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

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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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작업 환경에 맞춘 개인보호구

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산업용 테이프 · 접착제 · 기능성 소재
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홈페이지 바로가기 →
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English-US

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Technical Data Sheet

3M™ Adhesive Transfer Tape 468MPF

Product Details

Product Description

Finite Element Analysis (FEA)data is available for this product at: **3m.com/FEA**

3M™ High Performance Acrylic Adhesive 200MP is a popular choice for graphic attachment and general industrial joining applications. It provides outstanding adhesion to metal and high surface energy plastics. This adhesive provides some initial repositionability for placement accuracy when bonding to plastics. It also performs well after exposure to humidity and hot/cold cycles.

Product Features

- Up to 400°F short-term heat resistance
- Excellent solvent resistance
- Excellent shear strength to resist slippage and edge lifting

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 Physical Properties

Attribute Name	Test Method	Value
Adhesive Type		200MP Acrylic
Total Tape Thickness	ASTM D3652	0.13 mm (5.2 mil)
Liner		Polyester Film (PET)
Liner Thickness		0.05 mm (2 mil)
Primary Liner Color		Clear

Typical Performance Characteristics

Substrate: Stainless Steel
Temperature: 23 °C (73 °F)
Dwell Time: 72 h
Backing: 2 mil Aluminum Foil

Attribute Name	Test Method	Value
180° Peel Adhesion	ASTM D3330	15.1 N/cm (139 oz/in) [1]

[1] 304 mm/min (12 in/min)

90° Peel Adhesion

Backing: 2 mil Aluminum Foil
Test Method: ASTM D3330

Dwell Time	Temperature	Substrate	Value
15 min	23 °C (73 °F)	Stainless Steel	6 N/cm (55 oz/in) [1]
72 h	23 °C (73 °F)	ABS	3 N/cm (27 oz/in) [1]
72 h	23 °C (73 °F)	Acrylic (PMMA)	8.9 N/cm (81 oz/in) [1]
72 h	23 °C (73 °F)	Aluminum	9.2 N/cm (84 oz/in) [1]
72 h	23 °C (73 °F)	Glass	12.3 N/cm (112 oz/in) [1]

Dwell Time	Temperature	Substrate	Value
72 h	23 °C (73 °F)	Polycarbonate (PC)	9.6 N/cm (88 oz/in) [1]
72 h	23 °C (73 °F)	Polyvinyl chloride (PVC)	5 N/cm (46 oz/in) [1]
72 h	23 °C (73 °F)	Stainless Steel	11.8 N/cm (108 oz/in) [1]
72 h	70 °C (158 °F)	Stainless Steel	20 N/cm (183 oz/in) [1]

[1] 304 mm/min (12 in/min)

Static Shear

Temperature	Test Condition	Value
23 °C (73 °F)	1000 g	10000+ min [1]
70 °C (158 °F)	1000 g	10000+ min [1]
93 °C (200 °F)	1000 g	10000+ min [1]
177 °C (350 °F)	500 g	10000+ min [1]
232 °C (450 °F)	400 g	2,284 min [1]
232 °C (450 °F)	200 g	10000+ min [1]

[1] 25 x 25 mm (1 in x 1 in) sample area, test terminated after 10,000 minutes

Attribute Name	Value
Short Term Temperature Resistance	204 °C (400 °F) [1]
Long Term Temperature Resistance	149 °C (300 °F) [2]

[1] Short Term (minutes, hour)

[2] Long Term (day, weeks)

Substrate: Aluminum

Attribute Name	Test Method	Value
Tensile Lap Shear – Peak Load	ASTM D1002, ISO 4587	174 lb [1]

[1] 3.2 cm^2 (0.5 in^2) sample size

Typical Environmental Characteristics

Environmental Resistance

Humidity Resistance – High humidity has a minimal effect on adhesive performance. Bond strength shows no significant reduction after exposure for 7 days at 90°F (32°C) and 90% relative humidity.

UV Resistance – When properly applied, nameplates and decorative trim parts are not adversely affected by outdoor exposure.

Water Resistance – Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.

Temperature Cycling Resistance – High bond strength is maintained after cycling four times through:
4 hours at 158°F (70°C)
4 hours at -20°F (-29°C)
4 hours at 73°F (22°C)

Chemical Resistance – When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Bond Build-up: The bond strength of 3M™ High Performance Acrylic Adhesive 200MP increases as a function of time and temperature

Temperature/Heat Resistance: 3M™ High Performance Acrylic Adhesive 200MP is usable for short periods (minutes, hours) at temperatures up to400°F (204°C) and for intermittent longer periods (days, weeks) up to 300°F (149°C).

