

Starting Formulation

SF 1825

Waterborne Red Iron Oxide Epoxy Primer

EPI-REZ™ Resin 3520-WY-55 and 3546-WY-53 / EPIKURE™ Curing Agent 8290-Y-60

- Suggested Uses
- Industrial Maintenance Metal Primer
 - An alternative to Starting Formulation No. 1810

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
	EPI-REZ Resin 3520-WY-55	Hexion	359.6	39.52
	Diacetone Alcohol	Shell Chemical Co.	7.0	0.89
	COLLOID™ 640	Rhodia, Inc.	3.5	0.41
	DI Water		60.0	7.19
	RO-4097 KROMA RED,™ Red Iron Oxide	Elementis Pigments	71.1	1.74
	SPARMITE™ Barytes, Barium Sulphate	Elementis Pigments	71.1	1.94
	10ES WOLLASTOCOAT™	NYCO Industries	106.7	4.41
	HALOX™ SW-111	Halox Pigments, Inc.	100.0	4.20
	ZEEOSPHERE™ 400	3M Industries, Inc.	71.1	3.50
	Wet Ground Mica, 325 Mesh	KMG Minerals, Inc.	7.5	0.32
<i>High Speed disperse to Hegman 7.</i>				
	EPI-REZ Resin 3546-WY-53	Hexion	108.3	12.03
	Water		<u>32.1</u>	<u>3.85</u>
	Total Part A		998.0	80.00
Part B				
	EPIKURE Curing Agent 8290-Y-60	Hexion	60.0	6.80
	DI Water		108.0	12.93
	RAYBO™ 60	Raybo Chemical Co.	<u>2.50</u>	<u>0.27</u>
	Total Part B		170.5	20.00
	Total Part A & B		1168.5	100.00

Mixing Instructions	<u>Pounds</u>	<u>Gallons</u>
Part A	998.0	80.00
Part B	170.5	20.00

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Part B	<u>170.5</u>	<u>20.00</u>
Part A + B	1168.5	100.00
Resin Composition		
	<u>Units</u>	<u>Value</u>
Part A	% solids	87.6
Part B	% solids	<u>12.4</u>
Part A + B	% solids	100.0

Typical Formulation Table 1 / Formulation Properties
Properties

	<u>Units</u>	<u>Value</u>
Total weight solids	%	61.7
Total volume solids	%	45.0
Pigment volume concentration (PVC)	%	35.8
Volatile Organic Compound (VOC)	lb/gal	1.49
	g/L	179
Induction Time	min.	30
Cure Schedule at 77 °F (25 °C) at 55% relative humidity.	days	14
Viscosity @ 25°C		
Part A + B	KU	72

Coatings Performance Comparison To determine if a blend of EPI-REZ Resin 3520-WY-55 and EPI-REZ Resin 3546-WY-53 (77% to 23% w/w blend of dispersion as supplied) could be substituted on a pound for pound basis for an EPI-REZ Resin 5522-WY-55 dispersion in this application, we compared the performance of this starting formulation with that of Starting Formulation No. 1810.

Starting Formulation No. 1810 is an anticorrosive, red iron oxide primer based on EPI-REZ Resin 5522-WY-55 and EPIKURE Curing Agent 8290-Y-60 that was designed for light- to medium-duty maintenance applications.

The results of this performance comparison are shown on the next page.

Typical Film Table 2 / Film Performance Properties ¹
Properties

			<u>SF 1810</u>	<u>SF 1825</u>
	<u>ASTM Method</u>	<u>Units</u>	<u>Value</u>	<u>Value</u>
Film thickness	D 1186	mils	1.9-2.1	1.9-2.1
24 hr. pencil hardness	D 1186		3B	3B
7 day pencil hardness			B	HB
Set to touch dry	D 5895-B	hrs	0.5	0.8
Cotton-free dry		hrs	3.0	3.0
Thru-dry		hrs	4.0	4.0
Adhesion	D 3359-A		5A	5A
MEK double-rubs	D 4752		25	16

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Impact resistance Direct/Reverse	D 2794	in.-lbs.	68/12	64/16
Distilled water immersion at 60 °C	D 870		8F	8F
Salt spray resistance	B-117		6F	6M
			6 mm creep	7 mm creep
Prohesion resistance (<i>Expose coated panels to salt spray of 0.35%wt ammonium sulfate and 0.05%wt sodium chloride at 35 °C for one hour and then dry at 40 °C for 1 hour.</i>)			6F	6F
			4 mm creep	4 mm creep

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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