

## REPROCELL 500

### The Alternative to Timber

#### Product Description

**REPROCELL 500** is a dual component, MDI based system which when dispensed through suitable machinery will produce rigid polyurethane foam with typical core density in the range of 500 – 650 kg / m<sup>3</sup>. Reprocell foam systems are free from CFC's or HCFC's and comply with present and forthcoming environmental requirements of Kyoto Protocol.

#### Uses and Applications

**REPROCELL 500** has been designed to produce high density foam which can be moulded to simulate wood for a variety of applications. The cured foam has a tough skin and will accommodate screws and nails, and can be stained using the recognised wood stains, paints or varnishes.

In external applications such as porch furniture, the foam needs to be protected against ultra violet degradation by painting.

**REPROCELL** combines low weight with long-term stability and extremely low water absorption characteristics. It does not decay or rot and is not susceptible to attack by termites or other wood boring insects. Isothane technical personnel are available to advise on specialist processes and surface treatments as required.

#### Equipment

**REPROCELL** systems can be processed through all standard foam dispense equipment. Refer to Isothane technical staff for a specific recommendation. The machine should be capable of maintaining the mix ratio at  $\pm 2\%$  accuracy and controlling the component temperatures at 25 - 45°C (variable).



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## REPROCELL 500

### Foam Moulding System

#### Component Description

**REPROCELL RESINS** are fully formulated liquid mixtures. They should be stored in sealed tanks or drums and ideally should be heated to  $20 \pm 5^{\circ}\text{C}$  before use.

**REPROCELL ISO** is a liquid mixture containing crude diphenylmethanediisocyanate. It should be stored in sealed tanks or drums and ideally should be heated to  $20 \pm 5^{\circ}\text{C}$  before use.

Stored under the above conditions the system has a shelf life of 6 months. See below for component properties.

Laboratory test results ( typical ):-

Cream time	40	seconds
Rise time	80	seconds
Free rise density	500	kg/m <sup>3</sup>

#### Typical Properties

	<u>Reprocell Resin</u>	<u>Reprocell ISO</u>
Appearance	Resinous liquid	Dark brown liquid
Viscosity	1500 - 4000 cps @ 20°C	150 - 270 cps @ 20°C
Specific Gravity	1.05 - 1.10 @ 20°C	1.24 ± 0.02
Mixing Ratio (by wt)	45 parts Resin : 55 parts ISO	
Process	Moulding	

<u>Typical Properties of Foam Core</u>	<u>Value</u>	<u>Test Method</u>
Core Density	500 kg / m <sup>3</sup>	BS 4370
Compressive Strength – Parallel to rise	11.7 Mpa	BS 4370
Shear Tensile Strength – Perpendicular to rise	11 Mpa	BS 4730
Closed Cell Content	90% min	BS 4730
Thermal Conductivity – 20°C Mean	~0.045 W / mK	ASTM D2856
Water Absorption	0.05 kg / m <sup>2</sup>	
Dimensional Stabilities		
24 HRS @ 100°C	-0.03    -0.05%	
24 HRS @ -15°C	-0.01    -0.02%	
24 HRS @ 70°C	+ 0.50    +0.55%	

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**REPROCELL 500**  
**Storage, Handling and Personal Protection**

The recommendations in our Safety Data Sheet for this product must be followed at all times. More general information is included in our publication “A Guide to the Safe Handling of Polyurethane Chemicals” and in the following Technical Data Sheets which are available on request: -

- Fire safety when Storing, Handling and Installing Polyurethane Foam.
- Decontamination of Isocyanates using Isothane Decontaminant.



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