

TATA STEEL



Trimapanel® FTF system

Enhanced system with the ability to span frame-to-frame eliminating secondary steelwork



A GLOBAL BRAND

Tata Steel is part of the Tata Group, a diversified global company with operations in every major world market. The Tata Group of Companies has business operations in seven defined sectors – Materials, Engineering, Information Technology and Communications, Energy, Services, Consumer Products and Chemicals.

In the past ten years the Group has expanded internationally and now owns major brands such as Tetley, Jaguar and Land Rover. Tata Steel, with its acquisition of Corus in 2007, has secured a place among the top ten steel manufacturers in the world and it is the Tata Group's flagship Company.

About Tata Steel

Tata Steel is one of Europe's largest steel producers. We serve many different and demanding markets worldwide, including aerospace, automotive, construction, energy and power, and packaging. Our primary steelmaking operations in the UK and the Netherlands are supported by a global sales and distribution network.

Innovation and continuous improvement are at the heart of our performance culture. We aim to create value by offering a sustainable and value-added steel product range supported by unrivalled customer service. By working in partnership with you, we find the best solutions to meet your needs and help your business to perform. Our European operations are a subsidiary of Tata Steel Group, one of the world's top ten steel producers.

With a combined presence in nearly 50 countries, the Tata Steel Group including the Europe operations, Tata Steel Thailand and NatSteel Asia, has approximately 80,000 employees across five continents and an aggregate crude steel production capacity of over 28 million tonnes.

Sustainability

Steel is an essential material, intrinsic to our way of life and to the products society will demand in a sustainable future. Steel is a material that is used, not consumed. It is recycled and used again, without any loss of quality, time after time. At Tata Steel, we are committed to making the products society needs and to making them in the most responsible way possible.

This means, practically, that we commit to:

- Producing steel products for the future.
- Investing in sustainable steel-making.
- Improving our existing processes.
- Facilitating the recycling loop.

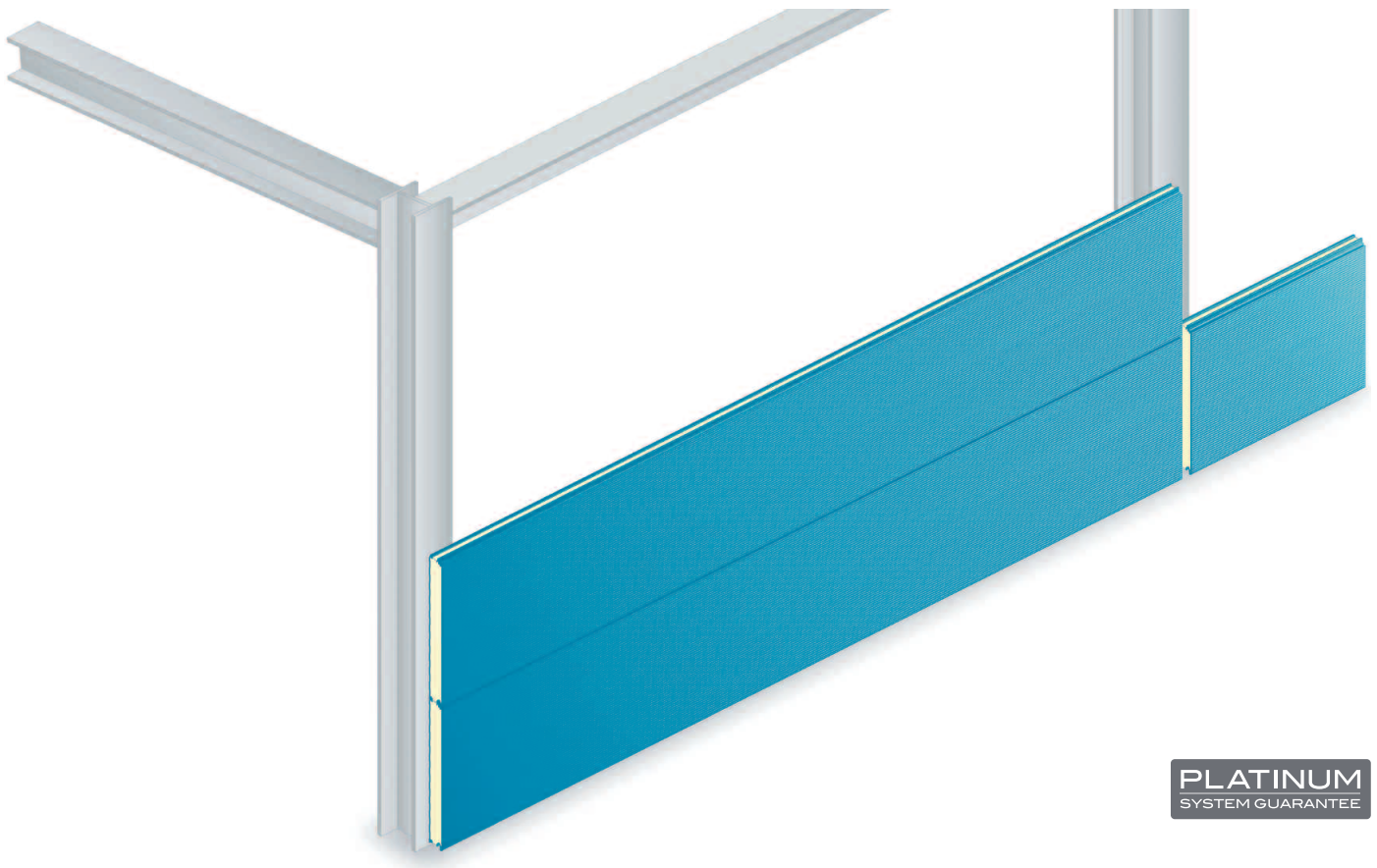
Our steel enables our customers to make safer cars, more energy-efficient buildings and infrastructure, easily-recoverable and recyclable packaging and many other products which help to move society towards our vision of a sustainable future.

