Farrat
ENGINEERS ON A MISSION

Data Sheet

STRUKTRA® TBF Structural Thermal Breaks

STRUKTRA® TBF is a Structural Thermal Break material designed to maintain structural integrity in the event of fire.

STRUKTRA® TBF is proven to have high compressive strength at a high temperature and low thermal conductivity, allowing designers to meet multiple building regulations relating to fire, heat loss and energy performance with the one structural thermal break product.

STRUKTRA® TBF has been independently fire tested and verified to the following industry standards:

- A2,s1,d0 Fire-rated classification to EN 13501-1
- Maintains very high structural performance and compressive strength to 550°C under EN ISO 604
- Compliant for use under Document B Building Regulations for buildings above 18m

Structural Applications

Farrat Structural Thermal Break Plates are used between horizontal and vertical connections of internal and external elements to prevent thermal or cold bridging.

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

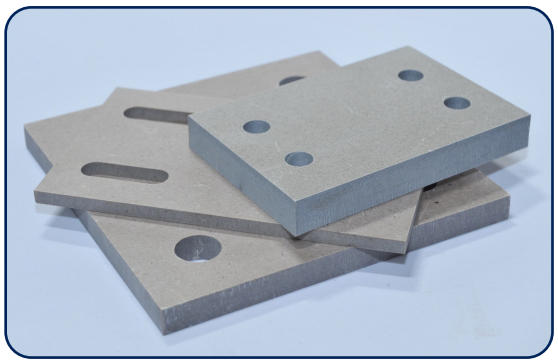
- Steel to Steel
- Steel to Concrete/Masonry
- Steel to Timber
- Concrete to Concrete

Common interface details include:

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

STRUKTRA® TBF

A High-Performance A2 Fire-Rated Structural Thermal Break Material



STRUKTRA® TBF is capable of transferring load in moment connections without creating significant rotation.

STRUKTRA® TBF Structural Thermal Breaks should therefore be used anywhere a penetration or transition exists in a building envelope to improve building performance.

Typical connection details:

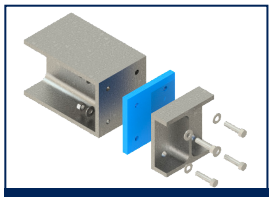


Fig 1.1 Steel to steel / internal to external connection

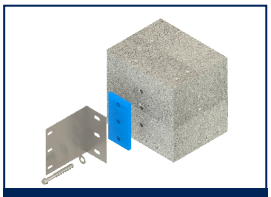


Fig 1.2 Masonary to cladding connection

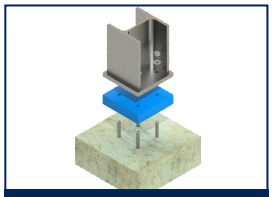


Fig 1.3 Column base connection

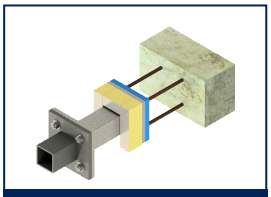


Fig 1.4 Steel to concrete connection

Certifications & Accreditations:

ETA-22/0333

STRUKTRA® is a registered trade mark no. 1670883201

Material Properties

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

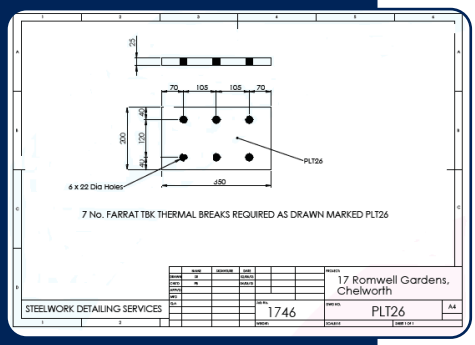
Properties		STRUKTRA® TBF @ 20ºC	STRUKTRA® TBF @ 550ºC
Compressive Strength, $f$ck* (MPa) Characteristic	EN ISO 604	355	200
Compressive Strength, $f$cd** (MPa) Design	EN ISO 604	284	160
Elastic Modulus (MPa)	EN 826	5326	4200
Thermal Conductivity, k (W/mK)	EN 12667	0.2	
Fire Rating	EN 13501-1	A2,s1,d0***	
Density (Kg/m³)	EN 1602	2160	
Colour		Grey	
Thicknesses Available (mm)		5, 10, 15, 20 & 25	
Thickness Tolerance (mm)		+/- 0.6 (TBF 5) +/- 1 (TBF 10) +/- 1.5 (TBF 15) +/- 2 (TBF 20) +/- 2.5 (TBF 25)	

* BS EN 1990 Equation (D.1 | ** BS EN 1993-1-8 (YM2 = 1.25) (UK NA) | *** Farrat TBF Classification of reaction to fire performance in accordance with EN13501-1:2018, Warrington Fire test report No. WF424837: A2,s1,d0 for all thicknesses up to 25mm.

Procurement & Manufacturing

The following information is required for quotation:

- Material Type - i.e. Farrat TBF
- Plate Dimensions
- Plate Thickness
- Number and size of Holes
- Quantity
- Delivery Postcode



Farrat STRUKTRA® TBF 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.
- A fully dimensioned drawing is required for each type of plate with a unique project ref, prior to fabrication.
- Prior to delivery all Farrat thermal breaks are labelled with the fabricator's drawing ref.
- Fabrication is undertaken in accordance with our UKAS ISO 9001 and UKAS ISO14001 accreditations.

Farrat Consultancy Services

We provide an engineering led consultancy service for a broad range of clients across the construction sector. At Farrat we have some of the leading experts in the niche areas of structural thermal breaks, energy efficiency, and fire safe building design. As a result we are able to offer specialist consultancy services to ensure that architects, engineers and specifiers can prevernt thermal bridges, and develop structures that are efficient, fire safe, and profitable. **Contact our sales team for more information on our consultancy services.**