

3M Scotch-Weld™ EC-1386 Epoxy Adhesive

Category : Polymer , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

3M™ Scotch-Weld™ Epoxy Adhesive EC-1386 is a one-part, 100% solids, thermosetting liquid adhesive. Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Scotch-Weld-EC-1386-Epoxy-Adhesive.php

Physical Properties	Metric	English	Comments
Brookfield Viscosity	75000 - 175000 cP	75000 - 175000 cP	RVF, #7 spindle @ 4 rpm

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	21.9 MPa	3180 psi	
	@Temperature 82.0 °C	@Temperature 180 °F	
	57.2 MPa	8300 psi	
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	70.3 MPa	10200 psi	
	@Temperature 24.0 °C	@Temperature 75.2 °F	
Shear Strength	24.10 MPa	3496 psi	Stored 1 year, 22-26°C, Average
	26.88 MPa	3898 psi	Overlap on Anodized Aluminum
	29.4 MPa	4260 psi	Stored 1 year, 22-26°C, Average
	2.79 MPa	405 psi	Etched Aluminum Overlap
	@Temperature 177 °C	@Temperature 351 °F	
	4.48 MPa	650 psi	Etched Aluminum Overlap
	@Temperature 149 °C	@Temperature 300 °F	
	8.62 MPa	1250 psi	Minimum MMM-A-132 Requirement
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	9.58 MPa	1390 psi	Etched Aluminum Overlap, 1.2% (Radiator Conditioner) 98.9% Tap Water Immersion for 30 days
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	10.3 MPa	1500 psi	Minimum MIL-A-8623 Type III Requirement
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	10.3 MPa	1500 psi	

Mechanical Properties	Metric @ Temperature 81.0 - 83.0 °C	English @ Temperature 178 - 181 °F	Comments Stored 1 year, 22-26°C, Minimum MIL-A-8623 Type III Requirement
	13.4 MPa	1950 psi	Etched Aluminum Overlap, 0.8% (Rust Inhibitor)/ 99.2% Tap Water Immersion for 30 days
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	13.8 MPa	2000 psi	Etched Aluminum Overlap, Salt Spray Immersion for 250 hrs, Minimum MIL-A-8623 Type III Requirement
	@Temperature 33.0 - 36.0 °C	@Temperature 91.4 - 96.8 °F	
	13.8 MPa	2000 psi	Etched Aluminum Overlap, Accelerated Weather Immersion for 60 hrs, Minimum MIL-A-8623 Type III Requirement
	@Temperature 61.0 - 65.0 °C	@Temperature 142 - 149 °F	
	13.96 MPa	2025 psi	Etched Aluminum Overlap, 3 min cure
	@Temperature 288 °C	@Temperature 550 °F	
	15.22 MPa	2208 psi	Etched Aluminum Overlap, 10 min cure
	@Temperature 260 °C	@Temperature 500 °F	
	16.8 MPa	2440 psi	Etched Aluminum Overlap, 26% Methyl Alcohol/74% Tap Water Immersion for 30 days
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	17.2 MPa	2500 psi	Minimum MMM-A-132 Requirement
	@Temperature -58.0 - - 56.0 °C	@Temperature -72.4 - - 68.8 °F	
	17.2 MPa	2500 psi	Minimum MMM-A-132 Requirement
	@Temperature 22.0 - 24.0 °C	@Temperature 71.6 - 75.2 °F	
	17.2 MPa	2500 psi	Minimum MIL-A-8623 Type III Requirement
	@Temperature -58.0 - - 56.0 °C	@Temperature -72.4 - - 68.8 °F	
	17.2 MPa	2500 psi	Minimum MIL-A-8623 Type III Requirement
	@Temperature 22.0 - 24.0 °C	@Temperature 71.6 - 75.2 °F	
	17.2 MPa	2500 psi	Stored 1 year, 22-26°C, Minimum MIL-A-8623 Type III Requirement
	@Temperature 22.0 - 24.0 °C	@Temperature 71.6 - 75.2 °F	
	17.2 MPa	2500 psi	Etched Aluminum Overlap, Type III Hydrocarbon Fluid Immersion for 7 days, Minimum MIL-A-8623 Type III Requirement
	@Temperature 22.0 - 26.0 °C	@Temperature 71.6 - 78.8 °F	
	17.9 MPa	2600 psi	

