

3M™ Acrylic Foam Tape Series PX5000



# 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 on low surface energy plastics, and medium surface energy automotive paint
- High-temperature holding power on LSE plastic (tested to 80°C) with good peel performance
- Eliminates quality issues due to poor primer application
- Helps reduce concerns about using primer such as pretreatment and equipment cost, primer waste handling, and worker health and environmental issues
- Excellent conformability and stress relaxation capabilities
- Less sensitive to cold temperatures and suitable in a variety of environments for the “just-in-time” business model used by many automotive manufacturers

## Both sides of tape bond without adhesion promoter

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

## 3M™ Acrylic Foam Tape core technology

- Engineered for a wide variety of temperature and humidity conditions
- Viscoselastic material enables conformable bond between part and vehicle body
- Designed to meet and exceed OEM specifications, application requirements, and 3M’s high-standards for technical performance
- Tape construction offers excellent die-cuttability

## 3M Attachment Tape technical expertise and capabilities

- Global network of technical experts with strong attachment tape knowledge and experience in tape attached component design

## Application Ideas



## Product Compatibility

Refer to the compatibility matrix below for compatible substrates suitable for use with 3M Series PX5000 tapes. Please consult a 3M technical service representative when using low surface energy paints and low surface energy substrates such as RIM and Nylon.

| A or B Potential Substrates |                               | EX4500                       | PX5000                       |
|-----------------------------|-------------------------------|------------------------------|------------------------------|
| <b>Paints</b>               | Medium to High Surface Energy | Recommended                  | Recommended                  |
|                             | Low Surface Energy            | Recommended                  | Contact 3M technical service |
| <b>Plastics</b>             | ABS                           | Recommended                  | Recommended                  |
|                             | AES                           | Recommended                  | Recommended                  |
|                             | ASA                           | Recommended                  | Recommended                  |
|                             | Polycarbonate                 | Recommended                  | Recommended                  |
|                             | PC / ABS                      | Recommended                  | Recommended                  |
|                             | TPO / PP + EPDM               | Contact 3M technical service | Recommended                  |
|                             | PMMA (Acrylic)                | Recommended                  | Recommended                  |
|                             | RIM                           | Contact 3M technical service | Contact 3M technical service |
|                             | Nylon                         | Contact 3M technical service | Contact 3M technical service |

A - Paint or Plastic  
**PX5000**  
 B - Paint or Plastic

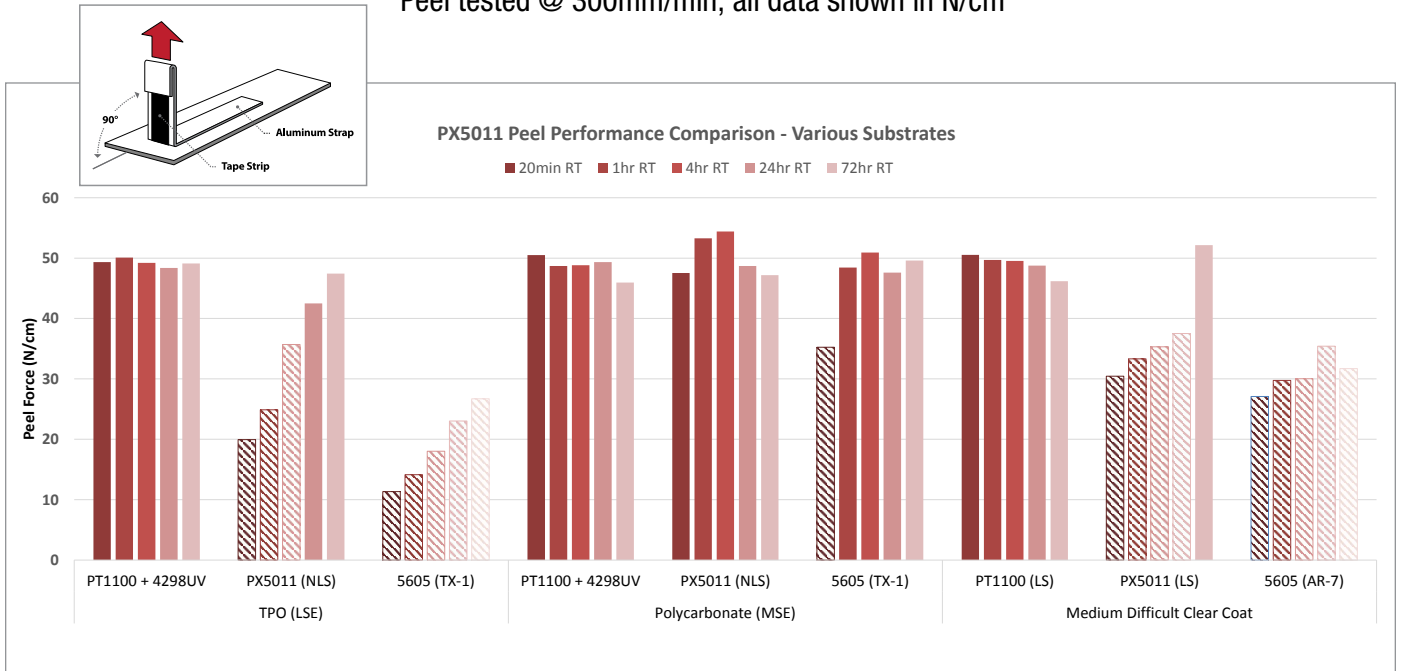
Recommended  
 Contact 3M technical service

# Performance Properties

Typical performance of 3M™ Acrylic Foam Tape Series PX5000 is shown below. Peel and shear values depend on plastic substrate characteristics and/or paint composition. These values are for reference only.

