



Technical Data Sheet

3M™ Double Coated Tissue Tape 56412

Product Description

3M™ Double Coated Tissue Tape 56412 is a high tack, multipurpose tape engineered to provide durable bonds to a variety of materials, including low surface energy plastics – even at low temperatures. Target applications include Plastics Assembly, Dissimilar Material Bonding, Durable Graphic Bonding, Foam Lamination and Bonding, and Packaging and Paper Bonding.

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	22 °C (72 °F)	Stainless Steel	5.8 N/cm (53.0 oz/in) ¹
72 h	22 °C (72 °F)	Stainless Steel	7.5 N/cm (68.3 oz/in) ¹
72 h	70 °C (158 °F)	Stainless Steel	9.1 N/cm (83.1 oz/in) ¹
20 min	22 °C (72 °F)	Polypropylene (PP)	7.1 N/cm (65.1 oz/in) ¹
72 h	22 °C (72 °F)	Polypropylene (PP)	9.6 N/cm (87.3 oz/in) ¹
72 h	70 °C (158 °F)	Polypropylene (PP)	6.5 N/cm (59.5 oz/in) ¹
20 min	22 °C (72 °F)	Polycarbonate (PC)	7.7 N/cm (70.1 oz/in) ¹
72 h	22 °C (72 °F)	Polycarbonate (PC)	7.6 N/cm (69.8 oz/in) ¹
72 h	70 °C (158 °F)	Polycarbonate (PC)	8.6 N/cm (78.1 oz/in) ¹

Dwell Time	Temperature	Substrate	Value
20 min	22 °C (72 °F)	ABS	2.9 N/cm (26.2 oz/in) ¹
72 h	22 °C (72 °F)	ABS	4.3 N/cm (39.4 oz/in) ¹
72 h	70 °C (158 °F)	ABS	9.0 N/cm (81.9 oz/in) ¹

¹ 12 in/min (300 mm/min)

90° Peel Adhesion

Backing: 2 mil Aluminum Foil

Test Method: ASTM D3330

Dwell Time	Temperature	Substrate	Value
20 min	22 °C (72 °F)	Stainless Steel	5.3 N/cm (48.6 oz/in) ¹
72 h	22 °C (72 °F)	Stainless Steel	6.2 N/cm (56.8 oz/in) ¹
72 h	70 °C (158 °F)	Stainless Steel	7.5 N/cm (68.7 oz/in) ¹
20 min	22 °C (72 °F)	Polypropylene (PP)	5.3 N/cm (48.4 oz/in) ¹
72 h	22 °C (72 °F)	Polypropylene (PP)	7.0 N/cm (63.6 oz/in) ¹
72 h	70 °C (158 °F)	Polypropylene (PP)	4.7 N/cm (42.5 oz/in) ¹
20 min	22 °C (72 °F)	Polycarbonate (PC)	6.0 N/cm (54.8 oz/in) ¹
72 h	22 °C (72 °F)	Polycarbonate (PC)	7.6 N/cm (69.8 oz/in) ¹
72 h	70 °C (158 °F)	Polycarbonate (PC)	6.9 N/cm (62.6 oz/in) ¹
20 min	22 °C (72 °F)	ABS	2.7 N/cm (24.6 oz/in) ¹
72 h	22 °C (72 °F)	ABS	4.1 N/cm (37.2 oz/in) ¹
72 h	70 °C (158 °F)	ABS	6.0 N/cm (54.6 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	10,000 min ¹
70 °C (158 °F)	500g	10,000 min ¹

¹ 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

¹ Maximum temperature where tape supports 500 g load per 1 in² in static shear for 10,000 minutes.

T-Peel Adhesion

Temperature: 22 °C (72 °F)

Dwell Time: 72 h

Backing: 2 mil Aluminum Foil

Test Method: ASTM D1876

Substrate	Value
EPDM	Foam Tear ¹
Polyester Urethane Foam	Foam Picking ¹
Cross-linked Polyethylene Foam	Foam Picking ¹

¹ 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	7.1 N/cm (64.5 oz/in) ¹
90° Peel Adhesion	Stainless Steel	6.3 N/cm (57.3 oz/in) ¹
180° Peel Adhesion	Polypropylene (PP)	9.5 N/cm (86.9 oz/in) ¹
90° Peel Adhesion	Polypropylene (PP)	6.8 N/cm (62.2 oz/in) ¹
180° Peel Adhesion	Polycarbonate (PC)	8.7 N/cm (79.0 oz/in)
90° Peel Adhesion	Polycarbonate (PC)	6.0 N/cm (54.8 oz/in)
180° Peel Adhesion	ABS	4.6 N/cm (41.7 oz/in) ¹
90° Peel Adhesion	ABS	3.9 N/cm (35.5 oz/in) ¹

¹ 12 in/min (300 mm/min)

Electrical and Thermal Properties

Attribute Name	Test Method	Value
Glass Transition Temperature (Tg)	ASTM E1356	-46 °C (-51 °F) ¹

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

It is suggested that products are stored at room temperature conditions of 70°F (21°C) and 50% relative humidity. When handled and stored correctly, product has a shelf life of 24 months after date of manufacture.

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 Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

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