

3M Scotch-Weld™ DP420 Off-White Epoxy Adhesive

Category : Polymer , Thermoset , Epoxy , Epoxy Adhesive

Material Notes:

3M™ Scotch-Weld™ Epoxy Adhesive are high performance, two-part epoxy adhesives offering outstanding shear and peel adhesion, and very high levels of durability. Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Scotch-Weld-DP420-Off-White-Epoxy-Adhesive.php

Physical Properties	Metric	English	Comments
Viscosity	8000 - 14000 cP	8000 - 14000 cP	Accelerator
	20000 - 50000 cP	20000 - 50000 cP	Base

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	75 - 80	75 - 80	
Shear Strength	1.03 MPa	150 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol surface prep, Neoprene/Steel
	1.03 MPa	150 psi	Overlap, Isopropyl Alcohol Wipe surface prep, Neoprene/Steel
	1.52 MPa	220 psi	Overlap, Isopropyl Alcohol Wipe surface prep, Polycarbonate
	1.59 MPa	230 psi	Overlap, Isopropyl Alcohol Wipe surface prep, Polystyrene
	1.93 MPa	280 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol surface prep, Polystyrene
	2.07 MPa	300 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol surface prep, Polycarbonate
	2.21 MPa	320 psi	Overlap, Isopropyl Alcohol Wipe surface prep, ABS PVC
	2.41 MPa	350 psi	Overlap, Isopropyl Alcohol Wipe surface prep, FRP
	2.41 MPa	350 psi	Overlap, Isopropyl Alcohol Wipe surface prep, Phenolic
	2.62 MPa	380 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol Wipe surface prep, FRP
2.76 MPa	400 psi	Overlap, Isopropyl Alcohol Wipe surface prep, Polyacrylic	
			Overlap, Isopropyl

Mechanical Properties	3.45 MPa Metric	500 psi English	Alcohol/Abrade/Isopropyl Alcohol Surface Prep, ABS PVC Comments
	3.79 MPa	550 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol surface prep, Polyacrylic
	8.96 MPa	1300 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol surface prep, Phenolic
	9.65 MPa	1400 psi	Overlap, Isopropyl Alcohol Wipe surface prep, SBR/Steel
	9.65 MPa	1400 psi	Overlap, Isopropyl Alcohol/Abrade/Isopropyl Alcohol surface prep, SBR/Steel
	11.7 MPa	1700 psi	Overlap, Stainless Steel MEK/abrade/MEK
	13.8 MPa	2000 psi	Overlap, Galvanized Steel Hot dipped
	14.5 MPa	2100 psi	Overlap, Galvanized Steel Electrodeposited
	18.6 MPa	2700 psi	Overlap, CRS MEK/abrade/MEK
	20.7 MPa	3000 psi	Overlap, Water Vapor, 93°C at 100% RH for 14 days
	24.1 MPa	3500 psi	Overlap, Aluminum Oakite degrease
	24.1 MPa	3500 psi	Overlap, Aluminum MEK/abrade/MEK
	27.6 MPa	4000 psi	Overlap, CRS Oakite degrease
	27.6 MPa	4000 psi	Overlap, Copper MEK/abrade/MEK
	28.3 MPa	4100 psi	Overlap, Brass MEK/abrade/MEK
	29.0 MPa	4200 psi	Overlap, Antifreeze/H2O (50/50) immersion, 82°C for 30 days
	31.0 MPa	4500 psi	Overlap, Aluminum Etched
	31.7 MPa	4600 psi	Overlap, Methyl Ethyl Ketone immersion, RT for 30 days
	32.4 MPa	4700 psi	Overlap, Distilled Water immersion for 30 days
	32.4 MPa	4700 psi	Overlap, Water Vapor, 49°C at 100% RH for 30 days
	35.2 MPa	5100 psi	Overlap, RT at 50% RH for 30 days
	35.2 MPa	5100 psi	Overlap, Salt Spray (5%), 35°C for 30 days
	36.5 MPa	5300 psi	Overlap, Isopropyl Alcohol immersion, RT for 30 days

Mechanical Properties	Metric	English	Comments
	37.2 MPa	5400 psi	Aluminum, Skydrol LD-4 immersion, 66°C for 30 days
	31.0 MPa @Temperature 23.0 °C	4500 psi @Temperature 73.4 °F	Aluminum Overlap
	31.0 MPa @Temperature -55.0 °C	4500 psi @Temperature -67.0 °F	Aluminum Overlap
	1.38 MPa @Temperature 121 °C, Time 900 sec	200 psi @Temperature 250 °F, Time 0.250 hour	Aluminum Overlap
	3.10 MPa @Temperature 82.0 °C, Time 900 sec	450 psi @Temperature 180 °F, Time 0.250 hour	Aluminum Overlap
	4.83 MPa @Time 1800 sec	700 psi @Time 0.500 hour	Aluminum Overlap
	5.17 MPa @Time 3600 sec	750 psi @Time 1.00 hour	Aluminum Overlap
	17.2 MPa @Time 14400 sec	2500 psi @Time 4.00 hour	Aluminum Overlap
Peel Strength	4.38 kN/m	25.0 pli	CRS, T-Peel, 17-20 mil bondline, MEK/abrade/MEK
	7.01 kN/m	40.0 pli	Aluminum Etched, T-Peel, 5-8 mil bondline
	7.01 kN/m	40.0 pli	CRS, T-Peel, 17-20 mil bondline, Oakite degreased
	8.77 kN/m	50.0 pli	Aluminum Etched, T-Peel, 17-20 mil bondline
	0.526 - 0.877 kN/m @Temperature 82.0 °C	3.00 - 5.00 pli @Temperature 180 °F	Aluminum, T-Peel
	0.877 - 1.75 kN/m @Temperature -55.0 °C	5.00 - 10.0 pli @Temperature -67.0 °F	Aluminum, T-Peel
	8.77 kN/m @Temperature 23.0 °C	50.0 pli @Temperature 73.4 °F	Aluminum, T-Peel

Thermal Properties	Metric	English	Comments
CTE, linear	85.0 µm/m-°C	47.2 µin/in-°F	Below Tg

Thermal Properties	Metric ¹ /m-°C	English ¹ /in-°F	Comments
Thermal Conductivity	0.180 W/m-K @Temperature 45.0 °C	1.25 BTU-in/hr-ft ² -°F @Temperature 113 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.30e+14 ohm-cm	1.30e+14 ohm-cm	ASTM D257
Dielectric Strength	27.2 kV/mm	690 kV/in	ASTM D149

Descriptive Properties	Value	Comments
Appearance	Amber	Accelerator
	Opaque, off-white	
	White	Base

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