

## MIR-170

### High HDT, Low Exotherm, Micro-fiber Infused Casting Resin

**DESCRIPTION** MIR-170 is a tough, rigid and versatile material that allows fabricators to expand into new markets and easily mold corrosion resistant, complex shaped parts up to 2" (50mm) thick. It can be cast, displaced, or injection molded and can be reinforced, if necessary, with traditional fiberglass fabrics.

- FEATURES AND BENEFITS**
- Micro-fiber technology
    - Room temperature thermoset.
    - Low injection pressures allow low cost tooling with minimal capital outlays.
    - Based on a high quality bisphenol-A epoxy vinyl ester resin, MIR-170 provides superior corrosion resistance in a wide variety of environments.
  - HDT formulation
    - Suitable for most exterior applications.
  - Glass reinforcement
    - The micro-fibers are not visible and do not print through to the surface.
    - The material can be molded readily and does not require a gel-coat to deliver a high gloss automotive finish.
  - Additives
    - Available with UV.
    - Receptive to most pigments and can achieve most color shades.
    - Please request all additive selections at the time of your order.

TYPICAL LIQUID RESIN PROPERTIES	Property at 77°F (25°C)			
	Method	Units	Value	
Density	ASTM D792	g/ml	1.19	
Viscosity	ASTM D2196	cP	1,600	
Thix Index	ASTM D2196	n/a	1.4	
Glass Content	Formula	%	20	
Styrene Content	Formula	%	34.6	

PROCESSING GUIDELINES

Gel Characteristics, 77°F (25°C)

	<u>Gel Time</u>	<u>Peak Time</u>	<u>Peak Temp</u>
2.0% DDM-9, 100 g mass	76 min	158 min	221°F (105°C)

- 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. For thick parts, start at 1.1% peroxide.
- 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.
- We do not recommend the use of this material 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 (GYZJ-935 scale)	ASTM D2583	n/a	85	n/a	85
Flexural Strength	ASTM D790	MPa	140	Psi	20,300
Flexural Modulus	ASTM D790	GPa	3.0	Mpsi	0.44
Flexural Elongation @ Break	ASTM D790	%	5.4	%	5.4
Tensile Strength	ASTM D638	MPa	70	Psi	10,200
Tensile Modulus	ASTM D638	GPa	5.3	Mpsi	0.77
<u>Thermal Properties</u>					
HDT, 264 psi	ASTM D648	°C	100	°F	212

- 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, 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 our website 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

500 lb (227 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.

Revision Date: June 04, 2013