior and interior standard colours:

- Acc. to BASIC range of colours

Panel connection:

- Tongue and groove system“ in which the special labyrinth profil allows the bolt head to be counter-sunk and completely covered by the next panel – covered, hidden mounting.



Certificates furnished upon request!

HANDLING – DETAIL DRAWINGS

INFORMATION ON TRANSPORT, STORAGE AND ASSEMBLY*

GENERAL

composite panels are among the most technologically advanced prefabricated elements for roof and wall cladding. The composite panels protect against the weather and serve as thermal insulation and vapour brake.

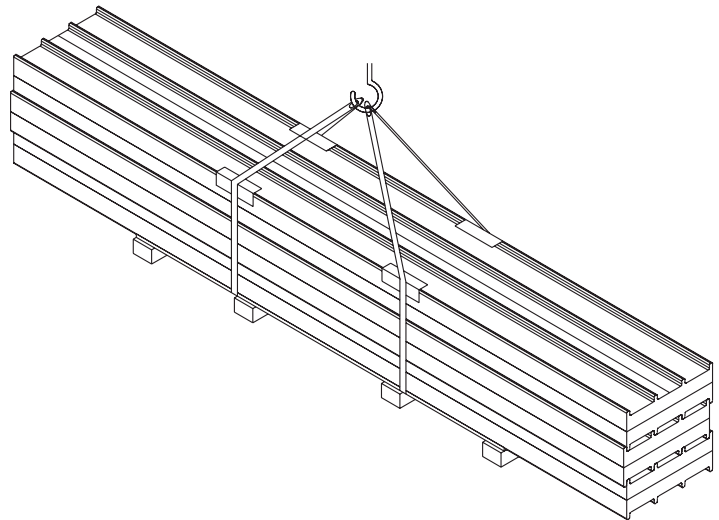
After the panels are positioned and attached and the edging is completed (ridge, verge, eave, plinth, window and door jambs), the roof and wall cladding is complete.

PACKAGING AND TRANSPORT

The composite panels are stacked on polystyrene blocks and delivered. They are reinforced at the top and bottom with edge protection to protect the panels during loading, transportation and unloading with lifting straps.

Strapping must always be carefully checked and re-tensioned during transportation to avoid strapping marks.

The package weight of max. 1500 kg should not be exceeded. Larger packaging units available on request only.



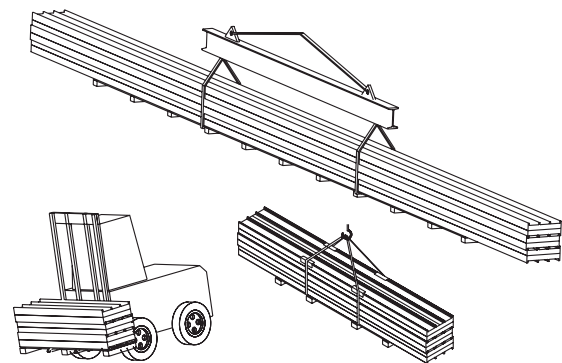
DELIVERY

The driver is largely co-responsible for loading the truck and proper transportation. Please check immediately whether the panels have arrived undamaged. Check for completeness and any damage.

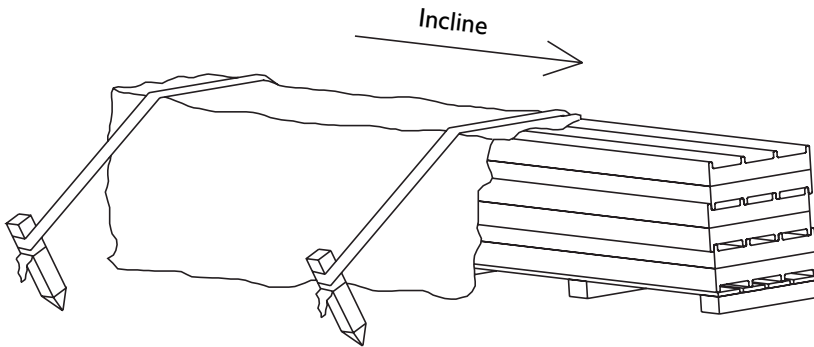
Immediately upon receipt, record any complaints on the transport documentation, including the license plate number and the driver's name and including a photo of the relevant goods. Unfortunately we cannot recognise complaints submitted at a later date.

