

EP678

High quality epoxy tooling board

Trelleborg EP678 is a medium temperature, low density syntactic epoxy tooling board designed for the manufacture of accurate and stable master models and molds.

Features & Benefits

EP678 is a high quality tooling board offering a lower cost solution.

- **Excellent dimensional stability**
Maintains shape at elevated temperatures
- **Low coefficient of thermal expansion**
Predictable performance
- **Inert surface**
Chemically compatible with tooling prepregs
- **Suitable for use up to 135 °C**
Can be directly used for the production of parts
- **Quick mold preparation**
Exceptionally easy to machine

Applications

EP678 offers many benefits and it can be used for the following:

- Master models
- Lay-up tools for low and medium temperature curing epoxy prepregs
- Light weight coring materials



Product Sizes

EP678 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 EP678.

Please refer to the Trelleborg MSDS.

	TYPICAL PROPERTIES	
Color	Blue	
Density	708 kg/m ³	
Shore Hardness	68 D	
Uniaxial Compressive Strength	52 MPa	BS EN ISO 604
HDT	135 °C	BS 2782
Glass Transition Temperature	125 °C	BS EN ISO 11359-2
Coefficient of Thermal Expansion	37 x 10 ⁻⁶ / °C	BS EN ISO 11359-2
Flexural Strength	34.3 MPa	BS EN ISO 178
Flexural Modulus	2,483 MPa	BS EN ISO 178

Processing Guidelines

Cutting

EP678 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 EP678 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 by the use of 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.

MACHINING INFORMATION	
Roughing Speed	5,000 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

Gaps & Repair

It is recommended that Trelleborg EP patch and repair systems are used to fill gaps and repair rebuild areas if required.

Contact Us

Trelleborg's Applied Technologies division is an industry expert in delivering innovative and reliable solutions that maximize performance for our customers. Our vast range of specialized, customizable materials ensure peace of mind at every stage of your project. With reliable and efficient project management and manufacturing we endeavor to take performance to new levels by achieving your goals safely, on time and within scope.

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