



Technical Data Sheet

3M™ High Strength Double Coated Tape
93010LE



[Product Details](#)



www.marianinc.com

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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 | 0.044 mm (1.7 mil) ¹ |
| Carrier Thickness | | | 0.012 mm (0.5 mil) |
| Adhesive Thickness | | Backside | 0.044 mm (1.7 mil) ² |
| Total Tape Thickness | ASTM D3652 | | 0.1 mm (3.9 mil) |
| Liner | | | 58# Polycoated Kraft Paper (PCK) |
| Liner Print | | | 300LSE |
| Liner Thickness | | | 0.1 mm (4 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 | 8.8 N/cm (80 oz/in) ¹ |
| 15 min | Polycarbonate (PC) | 12.3 N/cm (110 oz/in) ¹ |
| 15 min | Polypropylene (PP) | 10.4 N/cm (95 oz/in) ¹ |
| 15 min | Stainless Steel | 9.3 N/cm (85 oz/in) ¹ |

| Dwell Time | Substrate | Value |
|------------|--------------------|------------------------------------|
| 72 h | ABS | 12 N/cm (110 oz/in) ¹ |
| 72 h | Polycarbonate (PC) | 15.3 N/cm (140 oz/in) ¹ |
| 72 h | Polypropylene (PP) | 12 N/cm (110 oz/in) ¹ |
| 72 h | Stainless Steel | 12 N/cm (110 oz/in) ¹ |

¹ 12 in/min (300 mm/min)

Static Shear

Substrate: Stainless Steel
Dwell Time: 72 h
Backing: 2 mil Aluminum Foil
Test Method: ASTM D3654

| Temperature | Test Condition | Value |
|----------------|----------------|-------------------------|
| 22 °C (72 °F) | 1000g | >10000 min ¹ |
| 70 °C (158 °F) | 500g | 99,999 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 | 5,600 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 under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 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 |

Automotive Disclaimer

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 product was manufactured under a 3M quality system registered to ISO 9001 standards.

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