3M™ Double Coated Tape 9490LE

Product Description

3M™ Double Coated Tape 9490LE with 3M™ Laminating Adhesive 300LSE provides high bond strength to most surfaces, including many low surface energy plastics such as polypropylene and powder coated paints. The acrylic adhesive also provides excellent adhesion to surfaces contaminated lightly with oil typically used with machine parts. 3M double coated tape 9490LE offers the added feature of 3M™ Laminating Adhesive 300MP on one side to provide excellent bond strength to a variety of foam and fabric materials.

Construction

Product Number	Faceside[1] Adhesive Thickness	Carrier Type/ Thickness	Backside[2] Adhesive Thickness	Liner Color, Type, Print	Liner Caliper	Total Tape Thickness (w/o liner)
3M™ Double Coated Tape 9490LE[4]	2.8 mil (0.071mm)	Clear PET[3] 0.5 mil (0.013mm)	3.4 mil (0.086mm)	Tan, 58#, Polycoated Kraft "3M 300LSE"	4.2 mil (0.11mm)	6.7 mil (0.17mm)

Note 1: Faceside (FS) adhesive 300MP is on the interior of the roll, exposed when unwound.

Note 2: Backside (BS) adhesive 300LSE is on the exterior of the roll, exposed when liner is removed.

Note 3: PET (Polyester).

Note 4: The caliper listed is based on a calculation from manufacturing controlled adhesive coat weights using a density of 1.012 g/cc.

Features

- This tape has a moisture resistant polycoated kraft liner which can withstand high humidity conditions with minimal cockling or wrinkling.
- This tape has a film carrier which can add dimensional stability to foams and other substrates and also make it easier to handle the tape during slitting and die-cutting.
- The bond strength of 3M™ Laminating Adhesive 300LSE increases as a function of time and temperature, and has very high initial adhesion.

Application Ideas

- Foam attachment for electronic assemblies.
- Low surface energy substrates.
- Graphic attachment of high surface energy and low surface energy.

Typical Physical Properties and Performance Characteristics

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

Product Number	3M™ Double Coated Tape 9490LE
Adhesion to stainless steel ASTM D3330 - 90 degree	Oz/in (N/cm) [kg/25.4 mm]
- 15 minute RT (FS/BS)	25/60 (2.7/6.6) [0.7/1.7]
- 72 hour RT (FS/BS)	125/140 (13.7/15.3) [3.6/4.0]
- 72 hour 158°F (70°C) (FS/BS)	125/160 (13.7/17.5) [3.6/4.6]
ASTM D3330 - 180 degree, 2 mil Al foil - 72 hr RT	
Faceside	135 (14.8) [3.8]
Backside	155 (17.0) [4.4]
Shear Strength - ASTM D3654 modified - (.5 inch^2 sample size)	
1000 grams at 72°F (22°C)	>10,000 minutes
500 grams at 158°F (70°C)	>10,000 minutes
Relative High Temperature Operating Ranges:	
Long Term (days, weeks)	200°F (93°C)
Short Term (minutes, hours)	300°F (149°C)
Relative Solvent Resistance	Very Good
Dielectric Properties:	
Dielectric Strength	1025 volts/mil
Breakdown Voltage	5700 volts

Available Sizes

Roll length, width, slitting tolerance, core size.
Available Lengths (Subject to minimum order requirements)

Maximum Length	
1/2" to 63/64"	180 yd. (164 m)
1" to 3"	360 yd. (329 m)
3" to 48"	360 yd. (329 m)
48" to 54"	360 yd. (329 m)
Normal Slitting Tolerance	±1/32" (0.8 mm)
Core Size ID	3.0" (76.2 mm)
Sheet Size	Not Available

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), will assist the adhesive in developing intimate contact with the bonding surface.

To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.*

Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

***Note:** Carefully read and follow the manufacturer's precautions and directions for use when working with solvents. These cleaning recommendations may not be compliant with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

Environmental Performance

Humidity Resistance: High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for seven 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 exposure to direct sunlight.

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.

Storage

Store in original cartons at 70°F (21°C) and 50% relative humidity.

Shelf Life

If stored under proper conditions, product retains its performance and properties for two years from date of manufacture.

Certification/Recognition

MSDS: 3M has not prepared a MSDS for this product which is 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, the 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.

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

RoHs Complaint/REACH Compliant: This product complies with the European Union's "Restriction of Hazardous Substances" (RoHs) initiative and with European REACH regulations 2002/95/EC and 2005/618/EC.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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60-5002-0529-3