English

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Technical Data Sheet

3M™ High Strength Double Coated Tape 93020LE

Product Details

Regulatory Info/SDS

Product Description

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

3M™ Double Coated Tapes with 3M™ High Strength Acrylic Adhesive 300LSE provides a 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 with oil typically used with machine parts.

Product Features

• This tape has a film carrier which can add dimensional stability to foams and other substrates and also makes it easier to handle the tape during slitting and die-cutting.
• The bond strength of 3M™ Acrylic Adhesive 300LSE increases as a function of time and temperature, and has very high initial adhesion.

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	Test Condition	Value
Adhesive Type			300LSE Acrylic
Adhesive Carrier			Clear Polyester
Adhesive Thickness		Faceside	0.095 mm (3.7 mil) [1]
Carrier Thickness			0.012 mm (0.5 mil)
Adhesive Thickness		Backside	0.095 mm (3.7 mil) [2]
Total Tape Thickness	ASTM D3652		0.2 mm (7.9 mil)
Liner			58# Polycoated Kraft Paper (PCK)
Liner Print			300LSE
Liner Thickness			0.11 mm (4.2 mil)
Primary Liner Color			Tan

[1] Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.

[2] Backside adhesive is on the exterior of the roll, exposed when liner is removed.

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 22 °C (72 °F)
Backing: 2 mil Aluminum Foil
Test Method: ASTM D3330

Dwell Time	Substrate	Value
15 min	ABS	15.9 N/cm (145 oz/in) [1]
15 min	Polycarbonate (PC)	18.1 N/cm (165 oz/in) [1]
15 min	Polypropylene (PP)	17 N/cm (155 oz/in) [1]
15 min	Stainless Steel	17 N/cm (155 oz/in) [1]

Dwell Time	Substrate	Value
72 h	ABS	17 N/cm (155 oz/in) [1]
72 h	Polycarbonate (PC)	19.7 N/cm (180 oz/in) [1]
72 h	Polypropylene (PP)	19.2 N/cm (175 oz/in) [1]
72 h	Stainless Steel	18.6 N/cm (170 oz/in) [1]

[1] 12 in/min (300 mm/min)

Static Shear

Test Method: ASTM D3654

Temperature	Test Condition	Value
22 °C (72 °F)	1000g	>10,000 min [1]
70 °C (158 °F)	500g	>10000 min [1]

[1] 1 in x 1 in sample area, test terminated after 10,000 minutes

Attribute Name	Value
Short Term Temperature Resistance	149 °C (300 °F) [1]
Long Term Temperature Resistance	93 °C (200 °F) [2]

[1] Short Term (minutes, hour)

[2] Long Term (day, weeks)

Typical Environmental Characteristics

Environmental Resistance

Humidity Resistance: High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed 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 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.

Electrical and Thermal Properties

Attribute Name	Value
Breakdown Voltage	7,500 V

Handling/Application Information

Application Examples

• Foam to powder coated painted surfaces.
• Low surface energy plastic adhesion.

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. To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.*
*Note: Carefully read and follow the manufacturer's precautions and directions for use when using solvents. 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.

Industry Specifications

FDA Statement

This product might be suitable for use in indirect food contact applications. Please see the applicable Regulatory Data Sheet for more information relating to FDA compliance.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.
If stored under proper conditions, these products retain their performance and properties for 24 months from date of manufacture.

Available Sizes

Attribute Name	Width	Value
Core Size (ID)		76.2 mm (3 in)
Maximum Length	1 in to 3 in	329 m (360 yd)
Maximum Length	1/2 in to 63/64 in	164 m (180 yd)
Maximum Length	3 in to 48 in	329 m (360 yd)
Maximum Length	48 in to 54 in	329 m (360 yd)
Normal Slitting Tolerance		± 0.8 mm (± 1/32 in)
Note		Subject to Minimum Order Requirements

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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.

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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.

3M
Industrial Adhesives and Tapes Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
800-362-3550