



Uniclass L52
N352

CI/SfB (27) Rn6 (M2)

October 2004

UNILIN SYSTEMS

A new dimension in pitched roof construction

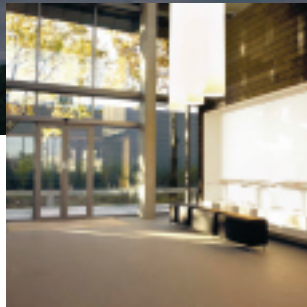


Supplier of

UNIPUR

Structural insulated roof panels





UNILIN Systems

specialise in the manufacture of self-supporting insulated roof panels. Last year we opened our new head office in Desselgem, a building that fittingly reflects our professionalism and commitment to quality.

Our insulated roof panels are the result of over 30 years experience, a continuous programme of research and innovative development, and the commitment of our dedicated 270-strong staff. We have our own production line for chipboard, polyurethane foam insulation and painting. Our annual output of insulated roofs panels exceeds 2,000,000m².

All our roof panels are subject to the strictest quality control in manufacture, while sophisticated logistics ensure fast and reliable delivery.

UNILIN SYSTEMS Head Office and Production

Desselgem (Belgium)



UNILIN MULTIPRÉ Sales Office and Production

*Nieuwerkerk
(Netherlands)*



UNILIN SYSTEMS Sales Office

*Rosny-Paris
(France)*



UNILIN SYSTEMS Production

*Castelsarrasin
(France)*



INTRODUCTION



The UNILIN Group

UNILIN began producing flax and chipboard in 1960.

Four decades later, UNILIN is the Benelux countries' market leader in the production of wood-based panels. As a result of its intensive policy of vertical integration, the company has earned a place among Europe's largest producers of chipboard, MDF, melamine-faced chipboard and MDF shelving, sofformed and postformed shelving, structural insulated roof panels, and laminate flooring.

UNILIN employs a staff of over 2300 in 12 production facilities.

As an ISO 9002 certificated company, UNILIN places reliability at the forefront of its commercial philosophy.

UNILIN has sales offices and production plants throughout Europe and in the USA, and exports its products to more that 120 countries via its four business units:

- **UNILIN Systems**
Production for the construction industry of structural insulated roof systems.
- **UNILIN Flooring**
Production of QUICK STEP laminated floors, world famous with the 'click system'.
- **UNILIN Decor**
Production of melamine laminated chipboards with many sales outlets – eg, to the furniture industry.
- **UNILIN**
Production of flax and wood chipboards (since 1960) and MDF boards (since 1999).



SALES PARTNER

Milbank Roofs was established by the Milbank family who also own Milbank Floors, Milbank Trucks and Swedish Window Company.



Milbank Roofs is the UK importer dedicated exclusively to selling UNILIN structural insulated roof panels. We have a wealth of experience dealing with contracts throughout the UK to self builders, contractors, developers, housing associations and PFI contractors on supply only and/or supply and installation basis.

Milbank roofs is unique in the UK market in offering an in-house installation service. We supply the client with all health and safety method statements, crane lift plans and are fully insured. Our trained installation teams, employed within the Milbank

Group are equipped with fall arrest equipment (airbags/safety nets), and specialist cutting equipment. This knowledge, gained from carrying out the installation ourselves, gives us first hand experience that is invaluable to the client – especially at the design stage.

Other services include delivery by self off load lorries via Milbank Trucks and warehousing in one of our nationwide depots.

With Milbank Roofs and UNILIN's roof panels we offer the best solution for a room in the roof.



UNIPUR PANELS DESCRIPTION

UNIPUR is the ideal roof panel - strong and rigid, light and economical, sophisticated and versatile, pre-finished or ready for decoration, and with a special acoustic panel (UNIPUR AB) for improved interior sound absorption. There is a UNIPUR panel for every application.

UNIPUR structural insulated panels comprise 3 or 4 integral timber rafters fixed to and stabilised by a rigid facing board which also forms the ceiling finish. Between each rafter, a filling of polyurethane foam is sprayed in the factory to an even thickness.

The UNIPUR panels are available in a range of standard depths according to insulation thickness and U-value required.

The panels form an integral part of the roof structure and replace traditional rafters.

These 'all-in-one' panels are easy and very quick to install, and ready to receive the roof covering.

UNIPUR structural insulated panels are suitable for any kind of roof covering - ie, traditional tiles, slates, cement tiles, felt roofing, zinc, etc.

Their energy performance is not affected by high wind.

They are equally suitable for refurbishment and new-build, and have a lifetime warranty.

They fully comply with all European standards for Quality Control and Thermal Performance.

UNILIN systems are suitable for roof pitches from 15° to 60°.



