SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
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제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

스냅슛 (SNAPSHOOT)

ADDRESS (15431) 경기도 안산시 단원구 풍전로 37-9 트리플렉스 301동 118호
TEL 0507-1374-9229
FAX 0504-481-6749
E-MAIL bkkim@snapshoot.co.kr

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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3M Science. Applied to Life.™

Last Revision Date: April, 2026

Supersedes: April, 2025

Technical Data Sheet

3M™ Scotch-Weld™ Epoxy Adhesive DP105 Clear

Additional Info

Regulatory Info/SDS

Product Description

3M™ Scotch-Weld™ Epoxy Adhesive DP105 Clear is available in larger containers like 3M™ Scotch-Weld™ Epoxy Adhesive 105 B/A Clear.

3M™ Scotch-Weld Epoxy Adhesive DP105 Clear is a fast setting, very flexible 1:1 mix ratio epoxy adhesive/sealant. Its flexibility when cured makes it ideal for applications involving dissimilar surfaces where thermal coefficient of expansion may be a problem. It is also unique in that it retains its clear, colorless properties longer than most 5 minute epoxies.

Product Features

- 4 minute worklife
- High peel strength
- Flexible
- 1:1 mix ratio
- Clear

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
Color	Clear [1]
Mix Ratio by Volume (B:A)	1:1
Mix Ratio by Weight (B:A)	1:0.97

[1] Colors may vary from nearly white to yellow/amber. Adhesive performance is not affected by color variation.

Attribute Name	Test Method	Temperature	Value
Base Color			Clear
Accelerator Color			Clear
Base Resin			Epoxy
Accelerator Resin			Mercaptan
Base Net Weight			1.09 — 1.14 g/cm³ (9.1 — 9.5 lb/gal)
Accelerator Net Weight			1.13 — 1.17 g/cm³ (9.4 — 9.8 lb/gal)
Base Viscosity	3M C1d	27 °C (80 °F)	1,000-5,000 cP [1]
Accelerator Viscosity	3M C1d	27 °C (80 °F)	8,000-16,000 cP [1]

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

Typical Mixed Physical Properties

Rate of Strength Buildup

Substrate: Etched Aluminum
Temperature: 23 °C (73 °F)
Test Method: ASTM D1002, ISO 4587

Dwell Time	Value
1 h	1.7 MPa (250 lb/in²) [1]
6 h	3.4 MPa (500 lb/in²) [1]
24 h	6.9 MPa (1000 lb/in²) [1]
7 d	14 MPa (2000 lb/in²) [1]
1 month	14 MPa (2000 lb/in²) [1]

[1] Overlap shear: 25 mm by 12.7 mm (1" x 1/2"), bondline thickness: 0.07-0.25 mm (3-10 mil). Substrate size: 102mm x 25mm (1" x 4"). Separation rate 1.2 mm/min (0.05 in/min) for metal, 51 mm/min (2 in/min) for plastic, 510 mm/min (20 in/min) for rubber. Cohesive Failure (CF), Adhesive Failure (AF), Mixed Failure (MF), Substrate Failure (SF)

Attribute Name	Test Method	Temperature	Value
Open Time			5 min [1]
Tack Free Time	3M C3173		10 min [2]
Set Time (min)		23 °C (73 °F)	20 min [3]
Worklife, 2g mixed	3M C3180	23 °C (73 °F)	5 min [4]
Worklife, 20g mixed	3M C3180	23 °C (73 °F)	4 min [5]

[1] 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.

[2] Involves dispensing 0.5 gram amount of adhesive onto substrate and testing periodically for no adhesive transfer to metal spatula.

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

[4] Procedure involves periodically measuring a 2 gram mixed mass for self leveling and wetting properties. This time will also approximate the usable worklife in an 3M™ EPX™ Applicator mixing nozzle.

[5] Procedure involves periodically measuring a 20 gram mixed mass for self leveling and wetting properties. This time will also approximate the usable worklife in an 3M™ EPX™ Applicator mixing nozzle.

Attribute Name	Test Condition	Value
Exotherm max temp	2 g mass	37 °C (98 °F) [1]
Exotherm max temp	20 g mass	110 °C (230 °F) [1]
Exotherm time to reach max temp	2 g mass	5 min [1]
Exotherm time to reach max temp	20 g mass	3 min [1]

[1] Exotherm determined using the stated mass mixed for 1 minute and then by electronic thermocouple measuring the peak temperature and time to that temperature.

