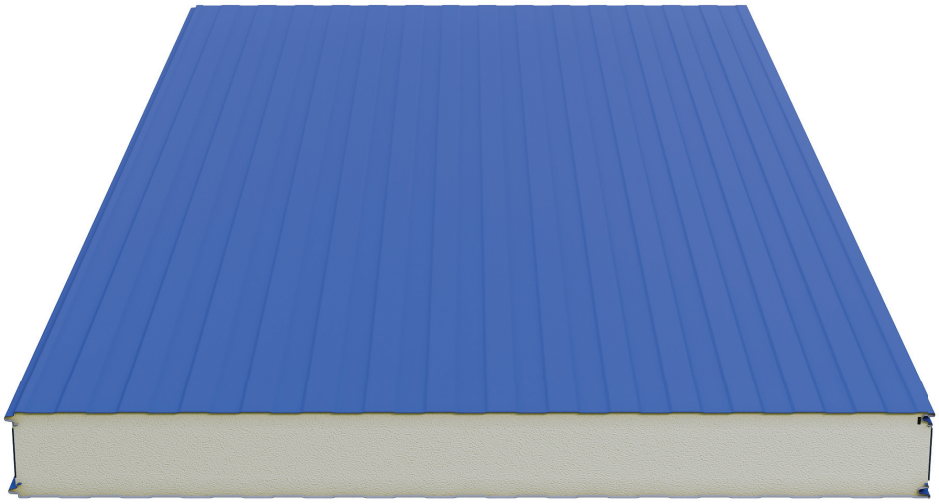
WD-UK Wall Panel



Product Information

In addition to the durable attachment it provides with double sided tongue-in-groove sections, the fast assembly capability make these panels preferable for prefabricated buildings. The ability to use them both laterally and vertically provides assembly flexibility and good solutions for designers.

Production Plant

UK

Product Application

- Industrial Buildings
- Military Buildings
- Public Buildings
- Agricultural Buildings
- Sports Facilities
- Construction Site Buildings
- Silos
- Hypermarkets
- Shopping Centers
- Storehouse Halls
- Administrative Buildings

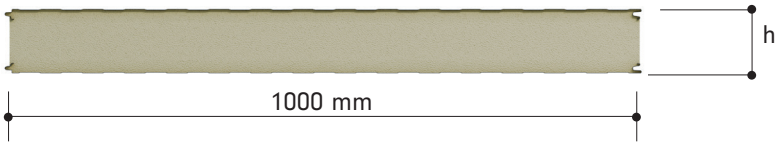
and all other concrete structures with steel or prefabricated load bearing systems.

EN.PRR.N4.01

Performance Advantages

Provides ideal thermal insulation with thinner panels compared to alternative insulation materials.
Fast and problem-free assembly saves time and labor.
The colorful surface eliminates the need for additional coatings like plaster and paint.
Color options available in the RAL catalogue.
Surface paint options available according to application (Polyester, PvdF, Plastisol, PVC).

Measurements



h: 40-50-60-80-100-120-140-160-180-200 mm

Modular Width	1,000 mm
Minimum Length	2 meters
Maximum Length	Depends on transport conditions.

SmartCore – PIR Properties

Density (EN 1602)	PIR: 40 (± 2) kg/m³ & SmartCore: 41 (± 2) kg/m³
Thickness	40-50-60-80-100-120-140-160-180-200 mm
Thermal Conductivity (EN 13165)	PIR: 0.022-0.024 & SmartCore: 0.018-0.019 W/mK
Reaction to Fire (13501)	PIR: B-s2,d0 & SmartCore: B-s2,d0

Thermal Conductivity Table for SmartCore Panels

Panel Thickness	U Thermal Conductivity (W/m²K)	R Thermal Conductivity (m²K/W)	R Thermal Conductivity (ft2 °F h/Btu)
40 mm	0,52	2,39	13,58
50 mm	0,42	2,95	16,74
60 mm	0,36	3,50	19,89
80 mm	0,24	4,61	26,20
100 mm	0,19	5,73	32,51
120 mm	0,15	6,84	38,82
140 mm	0,13	7,95	45,13
160 mm	0,11	9,06	51,44
180 mm	0,10	10,17	57,75
200 mm	0,09	11,28	64,05