Fast and Easy to build



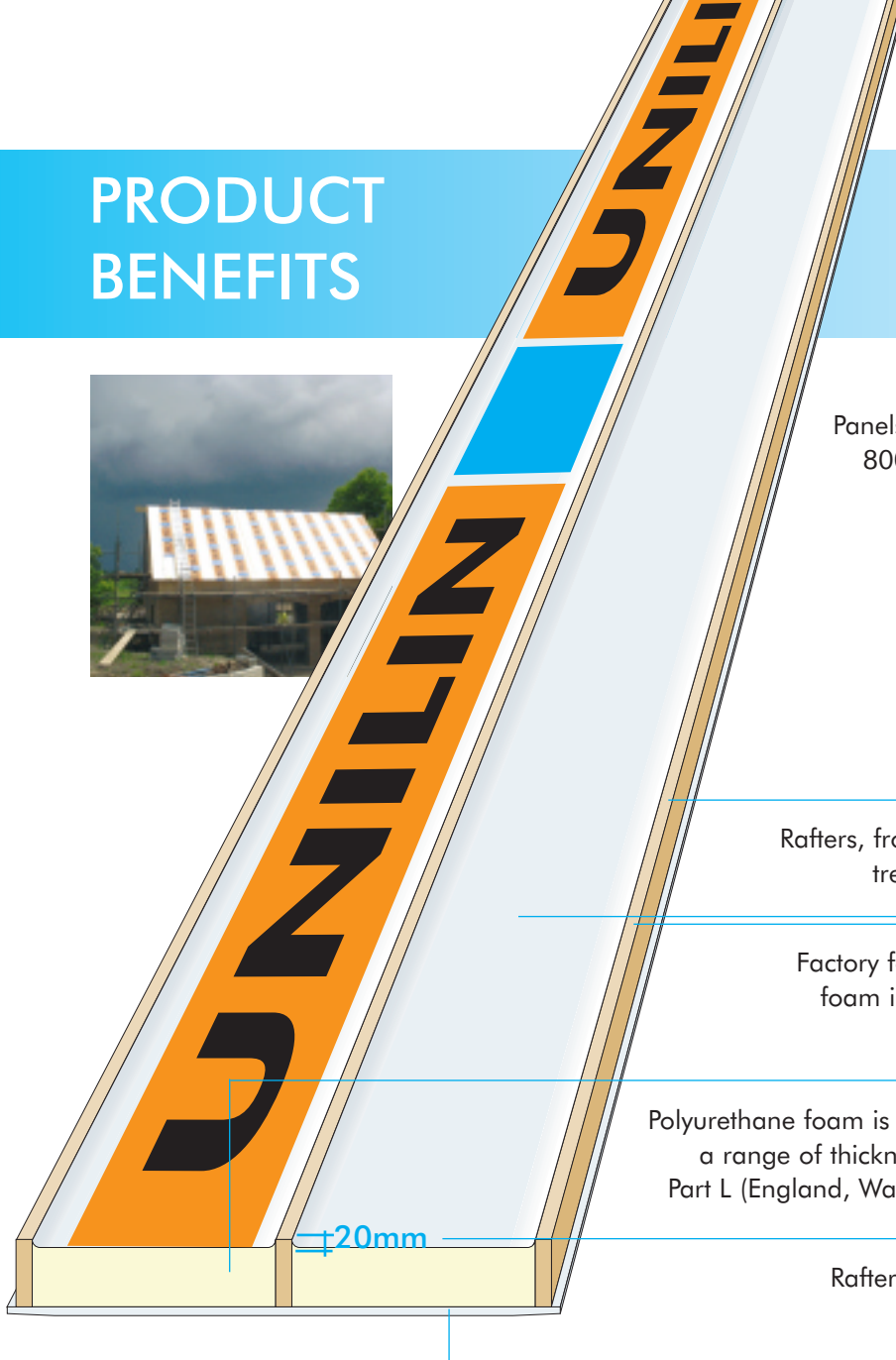
Compliances

UNILIN SYSTEMS invests consistently in the most advanced technologies and quality assured products. As a result, UNILIN ranges easily meet the most stringent European standards and regulations:

UK BBA certificate No: 02/3897
Ireland IAB certificate No: 03/0193
Belgium ATG
Netherlands KOMO
France CSTB
Germany DIN



PRODUCT BENEFITS



Convenient

Panels, 810, 820 or 1210mm wide and up to 8000mm long, are easy to cut and handle.

Easy to install

With basic tools and no need for specialist installers, panels can be fixed quickly and efficiently.

Weathering

Panels are completely watertight and weather resistant.

Durability

Rafters, from sustainable sources, are preservative treated against fungal growth and insects.

Secure and stable

Factory formed integral rafters and polyurethane foam insulation create a rigid and solid panel, allowing workers to walk on it safely.

Thermal insulation

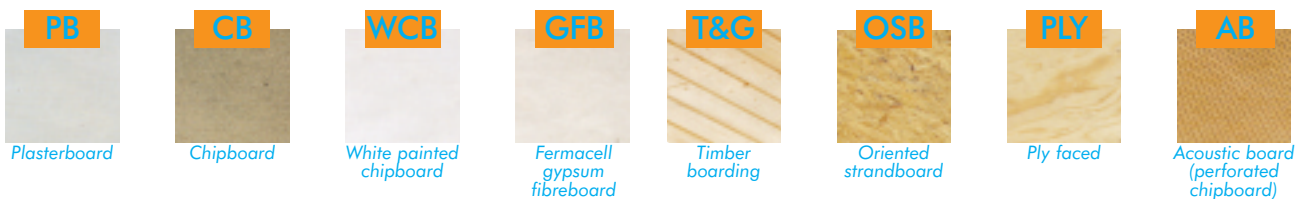
Polyurethane foam is sprayed evenly in the factory, to achieve a range of thicknesses (50 to 170mm) that complies with Part L (England, Wales and Ireland) of Building Regulations.

Ventilation

Rafters 20mm minimum above the insulation, providing a natural ventilation gap.

Aesthetic

A large range of ceiling finishes to suit any style.



Incorporation of polyurethane foam insulation is the key to the performance of UNILIN panels. Used for more than 40 years in the construction industry and chosen by numerous industries (ie, automobile, aeronautic), polyurethane foam has a unique combination of high thermal performance, strength, rigidity and excellent adhesion.