UNLOADING

Use only slings for unloading.
Use the slings only with edge protection.
For panels longer than 8 m, use a crane jib or a spreader.
Never unload two panel stacks at the same time! Be cautious when using a forklift for unloading. The driver must monitor the unloading procedure carefully. He is responsible for proper hand-over.



HANDLING – DETAIL DRAWINGS



STORAGE

Panels should not be stacked higher than two units.
Cover the stacks with a canvas for protection against sunlight and rain.
Cover opened panel stacks.
Position the panel stacks at a slight incline to allow water to run off.

PROTECTIVE FILM

The protective film is not UV resistant; please therefore remove the film immediately after installation or no later than 10 weeks after the production date (visible

on the longitudinal joint of the panel).

CUTTING TO SIZE

Angle grinders may not be used for cutting panels to size. They emit hot sparks which burn into the coating of the sheet surface and are mostly permanent. As a result, the panel surface will be covered with rust spots. Due to their high cutting speed, angle grinders distribute the ground material across a large area.

Use circular hand saws with tungsten carbide saw blades or special chain saws. This cold cutting method assures the cathodic protection effect of the cut edges. Remove the swarf from the surfaces immediately; it rusts with the slightest of moisture and causes the same damage as described above.

SUPPORT / SUBSTRUCTURE AND ATTACHMENT

The panels can be mounted or screwed directly onto the steel or wood substructures without additional preparation.

Please use our span table to select the correct spacing between supports.

ROOF PITCH

The minimum roof pitch must be observed:

- roofs without butt joints and roof penetrations
at least 3° (5.2 %)
- roofs with butt joints and roof penetrations
at least 5° (8.6 %)

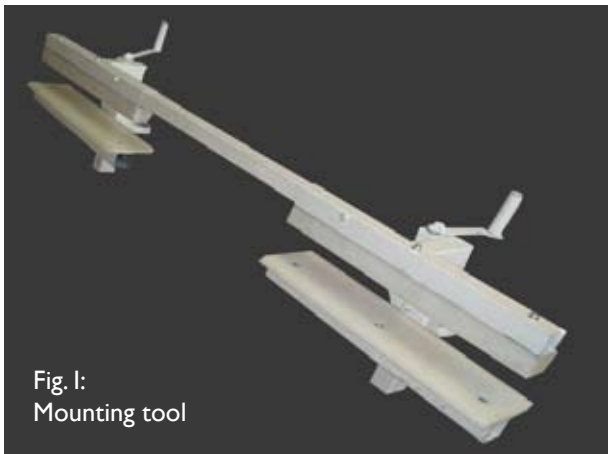
In practice, roof pitches are often referred to as percentages, convertible to angular degrees.

But be careful – this is not the same.
Conversion factor: 1° = 1.73 %

HANDLING – DETAIL DRAWINGS

LIFTING THE PANELS

If panels cannot be mounted manually, suitable slinging gear must be used, compliant with the required safety measures. Ensure that the sheet steel surfaces are protected. It is very difficult to remedy damages.



From an economical point of view, mounting of the roof panels using a mounting tool has proven itself (Fig. 1). The use of commercially available octopuses (Fig. 2) is recommended for mounting large area panels (roof, wall and façade).



ALIGNMENT/MAIN WIND DIRECTION

Before starting to install the panels, square the roof area and use a chalk line to mark control points at the required distances. Check that the substructure built by the preceding contractor is square and perpendicular; if this is not so, severe problems may ensue during installation, due to shifted panels.

Always lay the panels against the main wind direction. The overlap along the longitudinal joints then protects against the penetration of hard, driving rain.

This rule is part of the guidelines for large area and overlapping roof covering materials.

MOUNTING

Observe the national regulations on fasteners. We generally recommend the use of stainless steel screws.

