

Hemsec External

50mm to 200mm

Micro rib external insulated wall panels.



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PANEL DATA

Cover width:

1155mm

| Panel Thickness (mm) | Min. Panel Length (m) | Thermal Transmittance U W/M ² K * | Weight Kg/m ² (0.5/0.5) |
|----------------------|-----------------------|--|------------------------------------|
| 50 | 2.4 | 0.39 | 9.60 |
| 80 | 2.0 | 0.25 | 11.00 |
| 100 | 2.0 | 0.20 | 11.60 |
| 125 | 2.0 | 0.16 | 12.50 |
| 150 | 2.0 | 0.13 | 13.40 |
| 175 | 2.0 | 0.11 | 14.40 |
| 200 | 2.0 | 0.10 | 15.70 |

* Thermal transmittance based on a mean thermal conductivity value of 0.02038 W/mK.

SPAN DATA

This is generic data and should be used as guidance only; please have specific wind loads checked via a qualified structural engineer.

| Panel Thickness (mm) | UDL (kN/m ²) * | | | | | | | | | | | | | | |
|----------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | Wall Span L in metres ** | | | | | | | | | | | | | | |
| | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 |
| 50 | 2.22 | 1.49 | 1.02 | 0.72 | 0.52 | - | - | - | - | - | - | - | - | - | - |
| | 1.73 | 1.07 | 0.67 | 0.42 | 0.26 | - | - | - | - | - | - | - | - | - | - |
| 80 | 4.02 | 2.79 | 2.05 | 1.57 | 1.25 | 1.00 | 0.80 | 0.63 | 0.50 | - | - | - | - | - | - |
| | 4.02 | 2.79 | 1.95 | 1.38 | 1.00 | 0.72 | 0.53 | 0.39 | 0.29 | - | - | - | - | - | - |
| 100 | 7.86 | 3.49 | 2.57 | 1.97 | 1.55 | 1.26 | 1.04 | 0.87 | 0.74 | 0.64 | 0.56 | - | - | - | - |
| | 5.03 | 3.49 | 2.57 | 1.96 | 1.55 | 1.26 | 0.93 | 0.71 | 0.55 | 0.42 | 0.33 | - | - | - | - |
| 125 | - | 4.37 | 3.21 | 2.46 | 1.94 | 1.57 | 1.30 | 1.09 | 0.93 | 0.80 | 0.70 | 0.61 | 0.54 | - | - |
| | 6.29 | 4.37 | 3.21 | 2.46 | 1.93 | 1.57 | 1.3 | 1.09 | 0.93 | 0.77 | 0.61 | 0.46 | 0.40 | - | - |
| 150 | - | 5.25 | 3.86 | 2.95 | 2.33 | 1.89 | 1.56 | 1.31 | 1.13 | 0.96 | 0.84 | 0.74 | 0.65 | 0.65 | 0.58 |
| | 7.55 | 5.25 | 3.86 | 2.95 | 2.33 | 1.89 | 1.56 | 1.32 | 1.12 | 0.96 | 0.84 | 0.74 | 0.65 | 0.53 | 0.44 |
| 175 | - | 6.13 | 4.50 | 3.45 | 2.72 | 2.21 | 1.82 | 1.53 | 1.31 | 1.13 | 0.98 | 0.86 | 0.76 | 0.68 | 0.61 |
| | 8.82 | 6.13 | 4.5 | 3.45 | 2.72 | 2.21 | 1.82 | 1.53 | 1.31 | 1.13 | 0.98 | 0.86 | 0.76 | 0.68 | 0.61 |
| 200 | - | 7.00 | 5.15 | 3.94 | 3.11 | 2.52 | 2.08 | 1.75 | 1.49 | 1.29 | 1.12 | 0.99 | 0.87 | 0.78 | 0.70 |
| | - | 7.00 | 5.15 | 3.94 | 3.11 | 2.52 | 2.08 | 1.75 | 1.49 | 1.29 | 1.12 | 0.99 | 0.87 | 0.78 | 0.70 |

* Pressure/Suction load type.

** Spans specified are not necessarily as per fire test conditions. Refer to the Hemsec 'Fire Rating Matrix' document for further detail, available to download from our website.

All spans are based on single span conditions with 0.5mm internal and external steel faces.

Shaded cells denote dark coloured steels, un-shaded denote light coloured steels.***

Span lengths vary between dark & light colours due to differing UV absorption/reflectivity on the panel face giving varying deflection criteria (see below for Surface Temperature Conditions used in calculations).

*** Please refer to the ECCS document European Recommendations for the Determination of Loads and Actions on Sandwich Panels No136 2015 for examples of temperature loads. This document shows the likely maximum surface temperatures specific colours can have with the full effect of the sunlight. Please also refer to BS EN 14509:2013 page 132 for further details.