**Fig. 1 – PX5011 Peel Adhesion Performance. Cohesive failure (foam split) values designated with solid bars.**

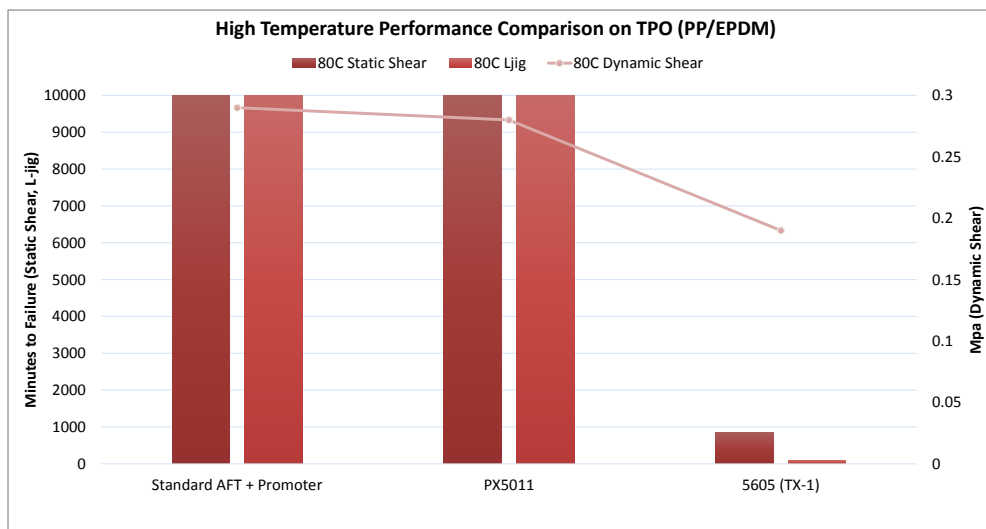
Peel tested @ 300mm/min; all data shown in N/cm



**Fig. 2 – High Temperature Static Holding Performance Comparison**

Products tested per the schedules below.

| Testing       | Sample Size | Dwell                 | Load / Condition |
|---------------|-------------|-----------------------|------------------|
| Static Shear  | 25mm x 25mm | 24hours @ 22C, 50% RH | 500g @ 80C       |
| Static L-jig  |             |                       | 500g @ 80C       |
| Dynamic Shear |             |                       | 50mm/min @ 80C   |



# 3M™ Acrylic Foam Tape Series PX5000

## Frequently Asked Questions

### What is 3M™ Acrylic Foam Tape Series PX5000?

3M Series PX5000 tapes are a new line of products featuring 3M™ Acrylic Foam Tape technology designed for adhesion to Low Surface Energy (LSE) and Medium Surface Energy (MSE) substrates without the need for adhesion promoter or other surface pre-treatment methods.

### What makes 3M Series PX5000 tapes stick without adhesion promoter or other pre-treatments?

This new tape utilizes ZX adhesive – a new to the world, proprietary 3M technology – on both sides of the tape to ensure compatibility with a variety of LSE and MSE substrates and automotive clear coats.

### What types of applications would be good targets for this tape?

Any application that requires bonding performance to medium and low surface energy plastics and/or chrome as well as medium to difficult paints, including: sensor bonding, pillar garnishes, body-side moldings, step plates, vent visors, and chrome appliqué. Contact a 3M technical service representative for more details.

### What are LSE Plastics?

The LSE family of plastics consists of PP, PP/EPDM, and TPO. If you have a question as to whether or not your particular substrate is LSE, please contact a 3M technical service representative.

### How do 3M Series PX5000 tapes adhere to difficult paints and clear coats?

The PX5000 series will offer a general performance increase over existing AR7 products on most automotive clear coats – especially the more difficult. Work with your 3M technical service engineer to develop testing specific to the requirements of your applications and clear coats to understand how the ZX adhesive system can perform for you.

### What calipers (thicknesses) and configurations are available?

Initially, the product will only be available in the 0.8 mm (30mil) and 1.1 mm (45 mil) caliper configurations. The product will eventually be available in additional calipers. If you have applications that require calipers other than 0.8 mm (30mil) or 1.1 mm (45 mil), please contact a 3M technical service representative in order to determine future caliper offerings. The product will be available in all standard widths provided by 3M today.

### How is the performance on TPO, PP, and PP/EPDM?

This product has been specifically developed to provide the highest level of performance on TPO, PP and PP/EPDM without the use of adhesion promoter. Many applications that historically would have required adhesion promoter can now be achieved with the use of the PX5000 series alone. Some applications are too challenging for any primerless tape – including parts with difficult ribbed landing configurations or extreme part mismatch. Work with your 3M technical representative for more details.

### What are the recommended maximum and minimum operating temperatures?

Recommend operating range is -40 to 80°C. For temperatures outside this range contact your 3M technical service representative.

### What is the process for ordering prototypes?

Contact your 3M account representative.

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