ROOF PANELS

Fasten the panels through the crown only, never in the water bearing level. Always use the original fastening washers supplied by the panel manufacturer or available from specialised dealers, since these distribute the tensioning force of the screw across a larger area, such as the sealing washer.



HANDLING – DETAIL DRAWINGS

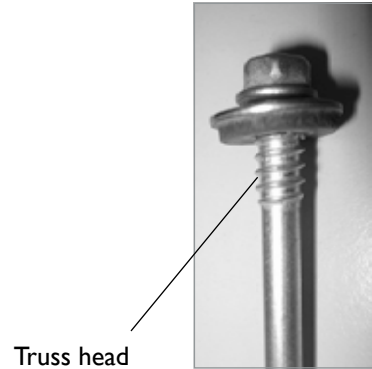
WALL AND FAÇADE PANELS

Visible mounting – supporting thread screws

Screws with supporting thread are preferably used with wall and façade panels.

Use screw machines with depth stop to avoid dents when turning in the screws.

Ensure that the sealing washers fit firmly to avoid water penetration.



MOUNTING OF WALL AND FAÇADE PANELS

With horizontal mounting, lay bottom to top. Ensure that the panel joints are arranged such that panels form a water-repelling, downward facing drip nose.

To seal off the joint insulation, the supports are sealed with extra pilaster strips or moulded components on the vertical joints.

This also protects and covers the cut edges.

Do not forget the sealing tape required on the outer edges between the panel and the substructure.

This applies to all the edge zones and additional sealing of panel butt joints at the supports.

Similar to the roof panels, wall and façade panels are placed manually or by crane. To avoid damage to the coating, lift the panels carefully off the stack.

Carry the panels upright to avoid bending.



Joint cover – TOP HAT –
horizontal mounting

SEALING THE PANEL BUTT JOINT

Sealing of the individual terminal butt joints at the ends, i.e. at the connecting edges to the wall, façade and roof requires special attention, since they all demand special sealing. Since the surface sealing tape between panel and support only seals the surface area between, additional sealing is required to the outside at the ends of the long side panel joints.

Different materials are used for sealing, depending on application and situation, e. g. PIR foam or sealing tapes.

All composite construction sealing requires using specially suited sealing tapes, readily available from specialised dealers.

HANDLING – DETAIL DRAWINGS

The detail drawings shown here are suggestions for information only. Their correctness and suitability must be checked, based on the particular application.

BUTT JOINT DESIGN

The top panel must be cleaned to a length of at least 200 mm and the foam fully removed. Affix a suitable sealing tape, as wide as the panel core, to the face of the butt joint.

Place a distance strip (rubber) of at least 4 mm under the panel on the ridge side. This creates a gap to prevent capillary water penetration.

Glue a suitable sealing tape to the inside of the overlap, in two rows, each at least 15 mm wide.

Due to opposing thermal expansion, the covers of the upper and lower roof panel must never be screwed together.

Differences in length would produce leaky slots in the first year already.

The low profiles may also not be screwed together.

Ensure that the sheets do not touch through the applied sealing tapes. The capillary effect would draw water into the gap, where it would not readily dry out, causing corrosion.

