SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
산업용 소재 · 건축자재
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 →
문서 라이브러리 바로가기 →
시공사례 바로가기 →
문의하기 →

본 페이지는 스냅슛의 자료 제공 안내용 표지입니다. 첨부된 인증서 및 기술자료의 발행 주체, 인증 대상과 적용 범위는 해당 원문을 기준으로 확인해 주세요.



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English-US

Last Revision Date: February, 2025

Supersedes: September, 2024

Technical Data Sheet

3M™ Scotch-Weld™ Structural Plastic Adhesive DP8010 Blue

Product Details

Regulatory Info/SDS

Product Description

3M™ Scotch-Weld™ Structural Plastic Adhesive DP8010 Blue is a two-part, acrylic-based adhesives (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.
This adhesive 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 structurally bond polyolefins without special surface preparation
- Ability to bond dissimilar Substrates
- Regular and Non-Sag Formulations
- Room temperature cure
- Excellent water and humidity resistance
- Very good chemical resistance
- One step process; no pre-treatment of polyolefin substrates necessary
- Solvent-free adhesive system
- Convenient hand-held applicator
- 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 Volume (B:A)	10:1

Attribute Name	Test Method	Temperature	Value
Base Color			Blue-Green
Accelerator Color			Off-White
Base Density			8.5 lb/gal
Accelerator Density			8.3 — 8.7 lb/gal
Base Viscosity	3M C1d	27 °C (80 °F)	27,000 cP [1]
Accelerator Viscosity	3M C1d	27 °C (80 °F)	17000 — 40000 cP [1]

[1] Procedure involves Brookfield RVF, #7 spindle, 20 rpm. Measurement taken after 1 minute rotation.

Typical Mixed Physical Properties

Attribute Name	Temperature	Value
Skin Formation Time		3 min [1]
Worklife	23 °C (73 °F)	8 min [2]
Open Time		10 min [3]
Set Time (min)	23 °C (73 °F)	60 min [4]
Time to Full Cure	23 °C (73 °F)	24 h [5]
Dispense Viscosity	23 °C (73 °F)	25,000 cP

[1] An open bead line will show some skinning in approximately 3 minutes. It is possible to bond parts with good strength if the parts are made within 10 minutes. Therefore, the adhesive has a 10 minute open time for making bonds.

[2] Maximum time that adhesive can remain in a static mixing nozzle and still be expelled without undue force on the applicator. Cure times are approximate and depend on adhesive temperature.

[3] Max time allowed after applying adhesive to a substrate before bond must be closed and fixed. Cure times approximate and depend on adhesive temperature. Hotmelts: The approx. bonding range of a 3.2 mm (1/8 in) bead of molten adhesive on a non-metallic surface.

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

[5] The cure time is defined as that time required for the adhesive to achieve a minimum of 80% of the ultimate strength as measured by aluminum-aluminum OLS.

Typical Physical Properties

Attribute Name	Value
Cured Color	Blue-Green
Mixed Color	Blue-Green

Typical Cured Characteristics

Attribute Name	Test Method	Temperature	Test Condition	Value
Shore D Hardness	ASTM D2240	23 °C (73 °F)		55-60
Modulus	ASTM D638, ISO 527	23 °C (73 °F)		77,000 lb/in²
Storage Modulus			DMA	970 MPa [1]
Tensile Strain at Break				13000 psi [2]
Strain at Break	ASTM D638, ISO 527	23 °C (73 °F)		90 %

[1] Temp ramp 3 °C/min

[2] 3 mm (1/8 in) thick Type I test specimens; samples pulled at 5 mm/min (0.2 in/min)

Typical Performance Characteristics

Substrate: Polypropylene (PP)
Temperature: 49 °C (120 °F)
Dwell Time: 72 h

Attribute Name	Test Method	Value
180° Peel Adhesion	ASTM D3330	Substrate Failure oz/in [1]

[1] 300 mm/min (12 in/min)

Overlap Shear Strength

Temperature: 23 °C (73 °F)
Dwell Time: 7 d
Test Method: ASTM D1002, ISO 4587

Substrate	Surface Prep	Value
Aluminum	MEK/Abrade/MEK	1960 lb/in² (CF) [1]
Cold Rolled Steel	MEK/Abrade/MEK	1800 lb/in² (CF) [1]
Stainless Steel	MEK/Abrade/MEK	1820 lb/in² (CF) [1]
Galvanized Steel	MEK/Abrade/MEK	1330 lb/in² (CF) [1]
Copper	MEK/Abrade/MEK	1870 lb/in² (CF) [1]
Polycarbonate (PC)	IPA Wipe/Abrade/IPA Wipe	1150 lb/in² (SF) [1]
Low Density Polyethylene (LDPE)	IPA Wipe	360 lb/in² (SF) [1]
UHMWPE	IPA Wipe	770 lb/in² (CF) [1]