Benefits of polyurethane foam:

- Excellent U-Value Part L compliant
- Remains stable under different climatic conditions
- Durable, does not degrade or rot
- Easy to apply to an even thickness
- Water-resistant
- HCFC-free and CFC-free, ozone friendly
- Prevents fungal, insect and vermin attack

Performance of UNILIN polyurethane foam (PUR)	
Thermal conductivity*	0.025 W/mK
Compressive strength	0.20 N/mm ²
Density	30 kg/m ³
Liquid absorption capacity	5.5 vol%

* Aged thermal conductivity value

PRODUCT BENEFITS

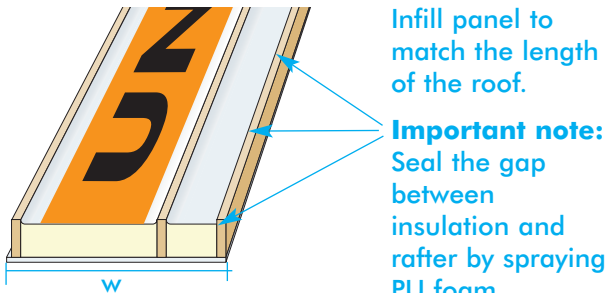
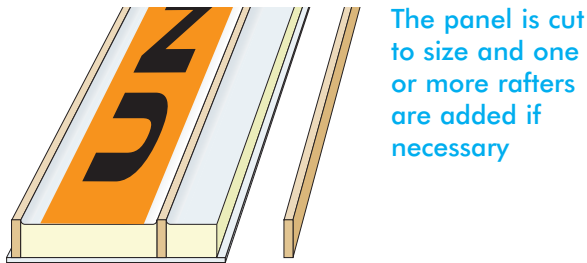
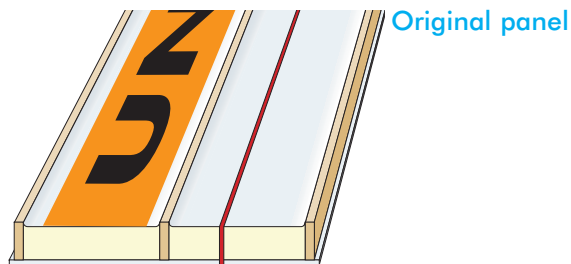
UNILIN Cutting Services

UNIPUR panels can be produced in non standard widths to fit the roof length.

To allow UNILIN to create your infill panels, you will need to specify the width (w) of the infill panels.



UNILIN will cut your panels to fit your gutter and ridge. You will need to specify:

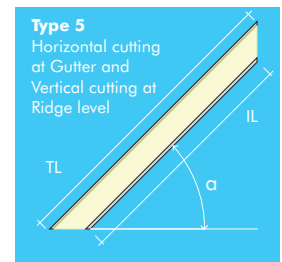
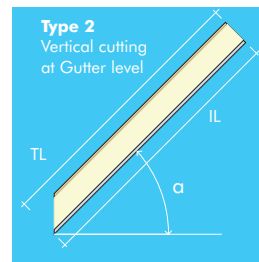
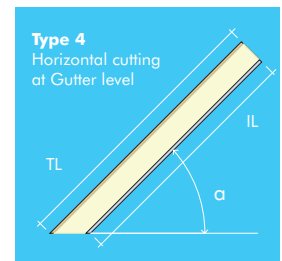
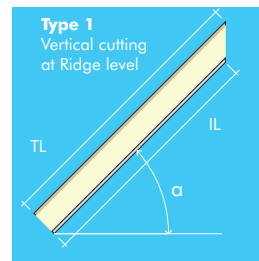
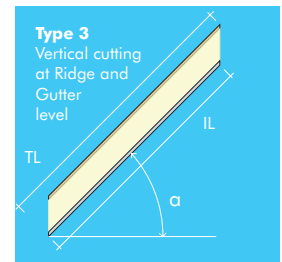


Original panel

The panel is cut to size and one or more rafters are added if necessary

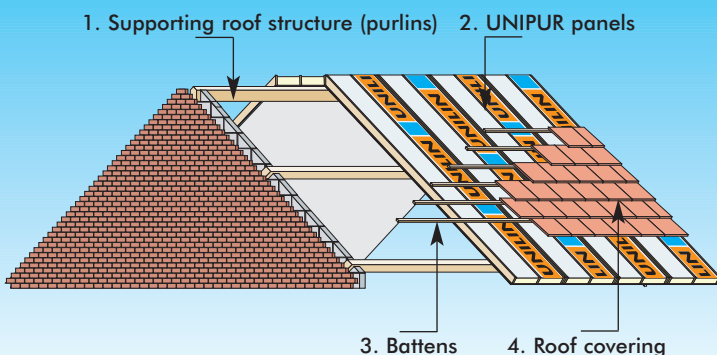
Infill panel to match the length of the roof.
Important note: Seal the gap between insulation and rafter by spraying PU foam.

- The Cutting Type number (Type 1, 2, 3, 4 or 5)
 - The Total Length, TL in mm
 - The Internal Length, IL in mm
 - The slope angle, α (please specify α° , in degrees)
- Other cutting angles on demand.

