Building Systems UK

A Tata Steel enterprise

Trisomet®

External trapezoidal insulated roof and wall panel system

Trisomet® is an insulated panel system suitable for both roof and wall cladding applications. A factory engineered one-fix component ensures consistant thermal and air tightness performance, and speed of installation. The wide spaced trapezoidal steel external skin provides optimum performance for water drainage, strength and walkability.

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.

Table 1 - U-values & weights

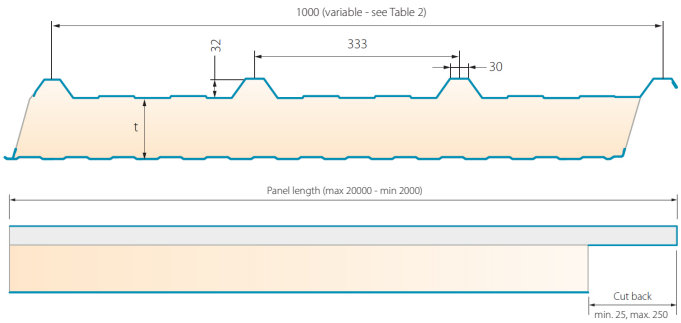
Overall Thickness	U-value (W/m²K)	Weight (kg/m²)*
40mm	0.46	9.23
60mm	0.33	10.01
80mm	0.25	10.40
100mm	0.20	11.22
120mm	0.16	12.03
135mm	0.15	12.76

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

Table 2 - Dimensional scope

Cover width (mm)	+2
Thickness (mm)	+2
Squareness (mm)	<6
Cutback (mm)	-2 +5
Length (mm) < 3 m	+5
Length (mm) > 3 m	+10
Maximum length (mm)	20000
Minimum length on-Line (mm)	2000
Minimum length off-Line (mm)	300

Figure 1. Trisomet® cross section and cut back



All measurements are mm unless stated
* Recommended end laps are 50 mm for horizontal, 100 mm for vertical and 150 mm for roof applications.

Table 3 - Accessories and finishes

Accessories	Rooflight, fasteners, sealants
External finishes	Colorcoat HPS200 Ultra®, Colorcoat Prisma®, Colorcoat® LG
Standard internal finish	Colorcoat® PE15
Available internal finishes	Colorcoat® High Reflect, Colorcoat HPS200 Ultra®, Colorcoat Prisma®, Advantica® L Control

Platinum® Plus 25 year system guarantee.

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

Colorcoat HPS200 Ultra and Prisma® pre-finished steel offers long-term performance with the Confidex® Guarantee 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

Resistance to fire (non-load bearing wall)

- Building Systems UK have a library of test evidence in accordance with BS 476 part 22 and BS EN 1364-1.
- Design options for the application of Trisomet® panel system are considerable therefore to obtain the correct specification to meet your project needs, please contact our technical department or obtain a specification through the SPECGEN tool.

Reaction to fire

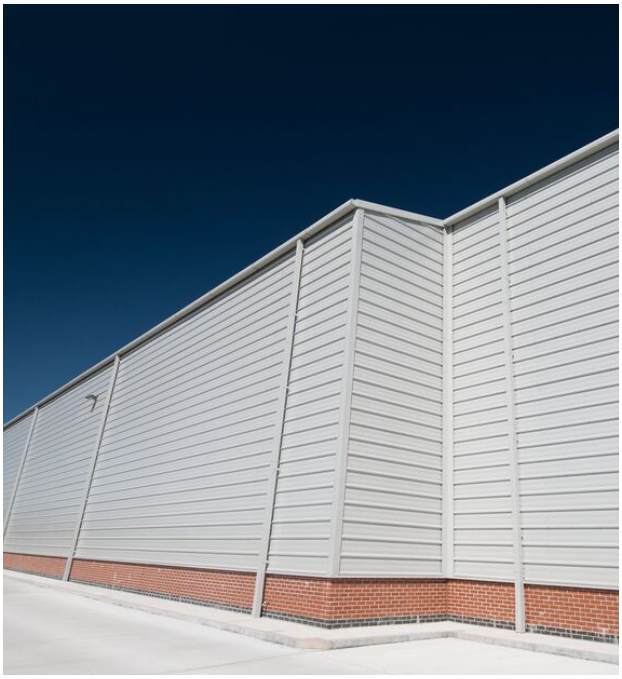
- Trisomet® panels are classified B-s2,d0 according to the European Reaction to Fire classification system (Euroclasses) BS EN 13501–1: 2018 when tested on the standard internal face of the product.

