



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

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

MECHANICAL PROPERTIES OF CAST RM 2000/50

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|----------------------------------|-------------------|
| ◆ 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.**