



Tape Solutions for Automotive Exterior Bonding

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Saint-Gobain® has been partnering with OEM's and Tier Suppliers for over 60 years to design and develop bonding and sealing solutions for the automotive industry. This long history, coupled with unparalleled access to unique foam polymers and adhesive chemistries, allows us to deliver the best product for your specific application. Our diverse portfolio of **Norbond®** Acrylic and Polyurethane Tapes offers a range of options for attaching many exterior components, including emblems and nameplates, body side moldings, wheel flares, and pillar appliques.

Primerless Attachment Tapes

Norbond Acrylic Primerless Grade Tapes offer outstanding viscoelastic and adhesion properties to provide the ideal bonding solution for many automotive exterior applications. The adhesive technology is designed for strong primerless adhesion to challenging Medium Surface Energy (MSE) substrates while still meeting the tough demands of OEM specifications. These tapes are characterized by their fast adhesion build, reaching high peel performance within 20 minutes. The conformable cores are engineered for cohesive failure under many conditions, while still offering excellent die-cuttability and static shear resistance. Primerless attachment saves time and complexity while reducing exposure to harsh chemicals in the production environment.

Norbond Z100 Series: A transparent transfer adhesive tape especially designed for applications on MSE substrates, like PC-ABS, ASA or anodized aluminum without pre-treatment of surfaces. This tape is characterized by short-term adhesion build and balanced performance between high peel and high shear strength. Its good resistance against environmental influences and excellent adhesion on a variety of automotive paint systems make Z100 the ideal choice for demanding automotive applications.

Norbond Z2000 Series: Featuring a symmetric design, Z2000 is optimized for strong adhesion to MSE substrates without the use of adhesion promoter. Z2000 is characterized by fast short-term adhesion build and excellent peel adhesion to automotive paint systems, as well as MSE plastics such as ABS and ASA. Engineered for systematic cohesive failure under high stress conditions, this tape is ideal for pillar appliques, spoilers, fender vents, and window trim profiles.

Traditional Attachment Tapes

Norbond Polyurethane Tapes combine a high-density, conformable polyurethane foam substrate with high-performance acrylic adhesive on both sides. The foam substrate absorbs and distributes stress forces over the entire bond line. These tapes have excellent adhesion to automotive clear coat systems, but may require use of adhesion promoter or surface treatment for adequate bond to plastic substrates on the Non-Liner Side (NLS)¹.

Norbond E500 and F500 Series: These polyurethane tapes are uniquely designed for nameplate and emblem attachment. The soft, deep black core offers great conformability and excellent die-cuttability, while exhibiting strong pluck and shear resistance and limited movement under stress. The wide range of available standard gauges (up to 3 mm), make this a versatile option for challenging part designs.

Norbond Traditional Acrylic Grade Tapes offer outstanding viscoelastic and adhesion properties to provide ideal bonding performance for many automotive exterior trim and nameplate applications. These tapes incorporate a general purpose acrylic adhesive, which delivers good performance on many OEM clear coats and primed plastics⁽¹⁾ and the firmer core brings good shear resistance and good die-cuttability.

Norbond Z1000 Series: A gray, double-sided, acrylic foam tape with great tensile adhesion strength and static shear resistance for automotive exterior applications. This acrylic core tape offers improved peel resistance and elongation, for decorative trims such as pillar appliques, and badging.

Norbond Z1200 Series: Formulated for durable, long-lasting adhesion, Z1200 exceeds automotive standards for shear strength and bonding to high surface energy substrates. Its unique self-stick core is designed for high shear resistance and allows for easy die-cutting, making it ideal for locator pin assembly applications.

Norbond Adhesion Promoters

Norbond Adhesion Promoters are formulated for use with acrylic pressure-sensitive adhesive systems, such as those used on **Norbond** attachment tapes. When applied to plastic substrates, they can help raise the surface energy in order to improve the ultimate bond strength of the tape. Formulations with UV detection additives are also available to aid in processing.

2287A: This formulation is designed for MSE substrates such as rigid PVC, ABS, and Polycarbonate.

2684A: This formulation is designed for LSE substrates such as Polyethylene, Polyolefin, and TPO.

Material Selection Guide

| | Tape Core Material | Product Series | Color | Adhesive Construction | Standard Available Thickness (mm) | | | | | | | | | | Performance Characteristics (Typical of 1.1 mm) | | | | Common Applications | | | |
|-------------------------|--------------------|----------------|--------------|-----------------------|-----------------------------------|-------|-------|-------|-------|-------|-----|-------|-----|------|---|-----------------------------|---------------------------------|--------------|---------------------|-------------------------------|--|---|
| | | | | | | | | | | | | | | | 90° Peel Adhesion (N/cm) | | | Static Shear | | | | |
| | | | | | 0.1 | 0.5 | 0.6 | 0.8 | 1.14 | 1.52 | 1.6 | 2.0 | 2.3 | 3 | LS to Painted Panel (20 min) | LS to Painted Panel (72 hr) | NLS to Unprimed Plastic (72 hr) | 80°C / 500g | | | | |
| Primerless Grade Tapes | Acrylic | Z100 | Trans-parent | Single Layer Transfer | Z101 | | | | | | | | | | | | 11 | 15 | 16 | > 7 days (on stainless steel) | Lamination of sealing foams, profiles, and thin MSE components | |
| | | Z2000 | Gray | Symmetric to MSE | | | | Z2008 | Z2011 | Z2015 | | Z2020 | | | | | | 24 | 35 | 36 (on ABS) | > 7 days (on ABS) | Primerless attachment of MSE components |
| Traditional Grade Tapes | Poly-urethane | E500 | Dark Black | Symmetric | | E520 | | E530 | E545 | | | E562 | | E590 | E5120 | | 8 | 10 | | > 7 days (on painted panel) | Emblem and nameplate attachment | |
| | | F500 | Dark Black | Symmetric | | | | | F545 | | | | | | | | | 10 | 18 | | > 7 days (on painted panel) | Emblem and nameplate attachment |
| | Acrylic | Z1000 | Gray | Symmetric | | | Z1006 | Z1008 | Z1011 | | | | | | | | | 11 | 13 | | > 7 days (on painted panel) | Small to medium trim attachment |
| | | Z1200 | Gray | Single Layer | | Z1220 | | | | | | | | | | | | 7 | 9 | | > 7 days (on painted panel) | Locator pin attachment |

LS - Liner Side Adhesive | NLS - Non-Liner Side adhesive | MSE - Medium Surface Energy | LSE - Low Surface Energy

(1) Depending on your performance requirements and the type of plastic, an adhesion promoter may be necessary. Testing is recommended on your particular substrate. Please contact our Application Engineering group for further support.

(2) Available Liner Configurations: Please check individual product TDS for options.

Your Partner in Custom Tape Solutions

A custom tape solution can pay for itself many times over thanks to the process and product improvements it can provide. Tape development engineers will work with partners to design an economical but highly effective tape product.

Even with endless permutations of industrial tapes available there is only one company that can deliver a custom-made tape with optimal adhesive, the perfect backing materials, seamless process integration and superb performance.

To learn more about how **Saint-Gobain** can help solve tape and materials engineering challenges, call us or visit us online.

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