

Starting Formulation

SF 7002

Glass-Filled Epoxy Pre-Mix Molding Compound EPON™ Resin 828 / HELOXY™ Modifier 505

Introduction This formulation illustrates the preparation of a compression molding compound designed for high impact strength, thermal shock resistance, high temperature performance (long-term service at 120° to 175 °C), wide spectrum chemical resistance, and low cost. Incorporation of the vinyl chloride copolymer eliminates binder squeeze-out at the mold part line.

- Suggested Uses**
- Molded parts such as sand-core boxes for foundry work, pipe fitting, cases, and housings
 - Electrical insulation such as transformer bushings for interior service

Formula	Material	Supplier	Pounds	Gallons
	EPON Resin 828	Hexion	90	9.33
	HELOXY Modifier 505	Hexion	10	1.19
	Geon 427 Polyvinyl Chloride	B. F. Goodrich Co.	20	1.71
	Novacite 325 Silica	Malvern Minerals Co.	100	4.53
	ASP 101 Aluminum Silicate	J. M. Huber Corp.	30	1.40
	Black Iron Oxide	C. K. Williams Co.	5	0.12
	Carnauba Wax (powdered)	Cornelius Wax Refining	3	0.43
	Zinc Stearate (powdered)	Witco Chemical Corp.	10	1.10
	Phthalic Anhydride (powdered)	Allied Chemical Corp.	40	3.15
	1/2 inch Chopped Fiberglass	Owens-Corning Fiberglas Co.	<u>80</u>	<u>3.78</u>
	Total		388	26.74

Compounding Procedure Mix all components except the phthalic anhydride and chopped fiberglass into a jacketed, high shear sigma blade mixer and mix at 66 °C until all powder components are uniformly dispersed and thoroughly wetted by the resin. Maintain the batch temperature at 66 °C; add the powdered phthalic anhydride. Then add the chopped fiberglass in increments and continue mixing for about 5 to 10 minutes, or until all the fibers are uniformly dispersed but not greatly reduced in length. Discharge the batch and cool to room temperature. Wrap the premix compound in polyethylene film and store in a sealed container.

Typical Handling Properties Table 1 / Handling Properties

	<u>Units</u>	<u>Value</u>
Density	lbs/gal	14.5
Color		Black
Form	Fiber-filled cake, extruded rope or preform	

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Expected Pot Life		
at 25 °C	months	4
at 4 °C	months	>6
Suggested Molding Conditions		
Temperature	°C	125
Pressure	psi	300
Time in Press	min.	2

Typical Cured State Properties Table 2 / Cured State Properties¹

	<u>Units</u>	<u>Value</u>
Heat Deflection Temperature	°C	134
Tensile Strength	psi	8,100
Tensile Elongation	%	0.8
Flexural Strength	psi	13,000
Flexural Modulus	ksi	1,000
Izod Impact, notch	ft•lb/in.	1.4

¹ Determined on 1/4-inch thick sheets compression molded at 150 °C and 400 psi for a period of 3 minutes, then removed from the press and post-cured for 1 hour at 150 °C.

Storage Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com

General Information

These are starting formulations and are not proven in the user's particular application but are simply meant to demonstrate the efficacy of the products and to assist in the development of the user's own formulation. It is the user's responsibility to fully-test and qualify the formulation, along with the ingredients, methods, applications or equipment identified herein ("Information"), by the user's knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Contact Information

For product prices, availability, or order placement, please contact customer service:

www.hexion.com/Contacts/

For literature and technical assistance, visit our website at www.hexion.com

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