Lower Temperature Service Limit: The glass transition temperature for 3M™ High Performance Acrylic Adhesive 200MP is -31°F (-35°C). Many applications survive below this temperature (factors affecting successful applications include: materials being bonded, dwell at RT before cold exposure, and stress below the TG [i.e. expansion/contraction stresses, impact]). Optimum conditions are: bonding high surface energy materials, longer time at RT before cold

exposure, and little or no stress below the TG. The lowest service temperature is -40°F (-40°C).

Electrical and Thermal Properties

Temperature: 43 °C (109 °F)

Attribute Name	Test Method	Value
Thermal Conductivity	ASTM C518	0.19 W/m/K (1.24 (btu-in)/(h-ft²-°F)) [1]

[1] results listed are at 43 °C (109° F)

Attribute Name	Test Method	Temperature	Test Condition	Value
Dielectric Constant	ASTM D150	23 °C (73 °F)	1 KHz	3.32
Dissipation Factor				0,0253
Dielectric Strength	ASTM D149		500 vac, rms[60 hz/sec]	674 V/mil
Insulation Resistance	Mil-I-46058C		test voltage = 100 VDC	>1.3 x 10^{15} Ω
Breakdown Voltage				4,500 V

Handling/Application Information

Application Examples

• Long term bonding of graphic nameplates and overlays (“subsurface” printed polycarbonate or polyester) to metal and high surface energy plastics in the aerospace, medical and industrial equipment, automotive, appliance and electronics markets.
• Bonding metal nameplates and rating plates in the aerospace, medical and industrial equipment, automotive, appliance and electronics markets.
• Bonding graphic overlays for membrane switches and for bonding the complete switch to the equipment surface.
• High speed processing of parts in the medical, telecommunications and electronics markets (medical components, durable labels, and flexible circuits).
• Lamination to industrial foams for rotary die-cutting of small gaskets for industrial and electronics markets.

Application Techniques

For maximum bond strength (during installation of the final part) the surface should be thoroughly cleaned and dried. Typical cleaning solvents are heptane (for oily surfaces) or isopropyl alcohol for plastics. Use reagent grade solvents since common household materials like rubbing alcohol frequently contain oils to minimize the drying affect on skin and can interfere with the performance of a pressure-sensitive adhesive.

*Note: Carefully read and follow the manufacturer’s precautions and directions for use when working with solvents. These cleaning recommendations may not be in compliance with the rules of certain air quality management districts in California; consult applicable rules before use.

It is necessary to provide pressure during lamination (1.5-20 pli recommended) and during final part installation (10-15 psi) to allow the adhesive to come into direct contact with the substrate. Using a hard edged plastic tool, which is the full width of the laminated part, helps to provide the necessary pressure at the point of lamination. Heat can increase bond strength when bonding to metal parts (generally this same increase is observed at room temperature over longer times, weeks). For plastic parts, the bond strength is not enhanced with the addition of heat.

The ideal adhesive application temperature range is 60°F (15.6°C) to 100°F (38°C). Application is not recommended if the surface temperature is below 50°F (10°C) because the adhesive becomes too firm to adhere readily. Once properly applied, at the recommended application temperature, low temperature holding is generally satisfactory (please refer to section VII of the Typical Physical Properties and Performance Characteristics).

When bonding a thin, smooth, flexible material to a smooth surface, it is generally acceptable to use 2 mils of 3M™ Adhesive 200MP. If a texture is visible on one or both surfaces, the 5 mil 3M adhesive 200MP would be suggested. If both materials are rigid, it may be necessary to use a thicker adhesive to successfully bond the components. 3M™ VHB™ Acrylic Foam Tapes may be required (please refer to the data page 70-0709-3830-6).

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8). For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.

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.

Recognition/Certification

TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements

MSDS:3M has not prepared a MSDS for this product which is not subjected to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R.1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, this product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

UL: These products have been recognized by Underwriters Laboratories, Inc. under Ul 746C and UL 969. For more information on the UL Certification, please visit the website at http://www.3M.com/converter, select UL Recognized Materials, then select the specific product area.

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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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ISO Statement

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