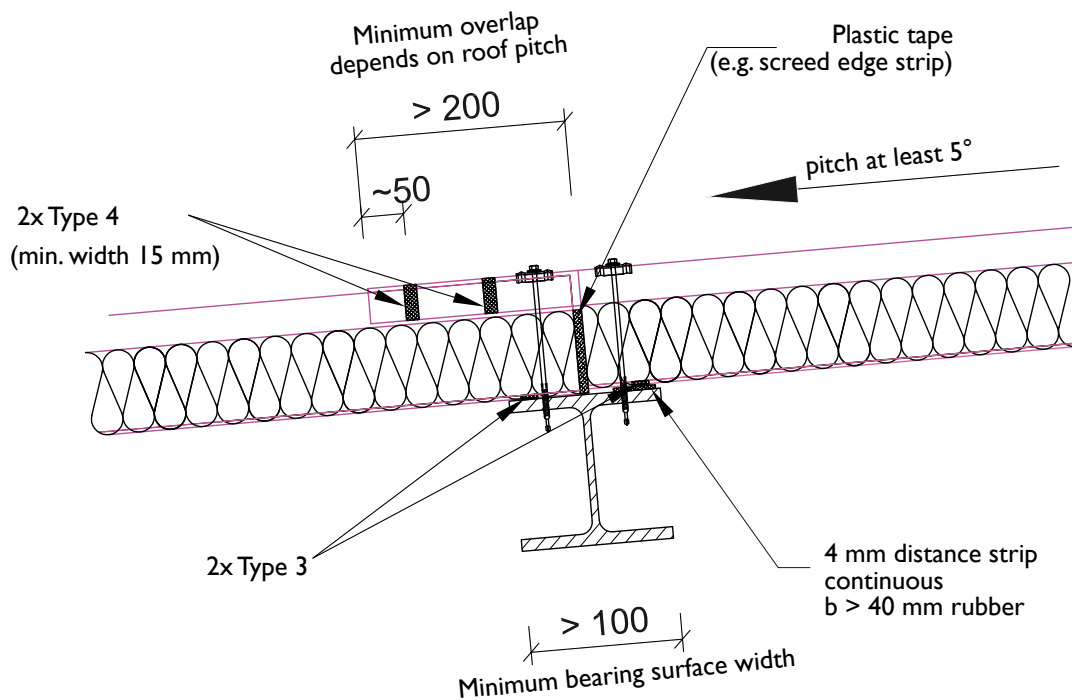
To prevent installation problems, adhere to this bottom to top laying sequence. Under no circumstances complete the bottom row parallel to the eave first. Should this be the case with butt joint overlapping, problems would invariably follow.

To ensure that this area is tight, proper execution of the butt joint is important.

THE BUTT JOINT MAY ONLY BE MADE OVER A PURLIN !!!

(see detail drawing below)

DETAIL – BUTT JOINT CONSTRUCTION



HANDLING – DETAIL DRAWINGS

RIDGE CONSTRUCTION

The proper ridge construction is shown in the detail drawing below.

Always raise (tip up) the low profiles of the outer cover of the panel at the edge; use profile fillers and toothed plates.

Without toothed plates the profile filler may be removed in a storm or by birds.

Furthermore, the plate protects the profile filler from UV light.

The joints of the ridge sheets are designed as a batten seam (see sheet metal working methods).

Should sealing be required with elastic sealing compounds, the sealing material must be applied such that it is protected against direct UV radiation.



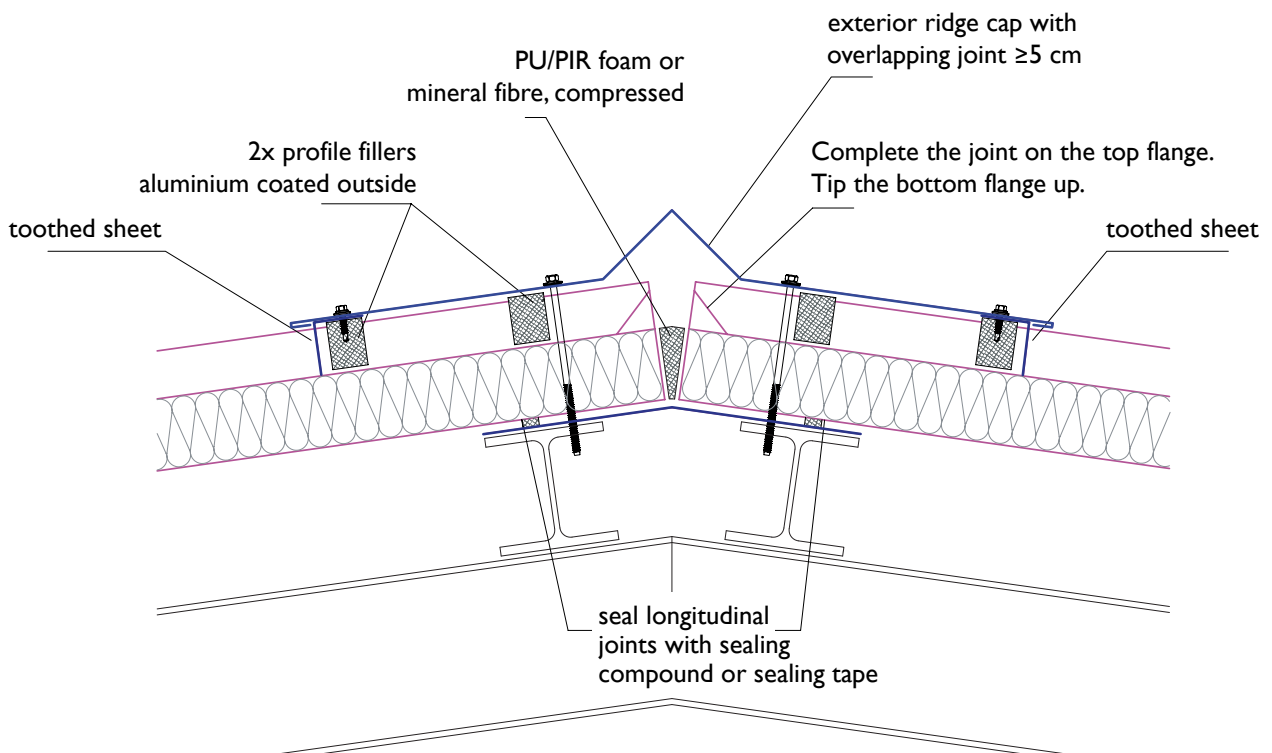
crown filling tape roof PU/PIR **DP** – Z14