Mechanical Properties	Metric @ Temperature 121 °C	English @ Temperature 250 °F	Etched Aluminum Overlap Comments
	18.1 MPa	2620 psi	Etched Aluminum Overlap, 2 min cure
	@Temperature 316 °C	@Temperature 601 °F	
	19.0 MPa	2760 psi	Etched Aluminum Overlap, Tap Water Immersion for 30 days
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	19.3 MPa	2800 psi	Average
	@Temperature 120 - 122 °C	@Temperature 248 - 252 °F	
	20.7 MPa	3000 psi	Average
	@Temperature -58.0 - -56.0 °C	@Temperature -72.4 - -68.8 °F	
	22.93 MPa	3325 psi	Etched Aluminum Overlap, 1 min cure
	@Temperature 218 °C	@Temperature 424 °F	
	25.2 MPa	3650 psi	Etched Aluminum Overlap, 28.6% Ethylene Glycol/71.4% Tap Water Blend Immersion for 30 days
	@Temperature 81.0 - 83.0 °C	@Temperature 178 - 181 °F	
	29.01 MPa	4208 psi	Etched Aluminum Overlap, Type III Hydrocarbon Fluid Immersion for 7 days, Average
	@Temperature 22.0 - 26.0 °C	@Temperature 71.6 - 78.8 °F	
	29.1 MPa	4220 psi	Etched Aluminum Overlap, Salt Spray Immersion for 250 hrs, Average
	@Temperature 33.0 - 36.0 °C	@Temperature 91.4 - 96.8 °F	
	29.19 MPa	4234 psi	Etched Aluminum Overlap, Accelerated Weather Immersion for 60 hrs, Average
	@Temperature 61.0 - 65.0 °C	@Temperature 142 - 149 °F	
	29.32 MPa	4252 psi	Etched Aluminum Overlap, Tap Water Immersion for 30 days
	@Temperature 65.0 - 67.0 °C	@Temperature 149 - 153 °F	
	29.4 MPa	4260 psi	Etched Aluminum Overlap, 1 min cure
	@Temperature 232 °C	@Temperature 450 °F	
	29.80 MPa	4322 psi	Etched Aluminum Overlap, 10 min cure
	@Temperature 177 °C	@Temperature 351 °F	
	31.7 MPa	4600 psi	Average
	@Temperature 81.0 -	@Temperature 178 -	

Mechanical Properties	Metric	English	Comments
	83.0 °C 32.15 MPa	181 °F 4663 psi	
	@Temperature 204 °C	@Temperature 399 °F	Etched Aluminum Overlap, 5 min cure
	32.71 MPa	4744 psi	
	@Temperature 48.0 - 50.0 °C	@Temperature 118 - 122 °F	Etched Aluminum Overlap, Tap Water Immersion for 30 days
	37.9 MPa	5500 psi	
	@Temperature 22.0 - 24.0 °C	@Temperature 71.6 - 75.2 °F	Average
	39.3 MPa	5700 psi	
	@Temperature 22.0 - 26.0 °C	@Temperature 71.6 - 78.8 °F	Etched Aluminum Overlap, Tap Water Immersion for 30 days
Impact Test	6.78 J	5.00 ft-lb	MIL-A-8623 Type III Requirement
	8.54 J	6.30 ft-lb	Average
	61.0 J	45.0 ft-lb	
	@Temperature 22.0 - 26.0 °C	@Temperature 71.6 - 78.8 °F	
Peel Strength	1.75 kN/m	10.0 pli	
	@Temperature 22.0 - 24.0 °C	@Temperature 71.6 - 75.2 °F	Etched Aluminum T-Peel

Thermal Properties	Metric	English	Comments
CTE, linear	0.465 µm/m-°C	0.258 µin/in-°F	
	@Temperature -40.0 - 44.0 °C	@Temperature -40.0 - 111 °F	
	0.496 µm/m-°C	0.276 µin/in-°F	
	@Temperature 44.0 - 116 °C	@Temperature 111 - 241 °F	

Electrical Properties	Metric	English	Comments
Dielectric Constant	5.11	5.11	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.28	5.28	
	@Temperature 60.0 °C	@Temperature 140 °F	
	5.55	5.55	
	@Temperature 90.0 °C	@Temperature 194 °F	

Electrical Properties	6.07 Metric	6.07 English	Comments
	@Temperature 105 °C	@Temperature 221 °F	
	7.35	7.35	
	@Temperature 120 °C	@Temperature 248 °F	
	8.37	8.37	
	@Temperature 135 °C	@Temperature 275 °F	
Dielectric Strength	>= 15.7 kV/mm	>= 400 kV/in	
Dissipation Factor	0.057	0.057	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.059	0.059	
	@Temperature 60.0 °C	@Temperature 140 °F	
	0.101	0.101	
	@Temperature 90.0 °C	@Temperature 194 °F	
	0.129	0.129	
	@Temperature 105 °C	@Temperature 221 °F	
	0.138	0.138	
	@Temperature 120 °C	@Temperature 248 °F	
	0.183	0.183	
	@Temperature 135 °C	@Temperature 275 °F	

Descriptive Properties	Value	Comments
Appearance	Light Cream	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China