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.



3M Science. Applied to Life.™

Technical Data Sheet

3M™ Nitrile Industrial Adhesive 4491

English-US

Last Revision Date: April, 2025

Supersedes: September, 2024

Product Details

Regulatory Info/SDS

Product Features

- Low viscosity grade for spray application.
- Fast drying.
- Provides strong, flexible bonds.
- Resists weathering, water, fuels, oil and plasticizers.
- Bonds vinyl extrusions and sheeting. (May stain light colored vinyls.)
- Also bonds fabrics, leather, foams and many plastics. (Not recommended for polyolefin plastic bonding.)
- May be heat cured to obtain superior physical properties.

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
Net Weight	0.84 — 0.89
Base	Synthetic Elastomer

Typical Physical Properties

Attribute Name	Temperature	Value
Color		Light Tan (wet and dry)
Solvent Resistance		Acetone and Cyclohexanone
Bonding Range		Up — 20 min [1]
Flash Point		-18 °C (0 °F) [2]
Viscosity	23 °C (73 °F)	200 — 325 cP [3]

[1] 10 mil (0.25 mm) wet film 2 surfaces

[2] TCC

[3] Brookfield Viscometer RVF #2 spindle @ 20 rpm

Typical Performance Characteristics

180° Peel Adhesion

Substrate: Canvas to Steel

Dwell Time	Temperature	Value
24 h	23 °C (73 °F)	28.9 N/cm (264 oz/in)
72 h	23 °C (73 °F)	45.6 N/cm (416 oz/in)
120 h	23 °C (73 °F)	41.2 N/cm (376 oz/in)
168 h	23 °C (73 °F)	48.2 N/cm (440 oz/in)
2 week	23 °C (73 °F)	54.3 N/cm (496 oz/in)
3 week	23 °C (73 °F)	52.6 N/cm (480 oz/in)
3 week	-34 °C (-29 °F)	30.700000000000003 N/cm (280 oz/in)

Dwell Time	Temperature	Value
3 week	66 °C (150 °F)	12.299999999999999 N/cm (112 oz/in)
3 week	82 °C (180 °F)	6.1 N/cm (56 oz/in)

Overlap Shear Strength

Substrate: Aluminum to Aluminum
Dwell Time: 30 min
Environmental Condition: +700 kPa (+100 psi)

Temperature	Test Condition	Value
177 °C (300 °F)	93 °C (200 °F)	4.19 MPa (607 lb/in²)
121 °C (250 °F)		3.22 MPa (467 lb/in²)
177 °C (300 °F)	82°C (180 °F)	4.43 MPa (643 lb/in²)
177 °C (300 °F)	66 °C (150 °F)	6.18 MPa (897 lb/in²)
177 °C (300 °F)	23 °C	9 MPa (1306 lb/in²)
177 °C (300 °F)	-34 °C (-30 °F)	23.5 MPa (3409 lb/in²)
177 °C (300 °F)	-55 °C (-67 °F)	20.6 MPa (2989 lb/in²)

Handling/Application Information

Directions for Use

1. Surface Preparation: Remove all dust, dirt, oil, grease, wax, loose paint, etc.
Wiping with methyl ethyl ketone (MEK)* or 3M™ Citrus Base Cleaner* will aid in preparing the surface for bonding.
2. Application Temperature: For best results, the temperature of the adhesive and surfaces should be at least 65°F (18°C).

3. Application: Stir well before using.

Porous Surface(s): Brush, flow or spray a thin, even coat of adhesive to one or both surfaces. Coating both surfaces is preferred since it gives greater strength and permits longer open time before bonding. Very absorbent materials may require more than one coat. Bond while adhesive is still wet or aggressively tacky. Join surfaces with firm pressure.
Non-Porous Surface(s): Brush, flow or spray a thin, even coat of adhesive to both surfaces. Allow adhesive to dry until tacky. Join surfaces with firm pressure.
4. Drying Time: Drying time depends on temperature, humidity, air movement, and porosity of the materials bonded. Greater immediate strength may be obtained by heat or solvent reactivation. See Reactivation below.

5. Reactivation: To solvent reactivate, coat both surfaces with adhesive. Allow to dry tack-free. Lightly wipe one surface with a solvent such as acetone.* Complete bond within 30 seconds.

To heat reactivate, coat both surfaces with adhesive. Allow adhesive to dry completely. Reactivate by heating one or both surfaces to a minimum of 180°F (82°C). Assemble immediately (while hot), using firm pressure to ensure contact.
6. Curing: This product may be heat cured to obtain superior properties. Cure assembled parts at time and temperature listed using 100 psi pressure on the bond line.

Temperature of Bondline Time for Minimum Cure
200°F (93°C) 120 minutes
240°F (116°C) 40 minutes
280°F (138°C) 12 minutes
320°F (160°C) 8 minutes
360°F (182°C) 5 minutes
400°F (204°C) 2 minutes

7. Cleanup: Excess adhesive may be removed with acetone,* preferably while adhesive is still wet.
*Note: When using solvents, extinguish all ignition sources, including pilot lights, and follow manufacturer’s precautions and directions for use.

Application Equipment

Note: Appropriate application equipment can enhance adhesive performance. We suggest the following application equipment for the user's evaluation in light of the user's particular purpose and method of application.

1. Pumping:
5 Gallon or less dispensing system:
Pressure pot 100 psi operating pressure. Fluid hose should be nylon lined.
55 Gallon dispensing system:
Pump – 2:1 ratio, double acting, ball type checks, bung mounting, divorced design.
*Pump packings and seals must be resistant to the solvent in this adhesive. Nylon, compar, and PTFE lined or coated parts are suggested.

2. Spray:
Production Type Spray Equipment

Spray Gun	Air Cap	Fluid Nozzle	Air Pressure	Approximate Air Requirement[1]	Fluid Flow[2]
Binks: 95, 2001	63PH	63BSS	65-80 psi	23 scfm @ 80 psi	6 fl. oz./min.
DeVilbiss: JGA, MSA	777	FX	65-80 psi	24 scfm @ 80 psi	6 fl. oz./min.

Note: This adhesive is not recommended for airless spraying.
12-3 H.P. Compressor for intermittent use.
4 H.P. Compressor for continuous use.
2To Measure Fluid Flow: Pressurize fluid source only; pull trigger; flow material into measuring device for 60 seconds, increase or decrease fluid source pressure to obtain desired fluid flow.

3. Hoses: All material hoses should be nylon or PVA lined.
4. Brush/Roller: Typical brushes designed for oil based paints may be used.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original, unopened packaging, out of direct sunlight. Lower temperatures cause increased viscosity of a temporary nature. 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.

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.

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

3M is a trademark of 3M Company.
©3M 2025 (4/25)