

### 5000 LOW SURFACE ENERGY (LSE) SERIES DATASHEET 5200 LSE

## Product description

Acrylic Foam Tapes (AFT) are double sided high-performance structural adhesives. These adhesives provide a convenient and simple bonding solution and in many applications, they can be used to replace mechanical fasteners such as rivets, screws, welds or liquid adhesives.

Olympic 5200 LSE is designed to meet the highest industry standards. Its unique visco-elastic nature ensures a strong bond which can absorb shocks and stress. Thanks to its acrylic chemistry, it also provides a highly durable and long-lasting bond for indoor and outdoor applications alike. The adhesives are based on a 100% closed cell structure and have an excellent solvent, plasticizer, and moisture resistance.

The 5200 LSE is a multilayer acrylic foam tape, with a soft acrylic foam core which is coated on both sides with acrylic adhesive.

The 5200 LSE is a high tack acrylic foam tape that offers premium adhesion all substrates. The use of a primer is not necessary.

The 5200 has been designed specifically to adhere to the most difficult of substrates such as polypropylene and reaches unprecedented peel strength values without the use of a primer.



## Application techniques

To achieve a proper bond it is important to consider the following:

- ✓ Olympic 5200 LSE is a pressure sensitive adhesive. Firm application pressure improves the bonding strength.
- ✓ Olympic 5200 LSE adheres to surfaces immediately and the bond strength further improves over time. It reaches maximum bond strength after 72 hours (at room temperature).
- ✓ The time needed to reach maximum bond strength can be reduced significantly by increasing the overall temperature of the bonded surfaces.
- ✓ The bonding surfaces must be clean and dry to achieve full adhesion. Surfaces must be cleaned by using solvents such as isopropyl alcohol, rubbing alcohol, or heptane.
- ✓ The ideal adhesive application temperature range is 20 °C to 35 °C. Initial adhesive application to surfaces at temperatures below 10 °C is not recommended. However, once properly applied, low temperature holding is generally satisfactory.

## General physical characteristics

The table below lists the standard physical properties of a roll AFT from the 5200 series as it is typically produced. Other adhesive colors (grey, blue), types of release liner (i.e. paper) and types of cores (i.e. paper core) are possible on customer request.

Series	Adhesive			Release liner			Core	
	Color	Adhesive type	Foam type	Material	Thickness (mm)	Color	Size (mm)	Material
5200		Modified Acrylic	Conformable	Siliconized HDPE	0.10		76.20	Polystyrene

■ Grey

## Roll sizes

The 5200 series is typically produced in several different roll sizes. Both smaller and larger rolls are possible.

Series	Thickness (mm) +/- 10%	Standard Length (meter)	Minimum usable width (mm)
5205	0.50	50	900
5208	0.80	50	900
5211	1.10	33	900
5215	1.50	33	900

## Typical performance characteristics

The adhesive properties of the 5200 LSE can be characterized by a variety of methods. The typical values for the most commonly used mechanical and adhesive properties are listed in the table below.

Series	Thickness [mm]	Core density [kg / m <sup>3</sup> ]	90° Peel Adhesion		Dynamic shear [kPa]	T-block [kPa]
			20 min. [N/cm]	72 hours [N/cm]		
5205	0.50	640	--	36	660	640
5208	0.80	640	--	42	620	600
5211	1.10	640	--	46	580	560
5215	1.50	640	--	47	570	550



**90° peel adhesion** according to ASTM D3330. Stainless steel substrate, aluminium backing. 72 hours dwell time at room temperature. Listed value is average value force to remove tape at room temperature



**Dynamic shear** according to ASTM D1002. Stainless steel, 1 inch<sup>2</sup> (6.45 cm<sup>2</sup>), jaw speed mm/sec. 24 hours dwell time at room temperature. Listed value is peak force to separate.



**T-block** according to ASTM D897. Stainless steel substrate, 1 inch<sup>2</sup> (6.45 cm<sup>2</sup>), jaw speed mm/sec. 24 hours dwell time at room temperature. Listed value is peak force to separate.

## Peel performance comparison to our 3211 automotive grade AFT

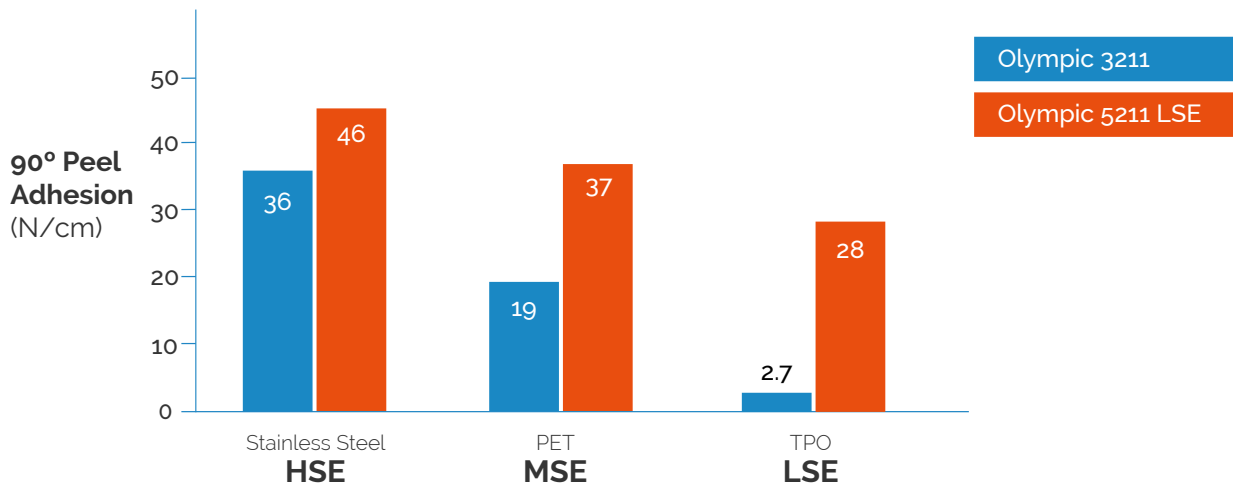
The 5200 LSE series create a strong bond to a broad range of substrates. Not only do they give premium bonding to high surface energy substrates (metals, ceramics, prime layers), but they are also particularly suitable for adhesion to plastics. The graph below gives an overview of the peel strength of our 5211 LSE, and our 3211 series adhesive on a variety of substrates.

	90° Peel Adhesion		
	HSE (Stainless steel)	MSE (PET)	LSE (TPO)
Olympic 3211	36	19	2.7
Olympic 5211 LSE	46	37	28

Measurement conditions

- 72 hours dwell time

- Aluminum backing



## Storage and shelf life

Shelf life is 24 months from the date of manufacture when stored in its original casing between 18 ° - and 22 °C at 50% relative humidity.

## Additional information

The technical information, recommendations, and other statements contained in this document are based on Olympic's tests or experience. Many factors beyond Olympic's control and uniquely within user's knowledge and control can affect the use and performance of an Olympic product in a particular application. Given the variety of factors that can affect the use and performance of an Olympic product, the user is solely responsible for evaluating the Olympic product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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