Roof exposure to fire

- The Trisomet® roof system meets BROOF(t4) in accordance with BS EN 1187.

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

- Trisomet® 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 Trisomet® system has an air leakage as low as 0.43 $m^3/h/m^2$.

Weatherability and water penetration

- In accordance with product standard BS EN 14509, the watertightness of the Trisomet® 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 Trisomet® system is water-tight up to a pressure of 1200 Pa which far surpasses this requirement.

Acoustic performance

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

Table 4 - Sound reduction data

Frequency (Hz)	SRI Values (dB)*	Frequency (Hz)	SRI Values (dB)*
100	20.1	800	25.1
125	21.3	1000	29.8
160	22.6	1250	32.7
200	23.6	1600	37.2
250	24.3	2000	41.7
315	24.4	2500	45.7
400	23.5	3150	50.1
500	20.5	4000	54.5
630	20.5	5000	59.3

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/200. Fastener performance has been taken into account within these tables based on a 2mm thick steel rail and assuming 3 fasteners per support.

The panel is assumed to have a minimal land of 65mm 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 5 - Trisomet® 40 span table

Load case	Span condition	Span (mm)										
		1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
Safe imposed loading (kN/m²)	Single	3.31	2.74	2.32	1.99	1.73	1.51	1.33	1.09	0.88	0.71	0.58
	Double	3.06	2.33	1.84	1.50	1.25	1.06	0.91	0.79	0.69	0.61	0.55
	Multi	3.31	2.66	2.10	1.71	1.42	1.21	1.04	0.91	0.80	0.71	0.64
Safe wind suction loading (kN/m²)	Single	-3.45	-2.88	-2.46	-2.14	-1.87	-1.65	-1.47	-1.32	-1.19	-1.07	-0.97
	Double	-3.10	-2.38	-1.91	-1.58	-1.35	-1.16	-1.02	-0.91	-0.82	-0.75	-0.68
	Multi	-3.45	-2.70	-2.16	-1.78	-1.51	-1.31	-1.15	-1.02	-0.92	-0.84	-0.77

Table 6 – Trisomet® 60 span table

Load case	Span condition	Span (mm)										
		1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
Safe imposed loading (kN/m²)	Single	4.20	3.59	3.13	2.76	2.45	2.18	1.95	1.69	1.45	1.25	1.08
	Double	3.39	2.62	2.10	1.73	1.46	1.24	1.08	0.94	0.84	0.74	0.67
	Multi	3.82	2.93	2.34	1.92	1.62	1.39	1.20	1.06	0.94	0.84	0.76
Safe wind suction loading (kN/m²)	Single	-4.35	-3.75	-3.29	-2.92	-2.60	-2.34	-2.11	-1.91	-1.73	-1.58	-1.44
	Double	-3.44	-2.68	-2.17	-1.82	-1.55	-1.35	-1.19	-1.07	-0.96	-0.88	-0.81
	Multi	-3.85	-2.98	-2.40	-2.00	-1.70	-1.48	-1.31	-1.17	-1.06	-0.97	-0.89

Table 7 – Trisomet® 80 span table

Load case	Span condition	Span (mm)										
		1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
Safe imposed loading (kN/m²)	Single	5.10	4.47	3.97	3.55	3.19	2.88	2.60	2.32	2.01	1.76	1.54
	Double	3.71	2.90	2.34	1.94	1.64	1.41	1.23	1.08	0.96	0.86	0.78
	Multi	4.12	3.19	2.56	2.12	1.80	1.55	1.35	1.19	1.06	0.95	0.86
Safe wind suction loading (kN/m²)	Single	-5.27	-4.63	-4.13	-3.72	-3.36	-3.05	-2.77	-2.52	-2.30	-2.11	-1.94
	Double	-3.76	-2.97	-2.42	-2.04	-1.75	-1.53	-1.35	-1.21	-1.10	-1.00	-0.92
	Multi	-4.16	-3.24	-2.63	-2.20	-1.89	-1.65	-1.46	-1.31	-1.19	-1.09	-1.00

