SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

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제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

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TECHNICAL DOCUMENTS

인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

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전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

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산업용 테이프 · 접착제 · 기능성 소재
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홈페이지 바로가기 →
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English-US

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Technical Data Sheet

3M™ Scotch-Weld™ Structural Plastic Adhesive DP8005 Black

Product Details

Regulatory Info/SDS

Product Description

3M™ Scotch-Weld™ Structural Plastic Adhesive DP8005 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.
3M™ Scotch-Weld Adhesive DP8005 can replace screws, rivets, plastic welding, and two-step processes which include chemical etchants, priming or surface treatments in many applications.

Product Features

- Ability to Bond Dissimilar Substrates
- Ability to Structurally Bond Polyolefins
- Room Temperature Cure
- Excellent Water and Humidity Resistance
- Very Good Chemical Resistance
- One Step Process - No Pre-Treatment of the Substrates Needed
- Solvent-free Adhesive System
- Convenient Hand-Held Applicator System
- Contains 0.008" glass beads for bondline thickness control
- Available in Bulk

Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Uncured Physical Properties

Attribute Name	Value
Mix Ratio by Weight (B:A)	9.16:1
Mix Ratio by Volume (B:A)	10:1

Attribute Name	Temperature	Value
Base Color		Black
Accelerator Color		White
Base Resin		Methacrylate
Accelerator Resin		Amine
Base Net Weight		8 — 8.4 lb/gal
Accelerator Net Weight		8.7 — 9.15 lb/gal
Base Viscosity	23 °C (73 °F)	15000 — 30000 cP [1]
Accelerator Viscosity	23 °C (73 °F)	35000 — 55000 cP [2]

[1] Viscosity obtained by Brookfield, DV-II, #7 Spindle, 20 rpm

[2] Viscosity obtained by Brookfield, DV-II, #7 Spindle, 20 rpm.

Typical Mixed Physical Properties

Temperature: 23 °C (73 °F)

Attribute Name	Value
Worklife	2.5 — 3 min
Time to Handling Strength	2 — 3 h [1]

[1] Minimum time required to achieve 0.3 MPa (50 psi) of overlap shear strength. Cure times are approximate and depend on adhesive temperature.

Typical Physical Properties

Attribute Name	Value
Cured Color	Black

Typical Cured Characteristics

Attribute Name	Test Method	Temperature	Value
Modulus at 1% Strain		23 °C (73 °F)	58,782 lb/in² [1]
Strain at Peak Load			4.5 % [1]
Peak Stress			1,692 lb/in² [1]
Shore D Hardness	ASTM D2240	23 °C (73 °F)	60

[1] Mechanical properties obtained using a Sintech 5GL Mechanical Tester. Approximate dimensions of the test specimen was 38 x 13 x 7.6 mm (1.5 x 0.5 x 0.3 in). Elongation was determined by crosshead displacement. The crosshead velocity was 13 mm/min (0.5 in/min).

Typical Performance Characteristics

Substrate: High Density Polyethylene (HDPE)

Attribute Name	Test Method	Value
T-Peel Adhesion	ASTM D1876	9 lb/in width (C sh) [1]

[1] Peel tests on 0.5 mm (0.02 in) thick HDPE, 0.4 mm (0.017 in) bondline thickness, 203 x 25 mm (8 x 1 in) in T-peel mode at a rate of 51 mm/min (2 in/min).
SF = Substrate Failure/Break/Yield, C sh = Cohesive but shocky

Electrical and Thermal Properties

Coefficient of Thermal Expansion

Test Condition	Value
Below Tg	125 ppm/°C [1]
Above Tg	170 ppm/°C [1]

[1] Tg and CTE determined by TMA -40 ~ 120 °C (-40 ~ 249 °F) at 5.5 °C/min (10 °F/min). (after 2 heat cycles).

Handling/Application Information

Directions for Use

Important: Use only the specified 3M™ EPX™ Plus II Applicator system or appropriate meter mix equipment to ensure the proper 10:1 mix ratio and mix. Hand mixing is not recommended and may result in unpredictable results.
1) Apply adhesive to clean, dry substrates, which are free of loose paint, oxide films, oils, dust, mold release agents and all other surface contaminants. See the Surface Preparation section for specific substrate preparation methods.