crown filling tape roof Fire Protection **DP-F** – Z15



toothed sheet for **DP-F** ridge – Z13a



HANDLING – DETAIL DRAWINGS

EAVE CONSTRUCTION

As in the ridge area, these panels must also be sealed towards the interior.

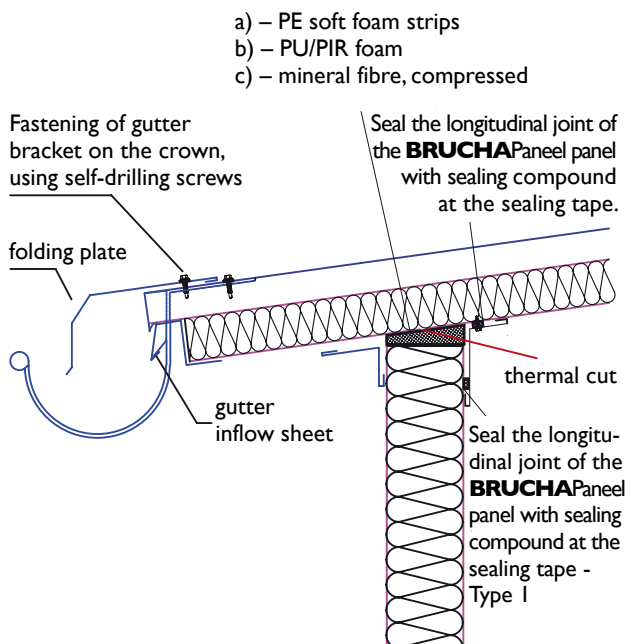
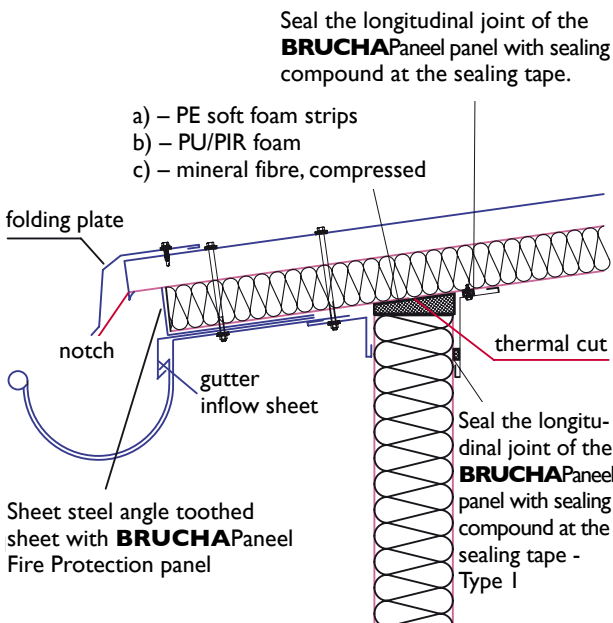
This is relevant to the roof and the façade panel, especially the gaps of the element joints, the eaves flashing, gutter brackets or drainage brackets and the substructure. To ensure that water drains properly even in strong wind and that the cut surfaces of the panels are coated with foam core, mount flashing at the eave's edge.

