



# 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, polyurethane, and polyethylene 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 specially designed for applications on MSE substrates, like PC-ABS, ASA or anodized aluminium without pre-treatment of surfaces. This tape is characterized by short-term adhesion build and a 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.

**Norbond Z3000 Series:** Featuring a differential coating, Z3000 is characterized by its excellent adhesion of Low Surface Energy (LSE) plastics such as PP-EPDM, to automotive paint systems or MSE plastics such as ABS and ASA. Engineered for reliable performance in application temperatures up to 90°C, this tape is ideal for wheel flares, rocker panels and body side moulding.

## Traditional Attachment Tapes

**Norbond Polyethylene Tapes** link a high-performance acrylic adhesive with a closed cell core structure. Our foams are high quality polyethylene with excellent dimensional tolerances, good elongation, and a high degree of color stability. They have an excellent key to the adhesive surface but may require the use of adhesion promoter or surface treatment for a perfect bonding result.

**H-old® 8919/1:** A white 0,9 mm tape designed for automotive exterior applications, especially mirror bonding applications. Its white bi-siliconized paper liner offers good die-cutting characteristics, while the medium density Polyethylene foam carrier provides tolerance compensating and cushioning properties.

**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)<sup>1</sup>.

**Norbond E500 Series:** This polyurethane tape is 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 brings good performance on many OEM clear coats and primed plastics. The firmer core brings good shear resistance and good die-cuttability.

**Norbond Z900 Series:** Grey, double-sided, acrylic foam tape currently available in 0,4 mm thickness. With a balanced performance regarding to shear and peel strength. This tape is especially recommended for glass-lacing applications as well as exterior bonding applications where a thin tape is required. It is also suitable for MSE surfaces but may require the use of adhesion promoter or surface treatment for a perfect bonding result.

**Norbond Z1000 Series:** A grey, 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 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.

**Primelink LSE:** This formulation is designed for LSE substrates such as Polypropylene, TPE, 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	0,4	0,5	0,6	0,68	0,8	0,9	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	Grey	Symmetric to MSE			Z2005			Z2008		Z2011	Z2015			Z2020									24	35	36 (on ABS)	> 7 days (on ABS)	Primerless attachment of MSE components
	Z3000	Dark Grey	Differential MSE to LSE					Z3008		Z3011	Z3015													24	39	39 (on PP-EPDM)	> 7 days (on PP-EPDM)	Primerless attachment of LSE components	
Traditional Grade Tapes	Poly-ethylene (PE)	8919/1	White	Symmetric																				26	26		> 7 days (on painted panel)*	Mirror bonding	
	Poly-urethane (PUR)	E500	Dark Black	Symmetric				E520		E530		E545		E562		E590	E5120							8	10		> 7 days (on painted panel)	Emblem and nameplate attachment	
	Acrylic	Z1000	Grey	Symmetric				Z1006		Z1008		Z1011													11	13		> 7 days (on painted panel)	Small to medium trim attachment
		Z900	Grey	Single Layer			Z904																		7	9		> 7 days (on painted panel)	Glass lacing

\*80°C/250g

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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