

3M™ Acrylic Plus Tape Series EX4500



The New Generation

of Automotive Attachment Tape

Simpler, Smarter, Stronger

- A simpler process that reduces complexity of the steps involved with tape attachment
- A smarter, more versatile solution designed to address the automotive industry's needs
- A stronger primerless tape than ever before from 3M for a variety of paints and plastics



Product Features, Advantages, and Benefits

Proprietary Primerless Adhesive

- Excellent adhesion and holding power to broad range of medium surface energy plastics and clear coats
- High initial tack with excellent conformability and stress relaxation properties
- Eliminates quality issues due to poor primer application
- Reduces concerns about using primer such as pretreatment and equipment cost, primer waste handling, and worker health and environmental issues

Both sides of tape bond without adhesion promoter

- Enables flexibility in production process
- Allows application to paint side or medium surface energy plastic without worry

Deep black color

- Conceals bondline

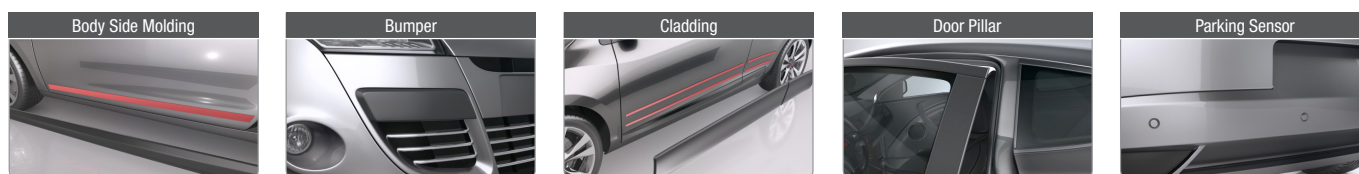
3M™ Acrylic Foam Tape core technology

- Engineered for a wide variety of temperature and humidity conditions
- Vicscoelastic material enables conformable bond between part and vehicle body
- Designed to meet and exceed OEM specifications and application requirements

3M Attachment Tape technical expertise and capabilities

- Global network of technical experts with strong attachment tape knowledge and experience
- Industry expertise, testing capabilities and application knowledge to support customers globally

Application Ideas



Product Compatibility

Refer to the compatibility matrix below for compatible substrates for use with 3M Series EX4500 tapes. Please consult a 3M technical service representative when using very low surface energy substrates such as RIM, PP or TPO.

A or B Potential Substrates		
Paints	Medium to High Surface Energy	
	Low Surface Energy (Difficult Paint)	
Plastics	ABS	
	Acrylic	
	AES	
	ASA	
	Polycarbonate	
	PC / ABS	
	PMMA	
	RIM	
	Nylon	
	TPO / PP EPDM	

A - Paint or Plastic

EX4511

B - Paint or Plastic

Recommended

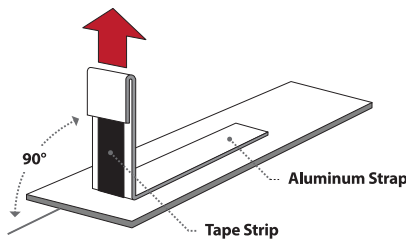
Contact 3M technical service

Performance Properties

Typical performance of 3M™ Acrylic Plus Tape Series EX4500 is shown below. Peel values depend on plastic substrate characteristics and/or paint composition. These values are for reference only.

90° Peel Adhesion Testing

Peel tested @ 300mm/min; all data shown in N/cm



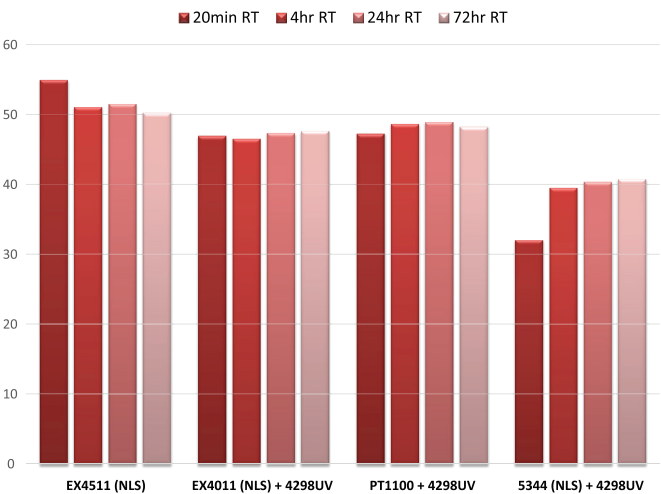
Static Shear Performance

Static Shear Sample 1"x1"; 24hr RT dwell – 500g @ 80C Test; No adhesion promoter used in LSE paint testing