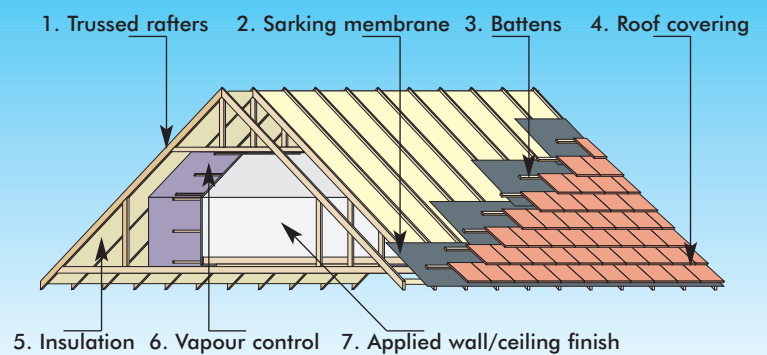


Comparison with traditional roof

UNIPUR Roof Panels



Traditional Roof



UNIPUR PRODUCT SUMMARY

p.8 UNIPUR PB

Faced with moisture resistant plasterboard - ideal and economical roof panel

p.9 UNIPUR GFB

Faced with Fermacell gypsum fibreboard - non flammable with high fire rating

p.10 UNIPUR CB and WCB

Faced with natural or white painted chipboard - strong and rigid panel for many situations

p.11 UNIPUR T&G and T&G+

Faced with solid timber boarding - sophisticated labour saving finish available in two boarding widths

p.12 UNIPUR OSB

Faced with oriented strandboard - light and economical

p.13 UNIPUR PLY

Faced with ply - ready for decoration

p.14 UNIPUR AB

Faced with acoustic perforated chipboard for improved interior sound absorption





Plasterboard faced - the ideal and economical roof panel

UNIPUR PB is a self-supporting roof panel, 820mm wide. Length to order (min 2000 max 8000mm).

13mm water-resistant, tapered edge plasterboard with high compression strength (20N/mm²), glued and fixed to three timber rafters.

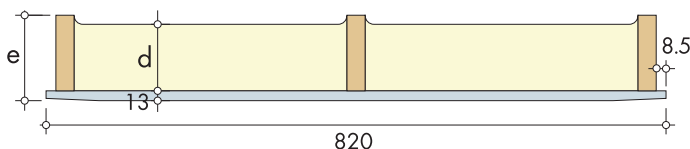
The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness and structural requirements.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.

NOTE: For panels with rafters height of 170 and 195 mm, it is recommended to skim the plasterboard.



UNIPUR PB Specifications

Type		UNIPUR PB 120/145	UNIPUR PB 120/170	UNIPUR PB 140/170	UNIPUR PB 150/170	UNIPUR PB* 150/195	UNIPUR PB* 160/195	UNIPUR PB* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	3	3	3	3	3	3	3
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" (mm)	158	183	183	183	208	208	208
	Weight (kg/m ²)	25.2	26.6	27.2	27.4	31.5	31.8	32.2
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span***(mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300

UNIPUR GFB

Faced with Fermacell gypsum fibreboard - non flammable with high fire rating

UNIPUR GFB is a self-supporting roof panel, 820mm wide and 2000 to 8000mm long.

12.5mm water-resistant Fermacell gypsum fibreboard fixed to three timber rafters. The gypsum fibreboard is non-combustible, class 'O' to Building Regulations.

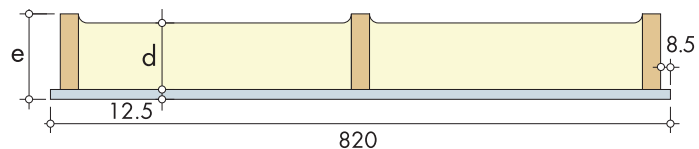
The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness and structural requirements.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.

NOTE: For panels with rafters height of 170 and 195 mm, it is recommended to skim the plasterboard.



UNIPUR GFB Specifications

Type		UNIPUR GFB 120/145	UNIPUR GFB 120/170	UNIPUR GFB 140/170	UNIPUR GFB 150/170	UNIPUR GFB* 150/195	UNIPUR GFB* 160/195	UNIPUR GFB* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	3	3	3	3	3	3	3
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" (mm)	157.5	182.5	182.5	182.5	207.5	207.5	207.5
	Weight (kg/m ²)	29.1	30.6	31.1	31.4	35.5	35.8	36.2
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span***(mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300

UNIPUR CB and WCB



Chipboard faced - a strong and rigid roof panel for many situations. White painted chipboard available

UNIPUR CB is a self-supporting roof panel 2000 to 8000mm long. It is available in two widths, 810 or 1210mm.

UNIPUR WCB is 2000 to 6650mm long. It is available in two widths, 820 or 1210mm.

16mm water resistant grade chipboard (12mm to order) or 12mm white painted chipboard, fixed to three or four timber rafters.

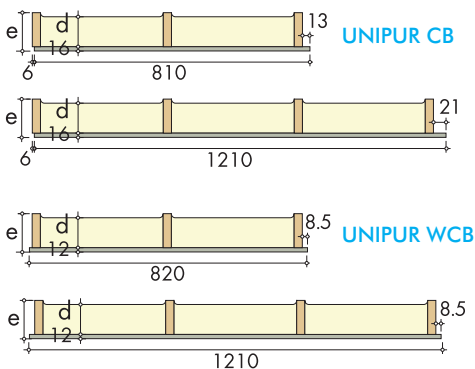
On request, the edges of the CB chipboard panel can be chamfered and/or its surface grooved. The internal joints of the WCB are covered with a white PVC profile provided.

The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness and structural requirements.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.



UNIPUR CB / WCB Specifications#

Type		UNIPUR CB 120/145	UNIPUR CB 120/170	UNIPUR CB 140/170	UNIPUR CB 150/170	UNIPUR CB* 150/195	UNIPUR CB* 160/195	UNIPUR CB* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	3/4	3/4	3/4	3/4	3/4	3/4	3/4
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" *(mm)	161	186	186	186	211	211	211
	Weight *(kg/m ²)	25.6	27.0	27.5	27.8	31.9	32.2	32.6
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span*** (mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

#WCB panels: Specifications are the same except thicknesses and weights; please contact us for more information.

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300

UNIPUR T&G and T&G+

Solid timber boarding on 12mm chipboard – a sophisticated, pre-finished roof panel

UNIPUR T&G and T&G+ are a self-supporting roof panel, 820mm wide and 2000 to 8000mm long.