45 ml Cartridge:
Place duo-pak cartridge in EPX applicator. Twist to remove cap. Dispense and discard a small amount of adhesive to assure even ratio and free flow. Clear orifice if necessary. Use only orange 10:1 mixing nozzle by: (a) aligning nozzle onto cartridge tip, and (b) twist the gray nut into place. Dispense and discard a small amount of adhesive through nozzle until the adhesive is mixed.
490 ml Cartridge:
While holding duo-pak cartridge in an upright position, unscrew the plastic nut and remove and discard the cartridge plug. Place cartridge in a 10:1, 490 ml EPX applicator.
Clean orifice if clogged; dispense and discard a small amount of adhesive to even pistons. Attach 10:1 EPX mixing nozzle by:
(a) sliding the nozzle onto the cartridge orifice;
(b) screwing the plastic nut back onto the cartridge to secure the nozzle. Dispense and discard a small amount of adhesive until the mixed adhesive has a milky white appearance. If adhesive is clear, check the small orifice for debris or flow.

Meter-Mix Equipment:
Follow manufacturer's precautions, directions for use, and recommendations.
2) After the adhesive is applied, substrates must be mated within the worklife of the adhesive, 2-2.5 minutes or sooner for one-sided applications. Adhesive thickness less than .005" will yield unpredictable results. The joint design of the substrates should facilitate a .005" to .008" adhesive thickness at the bondline. Adhesive contains .008" microperes for this purpose.

3) The bonded surfaces should be fixtured, or clamped, for at least 2 hours. The clamping pressure should be sufficient to keep the surfaces in contact during cure (typically 4-8 psi). Plastic parts can be designed to be self-fixturing, negating the need for external fixturing.

Note: Heating the bondline to 150-175°F (66-80°C) for 30 minutes will speed up curing. The parts should be dwelled for a minimum of 10 minutes at room temperature prior to heating to allow more adhesive penetration into the substrates before heat-accelerated cure.

4) Cured adhesive appearance: the adhesive will yellow with time; a rippling effect in the adhesive as it cures is normal and indicates that the adhesive is mixed properly and curing normally.

Approximate Coverage – By Size of Container [Figures do not include nozzle waste]

Bead Size	Linear ft per 45 ml	Linear ft per 490 ml	Linear ft per mixed gallon
1/2"	2.4	26	196
3/8"	4.5	45	350
1/4"	10.5	102	785
1/8"	37.2	405	3,130
1/16"	147.7	1600	12,240

Coverage in square feet – (.008" bond line) [Figures do not include nozzle waste]

Square ft per 45 ml	Square ft per 490 ml	Square ft per mixed gallon
2.5	49	200

Surface Preparation

3M™ Scotch-Weld™ Structural Plastic Adhesive DP8005 can bond polypropylene, polyethylene and other thermoplastic polyolefins without special surface preparation. However, all substrates should be clean, dry and free of paint, oxide films, oils, dust, mold release agents and other surface contaminants. The amount of surface preparation directly depends on the bond strength and environmental resistance desired by the user.
The following cleaning methods are suggested for common surfaces.
Steel and Aluminum
1) Wipe free of dust with oil-free solvent such as acetone or isopropyl alcohol.
2) Sandblast or abrade using clean fine grit abrasives (150 grit or finer).
3) Wipe again with solvent to remove loose particles.
4) If a primer is used, it should be applied within 4 hours after surface preparation (or see instructions pertinent to a specific primer).

Note: Aluminum may also be acid etched. Follow the manufacturer's precautions and directions for this procedure.
Plastic/Rubber
1) Wipe with isopropyl alcohol.*
2) Abrade using fine grit abrasives (150 grit or finer).
3) Remove residue by wiping again with isopropyl alcohol.*
4) Allow solvent to evaporate before use.

Thermoplastic Polyolefin (TPO)
1) Wipe with isopropyl alcohol.*
2) Allow solvent to evaporate before use.

Glass
1) Solvent wipe surface using acetone or isopropyl alcohol.*
2) Allow solvent to evaporate before use.

***Note:**When using solvents, be sure to extinguish all ignition sources and follow the manufacturer's precautions and directions for use.

Storage and Shelf Life

Store product at 4°C (40°F) or below in the original, unopened packaging. For best performance, use this product within 18 months from date of manufacture.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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