

# 3M<sup>™</sup> Adhesive Transfer Tape 468MP

Last Revision Date: May, 2022

# **Product Description**

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

3M<sup>™</sup> 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 Property Values Additional Information Adhesive Type Acrylic Liner 58# Polycoated Kraft Paper (PCK) Liner Thickness 0.11 mm View 🔨 Liner Color Tan Test Name: Primary View 🔨 Total Tape Thickness 5.2 mil Test Method: ASTM D3652 Total Tape Thickness View 🔨 0.13 mm

#### Test Method: ASTM D3652

Liner Print	468MP
Liner Thickness	4.2 mil

# Typical Performance Characteristics

Property	Values	Additional Information
90° Peel Adhesion	6 N/cm	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil		
90° Peel Adhesion	55 oz/in	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 15.0 Dwell Time Units: min Temp C: 23C		

Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min) View 🔨 90° Peel Adhesion 11.8 N/cm Test Method: ASTM D3330 Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min) View 🔨 90° Peel Adhesion 108 oz/in Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min) View 🔨 90° Peel Adhesion 20 N/cm

Test Method: ASTM D3330

Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 70C Temp F: 158F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	183 oz/in	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 70C Temp F: 158F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	9.2 N/cm	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Aluminum Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	84 oz/in	View ^
90° Peel Adhesion Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Aluminum Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)	84 oz/in	View
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Aluminum Backing: 2 mil Aluminum Foil	84 oz/in	View ▲
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Aluminum Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Aluminum Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min) 90° Peel Adhesion Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: ABS Backing: 2 mil Aluminum Foil		

Temp F: 72F
Environmental Condition: 50%RH
Substrate: ABS
Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

90° Peel Adhesion	8.9 N/cm	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Acrylic (PMMA) Backing: Aluminum Foil		
90° Peel Adhesion	81 oz/in	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Acrylic (PMMA) Backing: Aluminum Foil		
90° Peel Adhesion	12.3 N/cm	View 🔨
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Tomp C: 23C		

Temp C: 23C

Temp F: 72F Environmental Condition: 50%RH Substrate: Glass Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min) View 🔨 90° Peel Adhesion 112 oz/in Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Glass Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min) 90° Peel Adhesion View 🔨 5 N/cm Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Polyvinyl chloride (PVC) Backing: Aluminum Foil View 🔨 90° Peel Adhesion 46 oz/in

Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F		
Environmental Condition: 50%RH Substrate: Polyvinyl chloride (PVC) Backing: Aluminum Foil		
90° Peel Adhesion	9.6 N/cm	View ^
Test Method: ASTM D3330		
Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Polycarbonate (PC) Backing: 2 mil Aluminum Foil		
Notes: 12 in/min (300 mm/min)		
90° Peel Adhesion	88 oz/in	View ^
Test Method: ASTM D3330		
Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Polycarbonate (PC)		
Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Tensile Lap Shear – Peak Load	174 lb	View ^
Test Method: ASTM D1002		
Substrate: Aluminum		
Substrate: Aluminum Notes: 0.5 in² sample size		
	400 °F	
Notes: 0.5 in² sample size	400 °F	
Notes: 0.5 in² sample size	400 °F 204 °C	
Notes: 0.5 in <sup>2</sup> sample size Short Term Temperature Resistance		
Notes: 0.5 in <sup>2</sup> sample size Short Term Temperature Resistance		
Notes: 0.5 in <sup>2</sup> sample size Short Term Temperature Resistance Short Term Temperature Resistance	204 °C	
Notes: 0.5 in <sup>2</sup> sample size Short Term Temperature Resistance Short Term Temperature Resistance	204 °C	
Notes: 0.5 in² sample size   Short Term Temperature Resistance   Short Term Temperature Resistance   Long Term Temperature Resistance	204 °C 149 °C	
Notes: 0.5 in² sample size   Short Term Temperature Resistance   Short Term Temperature Resistance   Long Term Temperature Resistance	204 °C 149 °C	Yiew ▲
Notes: 0.5 in² sample size   Short Term Temperature Resistance   Short Term Temperature Resistance   Long Term Temperature Resistance   Long Term Temperature Resistance	204 °C 149 °C 300 °F 10000+ min	View