[1] 25 mm (1") wide, 12.7 mm (1/2") overlap samples, 25 mm (1") x 102 mm (4") substrates, bondline thickness: 0.13-0.20 mm (5-8 mil)
Separation rate 2.5 mm/min (0.1 in/min) metal, 51 mm/min (2 in/min) plastic, 510 mm/min (20 in/min) rubber.
Substrate thickness: steel 1.5 mm (60 mil), other metal 1.3-1.6 mm (50-64 mil), rubber and plastic 3.2 mm (125 mil)
Cohesive Failure (CF), Adhesive Failure (AF), Mixed Failure (MF), Substrate Failure (SF)

Attribute Name	Test Method	Value
Tensile Strength	ASTM D638, ISO 527	1,300 lb/in²

Electrical and Thermal Properties

Attribute Name	Test Condition	Value
Coefficient of Thermal Expansion	Below Tg	116 m/m/°C
Coefficient of Thermal Expansion	Above Tg	245 m/m/°C
Glass Transition Temperature (Tg)	Mid-Point	61 °C [1]

[1] Glass Transition Temperature (Tg) determined using DSC Analyzer with a heating rate of 20 °C (68 °F) per minute. Second heat values given.

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Test Condition	Value
Dielectric Constant	ASTM D150	1 KHz	4.36
Dissipation Factor	ASTM D150	1 KHz	0.068
Volume Resistivity	ASTM D257		4.1E+11 Ω-cm

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Surface Resistivity	ASTM D257	80,000,000,000 Ω

Handling/Application Information

Directions for Use

1. To obtain the highest strength structural bonds, paint, oxide films, oils, dust, mold release agents, and all other surface contaminants must be completely removed. The amount of surface preparation depends on the required bond strength and environmental aging resistance desired by user. For suggested surface preparations on common substrates, see the section on surface preparation.
2. Mixing
For Duo-Pak Cartridges
Store cartridges with cap end up to allow any air bubbles to rise towards the tip. To use, simply insert the cartridge into the EPX applicator and start the plunger into the cylinders using light pressure on the trigger. Then remove the cap and expel a small amount of adhesive to ensure material flows freely from both sides of cartridge. For automatic mixing, attach an EPX mixing nozzle to the cartridge and begin dispensing the adhesive. For hand mixing, expel the desired amount of adhesive and mix thoroughly. Mix approximately 15 seconds after obtaining a uniform color.
Mix thoroughly by weight or volume in the proportion specified on the product label or in the typical uncured properties section. Mix approximately 15 seconds after obtaining a uniform color.
3. Apply adhesive and join surfaces within the open time listed for the specific product. Larger quantities and/or higher temperatures will reduce this working time.
4. Allow adhesive to cure at 60°F (16°C) or above until completely firm. Applying heat up to 150°F (66°C) will increase cure speed.
5. Keep parts from moving during cure. Apply contact pressure or fixture in place if necessary. Optimum bond line thickness ranges from 0.005 to 0.020 inch; shear strength will be maximized with thinner bond lines, while peel strength reaches a maximum with thicker bond lines.
6. Excess uncured adhesive can be cleaned up with ketone type solvents.
*Note: When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer’s precautions and directions for use.

Surface Preparation

3M™ Scotch-Weld™ Structural Plastic Adhesives are designed to be used on metal, wood, and most plastic surfaces. The following cleaning methods are suggested for common surfaces:
Steel:
1. Wipe free of dust and dirt with pure solvent such as acetone or isopropyl alcohol.*
2. Sandblast or abrade using clean fine grit abrasives.
3. Wipe again with clean solvent to remove loose particles.*
Aluminum:
1. Wipe free of dust and dirt with pure solvent such as acetone or isopropyl alcohol.*
2. Sandblast or abrade using clean fine grit abrasives.
3. Wipe again with clean solvent to remove loose particles.*
4. When using a primer, apply adhesive within 4 hours of primer application.
Plastics/Rubbers:
1. Wipe with isopropyl alcohol.*
2. Abrade using fine grit abrasives.
3. Wipe with isopropyl alcohol.*
Glass:
1. Solvent wipe surface using acetone or MEK.*
2. Apply a thin coating of a silane adhesion promoter to the glass surfaces to be bonded and allow to dry completely before bonding.
*Note: When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

Storage and Shelf Life

Store product at 0 to 4°C (32 to 40°F) in the original, unopened packaging. Do not freeze. Allow product to reach room temperature prior to use. For best performance, use cartridges within 18 months, bulk pails within 9 months, and 55 gallon drums within 3 months of 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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