

MIR-300

Micro-fiber Infused, Sprayable Tooling Resin

DESCRIPTION

MIR-300 is a tough, rigid and versatile tooling material that allows fabricators to rapidly and easily create molds with a durable mold surface.

The material is sprayed on in layers up to 1/8" (3mm) thickness (with no sag on a vertical surface) and is built up as required by applying successive layers once the first layers have gelled. It will also wet our traditional glass fabrics which may be applied for added rigidity and high HDT applications.

The material is easily machineable and can therefore be used to create molds without first having to create a plug.

For full processing instructions, see the *MIR-300 User Guide*.

FEATURES AND BENEFITS

Micro-fiber technology

- Room temperature thermoset.
- Sprayable material that has minimal trapped air and therefore requires less finishing.
- Minimal labor requirement and easily sanded.
- MIR-300 provides a tough and durable molding surface that can be applied behind a gel coat or simply machined.
- A tough, structural material that can be reinforced with molded ribs.
- Can be applied onto sealed polystyrene to build-up a mold surface.
- Durability – more pulls from the mold.
- Minimal shrinkage.
- Designed to reduce mold making costs and to reduce the start-to-finish time it takes to make tools.

HDT formulation

- MIR-300 is suitable for molding most thermoset resins.

Glass reinforcement

- For molding materials that have high exotherm, additional stability and strength can easily be obtained by incorporating a layer of traditional glass laminate.

TYPICAL LIQUID RESIN PROPERTIES	<u>Property at 77°F (25°C)</u>	<u>Method</u>	<u>Units</u>	<u>Value</u>
	Density	ASTM D792	g/ml	0.89
	Viscosity	ASTM D2196	cP	18,000
	Thix Index	ASTM D2196	n/a	4
	Glass Content	Formula	%	7
	Styrene Content	Formula	%	40.0

PROCESSING GUIDELINES	<u>Gel Characteristics, 77°F (25°C)</u>	<u>Gel Time</u>	<u>Peak Time</u>	<u>Peak Temp</u>
	2.0% DDM-9, 100 g mass	10 min	25 min	226°F (108°C)
	<p>a) This resin system is designed for use with Arkema's DDM-9 peroxide. Use only in the range of 1.0 (low exotherm) to 2.0 percent. Use of any other initiator is not recommended. Start at 2%.</p> <p>b) This product has been optimally formulated. Do not add promoters, fillers, or other additives. If you feel that your application requires some adjustment, please contact our technical service team first.</p> <p>c) We do not recommend the use of this material below 77°F (25°C). Insufficient cure and poor strength development may occur.</p>			

TYPICAL CURED RESIN PROPERTIES	<u>Physical Properties</u>	<u>Method</u>	<u>Units (SI)</u>	<u>Value</u>	<u>Units (US)</u>	<u>Value</u>
	Barcol Hardness, Ultimate (GYZJ-935 scale)	ASTM D2583	n/a	60	n/a	60
	Flexural Strength	ASTM D790	MPa	50	Psi	7,300
	Flexural Modulus	ASTM D790	GPa	5.0	Mpsi	.74
	Flexural Elongation @ Break	ASTM D790	%	3%	%	3%
	Tensile Strength	ASTM D638	MPa	35	Psi	5,100
	Tensile Modulus	ASTM D638	GPa	5.0	Mpsi	.74
	<u>Thermal Properties</u>					
	HDT, 264 psi	ASTM D648	°C	65	°F	149

- Properties are typical values based on standardized laboratory conditions. It is the responsibility of the end user to ensure that properties actually achieved are suitable for the intended use of the part.
- Properties may vary greatly depending upon the degree of cure.
- Successful molders of this product will utilize concepts of strength by design, such as ribs, laminates and thickness to add stiffness. See www.mirteq.com for additional information.

SAFETY	For industrial use only. Not for household use. Do not use this product unless you have read and understand the MSDS. This product is flammable. Keep away from sparks and sources of heat. Ground and bond all containers.
STORAGE	To ensure maximum stability and to retain optimum resin properties, resins should be stored between 68-77°F (20-25°C). Store in the original closed container. Keep closed when not in use. Store away from sources of heat. Storage areas should conform to local fire and building codes. Rotate stock on a first in, first out basis.
STANDARD PACKAGING	325 lb (227 Kg) open top drum 35 lb (18.2 Kg) pail
COMMERCIAL WARRANTY	Shelf life is three months from the date of shipment, when stored in accordance with the storage conditions above. Extended storage or storage outside of recommended conditions may cause drift in viscosity and gel times.
NOTICE	Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for their self the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results obtained by using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.

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