## Notes: 1in x 1in size; test terminated after 10,000 minutes

Static Shear	10000+ min	View ^
Notes: 1in x 1in size; test terminated after 10,000 minu	tes	
Static Shear	10000+ min	View ^
Notes: 1in x 1in size; test terminated after 10,000 minu	tes	
Static Shear	2284 min	View ^
Notes: 1in x 1in size; test terminated after 10,000 minu	tes	
Static Shear	10000+ min	View ^
Notes: 1in x 1in size; test terminated after 10,000 minu	tes	
180° Peel Adhesion	15.1 N/cm	View ^
Test Method: ASTM D3330 Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: Aluminum Foil Notes: 12 in/min (300 mm/min)		

180° Peel Adhesion	139 oz/in	View 🔨
Test Method: ASTM D3330		
Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: 50%RH Substrate: Stainless Steel Backing: Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	10 N/cm	View 🔨
Test Name: 90° Peel Adhesion Dwell/Cure Time: 24.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Control Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	94 oz/in	View 🔨
Test Name: 90° Peel Adhesion Dwell/Cure Time: 24.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F		

Environmental Condition: Control Substrate: Stainless Steel Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

Environmental Resistance	8.8 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Gasoline Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Notes. 12 III/ IIIII (300 IIIII/ IIIII)		
Environmental Resistance	80 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Gasoline Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	9 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: MEK Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	82 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: MEK Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	10 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Weak Acid (pH 4) Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	95 oz/in	View ^

Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Weak Acid (pH 4) Substrate: Stainless Steel Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

Environmental Resistance	9.4 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Weak Base (pH 10) Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	86 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 1.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Weak Base (pH 10) Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	17.7 N/cm	View ^

Test Name: 90° Peel Adhesion Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 49C Temp F: 120F Environmental Condition: Oil 10W30 Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	162 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 49C Temp F: 120F Environmental Condition: Oil 10W30 Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	10 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 100.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Water Substrate: Stainless Steel Backing: 2 mil Aluminum Foil		

Notes: 12 in/min (300 mm/min)

Environmental Resistance	95 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 100.0 Dwell Time Units: hr Temp C: 23C Temp F: 72F Environmental Condition: Water Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	13.4 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 49C Temp F: 120F Environmental Condition: Salt water (5 wt% in water) Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)		
Environmental Resistance	122 oz/in	View 🔨
Test Name: 90° Peel Adhesion Dwell/Cure Time: 72.0 Dwell Time Units: hr Temp C: 49C Temp F: 120F Environmental Condition: Salt water (5 wt% in water) Substrate: Stainless Steel Backing: 2 mil Aluminum Foil		

Notes: 12 in/min (300 mm/min)			
Environmental Resistance	16.4 N/cm	View 🔨	
Test Name: 90° Peel Adhesion Dwell/Cure Time: 7.0 Dwell Time Units: day Temp C: 32C Temp F: 90F Environmental Condition: 90%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)			
Environmental Resistance	150 oz/in	View 🔨	
Test Name: 90° Peel Adhesion Dwell/Cure Time: 7.0 Dwell Time Units: day Temp C: 32C Temp F: 90F Environmental Condition: 90%RH Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)			
Environmental Resistance	17.3 N/cm	View 🔨	

Test Name: 90° Peel Adhesion Dwell/Cure Time: 2000.0

Dwell Time Units: hr
Environmental Condition: UV Conditions - ASTM G-154 Cycle 1
Substrate: Stainless Steel
Backing: 2 mil Aluminum Foil

Notes: 12 in/min (300 mm/min)

Environmental Resistance	158 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 2000.0 Dwell Time Units: hr Environmental Condition: UV Conditions - ASTM G-154 Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)	4 Cycle 1	
Environmental Resistance	15.2 N/cm	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 72.0 Dwell Time Units: hr Environmental Condition: Temperature Cycling: 4 Hou Substrate: Stainless Steel Backing: 2 mil Aluminum Foil Notes: 12 in/min (300 mm/min)	rs at 158°F (70°C). 4 Hours at -20°F (-29°C). 16 Hours at	Room Tempterature. Repeat three times
Environmental Resistance	139 oz/in	View ^
Test Name: 90° Peel Adhesion Dwell/Cure Time: 72.0 Dwell Time Units: hr Environmental Condition: Temperature Cycling: 4 Hou Substrate: Stainless Steel Backing: 2 mil Aluminum Foil	rs at 158°F (70°C). 4 Hours at -20°F (-29°C). 16 Hours at	Room Tempterature. Repeat three times

