PRODUCT BULLETIN

EPOTUF® 37-140

Liquid Epoxy Resin

DESCRIPTION

EPOTUF® 37-140 is the standard, undiluted, general purpose, diglycidyl ether of Bisphenol-A epoxy resin.

FEATURES & BENEFITS

- High heat distortion temperature
- Medium high viscosity
- Good reactivity
- Good resistance properties

PROPERTIES - LIQUID

Viscosity, at 25°C, cps	10500 - 13500
Color, Gardner	1 max.
Pounds per Gallon	9.70
Epoxide Equivalent Weight	185 average

APPLICATIONS

- High-solids and solvent-free high-build coatings
- High-pressure laminating
- Castings
- Adhesives
- Electrical potting and encapsulating
- Functional and decorative flooring
- Filament winding

SHELF LIFE & STORAGE

EPOTUF® 37-140 may crystallize during extended storage or when stored at low temperatures. Resin that has crystallized can be remelted by holding at 130°F to 150°F until all crystals have melted. Warm storage (130°F to 150°F) is recommended. Remelting of crystallized resin has no negative effects on performance.

SAFETY & WARRANTY

To receive a copy of our safety and warranty information, please email safetyandwarranty@polynt.com.

SUGGESTED FORMULATION

Anti-Corrosive Primer
EB-37140A

Component A

Lbs.	Gals.	Material	Supplier
228.6	23.56	EPOTUF® 37-140	
29.2	3.81	Dowanol PM	1
29.2	3.69	Glycol Ether DPM	
10.1	0.68	Bentone 27	2
3.7	0.56	Methanol	
12.7	1.47	BECKAMINE® 21-510	3
36.8	5.52	Methyl Isobutyl Ketone	
148.1	20.43	Xylene	
204.6	6.82	Heucophos ZBZ	4
153.5	3.59	R8098D	5
108.0	4.55	Nytal 300	6
35.6	1.52	Mica 325	7
138.9	3.80	Barytes #1	5
1390.0	**80.00**	**TOTAL**	

High-speed disperse to Hegman 4.

Component B

160.0	19.76	EPOTUF® 37-650	
1.7	0.23	Xylene	
161.7	**20.00**	**TOTAL**	
1300.7	**100.00**	**TOTAL COMPONENTS A + B**	

Analysis:

31.19	Pigment Volume Concentration, Percent
1.576	Pigment/Binder Ratio
1042	Spread at 1 Mil, Ft^2 per Gallon
80.49	Percent Solids, Weight
64.99	Percent Solids, Volume
	VOC
272	Grams per Liter
2.27	Pounds per Gallon

Suppliers:

1) Dow Chemical	5) Pfizer
2) Elementis	6) R. T. Vanderbilt
3) Cytec	7) The English Mica Co.
4) Heucotech	

TYPICAL PERFORMANCE DATA

Typical Properties
Unfilled Castings of EPOTUF® 37-140 Cured With Various Hardeners

Hardener (EPOTUF®)	37-614 Aliphatic Amine	37-612 Polyamide
Parts Hardener/100 Parts Resin by Weight	26	60
Gel Time at 25°C (77°F), 100g	12 – 15 Minutes**	50 – 70 Minutes**
Hardness, Barcol, 934-1	35 – 40	25 – 30
Heat Distortion Temperature, °C / °F	99 – 104 / 210 – 220)	60 – 63 / 140 – 145
Tensile Strength, psi	12 – 14,000	7 – 8,000
Tensile Elongation, psi	4 – 5	5 – 6
Flexural Strength, psi	20 – 23,000	12 – 15,000
Flexural Modulus, psi ´ 10^{-5}	4.2 – 4.5	3.6 – 3.9
Dielectric Strength, S/T, V/M	440 – 465	400 – 425
Dielectric Constant, 60 Hz / 10^6 Hz	3.4 – 3.5 / 3.3 – 3.4	3.5 – 3.6 / 3.3 – 3.4
Power Factor, 60 Hz / 10^6 Hz	0.006 – 0.04 / 0.03 – 0.04	0.005 – 0.006 / 0.03 – 0.04
Water Absorption, Percent Weight	0.1 – 0.2 / 0.7 – 0.8	0.1 – 0.2 / 0.9 – 1.0
24 Hours at 25°C (77°F) /		
2 Hours at 100°C (212°F)		
Cure Schedule	24 Hours at 25°C/77°F	24 Hours at 25°C/77°F
	+2 Hours at 121°C/250°F	+2 Hours at 121°C/250°F

*1.0 part Tris (dimethylaminomethyl) -phenol added as accelerator.
**Gel time data should be taken only as a guide, since exact data is highly dependent upon sample mass, container, temperature of the resin and hardener, and room temperature. Small differences in any of these factors will make a difference in the gel time of the resin/hardener mix. It is advisable, therefore, to determine gel time of the mix under actual working conditions.

SUGGESTED FORMULATION

High Solids Barrier Mastic Coating
Using EPOTUF® 37-140 and 37-620

Component A

Lbs.	Gals.	Material	Supplier
230.5	23.89	EPOTUF® 37-140	
46.1	6.91	Methyl Isobutyl Ketone	
8.6	1.27	Diisobutyl Ketone	
172.9	7.14	Wollastocoat 10 ES	1
57.6	1.67	Tronox CR-800	2
9.8	0.74	Tixogel EZ-200	3

High-speed disperse to at least 5 N.S.

41.9	6.28	Methyl Isobutyl Ketone	
144.1	6.08	Nytal 300	4

High-speed disperse to 3.5 N.S.

62.2	6.45	EPOTUF® 37-140	
230.5	5.77	Micaceous Iron Oxide	
3.4	0.47	Xylene	
1007.6	**66.67**	**TOTAL**	

High-speed disperse until uniform.

Component B

172.9	21.89	EPOTUF® 37-620	
43.2	5.96	Toluene	
39.7	5.48	Xylene	
255.8	**33.33**	**TOTAL**	
1263.4	**100.00**	**TOTAL COMPONENTS A + B**	

Analysis:

85.5	Percent Solids, Weight
73.6	Percent Solids, Volume
12.6	Weight/Gallon, Pounds
1.32/1	Pigment to Binder, Weight Ratio
29.1	Pigment Volume Concentration, Percent
100/59	Epoxy to Curing Agent, Weight Ratio
	VOC
1.83	Pounds per Gallon
220	Grams per Liter

Suppliers:

1) NYCO	3) United Catalysts
2) Kerr-McGee	4) R. T. Vanderbilt

TYPICAL PERFORMANCE DATA

Film Properties:
Combine Components A and B (2:1 by volume)
approximately 1 hour prior to application.
Spray unreduced.

Viscosity, Seconds, #4 Zahn Cup	16
Pot Life, Hours	>8
Dry Time, 7 MWFT, Set-to-Touch, Minutes	130
Tack Free, Hours	6-8
Through Dry, Hours	10-12

Typical Properties
Based on 7-Day Ambient Cure, 2 Coats of 6 Mils Each on Polished CRS

Pencil Hardness	F
Gloss, 60° / 85°	22/35
Impact Resistance, Forward	10
Adhesion, Crosshatch	
Polished CRS	100%
Unpolished CRS	100%
Aluminum	100%
Intercoat	100%
Humidity Resistance, QCT Cabinet	
Hours	1500
Blisters	None
Corrosion Resistance, Salt Fog, 4 Mil Film	
Hours	1000
Scribe Blisters	None
Scribe Corrosion Creep	None
Scribe Rusting	None
Field Blistering	None
Field Rusting	None