Typical Physical Properties

Attribute Name	Value
Cured Color	Clear

Typical Cured Characteristics

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Shore D Hardness	ASTM D2240	27

Test Condition: Potted Washer Olyphant Test, 100 °C [air] ~ -50 °C [liquid]

Attribute Name	Test Method	Value
Thermal Shock Resistance	3M C3174	Pass 5 cycles without cracking [1]

[1] Involves potting a metal washer into a 51 x 13 mm (2 x 0.5 in) thick section and cycling this test specimen to colder and colder temperatures.

Weight Loss by Thermal Gravimetric Analysis (TGA)

Test Method: ASTM E1131

Temperature	Value
117 °C (243 °F)	1% [1]
289 °C (552 °F)	5% [1]

[1] Weight loss by Thermal Gravimetric Analysis reported as that temperature at which 5% weight loss occurs by TGA in air at 5 °C (9 °F) rise per minute.

Typical Performance Characteristics

T-Peel Adhesion

Substrate: Etched Aluminum
Test Method: ASTM D1876

Temperature	Value
-55 °C (-67 °F)	5 N/cm (3 lb/in) [1]
23 °C (73 °F)	61 N/cm (35 lb/in) [1]
49 °C (120 °F)	9 N/cm (5 lb/in) [1]
66 °C (150 °F)	4 N/cm (2 lb/in) [1]
82 °C (180 °F)	2 N/cm (1 lb/in) [1]

[1] T-peel strengths were measured on 25 mm (1 in) wide bonds. Jaw separation 508 mm/min (20 in/min). The substrates were 0.51 mm (0.020 in) thick, 13 - 20 µm (0.005 - 0.008 in) bondline. Samples dwelled for 24 hrs at 23 °C + 2 hrs at 71 °C before testing.

Temperature: 23 °C (73 °F)
Dwell Time: 2 h
Test Method: ASTM D882
Environmental Condition: +2 hr @ 71 °C (160 °F)

Attribute Name	Value
Elongation	120 % [1]
Tensile Strength	4.1 MPa (600 lb/in²) [1]

[1] Samples were 51 mm (2 in) dumbbells with 3.2 mm (0.125 in) neck and 0.8 mm (0.03 in) sample thickness. Separation rate was 51 mm/min (2 in/min).

Typical Environmental Performance

Solvent Resistance

Environmental Condition	Value
24hr @ RT + 2hr @ 71 °C (160 °F) + Isopropyl Alcohol 1hr	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + Acetone 1hr	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + 1, 1, 1 - Trichloroethane 1hr	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + Freon TF 1hr	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + Freon TMC 1hr	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + RMA Flux 1hr	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + Isopropyl Alcohol 1mo	A [1]

Environmental Condition	Value
24hr @ RT + 2hr @ 71 °C (160 °F) + Acetone 1mo	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + 1, 1, 1 - Trichloroethane 1mo	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + Freon TF 1mo	A [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + Freon TMC 1mo	B [1]
24hr @ RT + 2hr @ 71 °C (160 °F) + RMA Flux 1mo	A [1]

[1] Cured OLS samples immersed in solvent and after dwell, examined for surface attack compared to control.
A: Unaffected, no color or texture change
B: Slight attack, slight swelling of surface.
C: Moderate/severe attack, extreme swelling of surface.

Electrical and Thermal Properties

Attribute Name	Test Condition	Value
Glass Transition Temperature (Tg)	Onset	8 °C (46 °F) [1]
Glass Transition Temperature (Tg)	Mid-Point	15 °C (59 °F) [1]
Coefficient of Thermal Expansion	Above Tg (40 ~ 140 °C)	181 x 10^{-6} m/m/°C [2]

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

[2] CTE determined using TMA Analyzer using a heating rate of 10 °C per minute. Second heat values given.

Test Condition: 110 °F

Attribute Name	Test Method	Value
Thermal Conductivity	C177	0.35 x 10^-3 Cal/s/cm/°C (0.15 W/m/K) (0.085 (btu-ft)/(h-ft^2-°F)) [1]

[1] Thermal conductivity determined using C-matic Instrument using 51 mm (2 in) diameter samples.

