Starting Formulation

SF 1729

Waterborne Red Iron Oxide Primer – 3:1 Ratio
EPI-REZ™ Resin 6520-WH-53 / EPIKURE™ Curing Agent 6870-W-53

Introduction This waterborne red iron oxide primer is designed as an alternative to solvent borne epoxy/polyamide based primers. This is a low VOC formulation with a convenient combining ratio (3:1 by volume) that requires no induction time. It is expected to have good corrosion resistance, as well as rapid dry and recoat times.

Suggested Uses

- Corrosion resistant metal primers

Features

- Combining ratio of 3:1 by volume
- VOC level of 0.69 lb/gal. (83 g/l)
- Rapid dry and recoat
- No induction time
- Contains corrosion inhibitive pigment

[1] VOC is the acronym for volatile organic compound as defined by the U.S. 40CFR51.100 (s).

Formula	Material	Supplier	Pounds	Gallons
	Part A			
	EPI-REZ Resin 6520-WH-53	Hexion	300.2	33.35
	Dipropylene Glycol n-Butyl Ether	Dow Chemical Company	28.2	3.72
	CIBA EFKA® 2527 Defoamer	Ciba Specialty Chemicals	2.8	0.37
	Kroma® Red Iron Oxide RO-4097	Elementis Pigments Inc.	62.8	1.54
	10 ES WOLLASTOCOAT®	NYCO® Minerals, Inc.	93.8	3.87
	SPARMITE™ Barytes	Elementis Pigments Inc.	62.8	1.71
	K-WHITE® 105 anti-corrosive pigment	Tayca Corporation	87.8	3.51
	ZEEOSPHERES® 400	3M Company	62.6	3.12
	Wet Ground Mica, 325 Mesh	Franklin Industrial Minerals	6.6	0.28
		High Speed Disperse to a texture of 5-6 Hegman Scale. Reduce speed, then add:		
	EPI-REZ Resin 6520-WH-53	Hexion	93.1	10.35
	Water		110.0	13.18
		Total Part A	910.7	75.00
	Part B			
	EPIKURE Curing Agent 6870-W-53	Hexion	180.0	19.95
	Water		42.2	5.05
		Total Part B	222.2	25.00

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	Total Part A & B	1132.9	100.00

Mixing Instructions

	Pounds	Gallons
Part A	910.7	75.0
Part B	222.2	25.0
Part A + B	1132.9	100.00

Typical Formulation Properties — Table 1 / Formulation Properties

	Units	Value
Mix ratio Part A: Part B	By volume	3 : 1
	By weight	4.1 : 1
Pigment : Binder Weight Ratio		1.2 : 1
Total weight solids	%	60.1
Total volume solids	%	45.2
Pigment volume concentration (PVC)	%	31.1
Volatile Organic Compound (VOC)	lb/gal	0.69
	g/L	83
Induction Time	min.	None
Pot life	hrs	3 - 4
Viscosity @ 25°C		
Part A + Part B	KU	65

Typical Film Properties — Table 2 / Film Performance Properties [1]

	ASTM Method	Units	Value
Dry Times (drawdowns, 4 mil dry)	D-5895B		
Set-to-Touch		hrs	<0.25
Set to touch dry		hrs	0.5
Cotton Free		hrs	3.0
Through		hrs	7.5
Pencil hardness on concrete	D-1186		
24 hrs			2B
14 days			F
Impact Resistance	D-2794		
Direct		in/lb	16
Reverse		in/lb	2
Adhesion (X-cut)	D-3359		5A
MIBK Spot test (soften 2 pencils units)	D-1308	min.	>60
Distilled Water Immersion [2]	D-870		No Blisters
Salt Spray [3]	B-117		
Undercutting		mm	3
Field blisters			6 VF

Generated: October 21, 2021
Issue Date:
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Prohesion Cyclic Salt Spray [3]	D-5894		
Undercutting		mm	8
Field blisters			None
Cleveland Humidity Chamber [3]	D-2247		
Field blisters			8M

[1] Applied to cold-roll steel, cured for 14 days at 77°F and 55% RH

[2] 1150 hrs @ 60°C

[3] 1150 hrs

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 atwww.hexion.com

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