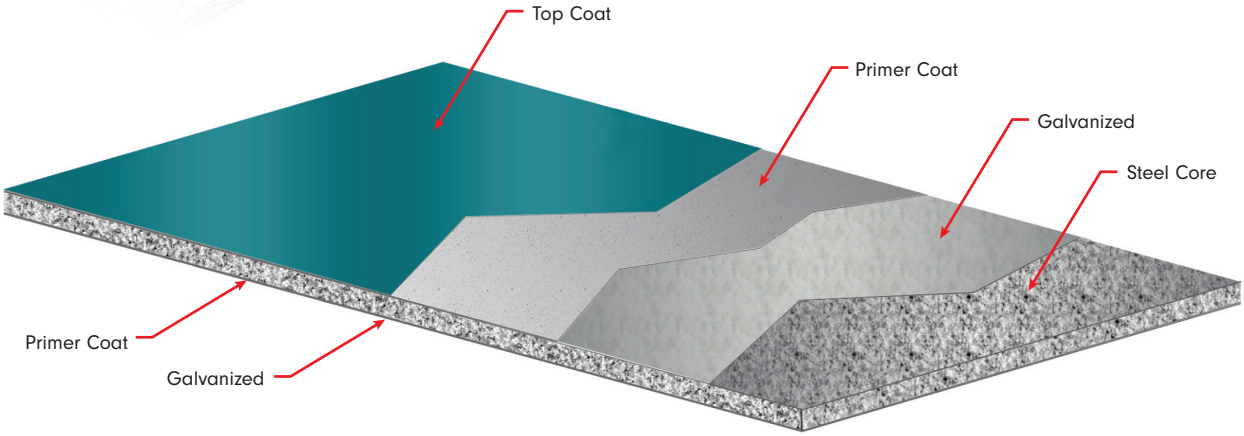
The relevant values were calculated based on a value of 0.018 W/m²K.

Thermal Conductivity Table for PIR Panels

Panel Thickness	U Thermal Conductivity (W/m²K)	R Thermal Conductivity (m²K/W)	R Thermal Conductivity (ft2 °F h/Btu)
40 mm	0,63	1,99	11,29
50 mm	0,51	2,44	13,87
60 mm	0,43	2,90	16,45
80 mm	0,29	3,81	21,61
100 mm	0,23	4,72	26,77
120 mm	0,19	5,62	31,94
140 mm	0,16	6,53	37,10
160 mm	0,14	7,44	42,26
180 mm	0,12	8,35	47,42
200 mm	0,11	9,26	52,58

The relevant values were calculated based on a value of 0.022 W/m²K.

Metal Surfaces



Prepainted Galvanized Steel Surface

Metal Type	Prepainted Galvanized Steel
External Facing Thickness	0.50-0.80 mm
Internal Facing Thickness	0.40-0.80 mm
Thickness Tolerance (EN 10143)	Nominal
Steel Quality (EN 10327)	Grade (S220GD+Z, S250GD+Z, S280GD+Z, S320GD+Z, S350GD+Z)
Paint Type	Polyester, PvdF, Plastisol

Tolerance Values

Panel Length	Panel Thickness	Panel Cover Width	Rectangularity
If L < = 3,000 mm ± 5 mm If L > 3,000 mm ± 10 mm	D ≤ 100 mm ± 2 mm	± 2 mm for all profiles	s ≤ 0.6% of the nominal cover thickness (w). / (Width x 0.006)

Standard Package

Thickness (mm)	40	50	60	80	100	120	140	160	180	200
Quantity	20	18	14	10	9	8	7	6	5	4

