

Starting Formulation

SF 1035

Heavy Duty Tank Lining

EPON™ Resin 1001-B-80 and 1007-HT-55 / EPIKURE™ Curing Agent 3213

Suggested Uses

- Recommended for lining steel tanks in hydrocarbon solvent and fuel service, and for heavy-duty maintenance systems for steel and concrete in marine and other severely corrosive environments

Features

- Provides high film build (5 to 8 mils dry thickness) per coat
- A desirable mixing ratio of 4:1 by volume

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
Pigments and thixotroping agents				
	Ti-Pure R-902	DuPont Company	42.0	1.26
	No. 1 Barytes	Elementis Pigments, Inc.	216.9	5.90
	Mistron CF5A	Luzenac America, Inc.	212.7	9.13
	Bentone 27 "PREGEL"	See Below	66.0	9.57
Vehicle				
	EPON Resin 1001-B-80	Hexion	125.0	13.58
	EPON Resin 1007-HT-55	Hexion	210.0	24.42
	Nuospense 657	Elementis Specialties Co.	5.2	0.72
	Silicone Resin SR 882M	Hexion Performance Products	4.2	0.44
	Methyl ethyl ketone		78.4	11.76
	Toluene		8.3	1.16
	Isopropyl alcohol		<u>13.4</u>	<u>2.06</u>
	Total Part A		982.1	80.00
Part B				
	EPIKURE Curing Agent 3213	Hexion	63.9	7.79
	Methyl ethyl ketone		41.6	6.24
	Isopropyl alcohol		<u>38.9</u>	<u>5.97</u>
	Total Part B		144.4	20.00

Generated: October 21, 2021
 Issue Date:
 Revision:

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Total Part A & B 1,126.5 100.00

Mixing Instructions

	<u>Pounds</u>	<u>Gallons</u>
Part A	982.1	80.00
Part B	<u>144.4</u>	<u>20.00</u>
Part A + B	1,126.5	100.00

NOTE: Before dispersing this formulation, a Bentone 27 "pregel" must be prepared. This is made by blending 13 parts by weight of toluene with 32 parts of methyl ethyl ketone, 13 parts of isopropyl alcohol with 2.6 parts of Bentone 27 for 10 minutes on high-speed dispersion equipment. Then add 5.3 parts of methanol and mix an additional 10 minutes. Store the "pregel" in a closed container until needed.

Disperse the pigments in a suitable portion of the vehicle plus the "pregel" Bentone 27 on a sand mill or high-shear mixer. Let down with the remaining vehicle and solvent blend. Charge the constituents of the curing agent component to a suitable container and mix thoroughly. Package the base component and curing agent component separately to be mixed just prior to use.

Typical Handling Properties When ready to use, slowly add the curing agent component to the base component and mix thoroughly. Because of the limited pot life of the mixed formulation, do not prepare more material than can be used during a working day. Allow the mixed formulation to stand for 30 to 60 minutes before application.

In spray application, use a pressure pot and DeVilbiss MBC-510 gun equipped with a No. 54 (or No. 704) cap and "E" tip. The mixed formulation should be at a suitable consistency for spraying with this equipment without further reduction. Recommended fluid and atomizing pressures are 20 psi and 60 psi, respectively.

For application of this system in confined or poorly ventilated areas, we recommend the use of an air-supplied hood and other protective clothing sufficient to cover the applicator's body.

The application methods for an EPON™ Resin 1001F/EPON Resin 1007F/EPI-CURE™ Curing Agent 3213 Heavy Duty Tank Lining include the use of air or airless spray equipment, roller or brush. This system is normally air dried, but under certain circumstances, may be cured by heat. These operations require the use of well ventilated facilities (fresh air supply and adequate exhaust) along with the use of OSHA/NIOSH approved respiratory equipment for worker protection. In addition, the worker must wear appropriate protective clothing to avoid skin contact.

Typical Formulation Properties Table 1 / Formulation Properties

	<u>Units</u>	<u>Value</u>
Nonvolatile content by weight	%	63.9
Weight per gallon	lb./gal.	11.3
Pigment : Binder Weight Ratio		1.9
Pigment volume concentration (PVC)	%	40.4
Volatile Organic Compound (VOC)	lb/gal	4.07
	g/L	488

Viscosity @ 25°C

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Cure Schedules Table 2 / Cure Schedules

At ambient temperatures of 70°F to 80°F, this coating will dry to handle in about six hours. Physical properties will be fully developed in about two days. Chemical and solvent resistance will be fully developed in seven days. At ambient temperatures of 55°F, several weeks may be required to produce full cure, as the adduct curing agent used in the formulation has low volatility and will remain in the film to react with the epoxy resin.

	<u>Units</u>	<u>Value</u>
Force dry, to a sandable stage		
100°F	hrs	1.5 – 2
110°F	hrs	1 – 1.5
120°F	min.	45
140°F	min.	30
Force dry, to full cure		
140°F	hrs	1.5
High temperature bake, to full cure		
200°F	min.	20
250°F	min.	10
300°F	min.	7
350°F	min.	4
400°F	min.	2
450°F	min.	1

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.

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Contact Information

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

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