



Scotch-Weld™ DP 8005

Structural Adhesive for plastics.



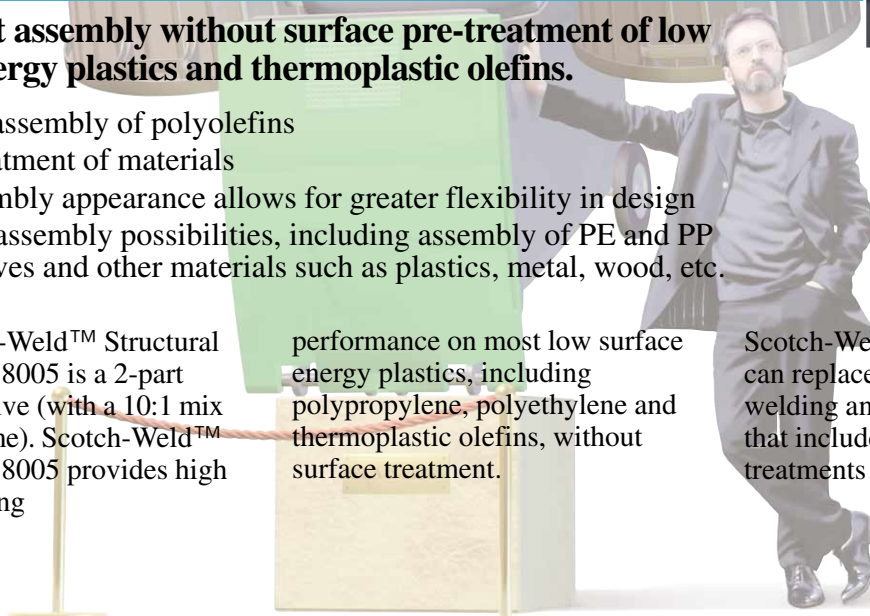
Permanent assembly without surface pre-treatment of low surface energy plastics and thermoplastic olefins.

- Structural assembly of polyolefins
- No pre-treatment of materials
- Good assembly appearance allows for greater flexibility in design
- Unlimited assembly possibilities, including assembly of PE and PP to themselves and other materials such as plastics, metal, wood, etc.

3M™ Scotch-Weld™ Structural Adhesive DP 8005 is a 2-part acrylic adhesive (with a 10:1 mix ratio by volume). Scotch-Weld™ Adhesive DP 8005 provides high quality bonding

performance on most low surface energy plastics, including polypropylene, polyethylene and thermoplastic olefins, without surface treatment.

Scotch-Weld™ Adhesive DP 8005 can replace screws, rivets, plastic welding and two-stage processes that include priming and surface treatments (flame, corona, etc.).



Physical and application properties

Property	DP8005
Colour (polymerized)	Light yellow
Handling time 0.5 MPa at 23°C	20-30 min (PP/PP) 2-3 hours (AI/AI)
Total curing time (at 23°C)	8-24 hours
Working time at 23°C	2.5-3 min

Note. The following properties should be taken as typical and cannot be used for specifications.

Ageing resistance ⁽¹⁾

Conditions	Time	Temperature	Shear (MPa)	Failure mode
Control	-	24°C	6.9	PE substrate
71°C / 100% RH	14 days	71°C	5.7	PE substrate
71°C / 100% RH	30 days	71°C	5.6	PE substrate
10% NaOH	14 days	24°C	6.7	PE substrate
16% HCl	14 days	24°C	6.8	PE substrate
20% bleach	14 days	24°C	6.9	PE substrate
Isopropanol	14 days	24°C	6.6	PE substrate
Pump oil	14 days	24°C	7.1	PE substrate
50% antifreeze	14 days	24°C	6.7	PE substrate
Petrol	14 days	24°C	1.1	Cohesive
Diesel	14 days	24°C	5.9	Cohesive
Toluene	14 days	24°C	0.1	Cohesive

(1) Immersion tests are carried out using extruded HDPE assembled test samples

Storage. Cartridges should be stored at 4°C or below.

Shelf life. When stored at the temperature recommended on the original packaging, this product has a six-month shelf life from the delivery date.

Primary materials

- PE
- PP
- Thermoplastic Olefins
- Polycarbonate
- ABS
- PVC
- Steel
- Aluminium
- Wood

1. Polymerization at room temperature
2. Polymerization can be speeded up by heating
3. Single stage process saves time
4. Bonding and sealing in a single operation
5. Good resistance to water and moisture
6. Excellent resistance to chemical reagents
7. Solvent-free process
8. Easily applied by hand with system EPX™



At 1,75 MPa, the overlapped plastic panels on the left elongated at the rivet. The overlapped panels bonded with 3M™ Scotch-Weld™ Adhesive DP-8005 on the right showed no visible signs of stress. Adhesive distributes stress more evenly eliminating the holes and stress points of mechanical fastening.

Overlap shear strength ⁽²⁾

Substrates	Shear (MPa)	Failure mode
Extruded PE	6.9	Substrate
Extruded PP	7.2	Substrate
UHMW PE	5.3	Substrate
LDPE	2.3	Substrate
ABS	6.7	Substrate
Polycarbonate	5.9	Substrate
PMMA (acrylic)	5.6	Substrate
Rigid PVC	10.6	Substrate
Polystyrene	3.8	Substrate
Nylon- 6.6 30 % fibreglass	5.7	Cohesive
FRP	16.3	Cohesive
Galvanized steel / PE	6.8	Substrate (PE)
Cold-rolled steel	6.7	Substrate
Aluminium 2024	14.8	Cohesive
Oiled galvanized steel	14.8	Cohesive

(2) Dynamic shear method: conformity to standard ASTM D1102-72, test sample dimensions 2.54mm x 101mm x 3mm, overlap 3.22cm². Samples are composed of a single material; or if two materials are used, the composition of each is specified. Samples are polymerized for at least 16 hours at 24°C before being tested. Data is generated using a SINTECH 5 GL Mechanical tester traction machine with a 1000 or 2500 daN cell. Test speed is 12mm/min. Traction speed is 2.5 mm/min. Unless otherwise stated, measurements are taken at 24°C.

Peel strength

Substrate	Temperature	Pelage (N/cm)	Failure mode
HDPE	24°C	28	Cohesive



For a better alternative



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