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3M™ Adhesive Transfer Tape 9445

Product Description

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

This 3M™ Adhesive Transfer Tape with 3M™ Adhesive 350 is a modified acrylic adhesive ideal for very high-bond strength to many surfaces. It has excellent chemical resistance and bold strength even at elevated temperatures. This tape is offered with a fiber reinforced adhesive which is important for roll stability in narrow widths. Tapes using adhesive 350 are designed for temperature exposure to 450°F (232°C) for short periods of time and up to 300°F (149°C) over long time frames. This adhesive is a good choice for applications which require adhesion to Low Surface Energy plastics, powder coatings and oily metals.



3M™ Adhesive Transfer Tape 9445

General Information

- Excellent bond to metal and high surface energy plastics.
- Outstanding temperature and chemical resistance.
- Two adhesive thicknesses: 2 mil for thin profile labels and 5 mil for rougher surfaces.
- Available on various liners for specialized processing:
 - 55# Densified Kraft for rotary die-cutting
 - 62# Polycoated Kraft for steel rule die-cutting
 - 83# Polycoated Kraft for lay flat applications
 - 78# Extensible Kraft for conformable applications

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		Notes
Adhesive Thickness	0.127 mm	5 mil	The thickness listed is based on a calculation from manufacturing controlled adhesive coat weights using a density of 1.012 g/cc. While past data pages have listed nominal thicknesses, the coat weight (and theoretical caliper) has not changed.
Liner	55# Densified Kraft		
Liner Thickness	0.08 mm	3.2 mil	
Dispenser Selection	For assistance in helping you determine the best dispenser for your application, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.		

Typical Performance Characteristics

Relative High Temperature Operating Ranges		Test Condition
232 °C	450 °F	Short Term (minutes, hours)
121 °C	250 °F	Long Term (days, weeks)

Property: Relative High Temperature Operating Ranges

Typical Performance Characteristics (continued)

Static Shear	Test Condition
10000 min	1000 g load @ Room Temperature
10000 min	500 g load @ 70°C (158°F)
10000 min	400 g load @ 93°C (200°F)
10000 min	300 g load @ 121°C (250°F)
10000 min	300 g load @ 149°C (300°F)
10000 min	300 g load @ 177°C (350°F)
10000 min	200 g load @ 232°C (450°F)

Property: Static Shear

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

180° Peel Adhesion		Substrate
16.4 N/cm	150 oz/in	Stainless Steel
15.8 N/cm	145 oz/in	Painted Metal
15.8 N/cm	145 oz/in	Polycarbonate (PC)
13.6 N/cm	125 oz/in	Acrylic (PMMA)
13.1 N/cm	120 oz/in	Epoxy
9.3 N/cm	85 oz/in	ABS
9.8 N/cm	90 oz/in	Polyvinyl chloride (PVC)
8.7 N/cm	80 oz/in	Polypropylene (PP)
15.8 N/cm	145 oz/in	Glass
3.8 N/cm	35 oz/in	High Density Polyethylene (HDPE)
4.4 N/cm	40 oz/in	Low Density Polyethylene (LDPE)
10 N/cm	95 oz/in	Aluminum

Property: 180° Peel Adhesion

Method: ASTM D3330

Dwell/Cure Time: 72 hr @ Room Temperature

Property	Values	
Lower Service Temperature Limit	-40 °C	-40 °F
Typical Liner Release Values	55 g/in	

Available Sizes

Property	Values	
Note	Subject to Minimum Order Requirements	
Standard Length	60 yd	
Maximum Available Width	48 in	
Normal Slitting Tolerance	± 0.8 mm	± 1/32 in
Core Size (ID)	76.2 mm	3 in

Maximum Length		Width
54.9 m	60 yd	1/8 in to 3/8 in width
165 m	180 yd	3/8 in to 1/2 in width
329 m	360 yd	1/2 in to 1 in widths
329 m	360 yd	1 in to maximum

Property: Maximum Length

Handling/Application Information

Application Ideas

Ideal adhesive application temperature range is 70°F to 100°F (21°C to 38°C). Initial application to surfaces at temperatures below 50°F (10°C) is not recommended for most pressure sensitive adhesives because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is satisfactory. For more specific information, contact our toll free 3M sales assistance number at 1-800-362-3550.

2 mil thick tapes may generally be used for joining materials that are relatively smooth, thin and have low residual stress. For materials with a rough or textured surface, the thicker adhesive film of the 5 mil tapes would be more appropriate for evaluation.

Application Techniques

For maximum bond strength the surface should be thoroughly cleaned and dried. Typical cleaning solvents are heptane or isopropyl alcohol. Consult manufacturer’s Material Safety Data Sheet for proper handling and storage instructions. Bond strength can also be improved with firm application pressure and moderate heat (for metal surfaces only), from 100°F (38°C) to 130°F (54°C), causing the adhesive to develop intimate contact with the bonding surfaces.

Storage and Shelf Life

Product retains its performance and properties for 24 months from date of manufacture if properly stored at room temperature conditions of 72°F (22°C) and 50% R.H. Storage in a plastic bag is recommended.

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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References

Safety Data Sheet (SDS)

https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9445

Family Group

	9442	9445	9482PC	9485PC	9485EK	9675
Relative High Temperature Operating Ranges (°C) Test Condition: Short Term (minutes, hours)	232	232	232	232	232	232
Relative High Temperature Operating Ranges (°C) Test Condition: Long Term (days, weeks)	121	121	121	121	121	121
Adhesive Thickness (mm)	0.05	0.127	0.05	0.127	0.127	0.127
Liner	55# Densified Kraft	55# Densified Kraft	62# Polycoated Kraft	62# Polycoated Kraft	78# Extensible Polycoated Kraft	83# Polycoated Kraft lay flat, tan with green "3M" print
Liner Thickness (mm)	0.08	0.08	0.11	0.11	0.14	0.16

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ISO Statement

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

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-223-7427 or visit www.3M.com/converter. Address correspondence to: 3M Engineered Adhesives Division, 3M Center, Building 220-7E-01, St. Paul, MN 55144-1000. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

Recognition/Certification

MSDS: 3M has not prepared a MSDS for these products which are not subject 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, these products should not present a health and safety hazard. However, use or processing of these products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

TSCA: These products are defined as articles under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

UL: Tapes 9442 and 9445 have been recognized by Underwriters Laboratories Inc. under Standard UL 969 Marking and Labeling in File MH26206. Tapes 9482PC and 9485PC have been recognized by Underwriters Laboratories Inc. under Standard UL

746C Polymeric Adhesives Systems, Electrical Equipment Component in File MH17478. If you require official recognition of any 350 adhesive under either UL 969 or UL 746C, please contact 3M-customer service at 1-800-362-3550.

For more information on the UL Certification, please visit the website at <http://www.3m.com/converter>, select UL Recognized Materials, and then select the specific product area.

