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

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.

추락방지 시스템

안전대부착설비 · 수평·수직 라이프라인
레일 시스템 · 리지드 포스트

밀폐공간 진입·구조 솔루션

데빗암 · 삼각대 · 구조용 윈치
윈치 안전블록 · 구조장비

산업안전 보호구

전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

산업용 소재·건축자재

산업용 테이프 · 접착제 · 기능성 소재
구조용 스크류 · 목조건축 자재

SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

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.

Technical Data Sheet

3M™ Scotch-Weld™ One-Part Epoxy Adhesive
6105 Black

Product Description

3M™ Scotch-Weld™ One-Part Epoxy Adhesive 6105 Black is a one-part epoxy exhibiting a very low temperature cure or fast high temperature cure with long room temperature pot life. It is designed to have a low dielectric constant and is toughened for impact performance.

Product Features

- One-part epoxy with long room temperature stability
- Low temperature (55°C) cure and fast, higher temperature cure options
- Good impact resistance
- Low dielectric constant (Dk)

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	Test Method	Value
Density		1.08 g/mL
Color		Black
Components		1-Part
UV Tracer		No
Pot Life	ASTM D7867	3 weeks [1]
Halogens (Cl, Br)		Representative samples have been tested and meet the chlorine and bromine content requirements of IEC 61249-2-21 [2]

[1] Determined by meeting minimum application viscosity requirements of the adhesive over time @ 23°C

[2] Per IEC 61249-2-21

Temperature: 25 °C
Test Method: ASTM D7867

Attribute Name	Test Condition	Value
Viscosity - Cone and Plate	0.1 Hz	24 Pa·s [1]
Viscosity - Cone and Plate	1 Hz	24 Pa·s [1]
Viscosity - Cone and Plate	10 Hz	24 Pa·s [1]
Thixotropic Index	0.1 Hz / 1 Hz	1 [1]
Thixotropic Index	1 Hz / 10 Hz	1 [1]

[1] 40mm, 2.0°, 50um truncation cone and Peltier plate. 60s pre-shear at 100 Hz. 5 min flow ramp form 0.01 to 100 Hz @ 25°C

Typical Cure Profiles

Test Method: ASTM D4473

Attribute Name	Temperature	Value
Time to Double Complex Viscosity	65 °C	1 min [1]
Time to 1,000 Pa.s Complex Viscosity	65 °C	2.1 min [1]
Time to 0.1 MPa Storage Modulus	65 °C	2.4 min [1]
Time to 1 MPa Storage Modulus	65 °C	3 min [1]
Time to 80% Storage Modulus Max	65 °C	4.5 min [1]
Time to Double Complex Viscosity	55 °C	2.7 min [1]
Time to 1,000 Pa.s Complex Viscosity	55 °C	5 min [1]
Time to 0.1 MPa Storage Modulus	55 °C	5.7 min [1]
Time to 1 MPa Storage Modulus	55 °C	6.6 min [1]
Time to 80% Storage Modulus Max	55 °C	10 min [1]

[1] Parallel Plate Rheometer: Isothermal - 25mm parallel plate, 1 Hz

Substrate: Stainless Steel
Temperature: 65 °C
Test Condition: 23 °C
Test Method: ASTM D1002, ISO 4587

Attribute Name	Dwell Time	Value
Time to Handling Strength		10 min [1]
Time to Cure		10 min [2]
Overlap Shear Strength	10 min	21 MPa [3]
Overlap Shear Strength	20 min	23 MPa [3]
Overlap Shear Strength	60 min	24 MPa [4]

[1] 2mm thick substrate. Bond dimensions: 12.7 mm x 25.4 mm x 0.15 mm. Dwell time refers to time coupons are exposed to condition in oven. Time to consistent >50 psi (0.34 MPa) overlap shear strength. Tested 5±1 minutes out of oven.

[2] 2mm thick substrate. Bond dimensions: 12.7mm x 25.4mm x 0.15mm. Dwell time refers to time coupons are exposed to condition in oven. Time to 80% overlap shear full strength

[3] 2mm thick substrate. Bond dimensions: 12.7mm x 25.4mm x 0.15mm. Temperature refers to dwell time coupons are exposed to condition in oven. Coupons are tested 5±1 minutes after removing from oven. Pull rate 10 mm/min.