10mm or 13.5mm pine tongue-and-groove boards with a backing of 12mm chipboard, fixed to three timber rafters.

Available in two boarding widths, UNIPUR T&G: 100mm (9mm thick) as a standard or on request UNIPUR T&G+: 135mm (13mm thick).

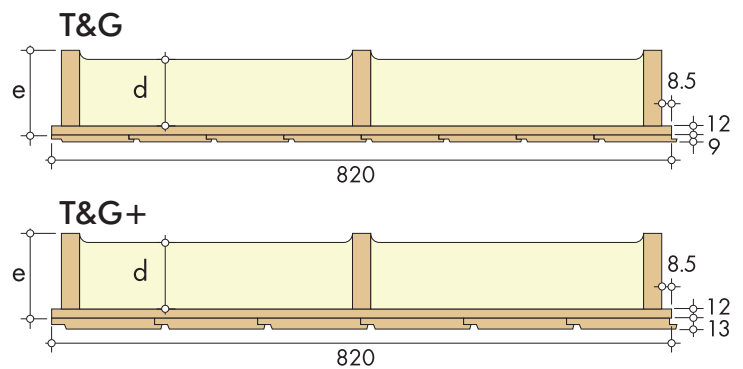
The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.

Please specify the required timber boarding width



UNIPUR T&G and T&G+ Specifications#

Type		UNIPUR T&G 120/145	UNIPUR T&G 120/170	UNIPUR T&G 140/170	UNIPUR T&G 150/170	UNIPUR T&G* 150/195	UNIPUR T&G* 160/195	UNIPUR T&G* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	3	3	3	3	3	3	3
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" *(mm)	166	191	191	191	216	216	216
	Weight *(kg/m ²)	28	29.4	29.9	30.2	34.3	34.6	35.0
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span*** (mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

#T&G+ panels: Specifications are the same except thicknesses and weights; please contact us for more information.

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300



Faced with oriented strandboard - a light and economical roof panel

UNIPUR OSB is a self-supporting roof panel, 1210mm wide and 2000 to 8000mm long.

12mm water-resistant, OSB board fixed to four timber rafters.

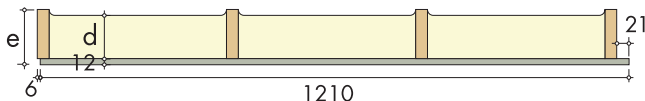
On request, the edges of the OSB board can be chamfered.

The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness and structural requirements.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.



UNIPUR OSB Specifications

Type		UNIPUR OSB 120/145	UNIPUR OSB 120/170	UNIPUR OSB 140/170	UNIPUR OSB 150/170	UNIPUR OSB* 150/195	UNIPUR OSB* 160/195	UNIPUR OSB* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	4	4	4	4	4	4	4
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" (mm)	157	182	182	182	207	207	207
	Weight (kg/m ²)	22.2	23.6	24.1	24.4	28.5	28.8	29.2
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span***(mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300

UNIPUR PLY

Ply faced - a roof panel ready for decoration

UNIPUR PLY is a self-supporting roof panel, 1210mm wide and 2000 to 8000mm long.

12mm water-resistant plywood board (minimum 7 layers), fixed to four timber rafters.

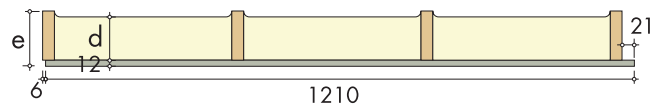
On request, the edges of the plywood board panel can be chamfered.

The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.



UNIPUR PLY Specifications

Type		UNIPUR PLY 120/145	UNIPUR PLY 120/170	UNIPUR PLY 140/170	UNIPUR PLY 150/170	UNIPUR PLY* 150/195	UNIPUR PLY* 160/195	UNIPUR PLY* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	4	4	4	4	4	4	4
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" (mm)	157	182	182	182	207	207	207
	Weight (kg/m ²)	22.4	23.8	24.3	24.6	28.7	29.0	29.3
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span*** (mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300

UNIPUR AB



Acoustic perforated chipboard for improved interior sound absorption

UNIPUR AB is a self-supporting roof panel, 820mm wide and 2000 to 8000mm long.

19mm water-resistant, fire-resistant perforated chipboard (standard length 3000mm or 4100mm), fixed to three timber rafters. Can be supplied painted white on request. Visible horizontal joints should be carefully positioned.

Acoustic perforations are 5mm diameter and 8mm deep. The distance between each perforation is 15mm.

The table shows the absorption coefficients for UNIPUR AB.

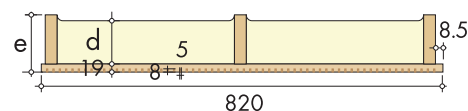
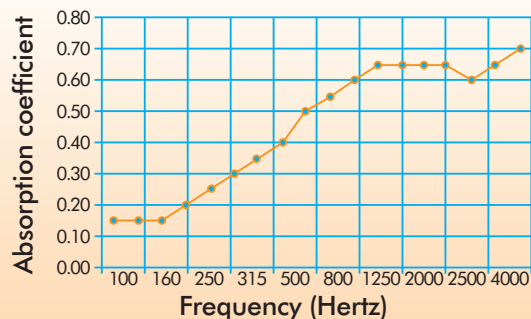
The space between the rafters is filled with polyurethane foam (PUR).

Rafter depth depends on insulation thickness and structural requirements.

The rafters are glued and fixed with 6 galvanised nails per running metre.

Panels can be supplied with ends cut to an angle at ridges and/or eaves level. Infill panels on request.