Surface Temperature Conditions:

Light coloured steels RG = 40-74 T outside face = +65°C

Dark coloured steels RG = 8-39 T outside face = +80°C

(Where RG is the degree of reflection relative to magnesium oxide = 100%)

Note:

- Values have been calculated in accordance with BS EN 14509 : 2013 self-supporting double skin metal faced insulation panels. Also in accordance with European recommendations for design of composite sandwich panels ECCS Doc 115 : 2001.
- The following deflection limits have been used. Pressure and Suction L/100.
- Sufficient numbers of fasteners (through fixed) are required to secure panels to the structural frame. Typically 3 no. per panel end and at purlin/primary steel positions as quantified by a structural engineer.
- The minimum bearing width on panel ends to be 100mm per end, please consult Hemsec for bearing widths less than this.
- Wind loads are working loads (unfactored).

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INSULATION CORE

PIR Polyisocyanurate closed cell insulation HCFC free zero ODP rated core.

PANEL JOINT

Tongue and groove panel joint achieves excellent vapour resistance and thermal performance.

AIR LEAKAGE

Panel joint air-tightness = 0.01 m³/m²/hr at 50 Pa when tested to EN 12114 in accordance with BS EN 14509: 2013.

MATERIALS - STEEL

| Panel Finishes | Manufacturer * | Internal Steel Face | External Steel Face | Steel Substrate | Paint Thickness μm (minimum) | Laminate Thickness μm (nominal) | Plastisol Thickness μm (nominal) |
|----------------|---------------------------------------|---------------------|---------------------|-----------------|---|--|---|
| Ultra | Colorcoat HPS200 Ultra® by Tata Steel | ✓ | ✓ | 0.5mm Galvalloy | - | - | 200 |
| Prisma | Colorcoat Prisma® by Tata Steel | ✓ | ✓ | 0.5mm Galvalloy | 50 | - | - |
| Colorcoat LG | Colorcoat® by Tata Steel | ✓ | ✓ | 0.5mm Z275 HDG | - | - | 200 |
| PVDF | Various | ✓ | ✓ | 0.5mm | 27 | - | - |
| Polyester | Various | ✓ | | 0.5mm Z225 HDG | 25 | - | - |
| Primer / Liner | Various | ✓ | | 0.5mm Z225 HDG | 7 | - | - |

* Other brands are available.

Facing Profile Options:

External: • Micro rib (as standard)

Internal: • 100 Rib • Smooth

FIRE

Reaction to fire:

Polyester coated PIR sandwich panels have a performance in accordance with EN13501-1:2007 + A1:2009 of B s2 d0.

Plastisol coated PIR sandwich panels have a performance in accordance with EN13501-1:2007 + A1:2009 of C s3 d0.

For reaction to fire on other panel finishes please contact Hemsec.

Resistance to fire:

LPCB LPS 1181 Part 1 Cert:558b:

100-175mm external wall thicknesses achieve EXT-A30 with 60 minutes integrity and 30 minutes insulation. Maximum unsupported span 4m (walls). For detailed information visit www.redbooklive.com

BS EN 13501-2: 2016

Please refer to the Hemsec 'Fire Rating Matrix' document for further detail relating to direct field of application.

For further fire related information, please refer to the Hemsec 'Fire Rating Matrix' document, available to download from our website.

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ACOUSTICS

All panels have a predicted figure weighted sound reduction $R_w = 26\text{dB}$.

QUALITY & DURABILITY

Hemsec metal faced panels are manufactured from high quality materials, using state of the art production equipment to rigorous quality control standards (complying with an approved BS EN ISO 9001:20015 QMS standard) ensuring long-term durability and service life.

GUARANTEE

Hemsec Manufacturing Ltd offers a 25 year panel performance guarantee.

This is subject to project specific information. Please contact Hemsec for further details.

PACKAGING

Hemsec metal faced composite insulated panels are stacked horizontally with protective jiffy foam laid between the ends of each panel; they are then wrapped in polythene and strapped on top of a 3mm hardboard sheet to prevent forklift damage and to protect against the weather. The pack is supported by a number of polystyrene bearers, (150mm x 100mm), regularly spaced under the hardboard to keep the panels elevated from the floor avoiding dirt and possible damage.

The number of panels in each pack depends on panel length and weight. Typical pack height is 1100mm.

| Panel Thickness | 50mm | 80mm | 100mm | 125mm | 150mm | 175mm | 200mm |
|-----------------------|------|------|-------|-------|-------|-------|-------|
| No. panels/pack (max) | 10 | 10 | 9 | 7 | 6 | 5 | 4 |

Maximum pack weight is 1000kg. Each pack is labeled with project information and customer panel references.

DELIVERY & SITE PROCEDURES

All deliveries are made by road transport to the project site, subsequent offloading and storage is the responsibility of the customer. Please refer to the Hemsec 'Panel Care Instructions' document for further detail, available to download from our website.

Indicative drawing details are available on request from Hemsec.