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.



English-US

Last Revision Date: September, 2024

Supersedes: June, 2024

Technical Data Sheet

3M™ Scotch-Weld™ Epoxy Adhesive DP420 LH

Product Details

Regulatory Info/SDS

Product Description

3M™ Scotch-Weld™ Epoxy Adhesives are high performance, two-part epoxy adhesives offering outstanding shear and peel adhesion, and very high levels of durability.

Product Features

• High shear strength • High peel strength • Outstanding environmental performance • Easy mixing • 20 minute worklife • Low halogen content

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	Off-White [1]
Mix Ratio by Weight (B:A)	2:0.97
Mix Ratio by Volume (B:A)	2:1

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

Attribute Name	Temperature	Value
Base Color		White
Accelerator Color		Amber
Base Resin		Epoxy
Accelerator Resin		Amine
Base Net Weight		9.3 — 9.7 lb/gal
Accelerator Net Weight		9.0 — 9.4 lb/gal
Base Viscosity	23 °C (73 °F)	20000 — 50000 cP [1]
Accelerator Viscosity	23 °C (73 °F)	8000 — 14000 cP [1]

[1] Viscosity measured using cone-and-plate viscometer; reported viscosity at 4 sec^{-1} shear rate.

Typical Mixed Physical Properties

Attribute Name	Temperature	Value
Open Time		20 min [1]
Worklife, 5g mixed	23 °C (73 °F)	30 min
Worklife, 10g mixed	23 °C (73 °F)	20 min
Worklife, 20g mixed	23 °C (73 °F)	15 min

[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.

Typical Physical Properties

Attribute Name	Value
Cured Color	Off-White

Typical Cured Characteristics

Attribute Name	Test Method	Temperature	Value
Shore D Hardness	ASTM D2240	23 °C (73 °F)	85
Total Bromine			<5 ppm
Total Chlorine			720 ppm
Total Halogens			<800 ppm

Attribute Name	Value
Note	The properties of cured 3M™ Scotch-Weld™ Epoxy Adhesive DP420 NS Black and 3M™ Scotch-Weld™ Epoxy Adhesive DP420 LH are expected to be similar to the properties of 3M™ Scotch-Weld™ Epoxy Adhesive DP420 Black and 3M™ Scotch-Weld™ Epoxy Adhesive DP420 Off-White, respectively as described by data in the following sections of this technical data sheet. An exception to this is the concentration of halogens in Scotch-Weld DP420 LH. Scotch-Weld DP420 LH is a form of Scotch-Weld DP420 Off-White that can be considered “low halogen”. Low halogen is defined by the Electrotechnical Commission (IEC) 61249-2-21 standard as having less than 900 ppm chlorine, 900 ppm bromine, and less than 1500 ppm total chlorine and bromine.

Handling/Application Information

Directions for Use

3M™ Scotch-Weld™ Epoxy Adhesive DP420 is supplied in dual syringe plastic duo- pak cartridges as part of the 3M™ EPX™ Applicator System. The duo-pak cartridges are supplied in 50 ml, 200 ml and 400 ml configurations. To use the EPX cartridge system simply insert the duo-pak cartridge into the EPX applicator. 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 simultaneous mixing of Part A and Part B is desired, attach the EPX mixing nozzle to the duo-pak cartridge and begin dispensing the adhesive.
When mixing Part A and Part B manually the components must be mixed in the ratio indicated in the typical uncured properties section of this data sheet. Complete mixing of the two components is required to obtain optimum properties. Two-part mixing/proportioning/dispensing equipment is available for intermittent or production line use. These systems are ideal for line uses because of their variable shot size and flow rate characteristics and are adaptable to most applications.
Apply adhesive to clean, dry surfaces, joint parts and secure until adhesive sets (see rate of strength build up).

Surface Preparation

The following surface preparations were used for substrates described in this Technical Data Sheet.

A. Aluminum Etch - Optimized FPL Etch - 3M (test method C-2803)
1. 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 (3M test method C-2802).
2. Optimized FPL Etch Solution (1 liter):

Material Amount
Distilled Water 700 ml plus balance of liter (see below)
Sodium Dichromate 28 to 67.3 grams
Sulfuric Acid 287.9 to 310.0 grams
Aluminum Chips 1.5 grams/liter of mixed solution

To prepare 1 liter of this solution, dissolve sodium dichromate in 700 ml of distilled water. Add sulfuric acid and mix well. Add additional distilled water to fill to 1 liter. Heat mixed solution to 66 to 71°C (150 to 160°F). Dissolve 1.5 grams of 2024 bare aluminum chips per liter of mixed solution. Gentle agitation will help aluminum dissolve in about 24 hours.

To FPL etch panels, place them in the above solution at 150 to 160°F (66 to 71°C) for 12 to 15 minutes.

Note: Review and follow precautionary information provided by chemical suppliers prior to preparation of this etch solution.

3. Rinse immediately in large quantities of clear running tap water.
4. Dry – air dry approximately 15 minutes followed by force dry at 140°F (60°C) maximum for 10 minutes (minimum).
5. Both surface structure and chemistry play a significant role in determining the strength and permanence of bonded structures. It is therefore advisable to bond or prime freshly primed clean surfaces as soon as possible after surface preparation in order to avoid contamination and/or mechanical damage. Please contact your 3M sales representative for primer recommendations.

B. Oakite Degrease
Oakite 164 solutions (9-11 oz./gallon of water) at 190°F ± 10°F (88°C ± 5°C) for 2 minutes. Rinse immediately in large quantities of cold running water.

C. MEK/Abrade/MEK
Wipe surface with a methyl ethyl ketone (MEK) soaked swab, abrade and wipe with a MEK soaked swab.* Allow solvent to evaporate before applying adhesive.

*__Note:__When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

D. Isopropyl Alcohol Wipe Only Surface Preparation
Wipe surface with an isopropyl alcohol soaked swab.* Allow solvent to evaporate before applying adhesive.

*__Note:__When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

E. Isopropyl Alcohol/Abrade/Isopropyl Alcohol Surface Preparation
Wipe surface with an isopropyl alcohol soaked swab, abrade using clean fine grit abrasives, and wipe with an isopropyl alcohol soaked swab.* Then allow solvent to evaporate before applying adhesive.

*__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 under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original 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.

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. Warranty claims must be made within one (1) year from the date of 3M's shipment.

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, Scotch-Weld and EPX are trademarks of 3M Company.
©3M 2024 (9/24)