Building Systems UK

A Tata Steel enterprise

Formawall® FW

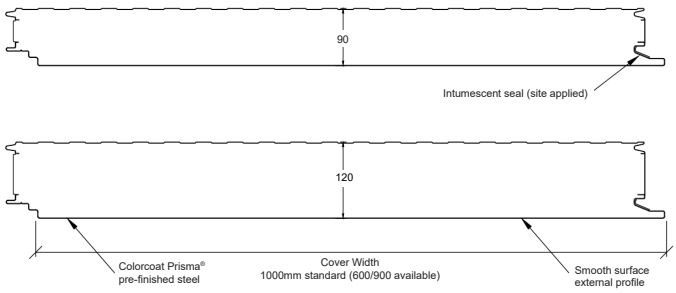
Insulated, secret-fix, smooth faced architectural wall panel system

Formawall® FW from Building Systems UK is an insulated, secret-fix, smooth faced composite wall panel with enhanced fire resistance that provides an architectural external aesthetic to your building facade.

Manufactured in factory conditions operating to quality management standard BS EN ISO 9001:2015, environmental management standard BS EN ISO 14001: 2015 and occupational health and safety management standard BS EN ISO 45001:2018.

Full traceability of all component materials and certified 'very good' to BRE's responsible sourcing standard BES 6001.

Figure 1. Formawall® FW cross section



All measurements are mm unless stated

Table 1 - U-value & weight		
Overall Thickness (mm)	90	120
U-value (W/m²K.)	0.26	0.17
Weight (Kg/m²) *	12.67	13.85

** Weight based on standard combination of steel skin gauge*

Table 2 - Dimensional scope	
Cover width (mm)	+2
Thickness (mm)	+2
Squareness (mm)	<6
Length (mm) < 3 m	+5
Length (mm) > 3 m	+10
Maximum length (mm)	12000
Minimum length on-Line (mm)	2400
Minimum length off-Line (mm)	300

Table 3 - Flatness	
For L = 200mm	0.6
For L = 400mm	1.0
For L > 700mm	1.5

(L = length of measurement between high points)
Tolerances are in accordance with BS EN 14509

Table 4 - Accessories and finishes	
Accessories	Base Clip, Vertical Top Hat Joint, Formed Corners, Joint Fire seal, Fasteners
External finishes	Colorcoat Prisma®
Standard internal finish	Colorcoat® PE 15
Available internal finishes	Colorcoat® High Reflect, Colorcoat® HPS200 Ultra, Colorcoat® Prisma, Advantica® L Control

Platinum® Plus 25 year system guarantee.

Formawall® FW and a range of system components including fixings, wall lights, sealants and fillers are available with our Platinum® Plus system guarantee providing a complete building envelope solution guarantee for 25 years.

Colorcoat Prisma® pre-finished steel is used as standard, offering long-term performance with the Confidex® Guarantee and providing peace of mind for up to 40 years. **Click here to learn more**

PLATINUM® PLUS SYSTEM GUARANTEE

confidex

Our online specification generator tool has been designed to help you create the right specification to suit the needs of your project, making sure all roofing and cladding components listed are compatible and perform as a guaranteed system.

SPECGEN SPECIFICATION GENERATOR

Click here to build your specification

Product performance

Table 5 - Resistance to fire (non-load bearing wall)

Product	Panel thickness (mm)	Orientation	Test standard	Insulation (mins)	EN 1364-1 Integrity (mins)		Tested Span (mm)
					Sustained flaming penetration	Gap gauge	
Formawall® FW	90	Vertical	EN 1364-1	26	231	231	3000
Formawall® FW	90	Horizontal	EN 1364-1	21	264	264	3000
Formawall® FW	120	Vertical	EN 1364-1	26	231	231	3000
Formawall® FW	120	Horizontal	EN 1364-1	21	264	264	3000

See Figure 2 for joint configuration.

Reaction to fire

- Formawall® FW Panels are classified B-s2,d0 according to the European Reaction to Fire classification system (Euroclasses) BS EN 13501–1: 2018 when tested on the standard internal face of the product.

Third party accreditations

- LPCB (Loss Prevention Certification Board) approval to LPS 1181 Part 1.2 certified to EXT-B for all thicknesses.
- Approved to FM Class 4880, 4881 and 4471 to an unlimited wall height.
- Specification is critical for compliance. Our Technical Team can help you with your specification drafting - or you can use our SPECGEN tool.

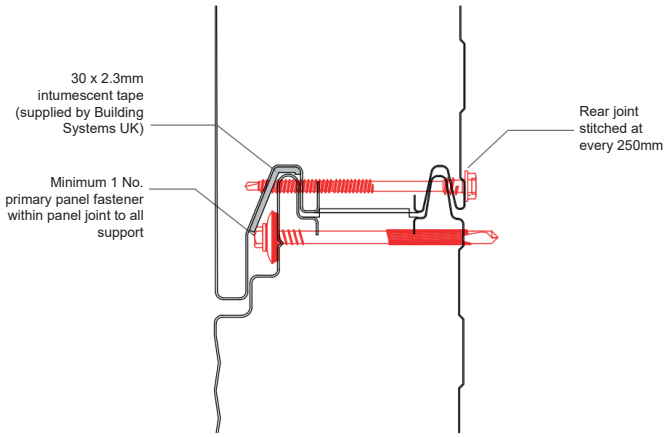
Thermal performance

- Formawall® FW complies with the minimum requirements of the conservation of fuel and power sections of the Building Regulations for England and Wales (Part L2) and Scotland (Technical Handbook Section 6 Energy). The panel construction offers highly consistent insulation performance, and the site-formed junctions provide a practical and effective method of ensuring good thermal performance. Thermal performance is calculated in accordance with BS EN 14509 with U-values computer modelled in accordance with EN ISO 10211 and assessed using the methods and conventions set out in the Building Research Establishment's BR 443.

