

## OPTIMOLD® RAPID TOOLING SYSTEM Unsaturated Polyester Resin

Version : May 2005

### APPEARANCE

Opaque pink / beige liquid resin

### MAIN RESIN CHARACTERISTICS

Orthophthalic unsaturated polyester  
High reactivity  
Preaccelerated  
Prefilled  
Rapid tool building with excellent dimensional stability  
Low shrink (ca. 0% linear shrinkage)

### MOULDING INFORMATION

Hand lay-up

### MAIN APPLICATION

Rapid tooling system

### LIQUID RESIN PROPERTIES

(Typical values)

Specific gravity at 20°C:	ca. 1.45
Viscosity at 25°C:	500 – 550 mPa.s
Volatile content:	ca. 30%
Reactivity at 20°C, 1.5% MEKP 50	
Gel time:	18 – 22 minutes

\*These values may or may not be manufacturing control criteria. They are listed for a reference guide only. Particular batches may not conform exactly to the numbers listed because storage conditions, temperature changes, age, testing equipment can each have significant effect. Products with properties outside these readings can perform acceptably. Final suitability is in the end use performance.

### CURED PROPERTIES LAMINATE

(Typical values)

Tensile Strength:	80 – 90	MPa
Tensile Modulus:	8.0 – 8.4	GPa
Flexural Strength:	105 – 115	MPa
Flexural Modulus:	4.0 – 4.5	GPa
Glass Content:	25%	

### CURED PROPERTIES UNREINFORCED CAST

(Typical values)

Elongation at break:	1.8 %
Heat Distortion:	ca. 95 – 100°C

### SHELF LIFE

Recommended to be used within 6 weeks of manufacture date.

### GUIDELINES BEFORE USE

Materials should be conditioned to a reasonable temperature (15°C minimum) prior to use. Resin should be agitated before use.

For further information please consult our Application Guide.

### SAFETY PRECAUTIONS FOR HANDLING AND STORAGE

FOR FULL DETAILS PLEASE REFER TO SDS,

Polyester resins contain styrene monomer, classified as **HARMFUL** by inhalation and **IRRITATING** to eyes and skin. With a flash point **below** 32°C, polyester resins are classified with the proper shipping name 'resin solution, flammable' as determined by ADR Marginal 2301 Item 54. The current UK EH40 styrene occupational exposure limit is a MEL of 100ppm (8 hr TWA). And there is an industry, voluntary code of practice to work below 50 ppm. The Environmental Protection Act (1990,1995) must also be complied with. Resins should be stored cool, away from direct sunlight in closed containers. When stored in bulk, adequate venting of tanks is recommended together with a storage temperature not exceeding 20°C.

The information contained herein is based upon our own research and is intended to assist customers in determining whether our products are suitable for their specific applications. The user is required to check the quality, safety and suitability of our product prior to use. Starting point formulations and suggestions for use are given as guidance only and are made without warranty. Nor should it be construed as permission, inducement or recommendation to practise any invention covered by patent without authority from the owner thereof.