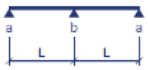
Joint Details

WD WALL (PIR) PANEL LOAD SPAN TABLE

SINGLE SPAN

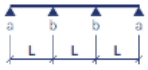
Core Thickness (mm)	Load Type kN/m²	Span length (L) (m)															
		1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
40	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	3,73	2,59	1,90	1,45	1,15	0,94	0,77	0,65	0,55	0,48	-	-	-	-	-	-
	Suction (kN/m²)	-2,88	-2,00	-1,47	-1,12	-0,90	-0,72	-0,60	-0,50	-0,43	-0,37	-	-	-	-	-	-
50	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	4,69	3,26	2,39	1,83	1,45	1,17	0,98	0,82	0,70	0,60	0,52	-	-	-	-	-
	Suction (kN/m²)	-3,63	-2,52	-1,85	-1,42	-1,12	-0,91	-0,75	-0,63	-0,54	-0,46	-0,42	-	-	-	-	-
60	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	5,66	3,93	2,89	2,21	1,74	1,41	1,17	0,99	0,84	0,72	0,63	0,55	0,49	0,44	-	-
	Suction (kN/m²)	-4,38	-3,04	-2,23	-1,71	-1,35	-1,09	-0,91	-0,76	-0,65	-0,56	-0,49	-0,43	-0,38	-0,34	-	-
70	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	6,62	4,60	3,38	2,59	2,04	1,65	1,37	1,15	0,99	0,85	0,74	0,65	0,57	0,51	-	-
	Suction (kN/m²)	-5,13	-3,56	-2,61	-2,00	-1,58	-1,28	-1,06	-0,90	-0,76	-0,66	-0,57	-0,50	-0,44	-0,40	-	-
80	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	7,59	5,27	3,87	2,96	2,34	1,89	1,57	1,31	1,12	0,97	0,85	0,74	0,66	0,59	0,53	-
	Suction (kN/m²)	-5,88	-4,08	-3,00	-2,29	-1,81	-1,47	-1,21	-1,02	-0,87	-0,75	-0,66	-0,58	-0,51	-0,45	-0,41	-
100	a (mm)	48	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	9,52	6,61	4,86	3,72	2,94	2,38	1,96	1,65	1,41	1,21	1,05	0,94	0,83	0,74	0,66	0,60
	Suction (kN/m²)	-7,37	-5,12	-3,76	-2,88	-2,27	-1,84	-1,52	-1,28	-1,09	-0,95	-0,82	-0,72	-0,64	-0,57	-0,51	-0,46
120	a (mm)	60	48	41	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	11,45	7,95	5,84	4,47	3,53	2,86	2,36	1,99	1,69	1,46	1,27	1,11	1,11	0,89	0,80	0,72
	Suction (kN/m²)	-8,86	-6,16	-4,52	-3,46	-2,73	-2,21	-1,83	-1,54	-1,31	-1,13	-0,99	-0,87	-0,77	-0,69	-0,62	-0,56
150	a (mm)	87	65	51	45	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	14,35	9,96	7,32	5,61	4,43	3,59	2,96	2,49	2,12	1,83	1,59	1,40	1,24	1,10	1,10	0,90
	Suction (kN/m²)	-11,11	-7,71	-5,67	-4,34	-3,43	-2,78	-2,29	-1,93	-1,64	-1,41	-1,23	-1,08	-0,97	-0,86	-0,77	-0,70
170	a (mm)	106	80	61	51	45	41	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	16,28	11,30	8,31	6,36	5,03	4,07	3,36	2,83	2,41	2,07	1,81	1,59	1,41	1,25	1,12	1,01
	Suction (kN/m²)	-12,60	-8,75	-6,43	-4,92	-3,89	-3,15	-2,60	-2,19	-1,86	-1,60	-1,40	-1,23	-1,09	-0,98	-0,88	-0,79