Table 8 - Trisomet® 100 span table

Load case	Span condition	Span (mm)										
		1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
Safe imposed loading (kN/m²)	Single	6.02	5.35	4.81	4.35	3.95	3.59	3.27	2.96	2.60	2.29	2.03
	Double	4.00	3.15	2.57	2.14	1.82	1.57	1.37	1.21	1.08	0.97	0.87
	Multi	4.39	3.43	2.78	2.31	1.97	1.70	1.49	1.32	1.18	1.06	0.96
Safe wind suction loading (kN/m²)	Single	-6.20	-5.53	-4.99	-4.53	-4.13	-3.77	-3.45	-3.15	-2.89	-2.66	-2.45
	Double	-4.07	-3.23	-2.66	-2.24	-1.93	-1.69	-1.50	-1.35	-1.22	-1.12	-1.03
	Multi	-4.45	-3.50	-2.86	-2.40	-2.07	-1.81	-1.61	-1.44	-1.31	-1.20	-1.11

Table 9 - Trisomet® 120 span table

Load case	Span condition	Span (mm)										
		1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
Safe imposed loading (kN/m²)	Single	6.94	6.25	5.67	5.17	4.72	4.31	3.94	3.6	3.20	2.84	2.53
	Double	4.28	3.40	2.78	2.33	1.99	1.72	1.51	1.33	1.19	1.07	0.97
	Multi	4.66	3.66	2.98	2.49	2.12	1.84	1.61	1.43	1.28	1.16	1.05
Safe wind suction loading (kN/m²)	Single	-7.14	-6.44	-5.86	-5.36	-4.91	-4.50	-4.13	-3.80	-3.49	-3.22	-2.97
	Double	-4.36	-3.49	-2.88	-2.44	-2.11	-1.85	-1.64	-1.48	-1.34	-1.22	-1.13
	Multi	-4.73	-3.74	-3.07	-2.59	-2.23	-1.96	-1.74	-1.57	-1.42	-1.31	-1.20

Table 10 - Trisomet® 135 span table

Load case	Span condition	Span (mm)										
		1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
Safe imposed loading (kN/m²)	Single	7.64	6.92	6.32	5.78	5.3	4.86	4.44	4.08	3.65	3.26	2.91
	Double	4.48	3.57	2.93	2.46	2.11	1.83	1.60	1.42	1.27	1.14	1.03
	Multi	4.85	3.83	3.13	2.62	2.24	1.94	1.71	1.51	1.36	1.22	1.11
Safe wind suction loading (kN/m²)	Single	-7.85	-7.12	-6.52	-5.98	-5.50	-5.06	-4.65	-4.28	-3.95	-3.64	-3.36
	Double	-4.57	-3.67	-3.04	-2.58	-2.23	-1.96	-1.74	-1.57	-1.42	-1.30	-1.20
	Multi	-4.93	-3.92	-3.23	-2.73	-2.36	-2.07	-1.84	-1.66	-1.51	-1.38	-1.28

Site Guidance

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

Packaging

Trisomet® 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 1100mm high and will have maximum weight of 1.5 tonnes.

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 11 - Panel thickness (mm)	Panel Length (m)	No. of Panels
40	2 – 7.5	19
	7.5 – 8	17
	8 – 9.5	15
	9.5 – 13	13
	13 – 16	9
	16 – 20	7
60	2 – 10	14
	10 – 11.5	11
	11.5 – 14.5	9
	14.5 – 18.5	7
	18.5 – 20	5
80	2 – 10	11
	10 – 13	9
	13 – 17.5	7
	17.5 – 20	5
100	2 – 12	9
	12 – 16	7
	16 – 20	5
120	2 – 16	8
	16 - 20	5
135	2 – 16	7
	16 - 20	5

Watch our installation guides

Other useful links and downloads

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

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