

3M Scotch-Weld™ DP190 Gray Epoxy Adhesive

Category : Polymer , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

3M™ Scotch-Weld™ Epoxy Adhesive DP190 Gray is a 1:1 mix ratio similar to Scotch-Weld™ Epoxy Adhesive 2216 B/A Gray and exhibits good peel, shear and environmental aging properties. Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Scotch-Weld-DP190-Gray-Epoxy-Adhesive.php

Physical Properties	Metric	English	Comments
Brookfield Viscosity	40000 - 80000 cP	40000 - 80000 cP	Accelerator, RFV #7 at 20 rpm
	75000 - 150000 cP	75000 - 150000 cP	Base, RFV #7 at 20 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60	60	ASTM D2240
Tensile Strength at Break	24.1 MPa	3500 psi	ASTM D882
Elongation at Break	30 %	30 %	ASTM D882
Shear Strength	0.345 MPa	50.0 psi	Overlap, Polypropylene
	2.07 MPa	300 psi	Overlap, Glass, Borosilicate
	2.07 MPa	300 psi	Overlap, Glass, +3M Scotch-Weld Primer 3901
	3.45 MPa	500 psi	Overlap, Acrylic
	4.83 MPa	700 psi	Overlap, ABS
	5.52 MPa	800 psi	Overlap, Polycarbonate
	5.52 MPa	800 psi	Overlap, PVC
	7.58 MPa	1100 psi	Overlap, Wood, Fir
	9.65 MPa	1400 psi	Overlap, CRS
	10.3 MPa	1500 psi	Overlap, Sanded Aluminum
	11.0 MPa	1600 psi	Overlap, Fiberglass
	17.2 MPa	2500 psi	Overlap, Etched Aluminum
	2.76 MPa	400 psi	Overlap
	@Temperature 82.0 °C	@Temperature 180 °F	

Mechanical Properties	4.14 MPa Metric	600 psi English	Comments
	@Temperature 66.0 °C	@Temperature 151 °F	
	6.89 MPa	1000 psi	Overlap
	@Temperature 49.0 °C	@Temperature 120 °F	
	10.3 MPa	1500 psi	Overlap
	@Temperature -55.0 °C	@Temperature -67.0 °F	
	17.2 MPa	2500 psi	Overlap
	@Temperature 21.0 °C	@Temperature 69.8 °F	
Peel Strength	0.351 kN/m	2.00 pli	180°
	@Temperature 82.0 °C	@Temperature 180 °F	
	0.526 kN/m	3.00 pli	180°
	@Temperature -55.0 °C	@Temperature -67.0 °F	
	0.701 kN/m	4.00 pli	180°
	@Temperature 66.0 °C	@Temperature 151 °F	
	1.75 kN/m	10.0 pli	180°
	@Temperature 49.0 °C	@Temperature 120 °F	
	3.51 kN/m	20.0 pli	180°
	@Temperature 21.0 °C	@Temperature 69.8 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	62.0 µm/m-°C	34.4 µin/in-°F	Below Tg
	@Temperature 5.00 - 25.0 °C	@Temperature 41.0 - 77.0 °F	
	177 µm/m-°C	98.3 µin/in-°F	Above Tg
	@Temperature 65.0 - 140 °C	@Temperature 149 - 284 °F	
Thermal Conductivity	0.381 W/m-K	2.64 BTU-in/hr-ft²-°F	
	@Thickness 6.35 mm, Temperature 43.3 °C	@Thickness 0.250 in, Temperature 110 °F	
Glass Transition Temp, Tg	7.00 °C	44.6 °F	Onset
	20.0 °C	68.0 °F	Mid-Point

Electrical Properties	Metric	English	Comments
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Volume Resistivity Electrical Properties	5.00e+12 ohm-cm Metric	5.00e+12 ohm-cm English	ASTM D257 Comments
Dielectric Constant	6.5	6.5	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	32.7 kV/mm	830 kV/in	ASTM D149
	@Thickness 0.762 mm	@Thickness 0.0300 in	
Dissipation Factor	0.090	0.090	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Processing Properties	Metric	English	Comments
Cure Time	360 min	6.00 hour	Tack-free time
	480 - 720 min	8.00 - 12.0 hour	Time to Handling Strength
	10100 min	168 hour	Full Cure

Descriptive Properties	Value	Comments
Appearance	Gray	Accelerator
	Gray	
	White	Base

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