

## MIR-1000-85

### General Purpose, Resin-Alloy, Casting System - 85°C (185°F) HDT

DESCRIPTION	MIR-1000-85 is a resin-alloy technology with good heat distortion properties. It is a tough and versatile material that allows fabricators to expand into new markets and easily mold complex shaped parts. It can be cast, displaced, or injection molded.		
FEATURES AND BENEFITS	Resin-alloy technology	<ul style="list-style-type: none"> <li>• Room temperature thermoset.</li> <li>• Low injection pressures allow low cost tooling with minimal capital outlays.</li> <li>• Based on a high quality vinyl ester resin, MIR-1000 provides superior corrosion resistance in a wide variety of environments.</li> </ul>	
	High HDT formulation	<ul style="list-style-type: none"> <li>• Suitable for all interior and most exterior applications.</li> </ul>	
	No glass reinforcement	<ul style="list-style-type: none"> <li>• No fibers to print through to the surface – superior appearance, even with high gloss automotive finishes.</li> <li>• Low density reduces part weight and material costs.</li> </ul>	
	Additives	<ul style="list-style-type: none"> <li>• Available with UV</li> <li>• Being a relatively clear material it is receptive to most pigments and can achieve most shades</li> <li>• Please request all additive selections at the time of your order</li> </ul>	

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	1.05
	Viscosity	ASTM D2196	mPas	8,500
	Thix Index	ASTM D2196	n/a	1.0
	Glass Content	Formula	%	0
	Styrene Content	Formula	%	40.8

PROCESSING GUIDELINES

Typical Gel Time\* (1.5% CHM-50) @ 77°F (25°C): 20 minutes

\*For longer gel time, specify summer version with 20 minutes at 86°F (30°C)

- a) This resin system is designed for use with Syrgis' CHM-50 peroxide. Use only in the range of 1.0 (low exotherm) to 1.8 percent. Use of any other initiator is not recommended.
- 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.
- c) This viscosity of this material is highly temperature dependent. A 40% reduction in viscosity occurs between 77 and 86°F (25 and 30°C).
- d) Material should not be used below 77°F (25°C). Insufficient cure and poor strength development may occur.

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 (GYZI-935 scale)	ASTM D2583	n/a	86	n/a	86
Flexural Strength	ASTM D790	MPa	95	psi	13,800
Flexural Modulus	ASTM D790	GPa	1.9	Mpsi	0.28
Flexural Elongation @ Break	ASTM D790	%	>12	%	>12
Tensile Strength	ASTM D638	MPa	60	psi	8,700
Tensile Modulus	ASTM D638	GPa	2.5	Mpsi	0.36
Poissons Ratio	ASTM E132	n/a	0.3	n/a	0.3
<u>Thermal Properties</u>					
Thermal Expansion Coefficient	ASTM D696	µm/m°C	78	µin/in°F	43
HDT, 264 psi	ASTM D648	°C	85	°F	185

- a) 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.
- b) Properties may vary greatly depending upon the degree of cure. Those properties reported herein are based on samples that have been post-cured for 2 hours at 176°F (80°C).
- c) Successful molders of this product will utilize concepts of strength by design, which is standard practice with most unreinforced polymers. Examples are use of ribs and contours to add stiffness. Additionally glass reinforcements can be selectively used in the part design for localized reinforcements. See [www.mirteq.com](http://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	450 lb (204 Kg ) open top drum 40 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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