

Starting Formulation

SF 1742 WB Gloss White Enamel 6520 6870 (less than 100 g/L VOC) Waterborne Gloss White Enamel – 4:1

EPI-REZ™ Resin 6520-WH-53 / EPIKURE™ Curing Agent 6870-W-53

Introduction This starting point formulation is designed for high gloss applications where customers prefer to prepare a pigment concentrate then that is let-down with the epoxy resin dispersion and other ingredients. This formulation contains less than 100 g/L VOC, which complies with the most stringent regulations in place at this time (i.e., South Coast Air Quality Management District).

- Suggested Uses**
- Topcoat over primed metal surfaces
 - General maintenance

- Features**
- High gloss (60 degree gloss >90 over two hours of pot life)
 - Low VOC¹ (90 g/L as applied)
 - NonHAPS²
 - Good dry times (~12 hours dry-through)

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

² HAP is the acronym for hazardous air pollutant as defined by the U.S. Clean Air Act Amendments of 1990.

<u>Formula</u>	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
Pigment Concentrate				
	CARDURA™ Glycidyl Ester E10P	Hexion	10.8	1.35
	TAM-20 surfactant	ETHOX Chemical	4.5	0.82
	Dee Fo 215	Münzing Chemical	7.0	0.99

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Modaflow	Cytec	4.5	0.82
Ti-Pure R-960	Du Pont Chemicals	218.0	6.80
Optiflo H-600	Southern Clay Products	1.0	0.12
Water		<u>124.3</u>	<u>14.92</u>
	Pigment Concentrate Total	370.1	25.8

Add the following while mixing

EPI-REZ Resin 6520-WH-53	Hexion	380.0	42.22
Drew Plus L-475 Defoamer	Drew Chemical	1.0	0.14
Dipropylene glycol n-butyl ether (DPnB)	Dow Chemical	9.0	1.19
Propylene Glycol Propyl Ether (PnP)	Dow Chemical	10.0	1.36
BYK 348	BYK Chemie	4.2	0.48
Anti-Terra U-100	BYK Chemie	15.4	1.83
Anti-Terra U-250	BYK Chemie	16.0	1.90
Deionized Water		<u>41.9</u>	<u>5.03</u>
	Total Part A	847.6	80.00

Part B

EPIKURE Curing Agent 6870-W-53	Hexion	174.0	19.12
Raybo 60 (flash rust additive)	Raybo Chemical Company	0.8	0.09
Water		4.1	0.49
Texanol	Eastman	<u>2.8</u>	<u>0.32</u>
	Total Part B	181.7	20.00

Total Part A & B 1029.3 100.00

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Mixing Instructions	<u>Pounds</u>	<u>Gallons</u>
Part A	847.6	80.00
Part B	<u>181.7</u>	<u>20.00</u>
Part A + B	1029.3	100.00

Typical Formulation Table 1 / Formulation Properties Properties

	<u>Units</u>	<u>Value</u>
Mix ratio Part A : Part B	By volume	4 : 1
Amine hydrogen eq. to Epoxy eq. ratio (based on solids)		1 : 1
Total weight solids	%	55.3
Total volume solids	%	50.1
Pigment to Binder ratio by weight (P:B)		0.71
PVC	%	17
VOC	lb/gal	0.75
	g/L	90
Induction Time	min.	<5
Viscosity, Part A + Part B, Stormer at 25 °C		
Initial	KU	74
1 hrs	KU	74
2 hrs	KU	74
Gloss pot life	hrs	2-3

Typical Film Properties Table 2 / Film Performance Properties on smooth cold-rolled steel (CRS) panels ¹

-	<u>ASTM Method</u>	<u>Units</u>	<u>Value</u>
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Film thickness (DFT)	D-1186	mils	2-4
Pencil hardness	D-3363		
24 hrs			4B
3 days			B
14 days			HB
Set to touch dry, Stage II	D-5895-B	hrs	4
Cotton free, Stage III	D-5895-B	hrs	6
Through dry, Stage IV	D-5895-B	hrs	12
Gloss 60°/20°, after 24 hour cure	D-522		
0.5 hr			98 / 71
1 hr.			98 / 76
2 hr.			95 / 67
MEK double rubs	D-5402	cycles	
24 hrs			40
3 days			80
7 days			160

¹ Performance data is reported after 7 days at 77°F and 50% RH

Storage Recommendations regarding storage conditions for Hexion epoxy resins, modifiers and curing agents can be obtained by visiting our web site at www.hexion.com/epoxy

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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For product prices, availability, or order placement, call our toll-free customer service number at:

1-866-443-9466

For literature and technical assistance, visit our website at: www.hexion.com/epoxy

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