DOUBLE SPAN



Core Thickness (mm)	Load Type kN/m²	Span length (L) (m)															
		1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
40	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	3,73	2,59	1,39	0,75	0,38	0,18	-	-	-	-	-	-	-	-	-	-
	Suction (kN/m²)	-2,88	-2,00	-1,38	-0,65	-0,24	-0,04	-	-	-	-	-	-	-	-	-	-
	b (mm)	62	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
50	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	4,69	3,26	2,39	1,26	0,74	0,40	0,21	-	-	-	-	-	-	-	-	-
	Suction (kN/m²)	-3,63	-2,52	-1,85	-1,23	-0,64	-0,27	-0,07	-	-	-	-	-	-	-	-	-
	b (mm)	78	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60
60	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	5,66	3,93	2,89	2,03	1,10	0,69	0,40	0,22	-	-	-	-	-	-	-	-
	Suction (kN/m²)	-4,38	-3,04	-2,23	-1,71	-1,04	-0,59	-0,26	-0,08	-	-	-	-	-	-	-	-
	b (mm)	94	76	63	60	60	60	60	60	60	60	60	60	60	60	60	60
70	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	6,62	4,60	3,38	2,59	1,67	1,67	0,63	0,38	0,22	-	-	-	-	-	-	-
	Suction (kN/m²)	-5,13	-3,56	-2,61	-2,00	-1,58	-1,58	-0,52	-0,24	-0,08	-	-	-	-	-	-	-
	b (mm)	110	89	74	62	60	60	60	60	60	60	60	60	60	60	60	60
80	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	7,59	5,27	3,87	2,96	2,33	1,37	0,91	0,56	0,35	0,21	-	-	-	-	-	-
	Suction (kN/m²)	-5,88	-4,08	-3,00	-2,29	-1,81	-1,37	-0,84	-0,45	-0,21	-0,07	-	-	-	-	-	-
	b (mm)	126	102	84	71	61	60	60	60	60	60	60	60	60	60	60	60
100	a (mm)	49	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	9,52	6,61	4,86	3,72	2,94	2,38	1,51	1,51	0,68	0,44	0,29	-	-	-	-	-
	Suction (kN/m²)	-7,37	-5,12	-3,76	-2,88	-2,27	-1,84	-1,52	-0,99	-0,58	-0,31	-0,15	-	-	-	-	-
	b (mm)	158	127	106	89	77	67	60	60	60	60	60	60	60	60	60	60
120	a (mm)	60	49	42	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	11,45	7,95	5,84	4,47	3,53	2,86	2,36	1,55	1,01	0,75	0,51	0,34	-	-	-	-
	Suction (kN/m²)	-8,86	-6,16	-4,52	-3,46	-2,73	-2,21	-1,83	-1,54	-1,54	-0,66	-0,39	-0,21	-	-	-	-
	b (mm)	194	158	132	112	97	85	74	60	60	60	60	60	60	60	60	60
150	a (mm)	87	65	53	46	41	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	14,35	9,96	7,32	5,61	4,43	3,59	2,96	2,49	1,83	1,25	0,95	0,67	0,47	0,33	-	-
	Suction (kN/m²)	-11,11	-7,71	-5,67	-4,34	-3,43	-2,78	-2,29	-1,93	-1,64	-1,22	-0,88	-0,57	-0,35	-0,19	-	-
	b (mm)	250	204	171	147	128	113	100	90	66	60	60	60	60	60	60	60
170	a (mm)	106	80	61	52	47	42	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	16,29	11,30	8,31	6,36	5,03	4,07	3,36	2,83	2,41	1,73	1,21	0,94	0,68	0,49	0,35	0,25
	Suction (kN/m²)	-12,60	-8,75	-6,43	-4,92	-3,89	-3,15	-2,60	-2,19	-1,86	-1,60	-1,17	-0,87	-0,57	-0,36	-0,21	-0,11
	b (mm)	287	235	198	170	148	131	117	105	95	68	60	60	60	60	60	60