Absorption Performance for UNIPUR AB



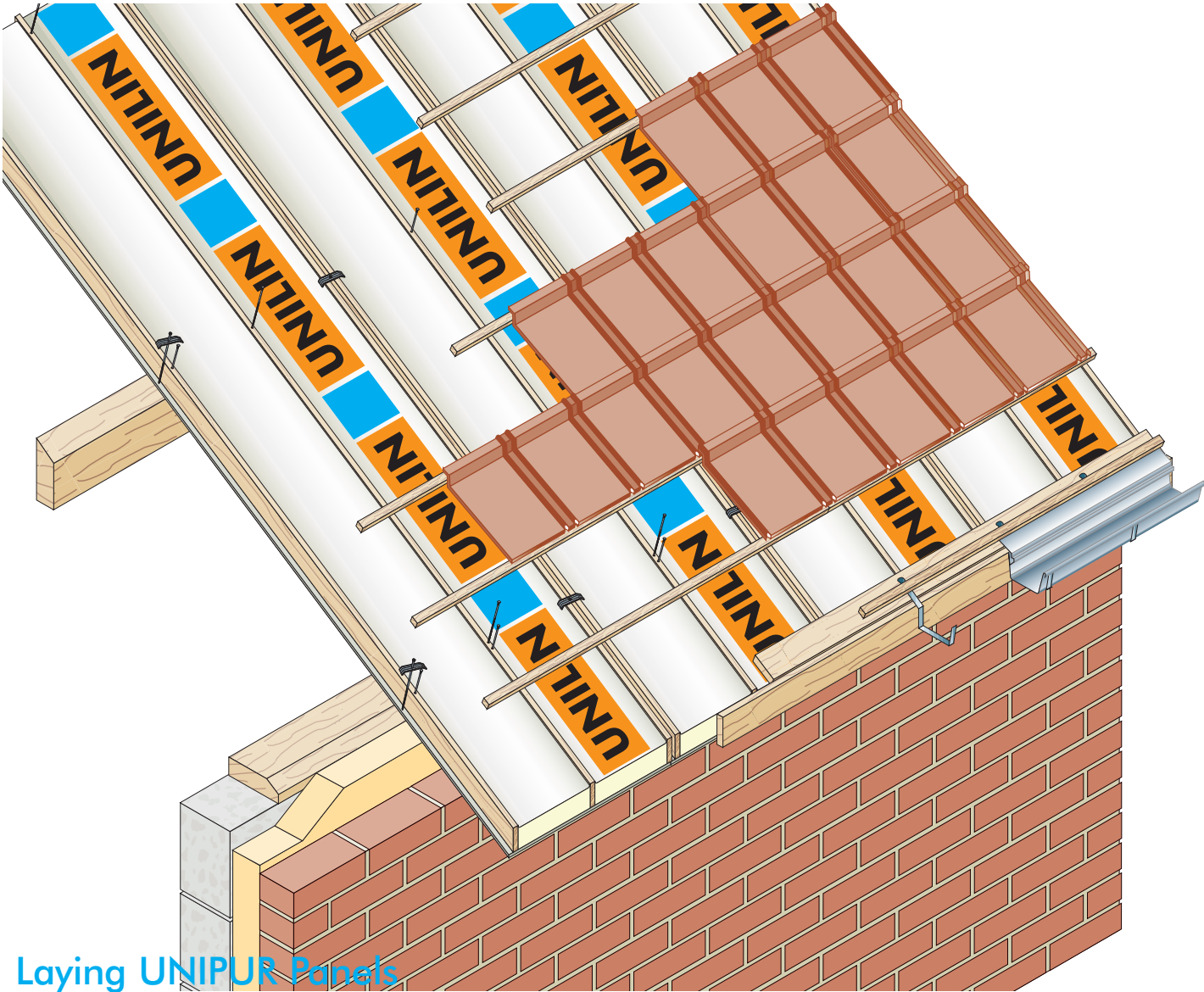
UNIPUR AB Specifications

Type		UNIPUR AB 120/145	UNIPUR AB 120/170	UNIPUR AB 140/170	UNIPUR AB 150/170	UNIPUR AB* 150/195	UNIPUR AB* 160/195	UNIPUR AB* 175/195
Insulation thickness "d" (mm)		120	120	140	150	150	160	175
Rafters	Number	3	3	3	3	3	3	3
	Height x Width (mm)	145 x 24	170 x 24	170 x 24	170 x 24	195 x 30	195 x 30	195 x 30
Panel	Thickness "e" (mm)	164	189	189	189	214	214	214
	Weight (kg/m ²)	24.3	25.7	26.3	26.6	30.7	30.9	31.3
	U-value (W/m ² K)	0.24	0.24	0.21	0.20	0.20	0.18	0.17
Maximum centres between anchor points****	1 span**(mm)	2700	3200	3200	3200	3900	3900	3900
	Multi-span***(mm)	3100	3600	3600	3600	4600	4600	4600
Maximum horizontal eaves projection without support (mm)	total load 150 kg/m ²	600	800	800	800	800	800	800
	total load 200 kg/m ²	550	600	600	600	600	600	600

*Special order **2 anchor points ***3 anchor points minimum

****calculations based on ENV and DD ENV (National Application Document for UK) Pitch 45° - Snow load 80 kg/m² - Wind load 128 kg/m² - Deflection 1/300

UNIPUR PANELS INSTALLATION



Laying UNIPUR Panels

UNIPUR panels are laid following the roof slope, directly onto the purlins.

The purlins should be firmly fixed in the walls and/or on the supporting trusses so they are not dislodged during installation of the UNIPUR panels.

Asymmetrical panels (eg, UNIPUR T&G, UNIPUR CB) must be laid from left to right. Symmetrical panels (eg, UNIPUR PB) can be laid either way.