TRIMAPANEL® FTF FRAME-TO-FRAME SYSTEM

The Trimapanel® FTF System is an insulated, secret-fix architectural wall-cladding system comprising of a pre-finished steel liner profile, a LPCB Approved polyisocyanurate (PIR) insulation core and a micro-rib Colorcoat® pre-finished steel external weathering profile offering a wide range of colours.

The Trimapanel® FTF System has the ability to span up to 8m enabling the product to run horizontally between main frame steelwork. This not only removes the cost of a secondary steelwork support system but reduces the installation program and removes any dust traps providing a clean and attractive finish to the internal face.

Panel spanning between portal frames



The Trimapanel® FTF system is also available with a Colorcoat® high reflect finish to the internal face. This finish is a bespoke, 30 micron, 2 coat liner designed to provide maximum light reflectivity. This increase in reflectivity together with the clear internal span helps reduce light energy requirements, associated operational costs and CO₂ emissions.

The system has been fully tested by the Steel Construction Institute (SCI) and all load span data carries SCI Assessed approval. This, together with the fact that the system is offered with Tata Steel's Platinum System Guarantee, provides peace of mind to the client for 25 years.

PLATINUM
SYSTEM GUARANTEE

LOAD SPAN TESTING

Buildings are subjected to a variety of loads throughout their lives and many of these loads are applied through the building envelope. The main consideration for envelope wall construction is wind and thermal load.

The magnitude of wind load is closely related to wind speed but also depends upon a number of factors associated with the shape and dimensions of the building and its local environment. For indicative wind load calculations for your project please contact the Tata Steel Technical Hotline: 01244 892130.

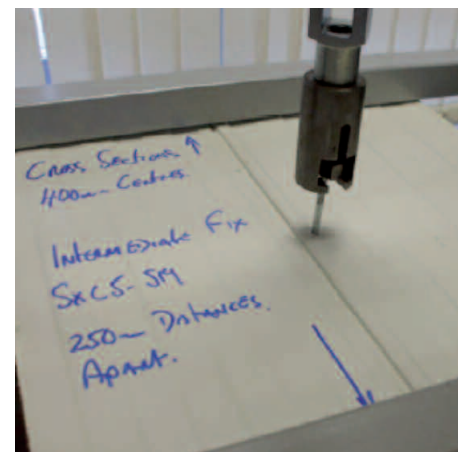
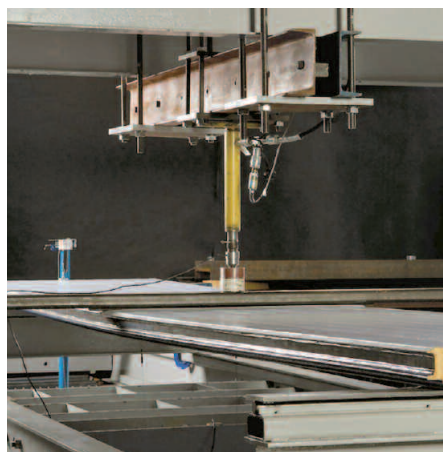
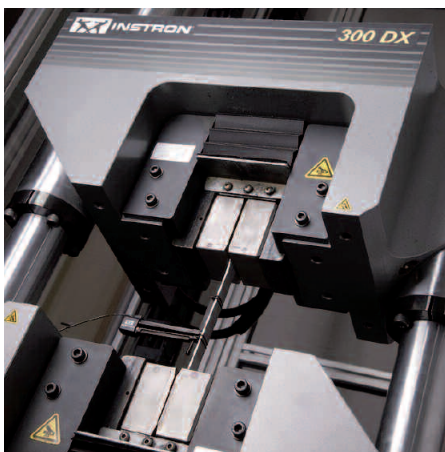
The wind load may be applied as a positive or negative pressure on the building, depending on the wind direction relative to the wall.

