

3M Scotch-Weld™ DP920 Epoxy Adhesive

Category : Polymer , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

3M™ Scotch-Weld™ Epoxy Adhesive DP920 is a two-part, 2:1 mix ratio, toughened epoxy structural adhesive with a 20 minute work life. It exhibits excellent shear and peel strengths along with good impact and durability; and bonds well to oily metal substrates with minimal surface preparation. Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Scotch-Weld-DP920-Epoxy-Adhesive.php

| Physical Properties | Metric | English | Comments |
|----------------------|-----------|-----------|-------------------------------|
| Brookfield Viscosity | 18000 cP | 18000 cP | Accelerator, RFV #7 at 20 rpm |
| | 110000 cP | 110000 cP | Base, RFV #7 at 20 rpm |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|-------------|--|--|
| Hardness, Shore D | 70 - 75 | 70 - 75 | |
| Shear Strength | 0.00689 MPa | 1.00 psi | Overlap, Aluminum, RT cure for 2 hrs; ASTM D1002 |
| | 0.0345 MPa | 5.00 psi | Overlap, Aluminum, RT cure for 3 hrs; ASTM D1002 |
| | 0.172 MPa | 25.0 psi | Overlap, Aluminum, 49°C for 30 mins; ASTM D1002 |
| | 0.552 MPa | 80.0 psi | Overlap, Aluminum, 60°C for 30 mins; ASTM D1002 |
| | 2.83 MPa | 410 psi | Overlap, Acrylic (PMMA) (IPA/abrade/IPA), Adhesive Failure; ASTM D1002 |
| | 3.31 MPa | 480 psi | Overlap, Polystyrene (HIPS) (IPA/abrade/IPA), Adhesive Failure/Substrate Failure; ASTM D1002 |
| | 3.72 MPa | 540 psi | Overlap, Polycarbonate (IPA/abrade/IPA), Adhesive Failure; ASTM D1002 |
| | 4.07 MPa | 590 psi | Overlap, ABS (IPA/abrade/IPA), Adhesive Failure; ASTM D1002 |
| | 4.96 MPa | 720 psi | Overlap, PVC (IPA/abrade/IPA), Adhesive Failure/Substrate Failure; ASTM D1002 |
| | 5.24 MPa | 760 psi | Overlap, Aluminum, RT cure for 5 hrs; ASTM D1002 |
| 6.55 MPa | 950 psi | Overlap, Aluminum, RT cure for 6 hrs; ASTM D1002 | |

| Mechanical Properties | Metric MPa | English psi | Comments |
|-----------------------|---------------|----------------|---|
| | | | Overlap, Phenolic (IPA/abrade/IPA), Substrate Failure; ASTM D1002 |
| | 15.2 MPa | 2200 psi | Overlap, CRS - with Multidraw KTL N16 Deep Draw Lube Oil, Cohesive failure/Adhesive Failure; ASTM D1002 |
| | 15.2 MPa | 2200 psi | Overlap, CRS - with Preton R303 PX2, Cohesive failure/Adhesive Failure; ASTM D1002 |
| | 15.9 MPa | 2300 psi | Overlap, Galvanized Aluminum (MEK/abrade/MEK), Adhesive Failure; ASTM D1002 |
| | 16.5 MPa | 2400 psi | Overlap, CRS - with Ferrocote 6130 Draw Lube, Cohesive failure/Adhesive Failure; ASTM D1002 |
| | 17.9 MPa | 2600 psi | Overlap, Aluminum, 49°C for 1 hr; ASTM D1002 |
| | 18.6 MPa | 2700 psi | Overlap, CRS - MEK/abraded/MEK, Cohesive failure; ASTM D1002 |
| | 21.4 MPa | 3100 psi | Overlap, Copper (MEK/abrade/MEK), Cohesive failure/Adhesive Failure; ASTM D1002 |
| | 23.2 MPa | 3360 psi | Overlap, Aluminum-etched, with KTLN Deep Draw Lue Oil, Cohesive failure; ASTM D1002 |
| | 23.4 MPa | 3400 psi | Overlap, FRP (Green) (IPA/abrade/IPA), Adhesive Failure/Cohesive Failure; ASTM D1002 |
| | 24.1 MPa | 3500 psi | Overlap, Stainless Steel (MEK/abrade/MEK), Cohesive failure/Adhesive Failure; ASTM D1002 |
| | 24.1 MPa | 3500 psi | Overlap, Etched Aluminum, MEK at RT for 30 days immersion, Cohesive Failure |
| | 24.1 MPa | 3500 psi | Overlap, Etched Aluminum, Gasoline at RT for 30 days immersion, Cohesive Failure |
| | 24.8 MPa | 3600 psi | Overlap, Etched Aluminum, 5% Salt solution for 14 days, Cohesive Failure |
| | 25.5 MPa | 3700 psi | Overlap, Etched Aluminum, 65°C/80% RH for 30 days, Cohesive Failure |
| | 26.2 MPa | 3800 psi | Overlap, Brass (MEK/abrade/MEK), Cohesive failure/Adhesive Failure; ASTM D1002 |
| | 27.6 MPa | 4000 psi | Overlap, Etched Aluminum, Isopropanol at RT for 30 days immersion, Cohesive Failure |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|------------------------------------|--------------------------------------|---|
| | 27.6 MPa | 4000 psi | Overlap, Aluminum- etched, Cohesive Failure, ASTM D1002 |
| | 29.0 MPa | 4200 psi | Overlap, Aluminum, 60°C for 1 hr; ASTM D1002 |
| | 31.0 MPa | 4500 psi | Overlap, Etched Aluminum, RT, DI Water 30 days immersion, Cohesive Failure |
| | 31.0 MPa | 4500 psi | Overlap, Etched Aluminum, 10W30 Motor Oil at RT for 30 days immersion, Cohesive Failure |
| | 31.0 MPa | 4500 psi | Overlap, Etched Aluminum, - 40°C/38°C and 100% RH/90°C; for 30 days, Cohesive Failure |
| | 31.7 MPa | 4600 psi | Overlap, Aluminum, RT cure for 24 hrs; ASTM D1002 |
| | 31.7 MPa | 4600 psi | Overlap, Aluminum, 49°C for 2 hrs; ASTM D1002 |
| | 32.4 MPa | 4700 psi | Overlap, Etched Aluminum, 50% Antifreeze at RT for 30 days immersion, Cohesive Failure |
| | 33.1 MPa | 4800 psi | Overlap, Etched Aluminum, RT, 50% for 30 days, Cohesive Failure |
| | 33.1 MPa | 4800 psi | Overlap, Etched Aluminum, Diesel Fuel at RT for 30 days immersion, Cohesive Failure |
| | 33.8 MPa | 4900 psi | Overlap, Etched Aluminum, 80°C for 30 days, Cohesive Failure |
| | 39.3 MPa | 5700 psi | Overlap, Aluminum, 49°C for 3 hrs; ASTM D1002 |
| | 40.0 MPa | 5800 psi | Overlap, Aluminum, 60°C for 2 hrs; ASTM D1002 |
| | 26.2 MPa | 3800 psi | Overlap, Aluminum |
| | @Temperature -55.0 °C | @Temperature -67.0 °F | |
| | 27.6 MPa | 4000 psi | Overlap, Aluminum |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| | 3.45 MPa | 500 psi | Overlap, Aluminum |
| | @Temperature 121 °C, Time 900 sec | @Temperature 250 °F, Time 0.250 hour | |
| | 5.52 MPa | 800 psi | Overlap, Aluminum |
| | @Temperature 82.0 °C, Time 900 sec | @Temperature 180 °F, Time 0.250 hour | |
| | 5.52 MPa | 800 psi | |

