

Description/Image

Easy Composites' PU600 is a 600kg/m³ density polyurethane model board offering very high dimensional stability, compressive strength and edge stability. It is ideally suited for use in the production of CNC machined master models for tool and mould construction and for use directly as a mould material in low pressure, low volume injection moulding, composite laminating and vacuum forming.

Machine shape the material using standard manual or CNC equipment, once the desired form has been created, the pattern can then be prepared, if required, for mould release.

Key Features

- Very high dimensional stability
- High heat distortion temperature
- Solvent resistant
- Excellent machinability with low dust formation
- High compressive strength and edge stability
- Dense, fine surface which can be sealed to a full gloss

Typical Uses

- CNC machined patterns/masters.
 - Product prototypes/samples.
 - Vacuum forming tools for low volume production.
 - Moulds for low volume composite laminating.
 - Moulds for low pressure injection moulding.
- Specification

Note: Polyurethane board cannot be used as a mould material for the production of pre-preg composite parts because at elevated temperatures polyurethane will inhibit the cure of epoxy resin. For low volume pre-preg tooling use epoxy tooling block.

Properties

The following table shows the typical properties of the board:

Property	Unit	Test Method	Value
Density	g/cm ³	ISO 845	0.60
Shore Hardness	D	ISO 868	58
Flexural Strength	MPa	ISO 178	19
E-Modulus	MPa	ISO 178	750
Compressive Strength	MPa	ISO 604	17
Impact Resistance	kJ/m ²	ISO 179 Ue	8
Heat Distortion Temperature	°C	ISO 75 B	75
Linear CTE αT	K ⁻¹	DIN 53 752	55 x 10 ⁻⁶

Block Dimensions

Thickness (mm)	Block Sizes Available (mm)
50 & 100	250 x 250
50 & 100	250 x 500
50 & 100	500 x 500
50 & 100	500 x 1500

Processing

PU600 must be acclimatised to 18-25°C prior to machining. PU600 can be worked by hand or machined by power tool, CNC router, milling machine and other high performance tools. When bonding sheets together, surfaces should be free of dust, dirt and grease. Bonding should be made with polyurethane adhesive.

Transport and Storage

Product has un-limited shelf life when stored flat in dry conditions.

Avoid high temperature variation of PU600 board and patterns, moulds and tools made from the board.

Disclaimer

This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum. Our technical advice, whether verbal or in writing, is given in good faith but Easy Composites Ltd gives no warranty; express or implied, and all products are sold upon condition that purchasers will make their own tests to determine the quality and suitability of the product for their particular application and circumstances.

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Leaders in materials, equipment and training for advanced composites

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Page 1 of 1