The positive load is transferred directly through the cladding to its support and the main structure of the building, whilst the negative load requires the fasteners to provide resistance to the cladding and prevent detachment from the building structure. The cladding, supporting steelwork and fasteners must all, therefore, be designed to resist the applied loads.

Tata Steel have rigorously tested the Trimapanel FTF system in accordance with BS EN 14509 using independent test laboratories to provide declared structural performance figures for the panel.

As well as looking at the panel performance Tata Steel have worked closely with its Platinum Approved fastener suppliers (see our Platinum® System Guarantee brochure for details) to obtain pull out performance figures into a range of steel rail and section sizes.

The results from this intensive testing programme have been used by the SCL to calculate load span performance for the system, which incorporate both panel strength and fastener pull out performance. This combined assessment provides the specifier with the peace of mind that the panel and fastener layout has been independently checked and will satisfy the design load for the building.



SPAN/LOAD TABLES

The span tables below have been created in accordance with BS EN 14509 and the results have been assessed by the Steel Construction Institute (SCI).

The performance below is based on a panel produced with both internal and external skins in 0.7 mm steel, and assumes a maximum panel deflection of L/100. The fastener pull out performance has been accounted for and assumes a steel support with a minimum thickness of 2.0 mm.

Trimapanel® FTF System – safe wind imposed (positive) loads (kN/m²)

Span condition	Core thickness (mm)	Span (m)										
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
Single	90	3.28	2.81	2.46	2.18	1.82	1.49	1.23	1.02	0.86	0.73	0.62
	120	4.36	3.74	3.27	2.91	2.55	2.11	1.77	1.51	1.30	1.13	1.00
Double	90	3.28	2.81	2.46	2.18	1.91	1.58	1.33	1.13	0.98	0.85	0.75
	120	4.36	3.74	3.27	2.91	2.55	2.11	1.77	1.51	1.30	1.13	1.00

Trimapanel® FTF System (2 fasteners per fixing point) – safe wind suction (negative) loads (kN/m²)

Span condition	Core thickness (mm)	Span (m)										
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
Single	90	-2.81	-2.41	-2.11	-1.85	-1.50	-1.24	-1.04	-0.89	-0.76	-0.67	-0.56
	120	-2.81	-2.41	-2.11	-1.87	-1.69	-1.53	-1.39	-1.18	-1.02	-0.89	-0.78
Double	90	-1.40	-1.20	-1.05	-0.94	-0.84	-0.77	-0.70	-0.65	-0.60	-0.56	-0.53
	120	-1.40	-1.20	-1.05	-0.94	-0.84	-0.77	-0.70	-0.65	-0.60	-0.56	-0.53

Trimapanel® FTF System (3 fasteners per fixing point) – safe wind suction (negative) loads (kN/m²)

Span condition	Core thickness (mm)	Span (m)										
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
Single	90	-3.28	-2.81	-2.34	-1.85	-1.50	-1.24	-1.04	-0.89	-0.76	-0.67	-0.56
	120	-4.21	-3.61	-3.12	-2.46	-2.00	-1.65	-1.39	-1.18	-1.02	-0.89	-0.78
Double	90	-2.11	-1.81	-1.58	-1.40	-1.26	-1.15	-1.04	-0.89	-0.76	-0.67	-0.59
	120	-2.11	-1.81	-1.58	-1.40	-1.26	-1.15	-1.05	-0.97	-0.90	-0.84	-0.78

If safe loading shown above is not satisfactory to your requirements, it is possible to adjust performance by using alternative fastener layouts, rail specifications and/or deflection limits. For further information please contact the Tata Steel technical hotline: +44 (0) 1244 892130.



TRIMAPANEL® FTF FASTENER SPECIFICATIONS

Fastener summary

Application	Panel thickness	SFS Intec	EJOT UK	Ash & Lacy Building Systems
Primary fixing to cold-rolled rails	90	SXC5-S16 5.5x115	JT3-D6H-5.5/6.3x107 S16	BM CPLS 100 S16
	120	SXC5-S16 5.5x135	JT3-D6H-5.5/6.3x127 S16	BM CPLS 135 S16
Primary fixing to hot-rolled rails	90	SXC14-S16 5.5x120	JT3-D12H-5.5/6.3x115 S16	BM CPLS 125 S16
	120	SXC14-S16 5.5x140	JT3-D12H-5.5/6.3x135 S16	BM CPLS 150 S16
External stitching screw for metal flashing to panel	–	SLP2-S-S14-4.8x20 + colour	CF15 JT3-2-6.3x25	BM ST 22 S16 + colour
External rivet for metal flashing to panel	–	ATOM-D-48143 + colour	ALV-4.8x15 + colour	RIV 0619 + colour

All fasteners can be sourced from Ash & Lacy Building Systems (Tel: +44 (0) 121 525 1444), SFS Intec (Tel: +44 (0) 113 2085 500) or EJOT UK Limited (Tel: +44 (0) 1977 687040).

