

STRUKTRA® TBL Structural Thermal Breaks

STRUKTRA® TBL is our medium grade material, which has medium compressive strength characteristics combined with a low thermal conductivity.

Farrat only use Structural Thermal Break materials specifically developed for use within the building envelope.

STRUKTRA® TBL is fully certified to ensure that designers and clients have confidence in the product when used in structural connections.

STRUKTRA® TBL can be supplied as cut to size pads or strips, with a bespoke number of holes precision waterjet cut, according to the customer's requirements or specification.

Structural Applications

Farrat Structural Thermal Breaks are high performance thermal insulators used between horizontal and vertical connections of internal and external elements to prevent thermal or cold bridging.

STRUKTRA® TBL can be used in a wide variety of applications where there is a structural requirement for thermal insulation:

- ▶ Steel to Steel
- ▶ Steel to Concrete/Masonry
- ▶ Steel to Timber
- ▶ Concrete to Concrete

STRUKTRA® TBL is used in new build and refurbishment projects within the following building element examples:

- ▶ Facade system connections to primary frames
- ▶ Brise soleil and signage
- ▶ Roof plant enclosures - columns
- ▶ Roof parapets
- ▶ Connection of external to internal primary building elements
- ▶ Balconies
- ▶ Staircases
- ▶ Isolation of sub-structure and basement elements
- ▶ Man-safe systems
- ▶ Connections to existing structures

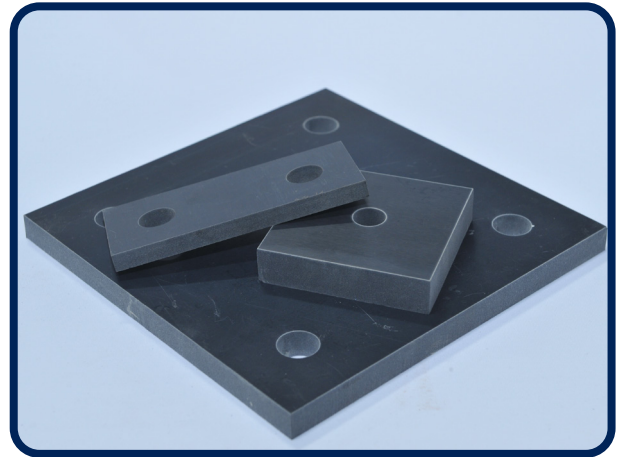
For more information on using Farrat TBL (including standard details), please see the following Farrat Technical Brochure:

> Farrat Structural Thermal Breaks

Download at: www.farrat.com/thermalbreaks

STRUKTRA® TBL

A medium-strength, low thermal conductivity Structural Thermal Break material.



Certifications & Accreditations:



STRUKTRA® TBL Site Applications:

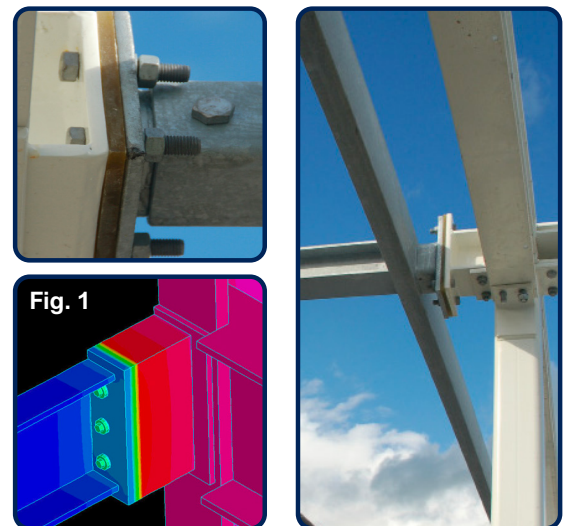


Fig. 1 shows the predicted temperature distribution with a Farrat TBL Structural Thermal Break and Thermal Isolating Washers. The temperature on the steelwork on the warm side of the cladding system is increased to 16.5°C and the heat loss (X-value) is reduced to 0.35 W/K, a 73% decrease in the heat loss.

Testing

Independent material testing was undertaken in Germany by an Institute with DAkkS Certification.

PROPERTIES	TEST STANDARD	TITLE
Compressive Strength	EN 826	Thermal insulating products for building applications. Determination of compression behavior.
Elastic Modulus	EN 826	Thermal insulating products for building applications. Determination of compression behavior.
Thermal Conductivity	EN 12667	Thermal performance of building materials and products. Determination of thermal resistance by means of guarded hot plate and heat flow meter methods. Products of high and medium thermal resistance.
Density	EN 1602	Thermal insulating products for building applications. Determination of apparent density.
Water Absorption	EN 12087	Thermal insulating products for building applications. Determination of long term water absorption by immersion.
Long Term Creep	EN 1606	Thermal insulating products for building applications. Determination of compressive creep.

Material Properties

PROPERTIES	FARRAT TBL	NOTES
Compressive strength	Characteristic f_{ck}	89 MPa BS EN 1990 Equation (D.1)
	Design, f_{cd}	70 MPa BS EN 1993-1-8 (YM2 = 1.25) (UK NA)
Elastic modulus	2586 MPa	
Thermal conductivity / Resistance	0.292 W/mK	
Density	1137 kg/m3	
Water Absorption	0.48%	
Long term creep	30%	% Increase of initial strain (Serviceability Limit State)

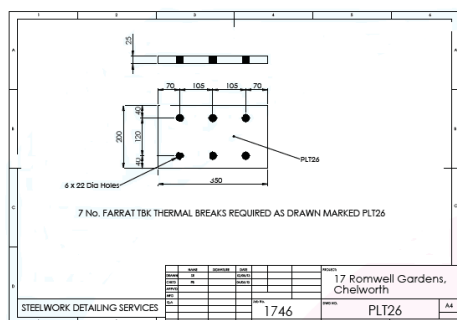
Availability

THICKNESS	TOLERANCE	MAX. SHEET SIZE
5mm	0 / +0.25mm	2000mm x 1000mm
10mm	0 / +0.2 to 1.5mm	2500mm x 1250mm
15mm	0 / +0.3 to 2.5mm	
20mm	0 / +0.3 to 2.5mm	
25mm	0 / +0.3 to 2.5mm	

Quotations

The following information is required for a quotation:

- ▶ Material Type - Farrat TBF, Farrat TBK or Farrat TBL
- ▶ Plate Dimensions
- ▶ Plate Thickness
- ▶ Number and size of Holes
- ▶ Quantity
- ▶ Delivery Postcode



Orders & Manufacturing

Farrat Structural Thermal Breaks are bespoke products so early procurement is recommended. We aim to start manufacturing within 3 working days from an order being placed. Prior to fabrication a fully dimensioned drawing is normally required for each type of plate with a unique project reference. Prior to delivery all Farrat Structural Thermal Breaks are labelled with the fabricator's drawing reference. Fabrication is undertaken in accordance with our ISO 9001 and ISO14001 accreditations.