| Mechanical Properties | Metric | English | Overlap, Aluminum Comments |
|-----------------------|--|--|--|
| | @ Temperature 82.0 °C, Time 1800 sec | @ Temperature 180 °F, Time 0.500 hour | |
| | 5.86 MPa | 850 psi | Overlap, Aluminum |
| | @ Temperature 82.0 °C, Time 3600 sec | @ Temperature 180 °F, Time 1.00 hour | |
| | 6.55 MPa | 950 psi | Overlap, Aluminum |
| | @ Temperature 82.0 °C, Time 14400 sec | @ Temperature 180 °F, Time 4.00 hour | |
| Peel Strength | 4.03 kN/m | 23.0 pli | Bell Peel Adhesion, CRS, with KTL N16 Deep Draw Lube Oil, Cohesive Failure; ASTM D3167 |
| | 5.26 kN/m | 30.0 pli | Bell Peel Adhesion, Aluminum Etched, with KTL N16 Deep Draw Lube Oil, Cohesive Failure; ASTM D3167 |
| | 5.61 kN/m | 32.0 pli | Bell Peel Adhesion, Aluminum Etched, Cohesive Failure; ASTM D3167 |
| | 1.23 kN/m | 7.00 pli | Bell Pell Adhesion, Aluminum Etched, Adhesive Failure; ASTM D3167 |
| | @ Temperature 82.0 °C | @ Temperature 180 °F | |
| | 3.51 kN/m | 20.0 pli | Bell Pell Adhesion, Aluminum Etched, Cohesive Failure; ASTM D3167 |
| | @ Temperature -55.0 °C | @ Temperature -67.0 °F | |
| | 5.61 kN/m | 32.0 pli | Bell Pell Adhesion, Aluminum Etched, Cohesive Failure; ASTM D3167 |
| | @ Temperature 23.0 °C | @ Temperature 73.4 °F | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-----------------|-----------------|-----------|
| Volume Resistivity | 8.40e+14 ohm-cm | 8.40e+14 ohm-cm | ASTM D257 |
| Dielectric Strength | 19.5 kV/mm | 496 kV/in | ASTM D149 |

| Processing Properties | Metric | English | Comments |
|-----------------------|----------|-----------|---------------------------|
| Cure Time | 240 min | 4.00 hour | Time to Handling Strength |
| | 2880 min | 48.0 hour | Full Cure |

| Descriptive Properties | Value | Comments |
|------------------------|-------------|-------------|
| Appearance | Off-white | Base |
| | Pale yellow | |
| | Yellow | Accelerator |

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