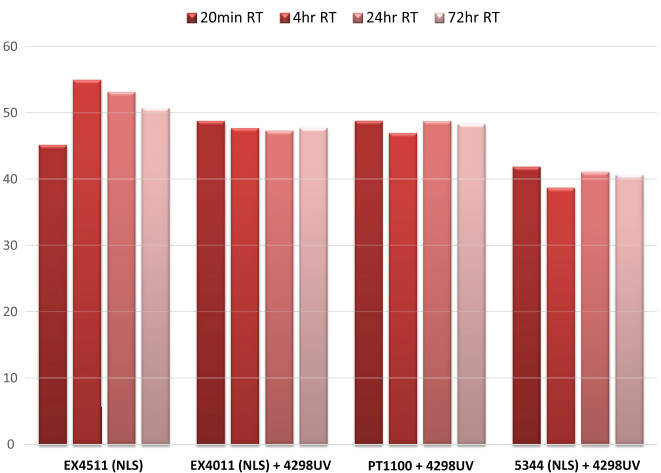
Note: 4298UV is a 3M™ Adhesion Promoter



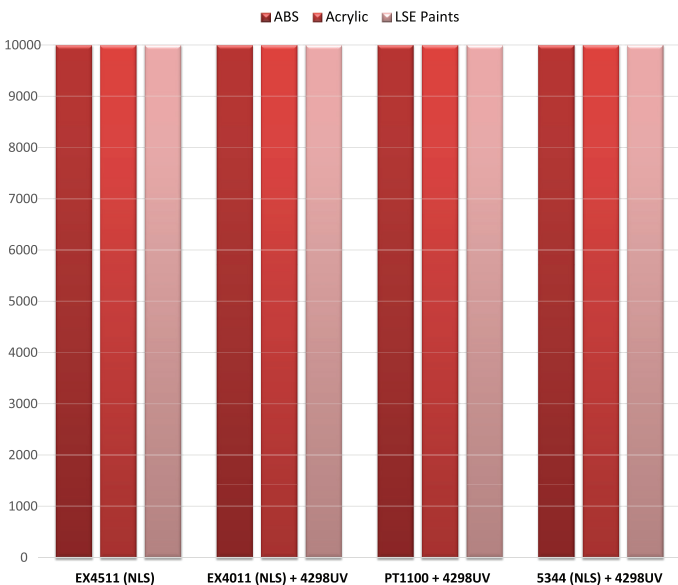
Peel Adhesion on Acrylic Substrate
EX4511, EX4011 + Promoter, PT1100 + Promoter, 5344 + Promoter



Peel Adhesion on ABS Substrate
EX4511, EX4011 + Promoter, PT1100 + Promoter, 5344 + Promoter



Static Shear on Various MSE/LSE Substrates (min to failure)
EX4511, EX4011 + Promoter, PT1100 + Promoter, 5344 + Promoter



3M™ Acrylic Plus Tape Series EX4500

Frequently Asked Questions

What is 3M™ Acrylic Plus Tape Series EX4500?

3M series EX4500 tapes are a new family of tapes featuring 3M™ Acrylic Plus Tape technology designed for adhesion to Medium Surface Energy (MSE) substrates without the need for adhesion promoter or other surface pre-treatment methods.

What makes 3M Series EX4500 tapes stick without adhesion promoter or other pre-treatments?

This new tape utilizes JLx adhesive – a proprietary 3M technology – on both sides of the tape to ensure compatibility with a variety of paints, including paints comprised of MVSS Carbamate, Epoxy/Acid Powder and 2K Urethane.

What are some of the target applications for this product?

Any application featuring MSE plastics and/or chrome to difficult paint: pillar garnishes, MSE body-side moldings, step plates, vent visors, and chrome appliques. Some OEMs have tested and feel comfortable with this product as a sensor bonding tape to TPO substrates due to the low load requirements involved with these applications. Contact a 3M technical service representative for more details.

What calipers and configurations are available?

Initially, the product will only be available in the 1.1 mm (45 mil) thickness configuration. The product will eventually be available in additional thicknesses. If you have applications that require calipers other than 1.1mm (45mm), please contact a 3M technical service representative in order to determine future caliper offerings.

How is the performance on TPO, PP, and PP-EPDM?

The room temperature performance of this product on TPO is very impressive. However, the high temperature holding capability of the product is not acceptable for many of the more challenging automotive applications.

What are the recommended maximum and minimum operating temperatures?

Recommend operating range is -40 to 90°C.

What is the process for ordering prototypes?

Contact your 3M account representative.

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