

3M Scotch-Weld™ DP805 Acrylic Adhesives

Category : Polymer , Adhesive

Material Notes:

3M™ Scotch-Weld™ Acrylic Adhesive DP805 is a two-part, 1:1 mix ratio, toughened acrylic structural adhesives. They exhibit excellent shear and peel strengths along with good impact and durability and bond well to many metals, ceramics, wood and most plastics. Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Scotch-Weld-DP805-Acrylic-Adhesives.php

Physical Properties	Metric	English	Comments
Viscosity	7500 cP	7500 cP	Base
	150000 cP	150000 cP	Accelerator

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	79	79	
Tensile Strength at Break	22.1 MPa	3210 psi	ASTM D882
Elongation at Break	30 %	30 %	ASTM D882
Shear Strength	<= 0.0689 MPa	<= 10.0 psi	Overlap, CRS/CRS after 7 days of Immersion in MEK
	<= 0.0689 MPa	<= 10.0 psi	Overlap, CRS/CRS after 7 days of Immersion in Acetone
	0.689 MPa	100 psi	Overlap, ABS
	2.21 MPa	320 psi	Overlap, Aluminum - 120 grit sandpaper
	3.45 MPa	500 psi	Overlap, CRS/CRS tested after 120°C/2 wks
	4.14 MPa	600 psi	Overlap, Aluminum - solvent cleaned only
	4.14 MPa	600 psi	Overlap, Fiberglass Reinforced Plastic
	5.52 MPa	800 psi	Overlap, Fir Wood
	5.52 MPa	800 psi	Overlap, CRS/CRS after 7 days of Immersion in 10% HCl
	6.21 MPa	900 psi	Overlap, Copper
6.55 MPa	950 psi	Overlap, Polycarbonate	
8.27 MPa	1200 psi	Overlap, Acrylic	

Mechanical Properties	Metric Pa	English	Comments
	12.1 MPa	1750 psi	Overlap, PVC
	15.2 MPa	2200 psi	Overlap, FR-4/FR-4 tested after tap water 1 wk/RT
	15.2 MPa	2200 psi	Overlap, CRS/CRS tested after 90°C/2 wks/90% RH
	17.2 MPa	2500 psi	Overlap, FR-4 Glass Epoxy
	17.2 MPa	2500 psi	Overlap, FR-4/FR-4 tested after RT aging
	17.2 MPa	2500 psi	Overlap, CRS/CRS tested after tap water 1 wk/RT
	17.6 MPa	2550 psi	Overlap, CRS/CRS after 7 days of Immersion in 1,1-Trichloroethane
	17.9 MPa	2600 psi	Overlap, FR-4/FR-4 tested after 90°C/2 wks/90% RH
	17.9 MPa	2600 psi	Overlap, CRS (oily) 49°C/100% RH/2 wks
	18.3 MPa	2650 psi	Overlap, CRS/CRS after 7 days of Immersion in Toulene
	18.3 MPa	2650 psi	Overlap, CRS/CRS after 7 days of Immersion in IPA
	18.6 MPa	2700 psi	Overlap, Cold Rolled Steel (oily)
	18.6 MPa	2700 psi	Overlap, FR-4/FR-4 tested after 120°C/2 wks
	19.0 MPa	2750 psi	Overlap, CRS/CRS after 7 days of Immersion in Gasoline
	19.3 MPa	2800 psi	Overlap, Cold Rolled Steel
	19.3 MPa	2800 psi	Overlap, Control
	19.3 MPa	2800 psi	Overlap, CRS/CRS tested after RT aging
	19.7 MPa	2850 psi	Overlap, CRS/CRS after 7 days of Immersion in Machine Oil
	22.8 MPa	3300 psi	Overlap, Etched Alum, 93°C/100% RH/2 wks
	24.1 MPa	3500 psi	Overlap, Aluminum-etched
	24.1 MPa	3500 psi	Overlap, Aluminum -etched/oily
	24.1 MPa	3500 psi	Overlap, Etched Alum (oily) 49°C/100% RH/4 wks

Mechanical Properties	15.2 MPa Metric	2200 psi English	Comments
	@Temperature 83.0 °C	@Temperature 181 °F	
	17.2 MPa	2500 psi	Overlap, Etched Alum/Etched Alum
	@Temperature -55.0 °C	@Temperature -67.0 °F	
	24.1 MPa	3500 psi	Overlap, Etched Alum/Etched Alum
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Peel Strength	0.526 kN/m	3.00 pli	180° T-Peel, Black SBR/CRS
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.701 kN/m	4.00 pli	180° T-Peel, Nitrile/CRS
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.80 kN/m	16.0 pli	180° T-Peel, Neoprene/CRS
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.98 kN/m	17.0 pli	180° T-Peel, Red SBR/CRS
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.51 kN/m	20.0 pli	180° T-Peel, Etched Al/Etched Al
	@Temperature -55.0 °C	@Temperature -67.0 °F	
	5.96 kN/m	34.0 pli	180° T-Peel, Etched Al/Etched Al
	@Temperature 83.0 °C	@Temperature 181 °F	
	6.14 kN/m	35.0 pli	180° T-Peel, Etched Al/Etched Al
	@Temperature 38.0 °C	@Temperature 100 °F	
	6.14 kN/m	35.0 pli	180° T-Peel, Etched Al/Etched Al
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	6.14 kN/m	35.0 pli	180° T-Peel, Etched Al/Etched Al
	@Temperature 65.0 °C	@Temperature 149 °F	
	6.31 kN/m	36.0 pli	180° T-Peel, Etched Al/Etched Al
	@Temperature 54.0 °C	@Temperature 129 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	105 µm/m-°C	58.3 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Glass Transition Temp, Tg	60.0 °C	140 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.10e+14 ohm-cm	1.10e+14 ohm-cm	ASTM D257
Surface Resistance	>= 2.10e+15 ohm	>= 2.10e+15 ohm	ASTM D257
Dielectric Constant	3.4	3.4	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	3.5	3.5	ASTM D150
	@Frequency 10000 Hz	@Frequency 10000 Hz	
3.6	@Frequency 500 Hz	@Frequency 500 Hz	ASTM D150
	3.6	3.6	ASTM D150
Dissipation Factor	0.018	0.018	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
0.023	@Frequency 10000 Hz	@Frequency 10000 Hz	ASTM D150
	0.037	0.037	ASTM D150
0.046	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
	@Frequency 500 Hz	@Frequency 500 Hz	ASTM D150

Processing Properties	Metric	English	Comments
Cure Time	480 - 1440 min	8.00 - 24.0 hour	Full cure

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

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