

TC760X

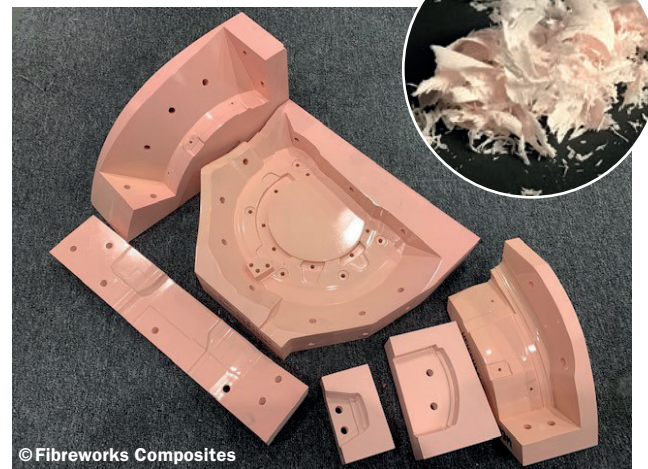
Superior quality epoxy tooling board

Trelleborg TC760X is a medium temperature, low density syntactic epoxy tooling board designed to act as a more durable/higher temperature master molding base or facilitate direct-to-part tooling.

Features & Benefits

TC760X is a superior quality tooling board, offering crack resistance and dust free machining.

- **Excellent dimensional stability**
Maintains its shape at elevated temperatures
Increased durability, no cracking, reduced edge chipping in machining
- **Operation temperature up to 130 °C**
Direct-to-part tooling with standard 120 °C prepregs
- **Improved part/tool surface quality**
Reduced rework on molded component surfaces due to superior tool surface quality
- **Quick mold preparation**
Reducing surface preparation time prior to sealing/Reduced sealant usage as compared to standard epoxy boards



TC760X - Inset shows Flakes Produced by Profiling Bit

Applications

TC760X offers many benefits and it can be used for the following:

- Master models, part tooling
- Lay-up tools for low and medium temperature epoxy prepregs

	TYPICAL PROPERTIES	
Color	Pink	
Density	740 kg/m ³	
Shore Hardness	80D	ASTM D2240
Uniaxial Compressive Stress	55 MPa	
Uniaxial Compressive Modulus	2655 MPa	ASTM D694
Tensile Stress	27 MPa	
Tensile Modulus	2600 MPa	ASTM D638
Flexural Strength	28 MPa	
Flexural Modulus	2100 MPa	ASTM D790
Shear Strength		ASTM D732
Heat Deflection Temperature (TMA)	145 °C	ASTM D648-18
Glass Transition Temperature (DSC)	140 °C	ASTM E1356
Coefficient of Linear Thermal Expansion (0 to 130 °C)	40 x 10 ⁻⁶ / °C	ASTM E831-14
Thermal Conductivity (guarded hot plate) 90 °C , (W/m/°K)	0.132	ASTM C518
Explosion Severity (machining chips)		
• Classification	St-1	ASTM E1226
• Kst Value	93 m*bar/s	
Multi Axial High- Speed Impact		
Energy @ Peak Load	3.42 J	
Energy @ Break	3.92 J	ASTM D3763-18
Total Energy	4.05J	

Product Sizes

TC760X is available in a standard board size of 24" x 60" at the following thickness: 2", 3", 4" and 6".

Storage

The board should be stored in a dry warehouse.

Health & Safety

Eye protection and a face mask should be worn when working with Trelleborg TC760X.

Please refer to the Trelleborg MSDS.

Processing Guidelines

Cutting

TC760X can be sawn using carbide or diamond coated saw blades or cutting wheels.

Bonding

Large patterns can be constructed from boards using the appropriately selected epoxy adhesive system. Trelleborg adhesive system 551A/B is recommended. The adhesive system must offer adequate pot life and be capable of meeting the mechanical and thermal properties of the tooling board.

To ensure good bonding:

- The adhesive should be applied to both surfaces (dust free) using a notched spatula
- The surfaces should be brought together and a uniform clamping pressure applied by either mechanical or vacuum means
- Surplus adhesive should be witnessed extruding from all bond lines which after curing can be machined off without detriment
- Bonded joints should be left to cure for 24 hours at ambient temperature for best results

When utilizing the recommended adhesive no cupping should occur as the adhesive characteristics are matched to the TC760X material.

Machining

In order to avoid board distortion it is recommended that stock removal should be taken equally from opposing faces. Where this is not possible, then the board should be supported by and bonded to additional layers.

To minimize distortion when machining large flat boards, it is advisable to rough cut one face, invert the board and machine the rear face, re-invert and complete the machining. The board can be finished using successively finer grades of wet and dry abrasive paper.

Machining Guidelines

The machining information provided is for guidance purposes only. It is advised that individual users should determine the appropriate speeds, feed, cutters and depths for their own specific application.

TYPICAL PROPERTIES	
Roughing Speed	500 rpm
Roughing Feed	9 m/min
Cutter Type	40 mm Ball Nose Cutter
Step Down	10 mm
Step Over	15 mm
Finishing Speed	7,500 rpm
Finishing Feed	9 m/min

Contact Us

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