[4] 2mm thick substrate. Bond dimensions: 12.7mm x 25.4mm x 0.15mm. Temperature refers to dwell time coupons are exposed to condition in oven. Coupons are tested 24 hours after removing from oven. Pull rate 10 mm/min.

Substrate: Stainless Steel
Temperature: 55 °C
Test Condition: 23 °C
Test Method: ASTM D1002, ISO 4587

Attribute Name	Dwell Time	Value
Time to Handling Strength		10 min [1]
Time to Cure		20 min [2]
Overlap Shear Strength	10 min	18 MPa [3]
Overlap Shear Strength	20 min	22 MPa [3]
Overlap Shear Strength	40 min	23 MPa [3]
Overlap Shear Strength	60 min	23 MPa [4]

[1] 2mm thick substrate. Bond dimensions: 12.7 mm x 25.4 mm x 0.15 mm. Dwell time refers to time coupons are exposed to condition in oven. Time to consistent >50 psi (0.34 MPa) overlap shear strength. Tested 5±1 minutes out of oven.

[2] 2mm thick substrate. Bond dimensions: 12.7 mm x 25.4 mm x 0.15 mm. Dwell time refers to time coupons are exposed to condition in oven. Time to 80% overlap shear full strength

[3] 2mm thick substrate. Bond dimensions: 12.7 mm x 25.4 mm x 0.15 mm. Temperature refers to dwell time coupons are exposed to condition in oven. Coupons are tested 5±1 minutes after removing from oven. Pull rate 10 mm/min.

[4] 2mm thick substrate. Bond dimensions: 12.7 mm x 25.4 mm x 0.15 mm. Temperature refers to dwell time coupons are exposed to condition in oven. Coupons are tested 24 hours after removing from oven. Pull rate 10 mm/min.

Typical Cured Characteristics

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Dwell Time	Value
Density - Cured Solid	ASTM B962		1.1 g/mL
Volume Shrinkage	ASTM B962 and ASTM D1875		1.6 % [1]
Peak Stress	ASTM D638, ISO 527		26 MPa [2]
Young's Modulus	ASTM D638, ISO 527		1,450 MPa [2]
Poisson's Ratio	ASTM D638, ISO 527		0.34 [2]
Toughness	ASTM D638, ISO 527		1.1 J/m³ [2]
Elongation at Break	ASTM D638, ISO 527		5 % [2]
Notched Izod Impact	ASTM D256-10		42 J/m [3]
Shore D Hardness	ASTM D2240	7 d	67

[1] Solid and liquid densities were measured with different methods for this material.

[2] 0.5mm film cured at 65°C for 1 hour. Conditioned for >5 days in 23°C/50%RH. Die cut type IV dog bone. 100mm/min pull rate. Digital Image Correlation (DIC) used for strain measurements.

[3] 3 mm thick sample

Attribute Name	Test Method	Temperature	Test Condition	Value
Tg: DMA Temp Ramp	ASTM D7028		1 Hz	63 °C [1]
Storage Modulus: DMA Temp Ramp	ASTM D7028	-20 °C (-4 °F)	1 Hz	1,600 MPa [1]
Storage Modulus: DMA Temp Ramp	ASTM D7028	0 °C	1 Hz	1,500 MPa [1]
Storage Modulus: DMA Temp Ramp	ASTM D7028	25 °C	1 Hz	1,400 MPa [1]
Storage Modulus: DMA Temp Ramp	ASTM D7028	45 °C	1 Hz	1,200 MPa [1]
Storage Modulus: DMA Temp Ramp	ASTM D7028	65 °C	1 Hz	42 MPa [1]
Storage Modulus: DMA Temp Ramp	ASTM D7028	85 °C	1 Hz	15 MPa [1]
Storage Modulus: DMA Master Curve	ASTM D4065	25 °C	0.1 Hz	1,400 MPa [2]
Storage Modulus: DMA Master Curve	ASTM D4065	25 °C	1 Hz	1,400 MPa [2]
Storage Modulus: DMA Master Curve	ASTM D4065	25 °C	10 KHz	1,500 MPa [2]

[1] 0.5mm film cured at 65°C for 1 hour. Conditioned for >5 days in 23°C/50%RH (CTH). 1Hz film tension DMA Heat from -20°C to 100°C at 3°C/min. Tg reported as peak of Tan Delta.