Handling

Wherever possible, manual handling should be avoided and mechanical handling equipment should be used. Mechanical handling provides health and safety benefits, shorter installation times, smaller installation teams and less risk of panel damage. When using suction lifting equipment ensure that the panel is turned vertically soon after lifting from pack to avoid any risk of marking on panel face.

Recommended suppliers

GGR Cladding

T: +44 (0) 161 6832580

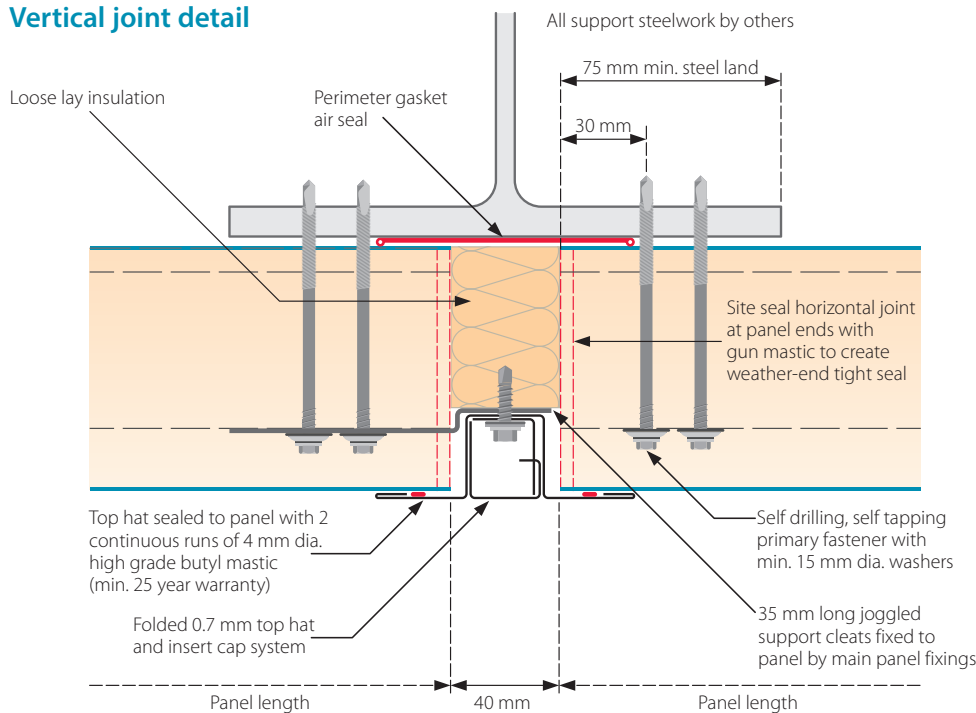
4 Cladding Services

T: +44 (0) 8707 417600

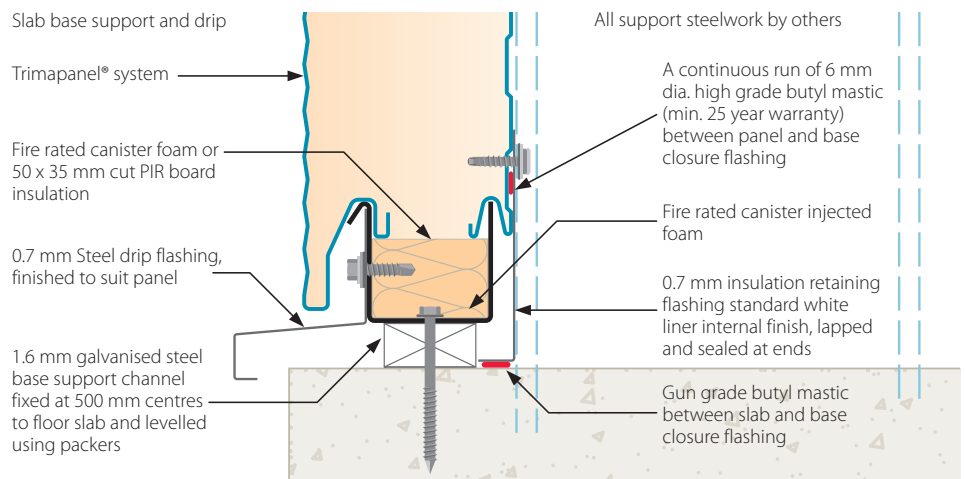


TYPICAL CONSTRUCTION DETAILS

Vertical joint detail



Base detail



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Language English 1221