A choice of different gutter variants is available, but proper installation must always be assured (see detail drawing below).

If necessary, make a thermal separation cut, but ensure that the load bearing capacity of the overhanging panel section remains adequate.



BRUCHAPaneel folding plate and gutter inflow sheet



HANDLING – DETAIL DRAWINGS

VERGE CONSTRUCTION

As noted for both ridge and eave construction, interior sheeting must also be used in the verge to ensure proper sealing.

After mounting and screwing on the interior sheeting, the gaps between panels must be filled with mineral fibre wool or PU/PIR mounting foam.

Usually the outermost verge sheet is placed over the last rib of the roof panel and attached directly to the façade on both sides.

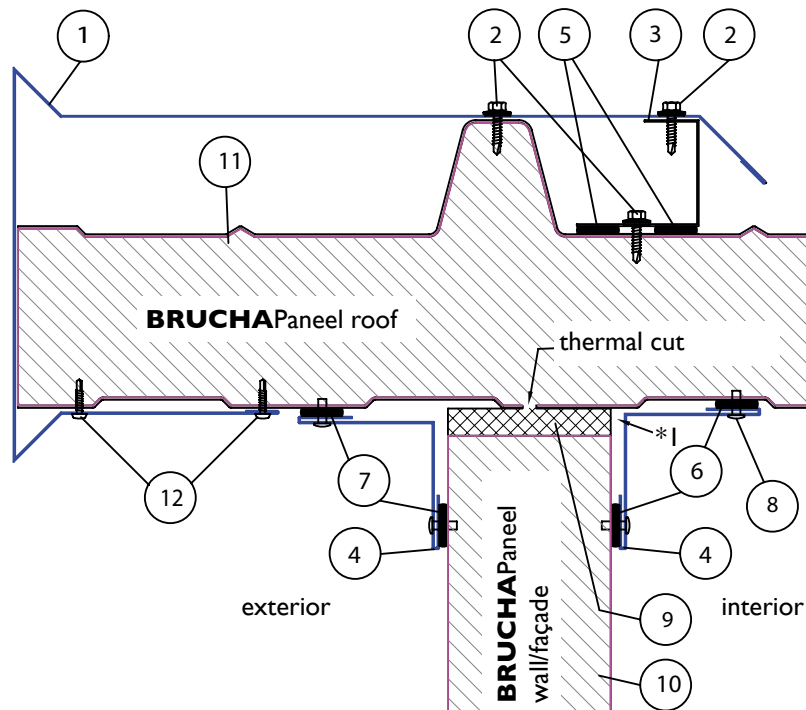
Depending on the design standard, the longitudinal overlaps of the moulded parts are sealed and come with splice plates.

Material expansion, dependent on type and length of the material, must also be considered.

If necessary, make a thermal separating cut here as well; but note that the load bearing capacity of the overhanging panel section is reduced.

Please refer to the relevant OIB [Austrian Building Technology Institute] guidelines.

VERGE DETAIL:



1. Verge sheet galvanised, coated
2. Self-drilling screw with seal, stainless steel
3. Support profile galvanised, coated full length
4. Edge component, galvanised, coated sheet steel
5. Sealing tape Type I
6. Sealing tape Type I
7. Sealing tape Type 4
8. Coated aluminium multi-purpose rivet (~300–400 mm)
9. PUR verge foam on moist surfaces

10. Globe Wall & Elegant PU/PIR or Fire Protection
11. GlobeRoof PU/PIR or Fire Protection

*1: One of the sealing tapes 5, 6 or 7 (acc. to installation guidelines) can be placed here.

