

# Performance benefits



## 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.

Thickness (mm)	U-value (W/m²K)*	Typical application
40	0.46	Unheated building
60	0.33	Min Part L requirement for wall
80	0.25	Min Part L requirement for roof
100	0.20	Enhanced
120	0.16	Enhanced
135	0.15	Enhanced

\* Figures computer modelled in accordance with EN ISO 10211 as stated in MCRMA Technical Note 14.



## Fire safety

Trisomet® carries Grade EXT-B and EXT-A approval by the LPCB. Fire resistance performance of up to 30 mins insulation and 4 hours integrity is also achievable with standard fixing and sealing methods (external side-lap stitched at maximum 300 mm centres). The panel achieves a Grade AA rating in accordance with BS 476-3, which tests for external surface spread of flame and fire penetration (AA is the best result achievable). The internal surface of the panel complies with Class 'O' in accordance with the Building Regulations when tested to BS 476 Parts 6 & 7 and also achieves a Class B s2 rating in accordance with EN 13501-1.



## Acoustic performance

The acoustic performance of Trisomet® has been predicted using software developed by the Department of Applied Acoustics, University of Salford, under a research contract funded by the Metal Cladding and Roofing Manufacturers Association (MCRMA). The results in the table are based on an 80 mm core.

Frequency (Hz)	SRI Values (dB)*	Frequency (Hz)	SRI Values (dB)*
100	12.1	800	27.2
125	13.6	1,000	28.9
160	15.3	1,250	30.6
200	16.9	1,600	32.5
250	18.5	2,000	34.3
315	20.2	2,500	36
400	21.9	3,150	35.9
500	23.6	4,000	33.8
630	25.4	5,000	31.2

Weighted SRI RW = 28.5 dB

\* The predicted sound reduction index values should only be used to provide guidance for preliminary design and/or appraisal of cladding systems.



## Water penetration

In accordance with product standard BS EN 14509, the water-tightness of a system should be tested to EN 12865. The standard advises that the system should achieve water-tightness to a pressure of 600 Pa for normal conditions. Laboratory testing shows evidence that the Trisomet® system is water-tight up to a pressure of 1200 Pa, which far surpasses this requirement.



## Air-tightness

The cladding panel and its junction details must be air-tight so that the air permeability of the building does not exceed 10m³/h/m² at an applied pressure of 50 Pa, in accordance with the Building Regulations for England and Wales (Part L2) and Scotland (Technical Handbook Section 6 Energy). In laboratory tests in accordance with EN BS 12114, the sealed panel show evidence of air leakage as low as 0.43 m³/h/m².

A practical expectation for a finished building, with effective sealing at all junctions would be 3-5 m³/h/m². However enhanced detailing practises on large shed buildings can realise air leakage performance figures of less than 3 m³/h/m².



## Environmental credentials

Trisomet® is a sustainable solution with responsible sourcing and traceability of all component materials. All steel elements are produced within the Tata Steel's UK steel production, strip processing, galvanising, coating and profiling facilities. In addition the system's carbon footprint is further minimised by the manufacturing process being situated adjacent to Colorcoat® pre-finished steel production facility.

The PIR insulation within the system has zero ozone depletion potential (ODP) and a very low global warming potential (GWP) of less than 5. Both these factors support the achievement of a high BREEAM rating.

All steel elements are 100 % recyclable back into new steel products, without loss of quality. The insulation can be separated using existing scrap shredding technology, after which the materials can be recovered or recycled.