[2] 0.5mm film conditioned for >5 days in 23°C/50%RH (CTH). Multi-frequency incremental temperature sweep film tension DMA Heat from -20°C to 100°C.

Typical Performance Characteristics

Overlap Shear Strength

Temperature: 23 °C
Test Condition: 1 hr at 65 °C + 24 hr at 23 °C
Test Method: ASTM D1002, ISO 4587

Substrate	Value
Etched Aluminum	27 MPa (Mixed Mode Failure) [1]
Stainless Steel	24 MPa (Mixed Mode Failure) [2]
FR-4	26 MPa (Mixed Mode Failure) [2]
PC/ABS	>5 MPa (Substrate Failure) [2]
PC	5 MPa (Adhesive Failure) [2]
PBT	5 MPa (Adhesive Failure) [2]

[1] Bond dimensions: 12.7mm x 25.4mm x 0.15mm. Pull rate: 10 mm/min.

[2] Bond dimensions: 12.7 mm x 25.4 mm x 0.15 mm. Pull rate: 10 mm/min.

Electrical and Thermal Properties

Attribute Name	Test Method	Temperature	Test Condition	Value
Thermal Conductivity				0.183 W/m·K
Coefficient of Thermal Expansion (CTE), Alpha 1	ASTM E831	25 °C		100 µm/m/°C [1]
Coefficient of Thermal Expansion (CTE), Alpha 2	ASTM E831	25 °C		193 µm/m/°C [1]
Dielectric Strength	ASTM D149	23 °C (73 °F)		38.6 kV/mm [2]
Dielectric Constant (Dk)	ASTM D150	23 °C (73 °F)	100 KHz	3.3
Dielectric Constant (Dk)	ASTM D2520	23 °C (73 °F)	1.1 GHz	3.0
Dielectric Constant (Dk)	ASTM D2520	23 °C (73 °F)	2.5 GHz	2.9
Dissipation Factor (Df)	ASTM D150	23 °C (73 °F)	100 KHz	0.022
Dissipation Factor (Df)	ASTM D2520	23 °C (73 °F)	1.1 GHz	0.026
Dissipation Factor (Df)	ASTM D2520	23 °C (73 °F)	2.5 GHz	0.026

[1] 0.5mm film cured at 65°C for 1 hour. Conditioned for >5 days in 23°C/50%RH. TA Instruments Q400 TMA. Temperature Range: -40°C to 90°C 2°C/min. 2 heats. Data reported from second heat.

[2] Measured at 0.5 mm

Handling/Application Information

Directions for Use

For a 30 mL cartridge, thaw for a minimum of one hour at room temperature before using. For a 55 mL cartridge, thaw for a minimum of two hours at room temperature before using. Verify thawing times for your speciifc conditions. Do not heat syringe above 27°C when warming.

Application Techniques

- Dispensing
- Molding

Application Examples

- Mobile device bonding
- Wearable electronic device bonding
- Electronic Assembly
- Encapsulation

Storage and Shelf Life

Store product at -20°C (-4°F) in the original, unopened packaging. For best performance, use this product within 12 months from date of manufacture.

Available Sizes

Attribute Name	Value
Packaging	30 mL syringe, 55 mL cartridge

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is commercially available from 3M. The commercially available product will have a COA specification established. The COA contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M representative for this product's COA.

This technical data sheet may contain preliminary data and may not match the COA specification limits and/or test methods that may be used for COA purposes.

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

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or

packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.

Warranty, Limited Remedy, and Disclaimer

Safety Data Sheet: Consult Safety Data Sheet before use.
Regulatory: For regulatory information about this product, contact your 3M representative.
Experimental Product: This 3M product is an experimental or developmental product that has not been introduced or commercialized for general sale, and its formulation, performance characteristics and other properties, specifications (if any), availability, and pricing are not guaranteed and are subject to change or withdrawal without notice.

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

3M is a trademark of 3M Company
©3M 2025 (6/25)