

Starting Formulation

SF 4005 General Purpose Epoxy Adhesive 828 3055 General Purpose Epoxy Adhesive EPON™ Resin 828 / EPIKURE™ Curing Agent 3055

Introduction This formulation is designed to provide adhesion to a variety of substrates such as metals, wood and concrete.

- Features**
- One-to-one combining ratio
 - Pot life of several hours
 - Full cure development within 7 days at room temperature

Formula	Material	Supplier	Pounds	Gallons
Part A				
	EPON Resin 828	Hexion	94.9	9.78
	Bentone 27	Rheox, Inc.	3.8	0.27
	Methanol	Union Carbide Corp.	<u>1.3</u>	<u>0.20</u>
		Part A	100.0	10.25
Part B				
	EPIKURE Curing Agent 3055	Hexion	75.9	9.61
	Bentone 27	Rheox, Inc.	4.6	0.32
	Methanol	Union Carbide Corp.	<u>1.5</u>	<u>0.23</u>
		Part B	82.0	10.16
		Total Part A & B	182.0	20.41

Mixing Instructions Blend the Bentone 27 with methanol prior to adding either the resin or curing agent. Disperse on a high speed mixer or equivalent mixing equipment until a homogeneous blend is obtained.

Immediately before use, mix components in a 1:1 ratio by volume. The substrate must be free of dirt, oil or grease prior to applying the adhesive. An adhesive bondline thickness of approximately 0.005 inch provides the best results.

This adhesive cures to handling strength in about 16 hours at normal room temperature. Full strength is reached in three to four days. Faster cure is obtained with elevated cure temperatures. Satisfactory schedules include:

90 minutes at 65 °C

45 minutes at 90 °C

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10 minutes at 120 °C

Typical Handling Properties Table 1 / Handling Properties

	<u>Units</u>	<u>Value</u>
Maix Ratio, resin : curing agent	by volume	1 : 1
Viscosity at 25 °C		
Resin	cP	70,000
Curing Agent	cP	28,400
Tensile shear strength	psi	2,400

Typical Adhesive Properties Table 2 / Adhesive Properties

Substrate	Cure Schedule	Tensile Shear Strength at 25 °C
Etched Aluminum, 2024T-3	15 minutes at 25 °C	180 psi
	1 hour at 25 °C	340 psi
	2 hours at 25 °C	900 psi
	3 hours at 25 °C	1800 psi
	24 hours at 25 °C	2600 psi
	3 days at 25 °C	2300 psi
	7 days at 25 °C	2400 psi
	1 day at 25 °C followed by 2 hours at 100 °C	2400 psi
Cold-rolled Steel, solvent-wiped	7 days at 25 °C followed by 7 days water soak	2200 psi
	1 day at 25 °C followed by 2 hours at 100 °C	1200 psi
Concrete, dry	7 days at 25 °C	Compressive Shear Strength at 25 °C
		>900 (concrete failure)
Concrete, dry to steel	3 days at 25 °C	Tensile Bond Strength at 25 °C
		>300 (concrete failure)
Concrete, damp to steel	3 days at 25 °C	>300 (concrete failure)

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,

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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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