TECHNICAL DATA SHEET

RM 2000/50 is an unsaturated polyester resin, especially formulated for mould making. Filled and pre-accelerated, it is a ready to use product. Obtaining moulds with superior surface profile.

CHARACTERISTICS

- **RM 2000/50** have been designed to polymerise at room temperature following addition of **MEKP** **(Butanox M50 from Akzo**)
- Rapid cure and rapid manufacture of the mould (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 mould.

TYPICAL PROPERTIES OF LIQUID RM 2000/50

Minimum storage life	4 months (mix before use)
Flammability	flammable
Specific gravity	1.45
Appearance	beige liquid
Gel time (20°C – 1% **MEKP** on 100 g)	35 – 45 minutes
Peak exotherm (20°C – 1% **MEKP** on 100 g)	100 – 125°C
Brookfield viscosity (20°C – sp4)	100 rpm = 900 – 1150 mPa.s
Non volatile content	72 – 74%

MECHANICAL PROPERTIES OF CAST RM 2000/50

Heat distortion of temperature	84°C (cast resin)
Tensile strength*	90 – 100 MPa
Elongation at break*	6.7%
Flexural strength*	163 MPa

*Tests realised on resin reinforced with glass fibre.

STORAGE CONDITIONS AND HANDLING

The tooling resin **RM 2000/50** 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.

APPLICATION RECOMMENDATIONS

RM 2000/50 is a ready to use product, filled and pre-accelerated. Especially formulated for mould making, with a good surface profile and dimensional stability even in thick sections.

ADVANTAGES AND RECOMMENDATIONS

- Manufacture of a mould in one day instead of one week using standard resin system.
- We recommend our tooling gel coats **GC 200/201** isophthalic or **GC 206/207** vinylester (spray and brush versions available in several colours). These will give good mechanical strength and chemical resistance
- Gel coat thickness must be between 600 and 800 microns.

APPLICATION OF TOOLING RESIN RM2000/50

Before use, mix the resin well to achieve a homogeneous product.

For optimum result of cure, don't catalyst under 1% of **MEKP** (ask NORD COMPOSITES for gel time results with different percentages of catalyst if required).

To obtain optimum properties of the tooling resin, we advise to use **RM 2000/50** 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/m² (10 tex). Remove air voids with a roller.
- Apply then 6 layers of 300 g/m² or 4 layers of 450 g/m² (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/m² (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/m² (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.

Note: Avoid contaminating the surface of the mould with dust between laminates, as this will effect the interlaminar adhesion.

After 24 hours, the mould is ready to turn out.

ADVANTAGES

- **Rapid cure and rapid making of moulds.**
- **Nil shrink. Low profile surfaces.**
- **Reduction of mould cost**
- **Complete dimensional stability.**
- **Uses standard catalyst : MEKP**

All these results have been obtained in our laboratory and by many of our customers. However Nord Composites cannot be held responsible for the mould you will make using RM 2000/50. You must be sure that the system is suitable for your requirements. Contact us in case of doubt.