

3M Scotch-Weld™ DP810 Black Structural Adhesive

Category : Polymer , Adhesive

Material Notes:

3M™ Scotch-Weld™ Low-Odor Acrylic Adhesives are two-part, 1:1 mix ratio, toughened structural adhesives with less odor than most acrylic adhesives. The adhesives have excellent shear and peel strength along with good impact resistance and durability. They can quickly bond to most metals, ceramics, rubbers, plastics and wood with minimal surface preparation. Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Scotch-Weld-DP810-Black-Structural-Adhesive.php

Physical Properties	Metric	English	Comments
Viscosity	17000 - 21000 cP	17000 - 21000 cP	Accelerator
	18000 - 22000 cP	18000 - 22000 cP	Base
	20000 cP	20000 cP	

Mechanical Properties	Metric	English	Comments
Shear Strength	0.207 MPa	30.0 psi	Overlap at 10 minutes after bonding
	0.345 MPa	50.0 psi	Overlap, Acetone for 14 days, Cohesive Failure
	0.517 MPa	75.0 psi	Overlap, MEK for 14 days, Cohesive Failure
	3.45 MPa	500 psi	Overlap, Polycarbonate, Adhesive/Cohesive Failure
	3.79 MPa	550 psi	Overlap, Acrylic, Substrate Failure
	4.83 MPa	700 psi	Overlap, ABS, Adhesive/Cohesive Failure
	6.89 MPa	1000 psi	Overlap, PVC, Substrate Failure
	7.93 MPa	1150 psi	Overlap at 20 minutes after bonding
	10.3 MPa	1500 psi	Overlap, 71°C 100% RH for 14 days, Mixed Mode of AF&CF
	11.4 MPa	1650 psi	Overlap, 71°C soak for 14 days, Mixed Mode of AF&CF
	15.2 MPa	2200 psi	Overlap at 1 hr after bonding
	17.6 MPa	2550 psi	Overlap, Gasoline for 14 days, Cohesive Failure
	17.9 MPa	2600 psi	Overlap, Toluene for 14 days, Cohesive Failure
	18.6 MPa	2700 psi	Overlap at 2 hrs after bonding

Mechanical Properties	Metric 20.0 MPa	English 2900 psi	Comments Overlap at 2 hrs after bonding
	20.7 MPa	3000 psi	Overlap, Green FRP, Cohesive Failure
	21.0 MPa	3050 psi	Overlap, IPA for 14 days, Cohesive Failure
	22.1 MPa	3200 psi	Overlap at 2 hrs after bonding
	22.4 MPa	3250 psi	Overlap, 20% Bleach for 14 days, Cohesive Failure
	23.8 MPa	3450 psi	Overlap, Oily CRS, Cohesive Failure
	24.1 MPa	3500 psi	Overlap, Stainless Steel, Cohesive Failure
	24.5 MPa	3550 psi	Overlap at 2 hrs after bonding
	24.8 MPa	3600 psi	Overlap, CRS, Cohesive Failure
	25.9 MPa	3750 psi	Overlap, Abraded Aluminum, Cohesive Failure
	25.9 MPa	3750 psi	Overlap, 14 days, Cohesive Failure
	26.5 MPa	3850 psi	Overlap, Bare Aluminum, Cohesive Failure
	26.9 MPa	3900 psi	Overlap, 50% Antifreeze for 14 days, Cohesive Failure
	27.2 MPa	3950 psi	Overlap, Diesel Fuel for 14 days, Cohesive Failure
	29.0 MPa	4200 psi	Overlap, Etched Aluminum, Cohesive Failure
	3.45 MPa @Temperature 82.0 °C	500 psi @Temperature 180 °F	Overlap
	8.27 MPa @Temperature -55.0 °C	1200 psi @Temperature -67.0 °F	Overlap
	13.8 MPa @Temperature -29.0 °C	2000 psi @Temperature -20.2 °F	Overlap, Adhesion Failure
	13.8 MPa @Temperature 49.0 °C	2000 psi @Temperature 120 °F	Overlap, Cohesive Failure
	24.8 MPa @Temperature 24.0 °C	3600 psi @Temperature 75.2 °F	Overlap
Peel Strength	5.26 kN/m	30.0 pli	T-Peel

Processing Properties	Metric	English	Comments
Cure Time	10.0 - 20.0 min	0.167 - 0.333 hour	Time to Handling Strength
	480 - 1440 min	8.00 - 24.0 hour	Full cure

Descriptive Properties	Value	Comments
Appearance	Black	Base
	White	Accelerator

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