TRIPLE SPAN



Core Thickness (mm)	Load Type kN/m²	Span length (L) (m)															
		1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
40	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	3,73	2,41	1,36	0,92	0,62	0,44	0,33	0,25	0,20	0,16	-	-	-	-	-	-
	Suction (kN/m²)	-2,88	-2,00	-1,35	-0,88	-0,56	-0,37	-0,26	-0,19	-0,14	-0,10	-	-	-	-	-	-
	b (mm)	62	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
50	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	4,69	3,26	2,08	1,27	0,91	0,64	0,47	0,36	0,28	0,22	0,18	-	-	-	-	-
	Suction (kN/m²)	-3,63	-2,52	-1,85	-1,25	-0,87	-0,58	-0,40	-0,29	-0,21	-0,16	-0,12	-	-	-	-	-
	b (mm)	78	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60
60	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	5,66	3,93	2,89	1,79	1,16	0,88	0,64	0,48	0,37	0,30	0,24	0,20	-	-	-	-
	Suction (kN/m²)	-4,38	-3,04	-2,23	-1,71	-1,12	-0,83	-0,57	-0,41	-0,30	-0,23	-0,18	-0,14	-	-	-	-
	b (mm)	94	76	63	60	60	60	60	60	60	60	60	60	60	60	60	60
70	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	6,62	4,60	3,38	2,40	1,55	1,05	0,83	0,62	0,48	0,38	0,30	0,25	0,21	0,18	-	-
	Suction (kN/m²)	-5,13	-3,56	-2,61	-2,00	-1,57	-1,57	-0,78	-0,56	-0,41	-0,31	-0,24	-0,18	-0,15	-0,12	-	-
	b (mm)	110	89	74	60	60	60	60	60	60	60	60	60	60	60	60	60
80	a (mm)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	7,59	5,27	3,87	2,96	1,99	1,35	1,35	0,78	0,60	0,47	0,38	0,31	0,25	0,21	0,18	0,16
	Suction (kN/m²)	-5,88	-4,08	-3,00	-2,29	-1,81	-1,34	-1,34	-0,72	-0,53	-0,40	-0,31	-0,24	-0,19	-0,15	-0,12	-0,10
	b (mm)	126	102	84	71	60	60	60	60	60	60	60	60	60	60	60	60
100	a (mm)	49	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	9,52	6,61	4,86	3,72	2,94	2,05	1,44	1,05	0,87	0,68	0,54	0,44	0,36	0,30	0,26	0,22
	Suction (kN/m²)	-7,37	-5,12	-3,76	-2,88	-2,27	-1,84	-1,44	-1,44	-0,82	-0,62	-0,47	-0,37	-0,29	-0,24	-0,19	-0,16
	b (mm)	158	127	106	89	77	60	60	60	60	60	60	60	60	60	60	60
120	a (mm)	60	49	42	40	40	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	11,45	7,95	5,84	4,47	3,53	2,86	2,03	1,47	1,10	0,92	0,73	0,59	0,49	0,40	0,34	0,29
	Suction (kN/m²)	-8,86	-6,16	-4,52	-3,46	-2,73	-2,21	-1,83	-1,48	-1,05	-0,88	-0,68	-0,53	-0,42	-0,34	-0,27	-0,22
	b (mm)	194	158	132	112	97	85	61	60	60	60	60	60	60	60	60	60
150	a (mm)	87	65	53	47	42	40	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	14,35	9,96	7,32	5,61	4,43	3,59	2,96	2,23	1,66	1,26	1,26	0,86	0,70	0,58	0,49	0,41
	Suction (kN/m²)	-11,11	-7,71	-5,67	-4,34	-3,43	-2,78	-2,29	-1,93	-1,64	-1,24	-1,24	-0,81	-0,64	-0,52	-0,42	-0,34
	b (mm)	250	204	171	147	128	113	100	78	60	60	60	60	60	60	60	60
170	a (mm)	106	80	61	53	47	42	40	40	40	40	40	40	40	40	40	40
	Pressure (kN/m²)	16,29	11,30	8,31	6,36	5,03	4,07	3,36	2,82	2,09	1,59	1,23	1,23	0,87	0,72	0,60	0,51
	Suction (kN/m²)	-12,60	-8,75	-6,43	-4,92	-3,89	-3,15	-2,60	-2,19	-1,86	-1,60	-1,20	-1,20	-0,82	-0,66	-0,53	-0,44
	b (mm)	287	235	198	170	148	131	117	105	79	60	60	60	60	60	60	60

03/2026

Notes:

1 Steel thickness ext/int: 0,50/0,40mm

2 Values have been calculated using the method described in EN 14509, for color group 3 (dark colors)

3 Values have been calculated using the limit state method described in EN 14509: 2013. Taking imposed loads, temperature and creep into account.

4 The following deflection limits have been used:

Pressure loading L/100

Suction loading L/100

5 Design criteria Safety factors on loads: ULS 1.5 (variable) 1.35 (permanent) / SLS 1.

Safety factors on material: Wrinkling of face: ULS

1.25 / SLS 1.1. Shear of core: ULS 1.3 / SLS 1.08.

SLS Summer temperature: Outside 80°C / Inside 25°C,

Winter temperature: Outside -20°C / Inside -25°C.

6 In order to conduct the calculations some data from table E6 and rates originating from table E8 stipulated in a standard EN 14509 were applied.

7 The loads calculated in the load-span table are unfactored loads.

8 The actual wind suction resisted by the panel is dependent on the number of fasteners.

9 The fastener calculation should be carried out in accordance with the appropriate standards.

10 For intermediate values linear interpolation may be used.

11 The allowable steelwork tolerance between bearing planes of adjacent supports have to be alligned with EN1090-2