We advise the use of a crane clamp for speed and safety



Please consult supplier for additional technical details

UNIPUR PANELS

Mechanical Fixing

Typical fixing details are listed below, for more specific information please contact the supplier.

Timber structure

UNIPUR panels are fixed using a combination of galvanised helically screwed nails and screwbolts with clamping plates.

Helically screwed nails

- **At ridge and intermediate beams:**
UNIPUR panels with 3 rafters, 810 or 820mm wide (detail 1a) are fixed with one helically screwed nail on all rafters.
A 1210mm UNIPUR panel with 4 rafters (detail 1b) is fixed with one helically screwed nail per rafter at every purlin intersection.
- **At wall plate level:**
Additional fixings at wall plate with 2 helically screwed nails on the central rafters and one on the outside rafters (detail 2).

Screwbolts with clamping plates

- At every junction of two panels and on the supporting purlin or wall plate (optional but please consult supplier for more information).

Fixings dimensions (mm)

Rafter height	Helically screwed nails	Screwbolts
145	220	230
170	240	250
195	270	270

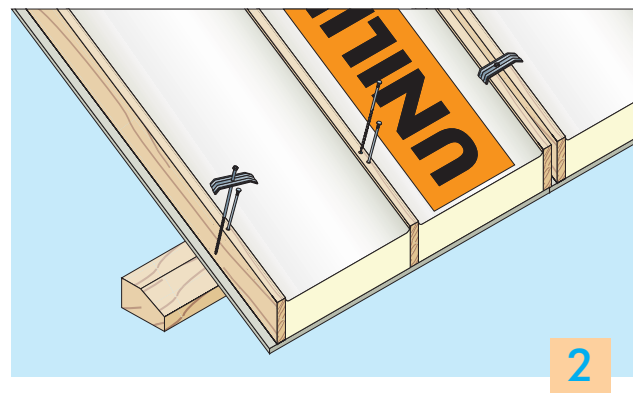
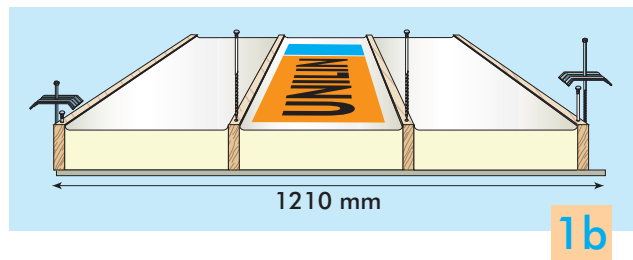
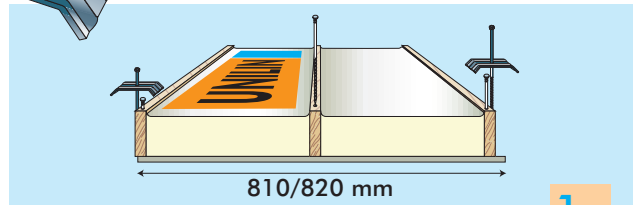
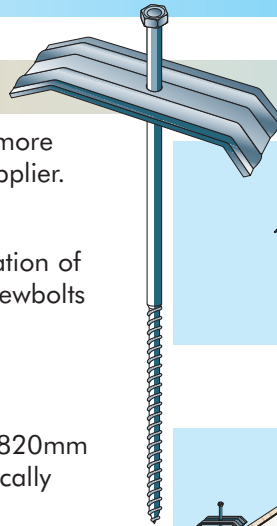
Metal structure

Fix using self-drilling screws.

All fixing holes should be pre-drilled

Screwbolts with clamping plates at junction of 2 panels (bolted between the rafters)

UNIPUR panels are nailed in place



INSTALLATION

External Junctions

Longitudinal junctions

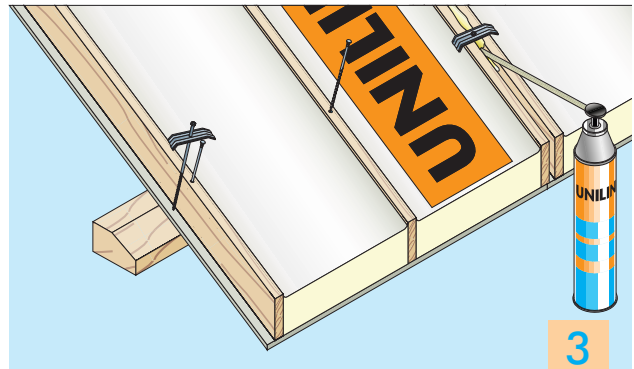
To maintain good thermal insulation, and to create a watertight and airtight structure, the longitudinal junctions must be sealed by spraying polyurethane foam into the joint (see detail 3).

Cross junctions - for long roof slope only

At cross junctions, the end of the UNIPUR panels must always be fixed on a purlin. The bearing length should be minimum 30mm.

A gap should be left between the panels to allow for the spray can nozzle ($\varnothing=5\text{mm}$).

These junctions must be carefully sealed to keep water out, by firstly injecting polyurethane foam and then applying a bead of bitumen sealant (see detail 4).



Specific Points

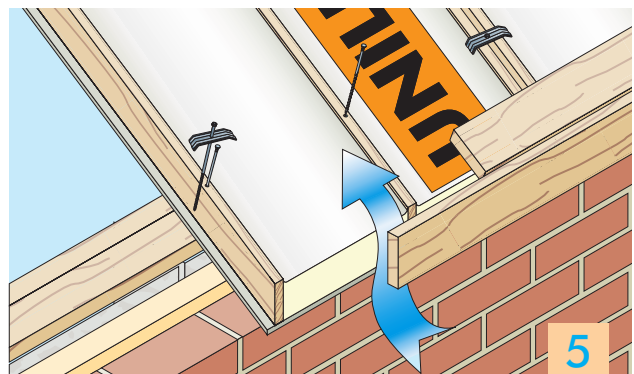
Detailing around gutter, edge, ridge, chimney stack and rooflights must be carried out with care.

