



# **Technical Data Sheet**

3M™ Double Coated Tissue Tape 56212

Last Revision Date: January, 2025
Supersedes: September, 2024



**English-US** 

### **Product Description**

3M™ Double Coated Tissue Tape 56212 is a high tack, multipurpose tape engineered to provide durable bonds to a variety of materials, including foams – even at low temperatures. Target applications include Foam Lamination and Bonding, Packaging and Paper Bonding, Durable Graphic Bonding, Dissimilar Material Bonding, and Plastics Assembly

#### **Product Features**

- High initial tack quick stick for fast and secure bonding
- Excellent low temperature performance
- Reworkable resists tissue splitting when peeled or removed
- Translucent tape
- Conformable tape holds to curved and uneven surfaces
- Made via a solvent-free adhesive coating process

#### **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	Value
Adhesive Carrier		Translucent Tissue
Carrier Thickness		0.033 mm (1.3 mil)
Total Tape Thickness	ASTM D3652	0.12 mm (4.7 mil)
Liner		PCK
Liner Thickness		0.135 mm (5.3 mil)
Primary Liner Color		White

### **Typical Performance Characteristics**

### 180° Peel Adhesion

Backing: 2 mil Aluminum Foil Test Method: ASTM D3330

Dwell Time	Temperature	Substrate	Value
20 min	23 °C (73 °F)	Stainless Steel	5.7 N/cm (52.2 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	Stainless Steel	8.1 N/cm (73.8 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	Stainless Steel	10.6 N/cm (97.1 oz/in) <sup>1</sup>
20 min	23 °C (73 °F)	Polypropylene (PP)	5.7 N/cm (51.7 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	Polypropylene (PP)	6.8 N/cm (61.8 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	Polypropylene (PP)	5.8 N/cm (53.1 oz/in) <sup>1</sup>
20 min	23 °C (73 °F)	Polycarbonate (PC)	5.9 N/cm (53.9 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	Polycarbonate (PC)	6.4 N/cm (58.7 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	Polycarbonate (PC)	6.5 N/cm (59.8 oz/in) <sup>1</sup>
20 min	23 °C (73 °F)	ABS	2.8 N/cm (25.2 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	ABS	3.7 N/cm (34.0 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	ABS	7.7 N/cm (70.6 oz/in) <sup>1</sup>

<sup>1</sup> 300 mm/min (12 in/min)

#### 90° Peel Adhesion

Backing: 2 mil Aluminum Foil Test Method: ASTM D3330

<b>Dwell Time</b>	Temperature	Substrate	Value
20 min	23 °C (73 °F)	Stainless Steel	5.4 N/cm (49.2 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	Stainless Steel	7.7 N/cm (69.9 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	Stainless Steel	8.7 N/cm (79.4 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	Polypropylene (PP)	5.7 N/cm (52.0 oz/in) <sup>1</sup>
20 min	23 °C (73 °F)	Polypropylene (PP)	4.5 N/cm (41.3 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	Polypropylene (PP)	4.0 N/cm (36.3 oz/in) <sup>1</sup>
20 min	23 °C (73 °F)	Polycarbonate (PC)	5.5 N/cm (50.5 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	Polycarbonate (PC)	6.4 N/cm (58.7 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	Polycarbonate (PC)	5.1 N/cm (46.6 oz/in) <sup>1</sup>
20 min	23 °C (73 °F)	ABS	2.4 N/cm (21.6 oz/in) <sup>1</sup>
72 h	23 °C (73 °F)	ABS	3.3 N/cm (30 oz/in) <sup>1</sup>
72 h	70 °C (158 °F)	ABS	5.7 N/cm (51.8 oz/in) <sup>1</sup>

<sup>1 300</sup> mm/min (12 in/min)

### **Static Shear**

Substrate: Stainless Steel Dwell Time: 72 h

Backing: 2 mil Aluminum Foil Test Method: ASTM D3654

Temperature	Test Condition	Value
23 °C (73 °F)	1000 g	10,000 min <sup>1</sup>
70 °C (158 °F)	500 g	10,000 min <sup>1</sup>

<sup>&</sup>lt;sup>1</sup> 25 x 25 mm (1 in x 1 in) sample area, test terminated after 10,000 minutes

Attribute Name	Value
Long Term Temperature Resistance	70 °C (158 °F) ¹
Short Term Temperature Resistance	121 °C (250 °F) <sup>2</sup>
Long Term Temperature Resistance	121 °C (250 °F) <sup>3</sup>

- <sup>1</sup> Maximum temperature where tape supports 500g load per 6.5cm² (1 in²) in static shear for 10,000 minutes.
- <sup>2</sup> Maximum temperature where tape supports 500g load per 6.5cm<sup>2</sup> (1 in<sup>2</sup>) in static shear for 60 minutes.
- <sup>3</sup> Maximum temperature where tape supports 200g load per 6.5cm<sup>2</sup> (1 in<sup>2</sup>) in static shear for 10,000 minutes.

#### **T-Peel Adhesion**

Temperature: 23 °C (73 °F)

Dwell Time: 72 h

Backing: 2 mil Aluminum Foil Test Method: ASTM D1876

Substrate	Value
Cross-linked Polyethylene Foam	Foam Picking <sup>1</sup>
Polyester Urethane Foam	Foam Picking <sup>1</sup>
Polyether Urethane Foam	Foam Tear <sup>1</sup>
EPDM	Foam Tear <sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Failure mode

### **Typical Environmental Performance**

Temperature: 32 °C (90 °F)

Dwell Time: 72 h

Backing: 2 mil Aluminum Foil Test Method: ASTM D3330 Environmental Condition: 90 %RH

Attribute Name	Substrate	Value
180° Peel Adhesion	Stainless Steel	9.1 N/cm (83.2 oz/in) <sup>1</sup>
90° Peel Adhesion	Stainless Steel	7.7 N/cm (70.5 oz/in) <sup>1</sup>
180° Peel Adhesion	Polypropylene (PP)	7.0 N/cm (63.7 oz/in) <sup>1</sup>
90° Peel Adhesion	Polypropylene (PP)	5.6 N/cm (51.4 oz/in) <sup>1</sup>
180° Peel Adhesion	Polycarbonate (PC)	7.4 N/cm (67 oz/in) <sup>1</sup>
90° Peel Adhesion	Polycarbonate (PC)	6.1 N/cm (56 oz/in) <sup>1</sup>
180° Peel Adhesion	ABS	4.2 N/cm (38.2 oz/in) <sup>1</sup>
90° Peel Adhesion	ABS	4.5 N/cm (40.9 oz/in) <sup>1</sup>

<sup>1 300</sup> mm/min (12 in/min)

### **Electrical and Thermal Properties**

Attribute Name	Test Method	Value
Glass Transition Temperature (Tg)	ASTM E1356	-58 °C (-72 °F) ¹

Glass Transition Temperature (Tg) determined using DSC Analyzer with a heating rate of 4 °C per minute. First heat values given.

# Handling/Application Information

#### **Application Techniques**

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improves 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.\* Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). \*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.

### 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.

### **Automotive Disclaimer**

### **Select Automotive Applications:**

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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