

## 3M Scotch-Weld™ DP8005 Translucent Structural Adhesive

Category : Polymer , Adhesive

### Material Notes:

3M™ Scotch-Weld™ Structural Plastic Adhesive DP-8005 is a two-part acrylic-based adhesive (10:1 ratio by volume) that can bond many low surface energy plastics, including many grades of polypropylene, polyethylene, and TPO's without special surface preparation. It can replace screws, rivets, plastic, welding, and two-step processes which include chemical etchants, priming or surface treatments in many applications. Information provided by 3M

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_3M-Scotch-Weld-DP8005-Translucent-Structural-Adhesive.php](http://www.lookpolymers.com/polymer_3M-Scotch-Weld-DP8005-Translucent-Structural-Adhesive.php)

Physical Properties	Metric	English	Comments
Brookfield Viscosity	17000 - 30000 cP	17000 - 30000 cP	Base, DV-II, #7 sp, 20 rpm
	35000 - 55000 cP	35000 - 55000 cP	Accecelerator, DV-II, #7 sp, 20 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	55	55	ASTM D2240
Tensile Modulus	0.59067 GPa	85.669 ksi	at 1% Strain
Shear Strength	0.172 MPa	25.0 psi	Overlap, Toluene, Cohesive Failure
	0.689 MPa	100 psi	Overlap, Acetone, Cohesive Failure
	1.72 MPa	250 psi	Overlap, PTFE, Adhesive Failure
	2.24 MPa	325 psi	Overlap, Gasoline, Cohesive Failure
	2.76 MPa	400 psi	Overlap, LDPE, Substrate Failure
	3.79 MPa	550 psi	Overlap, HIPS, Substrate Failure
	4.48 MPa	650 psi	Overlap, Glass (3/16" thick), Substrate Failure
	5.17 MPa	750 psi	Overlap, UHMWPE, Substrate Failure
	5.34 MPa	775 psi	Overlap, Polystyrene, Substrate Failure
	5.86 MPa	850 psi	Overlap, Polycarbonate, Substrate Failure
6.38 MPa	925 psi	Overlap, 71°C/100% RH salt water soak for 14 days, Cohesive Failure	
6.55 MPa	950 psi	Overlap, Plexiglass (PMMA), Substrate Failure	
			Overlap, HDPE/Galvanealed, Adhesive

Mechanical Properties	6.55 MPa Metric	950 psi English	Failure Comments
	6.55 MPa	950 psi	Overlap, HDPE/CRS, Adhesive Failure
	6.55 MPa	950 psi	Overlap, 71°C/100% RH for 14 days, AF/CF
	6.55 MPa	950 psi	Overlap, Isopropyl Alcohol, Substrate Failure
	6.72 MPa	975 psi	Overlap, HDPE/HDG, Adhesive Failure
	6.72 MPa	975 psi	Overlap, 71°C water soak for 14 days, Cohesive Failure
	6.89 MPa	1000 psi	Overlap, Antifreeze Coolant, Substrate Failure
	7.24 MPa	1050 psi	Overlap, Diesel Fuel, Substrate Failure
	7.412 MPa	1075 psi	Overlap, PE, Substrate Failure
	7.412 MPa	1075 psi	Overlap, NaOH, Substrate Failure
	7.58 MPa	1100 psi	Overlap, HDPE, Substrate Failure
	7.58 MPa	1100 psi	Overlap, PP, Substrate Failure
	7.58 MPa	1100 psi	Overlap, Control, Substrate Failure
	7.58 MPa	1100 psi	Overlap, RT salt water soak for 14 days, Substrate Failure
	7.58 MPa	1100 psi	Overlap, HCl, Substrate Failure
	10.3 MPa	1500 psi	Overlap, Gel Coat (3/16" thick), Substrate Failure
	10.51 MPa	1525 psi	Overlap, ABS, Substrate Failure
	14.1 MPa	2050 psi	Overlap, PVC, Substrate Failure
	14.8 MPa	2150 psi	Overlap, Oily HDG, Cohesive Failure
	15.69 MPa	2275 psi	Overlap, Copper (1/16" thick), Cohesive Failure
	15.69 MPa	2275 psi	Overlap, Aluminum (1/16" thick), Cohesive Failure
	15.9 MPa	2300 psi	Overlap, 304 Stainless Steel (1/32" thick), Cohesive Failure
	17.06 MPa	2475 psi	Overlap, Green FRP, Cohesive Failure
	17.2 MPa	2500 psi	Overlap, CRS (1/32" thick), Adhesive Failure
	2.07 MPa	300 psi	Overlap

Mechanical Properties	@Temperature 82.0 °C Metric	@Temperature 180 °F English	Comments
	2.07 MPa	300 psi	Overlap, HDPE, Cohesive Failure
	@Temperature 82.0 °C	@Temperature 180 °F	
	2.07 MPa	300 psi	Overlap, Green FRP, AF/CF
	@Temperature 82.0 °C	@Temperature 180 °F	
	3.28 MPa	475 psi	Overlap, Green FRP, AF/CF
	@Temperature 66.0 °C	@Temperature 151 °F	
	3.45 MPa	500 psi	Overlap, HDPE, Cohesive Failure
	@Temperature 66.0 °C	@Temperature 151 °F	
	4.83 MPa	700 psi	Overlap, HDPE, Cohesive Failure
	@Temperature 49.0 °C	@Temperature 120 °F	
	4.83 MPa	700 psi	Overlap, Green FRP, Cohesive Failure
	@Temperature 49.0 °C	@Temperature 120 °F	
	5.17 MPa	750 psi	Overlap, HDPE, Cohesive Failure
	@Temperature -29.0 °C	@Temperature -20.2 °F	
	6.03 MPa	875 psi	Overlap, Green FRP, Cohesive Failure
	@Temperature -29.0 °C	@Temperature -20.2 °F	
	7.58 MPa	1100 psi	Overlap, HDPE, Substrate Failure
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	7.58 MPa	1100 psi	Overlap, Green FRP, Substrate Failure
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	16.5 MPa	2400 psi	Overlap
	@Temperature 24.0 °C	@Temperature 75.2 °F	
Peel Strength	1.75 kN/m	10.0 pli	T-Peel
	2.98 kN/m	17.0 pli	T-Peel, HDPE, Substrate Failure

Thermal Properties	Metric	English	Comments
CTE, linear	125 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	69.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Below Tg
	170 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	94.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Above Tg
Glass Transition Temp, Tg	33.0 °C	91.4 °F	onset

Processing Properties	Metric	English	Comments
Cure Time	180 min	3.00 hour	Time to Handling Strength

Descriptive Properties	Value	Comments
Appearance	Amber	Base
	White	Accelerator
	Yellow	

## Contact Songhan Plastic Technology Co.,Ltd.

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