Ensure that any trapped water is drained away.

Overhanging gutter detail

A gap should be formed between the UNIPUR panels and the fascia board to permit ventilation and release of trapped water (see detail 5), except when a vapour permeable membrane is used.

The underside of the overhanging panel should be protected against the elements.



Important Considerations

Water, wind and air leakage

Carefully seal all junctions between panels, and between panels and other elements (chimney stack, gutter, walls, abutting buildings, etc).

Vermin and ventilation

Always provide ventilation in accordance with Building Regulations requirements. Appropriate measures should be taken to avoid ingress of insects, etc.

Mould formation

To avoid mould formation on wood facing (ie, ply wood or T&G), it is advisable to keep the building well ventilated and/or to apply the finishing promptly.

Other Products

SW-PU



SW-PU is a sandwich panel incorporating polyurethane foam insulation. Panels are light and versatile, and suitable for roof, wall, dormers and floor. They can be installed following the slope of the roof, or lengthways along the roof slope in refurbishment work.

Description

SW-PU panels are available in different thicknesses to comply with Building Regulations Part L requirements.

The insulation is held between two rafters, which are stabilised by a ceiling board and upper board.

Counter battens (20 x 30mm) can be fixed to the upper board.

Sandwich panels are finished at the eaves with a 21mm thick timber fascia.

Sandwich panels can be supplied with ends cut to an angle at ridges and /or eaves level. Infill panels on request.

Specifications

- Standard width: 1225mm (with integral rafters) – 1200mm without rafters
- Length: 2000 – 8000mm to order

a) Water-resistant upper board: chipboard (3, 8 or 12mm), OSB (12mm), plywood (12mm)

b) Insulation thickness: 105, 120, 130 and 140mm

c) A wide range of ceiling finishes: plasterboard (13mm), Fermacell gypsum fibreboard (12.5mm), OSB (12mm), chipboard (3, 8 or 12mm), white finished chipboard (3, 8 or 12mm), plywood (9mm), T & G (21mm)

Please contact supplier for possible combinations of upper board and ceiling finish

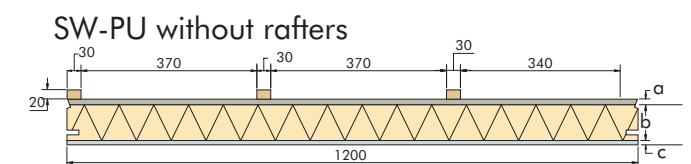
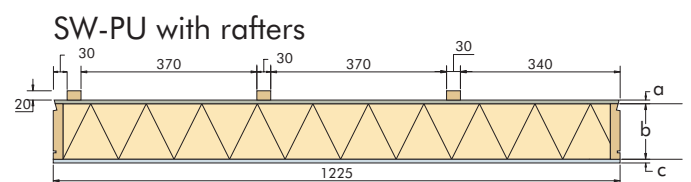
- Maximum centres between anchor points – dependent on panel thickness and surface materials
- Total panel thickness and weight varies according to sandwich panel selected.

NOTE: For other applications (wall panels, dormers, floors, etc) please contact supplier.

SW-PU - Indicative* U-value

Insulation thicknesses (mm)	with 2 rafters (W/m ² K)	without rafters (W/m ² K)
105	0,24	0,22
120	0,21	0,19
130	0,20	0,18
140	0,19	0,17

* Exact value depends on the upper board and ceiling finish board



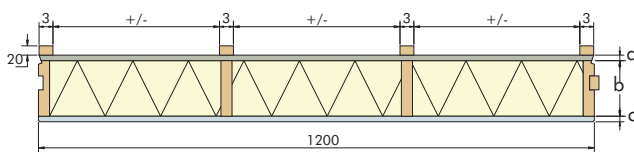
Other Products

SW-MW

SW-MW is a sandwich panel incorporating mineral wool insulation. Panels are rigid and meet stringent requirements for sound insulation, fire rating and large spans – ideal for public buildings.



SW-MW



Description

SW-MW panels are available in different thicknesses to comply with Building Regulations Part L requirements.

The insulation is held between four rafters, which are stabilised by a ceiling board and upper board. Counter battens (20 x 30mm) can be fixed to the upper board.

Sandwich panels can be supplied with ends cut to an angle at ridges and /or eaves level. Infill panels on request.

Specifications

- Standard width: 1200mm (810mm with Fermacell gypsum fibreboard)
- Length: 2000 – 8000mm to order
- a) Water-resistant upper board: chipboard (12mm), OSB (12mm), plywood (12mm)
- b) Insulation thickness: 145, 170 and 195mm
- c) A wide range of ceiling finishes: Fermacell gypsum fibreboard (12.5mm), OSB (12mm), chipboard (12mm), white finished chipboard (12mm), plywood (9mm), T & G (21mm)

Please contact supplier for possible combinations of upper board and ceiling finish

- Maximum centres between anchor points – dependent on panel thickness and surface materials
- Total panel thickness and weight varies according to sandwich panel selected.

NOTE: For other applications (wall panels, dormers, floors, etc) please contact supplier.

SW-MW - Indicative* U-value

Insulation thicknesses (mm)	U-value (W/m ² K)
145	0.24
170	0.21
195	0.19

* Exact value depends on the upper board and ceiling finish board



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