HANDLING – DETAIL DRAWINGS

PLINTH CONSTRUCTION

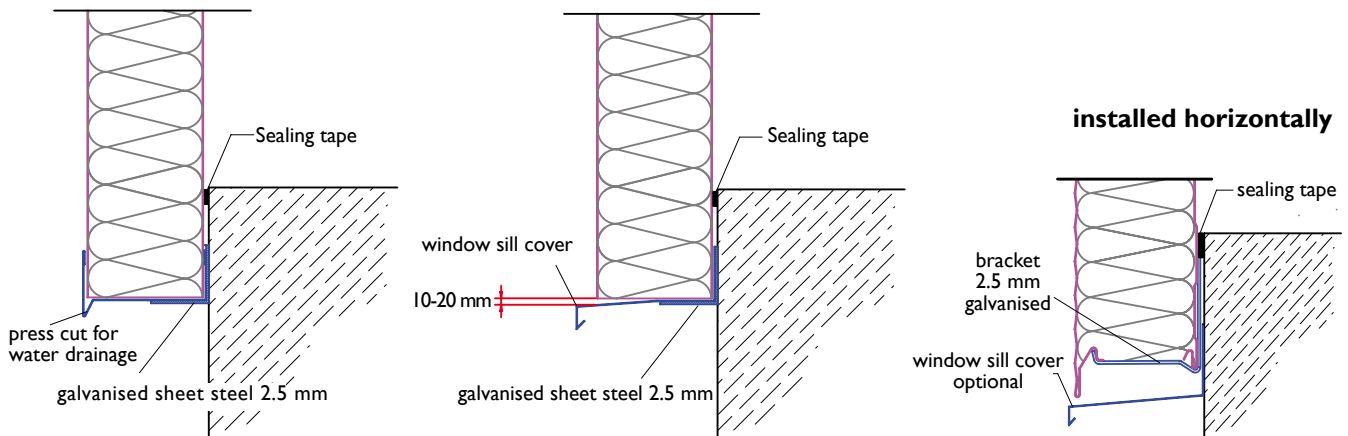
Many different connection types are available between plinth and composite panels (see detail drawings below).

They depend on the type of installation (horizontal or vertical) and on the construction type, of course.

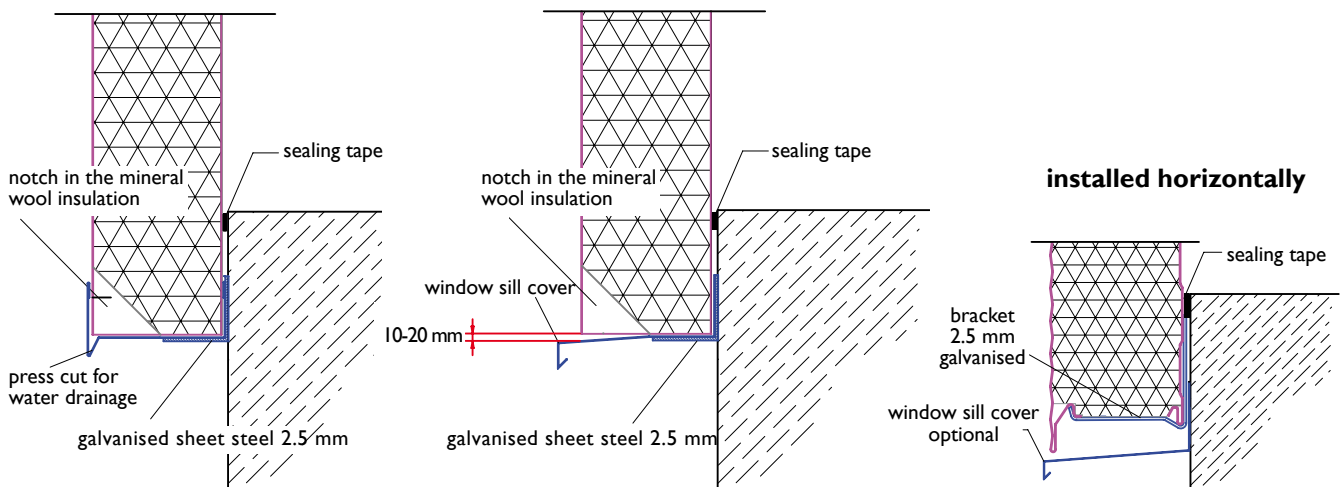
When designing the detail, ensure that penetrating rain water can run off freely.

