

Starting Formulation

SF 7015

Epoxy Mass Casting Binder

EPON™ Resin 828 / EPIKURE™ Curing Agent 3061

Introduction This epoxy system is formulated for use as a binder in casting compounds capable of application and cure in unusually large mass sizes with minimal exotherm and shrinkage. Typical of such applications is the casting of large tooling parts, flotation devices and the filling/sealing of large downhole excavations.

- 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

- Features**
- When filled with selected low specific heat inerts, such as metallic powder or tabular alumina, resulting compounds are characterized by the following performance highlights:
 - Cured at 23 °C
 - Peak exotherm of <65 °C
 - Minimal shrinkage
 - Demold capability after 24 hours cure

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Resin Portion				
	EPON Resin 828	Hexion	100.0	10.36
Converter Portion				
	EPIKURE Curing Agent 3061	Hexion	55.0	7.00
	Nonylphenol	Borg-Warner Chemicals	27.0	3.36

Typical Handling Properties Table 1 / Reactivity

	<u>Units</u>	<u>Value</u>
Resin/Converter Combining Ratio	by weight	100 : 82
	by volume	1 : 1
Gel Time at 23 °C, one pint mass	hrs	2
Peak Exotherm, one pint mass	°C	115

Typical Cured State Properties Table 2 / Cured State Properties¹

<u>Units</u>	<u>Value</u>
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Heat Deflection Temperature	°C	54
Tensile Strength	psi	5900
Tensile Elongation	%	2.7
Flexural Strength	psi	9850
Compressive Strength, Ultimate	psi	17200
Compressive Strength, Yield	psi	8300
Izod Impact, notch	ft•lb/in	0.24
Water Absorption, 96 hours at 23 °C ²	%	0.42

hours at 44 °C. ¹ Cured state properties determined on 1/8-inch thick castings cured 24 hours at 23 °C, plus 16

² Determined on 1x3x1/8-inch specimens immersed in water and reported as percent weight gain.

Compounding Mix the resin and converter portions and blend to a homogeneous state with proper agitation equipment prior to mixing with selected filler (sand, iron powder, or -8 mesh tabular alumina). Filler contents should be maximized when casting extraordinarily large masses. The peak exotherm is inversely proportional to the amount of filler used, but a peak exotherm temperature of 40-65 °C is necessary to ensure proper cure development and minimal shrinkage.

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.

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Contact Information

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

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