Air-tightness

- In accordance with product standard BS EN 14509, the air tightness of a system should be tested to BS EN 12114. In line with these testing requirements our laboratory tests evidenced that the Formawall® FW system has an air leakage as low as low as 0.48 $m^3/h/m^2$.

Figure 2. Formawall® FW system fixing detail



Weatherability and water penetration

- In accordance with product standard BS EN 14509, the watertightness of the Formawall® FW system is tested to EN 12865. The standard advises that the system should achieve watertightness to a pressure of 600 Pa for normal conditions. In accordance with such testing requirements our laboratory testing shows evidence that the Formawall® FW system is water-tight up to a pressure of 1050 Pa which far surpasses this requirement.

Acoustic performance

- The sound reduction performance of the Formawall® FW system has been predicted using software developed by Building Systems UK. The results below are based on a 120mm panel thickness.

Table 6 - Sound reduction data

Frequency (Hz)	SRI Values (dB)*	Frequency (Hz)	SRI Values (dB)*
100	12.5	800	27.7
125	14	1000	29.4
160	15.7	1250	31.1
200	17.3	1600	23.6
250	19	2000	34.8
315	20.7	2500	35.8
400	22.4	3150	34.6
500	24.1	4000	32.2
630	25.9	5000	31.7

Weighted S.R.I RW = 29.0 dB
** The predicted sound reduction index values should only be used to provide guidance for preliminary design and/or appraisal of cladding systems. For information on other thicknesses or test evidence please contact the Building Systems UK Technical Department, email: **technical.envelopeproducts@tatasteeleurope.com***

Span tables

The span tables below have been created in accordance with BS EN 14509. The values are based on a maximum permitted deflection of span/150. Fastener performance has been taken into account within these tables based on a 2mm thick steel rail and assuming 2 fasteners per support.

The panel is assumed to have a minimal land of 60mm at each support position. If the perimeters above do not suit the specification of your project please contact Building Systems UK Technical Department who will be happy to produce new load span data based on your requirements. Email: **technical.envelopeproducts@tatasteeleurope.com**

Table 7 - Formawall® FW 90 span table

Load Case	Span Condition	Span (mm)										
		1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
Safe imposed loading (kN/m²)	Single	6.55	5.61	4.91	4.22	3.57	3.05	2.62	2.27	1.97	1.72	1.51
	Double	5.11	4.38	3.83	3.41	3.07	2.79	2.55	2.36	2.19	1.98	1.67
	Multi	5.11	4.38	3.83	3.41	3.07	2.79	2.55	2.36	2.19	2.04	1.84
Safe wind suction loading (kN/m²)	Single	-5.62	-4.82	-4.22	-3.73	-3.02	-2.50	-2.10	-1.79	-1.54	-1.34	-1.18
	Double	-2.81	-2.41	-2.11	-1.87	-1.69	-1.53	-1.41	-1.30	-1.20	-1.12	-1.05
	Multi	-2.81	-2.41	-2.11	-1.87	-1.69	-1.53	-1.41	-1.20	-1.20	-1.12	-1.05

Table 8 - Formawall® FW 120 span table

Load Case	Span Condition	Span (mm)										
		1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
Safe imposed loading (kN/m²)	Single	8.26	7.08	6.20	5.51	4.96	4.44	3.86	3.38	2.96	2.61	2.31
	Double	5.35	4.58	4.01	3.56	3.21	2.92	2.67	2.47	2.29	2.14	2.00
	Multi	5.35	4.58	4.01	3.56	3.21	2.92	2.67	2.47	2.29	2.14	2.00
Safe wind suction loading (kN/m²)	Single	-5.62	-4.82	-4.22	-3.75	-3.37	-3.07	-2.79	-2.38	-2.05	-1.79	-1.57
	Double	-2.81	-2.41	-2.11	-1.87	-1.69	-1.53	-1.41	-1.30	-1.20	-1.12	-1.05
	Multi	-2.81	-2.41	-2.11	-1.88	-1.69	-1.53	-1.41	-1.30	-1.20	-1.12	-1.05

Site Guidance

Guidance on delivery, offloading and construction can be **found here**. These recommendations should be considered together with our typical construction details (see useful links opposite).

Packaging

Formawall® FW panels are stacked onto wooden pallets. The number of panels per pack will vary according to the length and thickness of panel, typically panels are packed in stacks up to 1,100mm high.

Our pallets are sourced from an FSC certified supplier and are returnable for repair and recycling.

The panels are protected for transportation and storage by a baseboard and polymer shrink wrap. Local arrangements should be checked for recycling of these items.

Maximum pack size

Maximum number of panels within a pack for varying panel lengths

Table 9 - Panel thickness (mm)	Panel Length (m)	No. of Panels
90	<5	11
	5 - 7	8
	7 - 9	6
	9 - 12	5
120	<5	6
	5 - 7	8
	7 - 9	6
	9 - 12	5

Other useful links and downloads

- Declarations of performance
- BES 6001 Certification
- LPCB fire approval certification
- FM Approval certificate
- Vertical wall CAD drawings
- Horizontal wall CAD drawings
- Request a CPD

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