Especially in the case of panels with **mineral wool insulation**, the insulation may **not come into contact with water!**

globe Panels PU/PIR plinth design – vertical installation



Globe Panels Fire Protection plinth design - vertical installation



HANDLING – DETAIL DRAWINGS

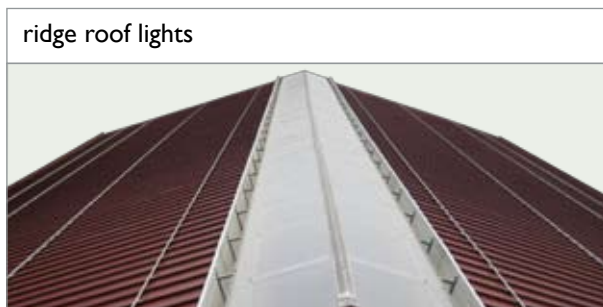
ROOF LIGHTS

To avoid extra installation work later, plan carefully for openings for ventilation, lighting and extractors.

The easiest is to use commercially available ridge roof

lights and to arrange these on the ridge continuously or at right angles (from ridge to eave).

Since these roof lights have proven themselves in commercial construction for many years, installation is easy.



INSTALLING DOME LIGHTS

REPLACING / DOME LIGHTS:

Exchanging to accommodate feedthroughs is possible. It must be ensured, however, that the heat insulation is restored to its original state and that no thermal bridges are created.

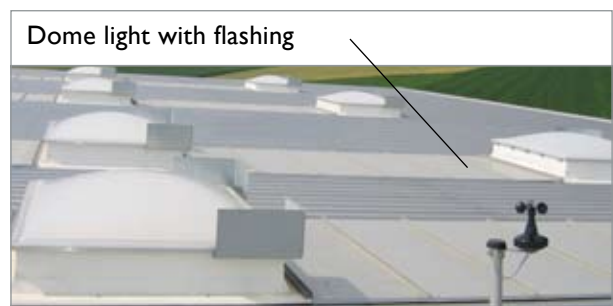
The frames must be meticulously made by hand.

Must be raised at least 150 mm (at least 300 mm in areas with heavy snowfall) above the water flow level.

It must be checked whether the roof panels should be supported with wooden or steel exchange frames.

With conventional crowns, the flashing on the ridge side is inserted to under the ridge sheet.

Ensure correct crown height.



FITTING FLASHINGS

Open gaps in the ridge area of the Globe Roof panel FM and air ventilated flashings may cause con-densation.

Suitable measures (e.g. closing gaps, filling cavities be-neath flashing with thermal insulating material, inserting

profile filler) must be taken to prevent condensation or condensate run-off beneath the flashing.

Before installing the flashings, apply a suitable sealing tape (on crown) and screw the flashing to each crown, using self-sealing screws.

HANDLING – DETAIL DRAWINGS

PIPE FEED-THROUGH

It is best to use prefabricated collars.

Note, in such cases, that continuous metal pipes are thermal bridges and that the penetrating pipe may need to be insulated in addition.

Please observe this especially with mineral fibre wool panels, to avert any type of condensate from the start. If necessary, exercise your duty to warn and notify!



DEKTITE roof penetration bezel

ROOF PENETRATIONS

To ensure tightness, roof penetrations should be located close to the ridge.

They must always be properly fitted and sealed with state of the art sheet metal working methods.

Larger roof penetrations must be replaced individually, using jigs for larger sizes and, depending on demands need their own 2-part interior and exterior CROWN with the associated insulation and covering.

To avoid any leakage, additional moulded sheets should guide the water from behind the flashing to the high, lateral trapezoidal ribs that run across the length.



Roof penetration bezel



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