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Test Condition	Value
Dielectric Constant	ASTM D150	1 KHz	9.2
Dissipation Factor	ASTM D150	1 KHz	0.22
Volume Resistivity	ASTM D257		1.5 x 10^{10} Ω-cm

Handling/Application Information

Directions for Use

1. For high strength structural bonds, paint, oxide films, oils, dust, mold release agents and all other surface contaminants must be completely removed. However, the amount of surface preparation directly depends on the required bond strength and the environmental aging resistance desired by user. For specific surface preparations on common substrates, see the following section on Surface Preparation.
2. Uses gloves to minimize skin contact. Do not use solvents for cleaning hands.
3. Mixing
For Duo-Pak Cartridges
3M™ Scotch-Weld™ Epoxy Adhesive DP105 Clear is supplied in a dual syringe plastic Duo-Pak cartridge as part of the 3M™ Scotch-Weld™ EPX™ Applicator system. To use, simply insert the Duo-Pak cartridge into the EPX applicator and start the plunger into the cylinders using light pressure on the trigger. Next, remove the Duo-Pak cartridge cap and expel a small amount of adhesive to be sure both sides of the Duo-Pak cartridge are flowing evenly and freely. If automatic mixing of Part A and Part B is desired, attach the EPX mixing nozzle to the Duo- Pak cartridge and begin dispensing the adhesives. For hand mixing, expel the desired amount of adhesive and mix thoroughly. Mix approximately 15 seconds after uniform color is obtained.
For Bulk Containers
Mix thoroughly by weight or volume in the proportions specified in the Typical Uncured Properties section. Mix approximately 15 seconds after uniform color is obtained.
4. For maximum bond strength apply adhesive evenly to both surfaces to be joined.
5. Application to the substrates should be made within 3 minutes. Larger quantities and/or higher temperatures will reduce this working time.
6. Join the adhesive coated surfaces and allow to cure at 60°F (16°C) or above until completely firm. Heat up to 200°F (93°C), will speed curing. These products will cure in 48 hours @ 75°F (24°C).

7. Keep parts from moving during cure. Contact pressure is necessary. Maximum shear strength is obtained with a 3-5 mil bond line.
8. Excess uncured adhesive can be cleaned up with ketone type solvents.*
Adhesive Coverage:A 0.005 in. thick bondline will yield a coverage of 320 sqft/ gallon.
*Note: When using solvents, extinguish all ignition sources and follow the manufacturer's precautions and directions for use.

Surface Preparation

For high strength structural bonds, paint, oxide films, oils, dust, mold release agents and all other surface contaminants must be completely removed. However, the amount of surface preparation directly depends on the required bond strength and the environmental aging resistance desired by the user.
The following cleaning methods are suggested for common surfaces:
Steel:
1. Wipe free of dust with oil-free solvent such as acetone, isopropyl or alcohol solvents.*
2. Sandblast or abrade using clean fine grit abrasives.
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.

Aluminum:
1. Vapor Degrease: 3M™ Novec™ condensing vapors for 5-10 minutes.
2. Alkaline Degrease: Oakite 164 solution (9-11 oz./gallon water) at 190°F ± 10°F (88°C ± 5°C) for 10-20 minutes. Rinse immediately in large quantities of cold running water.
3. Acid Etch: Place panels in the following solution for 10 minutes at 150°F ± 5°F (66°C ± 2°C).

Sodium Dichromate 4.1 - 4.9 oz./gallon
Sulfuric Acid, 66°Be 38.5 - 41.5 oz./gallon 2024-T3 aluminum (dissolved) 0.2 oz./gallon minimum Tap Water as needed to balance
4. Rinse: Rinse panels in clean running tap water.
5. Dry: Air dry 15 minutes; force dry 10 minutes at 150°F ± 10°F (66°C ± 5°C).
6. If primer is to be used, it should be applied within 4 hours after surface preparation.

Plastics/Rubber:
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.*

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

• For small or intermittent applications the 3M™ Scotch-Weld™ EPX™ Applicator is a convenient method of application.

• For larger applications, these products may be applied by use of flow equipment.

• Two part meter/mixing/dispensing equipment is available for intermittent or production line use. These systems may be desirable because of their variable shot size and flow rate characteristics and are adaptable to many applications.

Industry Specifications

EN 45545 test report for details (ISO 5659-2, ISO 9239-1, ISO 5660-1, ISO 5658-2)

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) in the original, unopened packaging, out of direct sunlight. For best performance, use this product within 24 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.

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ISO Statement

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

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

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