# Electrical and Thermal Properties

Property	Values	Additional Information
Breakdown Voltage	3000 V	
Insulation Resistance	>1.3 x 10^15 Ω	View ^
Test Method: Mil-I-46058C		
Dielectric Constant 1KHz	3.32	View ^
Test Method: ASTM D150		
Temp C: 23C Temp F: 72F		
Dissipation Factor	0.011	
Dielectric Strength	674 V/mil	View ^

#### Test Method: ASTM D149

Thermal Conductivity	0.19 W/m/K	View ^
Test Method: ASTM C518		
Notes: results listed are at 109°F		
Thermal Conductivity	1.24 (btu-in)/(h-ft²-°F)	View ^
Test Method: ASTM C518		
Notes: results listed are at 109°F		
Coefficient of Thermal Expansion	527 ppm/°C	

# Typical Environmental Performance

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<sup>™</sup> High Performance Acrylic Adhesive 200MP increases as a function of time and temperature

Temperature/Heat Resistance: 3M<sup>™</sup> 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<sup>™</sup> 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).

# Storage and Shelf Life

It is suggested that products are stored at room temperature conditions of 70°F (21°C) and 50% relative humidity. If stored properly, product retains its performance and properties for 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 Standard UL 969, Marking and Labeling Systems Materials Component. 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. Military: Meets MIL-P-19834

Note: One of 3M's core values is to respect our social and physical environment. 3M is committed to comply with ever-changing, global, regulatory and consumer environmental, health, and safety (EHS) requirements. As a service to our customers, 3M is providing information on the regulatory status of many 3M products. Further regulation information including that for OSHA, USCPSI, FDA, California Proposition 65, READY and RoHS, can be found at 3M.com/regs.

### **Bottom Matter**

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Converter Markets 3M Center, Building 225-3S-06 St. Paul, MN 55144-1000 800-223-7427 651-778-4244 (fax) www.3M.com

## Trademarks

3M is a trademark of 3M Company.

#### Automotive Disclaimer

Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, including, but not limited to, automotive electric powertrain battery or high voltage applications. This product does not fully adhere to typical automotive design or quality system requirements, such as IATF 16949 or VDA 6.3. This product may not be manufactured in an IATF certified facility and may not meet a Ppk of 1.33 for all properties. The product may not undergo an automotive production part approval process (PPAP). Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's automotive application and for conducting incoming inspections before use of the product. Failure to do so may result in injury, death, and/or harm to property. No written or verbal statement, report, data or recommendation by 3M related to automotive use of the product shall have any force or effect unless in an agreement signed by the Technical Director of 3M's Automotive Division. Customer assumes all responsibility and risk if customer chooses to use this product in an automotive electric powertrain battery or high voltage application, and 3M will not be liable for any loss or damage arising from or related to the 3M product or customer's use of the product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity or recall costs), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability. In no event shall 3M be liable for any damages in excess of the purchase price paid for the product.

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#### 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<sup>™</sup> 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<sup>™</sup> VHB<sup>™</sup> 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.

#### References

Property		Values					
3m.com Produ	uct Page	https://www.3m.c	https://www.3m.com/3M/en_US/p/d/b40071697/				
Safety Data Sh	neet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/? gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=468MP					
amily Group	)						
ink Tags:							
• 467MP	• 468MP • 467N	1PF 468MPF					
Products	Adhesive Type	Liner	Liner Thickness	Liner Color	Total Tape Thickness	Short Term Temperature Resistance	Long Term Temperature Resistance
468MPF	Acrylic	Polyester Film (PET)	0.05 mm	Clear	0.13 mm	204 °C	300 °F
167MP	Acrylic	58# Polycoated Kraft Paper (PCK)	0.11 mm	Tan	0.06 mm	204 °C	300 °F
468MP	Acrylic	58# Polycoated Kraft Paper (PCK)	0.11 mm	Tan	0.13 mm	204 °C	300 °F
		Polyester Film					

 467MPF
 Acrylic
 0.05 mm
 Clear
 0.06 mm
 204 °C
 300 °F

(PET)

#### **ISO Statement**

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

#### 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.

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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.

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