Dow Automotive

BETAMATE™ 73312/73313

Structural Adhesive

Description

BETAMATE* 73312/73313 is a two component system used to produce a toughened structural epoxy adhesive. This system was developed primarily for use in bonding aluminum, but may also be utilized when bonding magnesium, cold rolled steel and electro-galvanized steel. The mix ratio for this system is two to one by volume.

Typical Applications

BETAMATE 73312/73313 can be used for replacing welds, and/or mechanical fasteners in hem flange and lap joint applications.

Application Technique

BETAMATE 73312/73313 can be pumped with a follower plate from bulk containers into standard meter mix equipment. The proper mix ratio is in turn dispensed manually or robotically through a static mixer equipped gun.

Safety Precautions

Keep away from heat, sparks, and open flame. Use only adequate ventilation. Avoid prolonged contact and avoid inhalation of vapors. If swallowed, call a physician immediately. For eye contact, flush with water for 15 minutes and get medical attention. Refer to Material Safety Data Sheet for additional details.

Packaging

BETAMATE 73312/73313 is available in 5 gallon metal pails and 55 gallon drums.

Storage

BETAMATE 73312/73313 must be stored in dry containers at temperatures below 77°F (25°C). Product stored below 60°F (15°C) should be warmed to room temperature before using.

Storage Stability

Shelf life is dependent upon storage temperature of the material. Shelf stability is assured for 180 days from the date of shipment when stored according to the above storage requirements.

Uncured Physical Properties	73312	73313
Composition	Epoxy	Amine
Appearance	Black	Tan
Solids Content, Wt %	100	100
Flash Point, °F	>230	>230
Weight per Volume, lbs/gal	10.25	10.6
Viscosity; cps@ 77°F (25°C) Brookfield HBT, Spindle #7;		
@ 10 RPM	368,000	64,000
@ 100 RPM	154,000	37,000

Mixed Bead	
Mix Ratio by Volume	2:1 Epoxy/Hardener
Gel Time, minutes	50
Open Time, minutes	Approx. 30
Thixotropy	Non sag

Cured Physical Properties	
Hardness	60 shore D
Elongation	2.1%
Tensile Strength	46,000 kPa
Young's Modulus	3,500,000 kPa
Shear Modulus	1,300,000 kPa
Poisson's Ratio	0.35

Performance Properties	
Test Substrate	Buffed Aluminum
Test Coupon Thickness	Shear: 0.048"/0.126" Peel: 0.048
Bondline Thickness	0.01"
Overlap	0.5""

Cure: 1 hour at 120°F (50°C)

Test Temperature	Lap Shear -psi (Mpa)	Peel-pli
75°F (24°C)	1080 (7.5)	3
-40°F (-40°C)	1511 (10.4)	5

Cure: 1 hour at 180°F (82°C)

Test Temperature	Lap Shear -psi (Mpa)	Peel-pli
75°F (24°C)	2785 (19.2)	13
-40°F (-40°C)	2904 (20)	10
180°F (82°C)	2613 (18)	17

Cure: 30 minutes at 250°F (121°C)

Test Temperature	Lap Shear -psi (Mpa)	Peel-pli
75°F (24°C)	2709 (18.7)	12
-40°F (-40°C)	2745 (18.9)	11.6
180°F (82°C)	2426 (16.7)	17.5

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HEADQUARTERS

Dow Automotive
1250 Harmon Road
Auburn Hills, MI 48326
(248) 391-6300

Distributed by:
Rudolph Bros. & Co.
PO Box 425, Canal Winchester, OH 43110
Phone: 614-833-0707
Fax: 800-600-9508
e-mail: rbcsupport@rudbro.com
www.rudbro.com

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