



## RM 2000

Tooling resin



**RM 2000** is an unsaturated polyester resin, especially formulated for mold making. Filled and pre-accelerated, it is a ready to use product. Obtaining molds with superior surface profile and no shrinkage.

### CHARACTERISTICS

- \*\* **RM 2000** has been designed to polymerise at room temperature following addition of **MEKP (Peroxide)** with minimum of 9% active oxygen content.
- \*\* Rapid cure and rapid manufacture of the mold (in one day).
- \*\* A easy to use product, pre-filled and pre-accelerated, with no further mixing required.
- \*\* Fillers: reduce the cost and improve rigidity of the mold.

### TYPICAL PROPERTIES OF LIQUID RM 2000

** Maximum storage life	6 months (mix before use)
** Flammability	flammable
** Specific gravity	1.45
** Appearance	beige liquid
** Gel time	35 – 45 minutes
(20°C – 1% <b>MEKP</b> on 100 g)	
** Peak exotherm	100 – 125°C
(20°C – 1% <b>MEKP</b> on 100 g)	
** Brookfield viscosity	100 rpm = 900 – 1150
mPa.s	
(20°C – sp4)	
** Non volatile content	72 – 74%

### MECHANICAL PROPERTIES OF CAST RM 2000

** Heat distortion of temperature	84°C (cast resin)
** Tensile strength*	84.4 MPa
** Elongation at break*	6.7%
** Flexural strength*	163 MPa

\*Tests performed on resin reinforced with glass fibre.

### ADVANTAGES

- Rapid cure and rapid making of molds.**
- NO shrink. Low profile surfaces.**
- Reduction of mold cost.**
- Complete dimensional stability.**
- Uses standard catalyst : MEKP (Peroxide)**
- Consult with your sales rep for approved and recommended catalyst specifications.**

### STORAGE CONDITIONS AND HANDLING

The tooling resin **RM 2000** is subject to the Highly Flammable Liquid Regulations. The product should be stored under cool conditions in closed opaque containers at a temperature not exceeding 25°C. Avoid exposure to heat sources such as direct sunlight. **RM 2000** is a ready to use product, filled and pre-accelerated. Especially formulated for mold making, with a good surface profile and dimensional stability even in thick sections.

### ADVANTAGES AND RECOMMENDATIONS

Manufacture of a mold in one day instead of one week using standard resin system. Gel coat thickness must be between 600 and 800 microns.

### APPLICATION OF TOOLING RESIN

**RM2000** Before use, mix the resin well to achieve a homogeneous product. For optimum result of cure, don't catalyst under 1% of **MEKP (Peroxide)** (ask Nida-Core Corporation for gel time results with different percentages of catalyst if required). To obtain optimum properties of the tooling resin, we advise to use **RM 2000** at temperature between 18 and 25°C. Low temperatures are not good for the low shrink effect and high temperatures will give a short gel time.

### HAND LAY-UP

When the gel coat becomes tacky, apply some catalysed resin to wet the surface. This will aid the wetting out of the glass fibre. Apply a layer of 100 g/m<sup>2</sup> (10 tex). Remove air voids with a roller. Apply then 6 layers of 300 g/m<sup>2</sup> or 4 layers of 450 g/m<sup>2</sup> (40 tex) to obtain a thickness of 3 to 4 mm. Remove air voids with a roller between each layer. The laminate will turn white when curing. Wait for the peak exotherm to subside (about 1 hour) before starting the second laminate. For the second laminate, use 4 layers of 450 g/m<sup>2</sup> (40 tex). Remove air voids with a roller between each layer and wait for the laminate to reach peak exotherm again and turn white. Proceed like this until you achieve the thickness you require.

### SPRAY UP

Tests were made using equipment from **GLAS-CRAFT LPAIIS/SP 85 EC**. System pump = 11:1 Gun with Air Assist Containment. Like in the hand lay-up, apply some catalysed resin on the polymerised gel coat to wet the surface. Apply a layer of 100 g/m<sup>2</sup> (10 tex). Remove air voids with a roller. Spray a layer of 3 to 4 mm of resin and chopped fibres. After it has turned white and the exotherm has died down (about 1 hour), continue until the required thickness is achieved, with subsequent additions of 3 to 4 mm of resin and chopped fibres.

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