Flame Retardant Adhesive Transfer Tape

9372DK • 9373 • 9375

Technical Data **July, 2001**

Product Description

These products are acrylic based adhesive transfer tapes specially formulated to provide a permanent bond between substrates in environments requiring regulatory compliance with various flame retardancy standards such as Federal Aviation Regulation 25.853, UL 94 V-0/2, NFPA 1971 (2000 Ed.), FMVSS 302 and others. Three adhesive thicknesses are available: 2.0, 3.0 & 5.0 mils.

Construction

Product		9372DK	9373	9375
Adhesive Type:		Tackified Acrylic, 300FR Series		
Adhesive Carrier:		None		
Polycoated Kraft Release Liner: (9373 & 9375)		83 Lb./Ream, Tan, Unprinted, Approx. 6.5 mils thick Layflat and Moisture Stable Liner		
Densified Kraft Release Liner: (9372DK)		55 Lb./Ream, White, Unprinted, Approx. 4.0 mils thick "DK" Suffix, Designed for Rotary Die Cutting		
Adhesive Thickness:	(inch)	0.0020	0.0030	0.0050
	(micron)	50	75	125
Areal Density	(gm/Sq. M.)	75	113	188
Thickness Tolerance:		± 15%		
Adhesive Color:		White		

Typical Physical Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Adhesion to Steel: (ASTM D3330) (180 Degree, 72 Hour Dwell, Room T)	119 Oz./in. (130 N/100 mm)	175 Oz./in. (196 N/100 mm)	187 Oz./in. (209 N/100 mm)
Temperature Performance Operating Ranges:			
Short Term: (minutes/hours)	250°F (121°C)		
Long Term: (weeks/months)	180°F (82°C)		
Relative Solvent Resistance:	Very Good		
U.V. Resistance:	Very Good		
Shelf Life Policy:	24 months from date of manufacture when stored in original cartons at 70°F (21°C) and 50% relative humidity.		

3M™ Flame Retardant Adhesive Transfer Tape

9372DK • 9373 • 9375

Available Sizes

Product	9372DK	9373	9375
Core Size:	3.0 in. (76.2 mm)		
Available Widths:	1/2 - 60 inch	1/2 - 60 inch	1/2 - 60 inch
Available Lengths:			
Standard	60 Yd.	60 Yd.	60 Yd.
1/2-1" Wide	180 Yd. Max.	180 Yd. Max.	180 Yd. Max.
1-60" Wide	360 Yd.	360 Yd.	360 Yd.
Normal Slitting Tolerance:	± 1/32 in. (0.8 mm)		
Precision Slitting Capability:	± 0.004 in. (0.10 mm)		

Typical Peel Adhesions

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Peel Adhesion (ASTM D3330 - Modified for 90°)

Product		9372DK	9373	9375
Surface:		**Oz./in. (N/100 mm)**		
Stainless Steel	Initial	70 (77)	81 (89)	88 (96)
	72 Hr. Room Temp.	72 (79)	93 (102)	107 (117)
	Ultimate (72 Hr., 158°F)	98 (85)	132 (144)	160 (175)
ABS	72 Hr. Room Temp.	62 (68)	77 (84)	86 (94)
Polycarbonate	72 Hr. Room Temp.	63 (69)	77 (84)	87 (95)
Polypropylene	72 Hr. Room Temp.	48 (53)	52 (57)	55 (60)
Polyethylene (HD)	72 Hr. Room Temp.	51 (56)	59 (65)	67 (73)

Typical Static Shear Performance

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Shear Adhesion (ASTM D-3654, 1" x 1" Overlap)

Product		9372DK	9373	9375
Surface:		**Minutes to Fail**		
Stainless Steel	1000 gm, Room Temp.	> 10,000	> 10,000	> 10,000
	500 gm, 158°F (70°C)	> 10,000	> 10,000	> 10,000

3M™ Flame Retardant Adhesive Transfer Tape

9372DK • 9373 • 9375

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm **application pressure** helps develop better adhesive contact and improve bond strength. 15 psi momentary pressure is typical.

Ideal tape **application temperature** range is 70°F to 100°F (21°C to 37°C). Initial tape application to surface at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once applied, low temperature holding is generally satisfactory.

Surfaces should be **clean and dry** prior to bonding. We recommend a final surface cleaning with a mixture of 50% isopropyl alcohol and water.

Note: Carefully read and follow the manufacturer's precautions and directions for use when using cleaning solvents.

Two liner options facilitate wide array of application techniques. Densified kraft liner ideal for roll to roll lamination and subsequent **rotary die cutting**. Heavy caliper, layflat, polycoated kraft liner, minimizes surface asperities, minimizes distortion of pre-laminated substrates in variable humidity conditions and provide convenient backing for **kiss cutting** operations.

Applications

This family of products has been formulated for applications requiring flame retardency and high bond strength to a wide variety of substrates.

These attributes and choice of three product thicknesses make the products ideally suited to applications in aerospace, maritime, electronic, automotive and building construction applications on both smooth and textured substrates.

3M Dispenser Selection

Semiautomatic Dispensers: S625, T646, T653 (anticipated)

Full dispensibility characterization has not yet been completed for use in 3M's Dispenser/Tape Compatibility Guideline. 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 800-362-3550.

3M™ Flame Retardant Adhesive Transfer Tape

9372DK • 9373 • 9375

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550 or visit www.3M.com/bonding. 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.

Certification/ Recognition

MSDS
3M has not prepared MSDSs 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 the 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.

Federal Aviation Regulations, FAR 25.853
These products *were designed for use in applications that must* comply with both the 12 and 60 second vertical burn requirements, as well as the maximum energy release and smoke opacity requirements of FAR 25.853, Appendix F. Applications using these products have also demonstrated compliance with current OEM Drager Tube toxicity standards.

Underwriter's Laboratory, UL 94 (UL File E213134)
9372DK and 9373 have been rated UL 94 V-0 when mounted on polyimide (Kapton) 1 mil thick or greater or mounted on aluminum 2 mils thick or greater.

9375 has been rated UL 94 V-0 when mounted on 1 mil polyimide (Kapton) or mounted on aluminum 5 mils thick or greater.

National Fire Protection Association, NFPA 1971 (2000 Edition)
Customers have obtained this recognition for their specification applications in fire fighting apparel.

Federal Motor Vehicle Safety Standards, FMVSS 302
All three products have been certified to this standard.

Important Notice

3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Limitation of Remedies and Liability

If the 3M product is proved to be defective, THE EXCLUSIVE REMEDY, AT 3M'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M PRODUCT. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including, but not limited to, contract, negligence, warranty, or strict liability.

ISO 9002

This Engineered Adhesives Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

3M

Engineered Adhesives Division
3M Center, Building 220-7E-01
St. Paul, MN 55144-1000

Recycled Paper
40% pre-consumer
10% post-consumer

Printed in U.S.A.
©3M IPC 2001 70-0709-3866-0 (7/01)