NIDA CORE
STRUCTURAL HONEYCOMB MATERIALS

Product Data Sheet

NORD COMPOSITES

RM 2550

Tooling resin

RM 2550 is an unsaturated polyester resin, especially formulated for thinner mold making. Filled and pre-accelerated, it is a ready to use product.

CHARACTERISTICS

¨ **RM 2550** has been designed to polymerise at room temperature following addition of **MEKP (Peroxide)** with minimum of 9% active oxygen content. It is specifically designed for higher glass to resin ratio lamination, cored molds and lightweight mold construction.
¨ 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.
¨ **Highest Quality** Fillers: reduce the cost and improve rigidity of the mold.

TYPICAL PROPERTIES OF LIQUID RM 2550

¨ Maximum storage life	6 months (mix before use)
¨ Flammability	inflammable
¨ Specific gravity	1.48
¨ Appearance	white 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(212-257 F)
¨ Brookfield viscosity mPa.s (20°C – sp4)	100 rpm = 1100 – 1350
¨ Non volatile content	72 – 74%

MECHANICAL PROPERTIES OF CAST RM 2550

¨ Heat distortion of temperature	81°C (cast resin)(178 F)
¨ Tensile strength*	92.5 MPa
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¨ Tensile modulus*	1.43 GPa
¨ Elongation at break*	6.7%
¨ Flexural strength*	154.2 MPa
¨ Flexural modulus*	5.19 GPa
¨ Barcol Hardness after 24 hrs	40-45
¨ Glass/Resin Ratio*	1/2.6

*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 2550** 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 2550** 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

RM2550 Before use, mix the resin well to achieve a homogeneous product.
For optimum result of cure, don't catalyst under 1% or over 1.5% (per weight) 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 2550 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.

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Several products offered by Nida-Core Corp. are approved by: Lloyd's Register, ABS TYPE APPROVAL PROGRAM, ABS, DNV