

Saflex™ Evoca™ RSL

Rigid acoustic PVB interlayers for sidelites



Redefining the sound of EVs

Eastman is helping drive the future of electric cars. Our electric vehicle (EV) platform, Saflex Evoca, expands and unifies our portfolio of interlayers designed specifically for EV applications. Each product is developed to enhance vehicle design, improve cabin comfort and optimize energy efficiency.

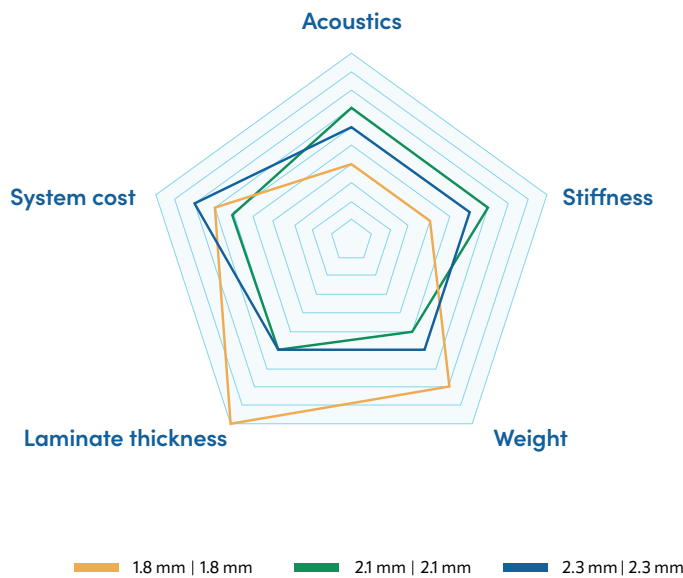
We are pleased to introduce Saflex Evoca RSL, a rigid acoustic PVB interlayer specifically designed for the moveable side windows of EVs. Evoca RSL offers greater design flexibility in sidelite applications, allowing for optimal balance of rigidity, weight and acoustic performance. By enhancing acoustic performance and stiffness, these interlayers can enable reduced glass thickness, which can reduce vehicle weight, with minimal trade-offs to cabin sound pressure.

The market is changing – fast.

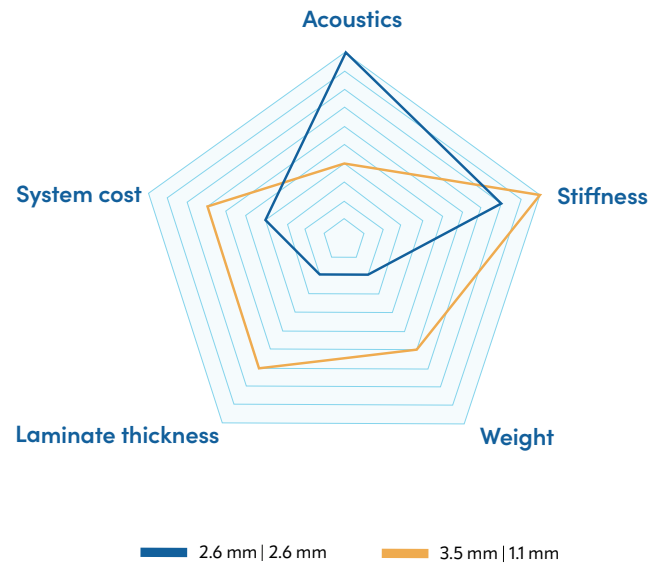
As the demand for enhanced sound quality in EVs rises, OEMs and glass suppliers are challenged to find a way to enable advanced designs such as frameless laminated sidelites, while managing trade-offs between rigidity, acoustic performance, weight and system costs. The goal is to achieve superior sound quality while meeting design criteria for glazing geometries and system weight, while managing component availability and cost constraints.

For frameless designs, asymmetric sidelite laminates have been developed to enhance laminate stiffness and simplify the overall door design, without adding excess weight. However, these designs can be further improved upon relative to traditional symmetrical benchmarks by enhancing the acoustic performance, a key challenge posed by glass asymmetry.

Framed acoustic sidelites



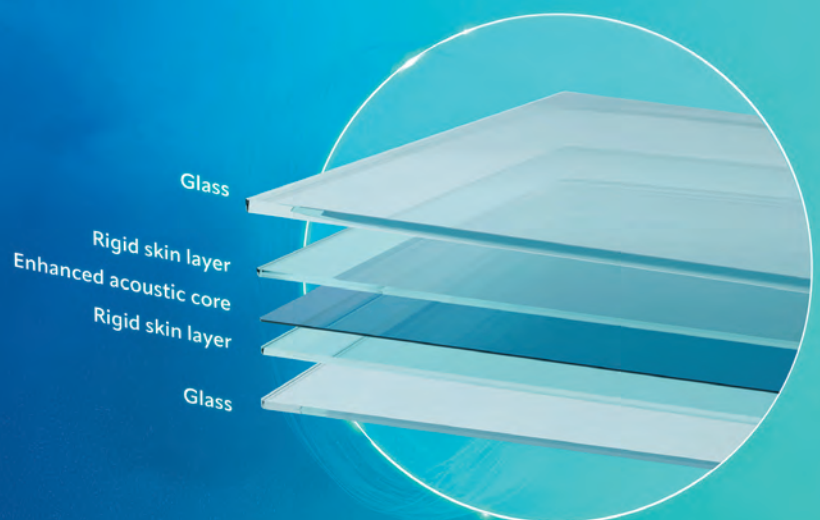
Frameless acoustic sidelites



Note: Illustrative examples only. Values further from the center represent more optimized properties, such as increased stiffness or reduced cost.

With Evoca RSL, OEMs and glass suppliers can address these challenges by introducing new alternative configurations into the design process, maximizing the performance range of existing glass types and other door components.

Evoca RSL provides greater design flexibility in sidelite applications, allowing for optimal balance of stiffness, glass thickness, weight, acoustic performance and cost.



Key features and benefits of Evoca RSL

Design freedom

- The tri-layer sheet construction, featuring rigid skin layers, enhances laminate stiffness by 20% — 40% depending on glass configuration, enabling frameless and thinner sidelite designs without increasing glass thickness and weight while using standard glass types and door components.*

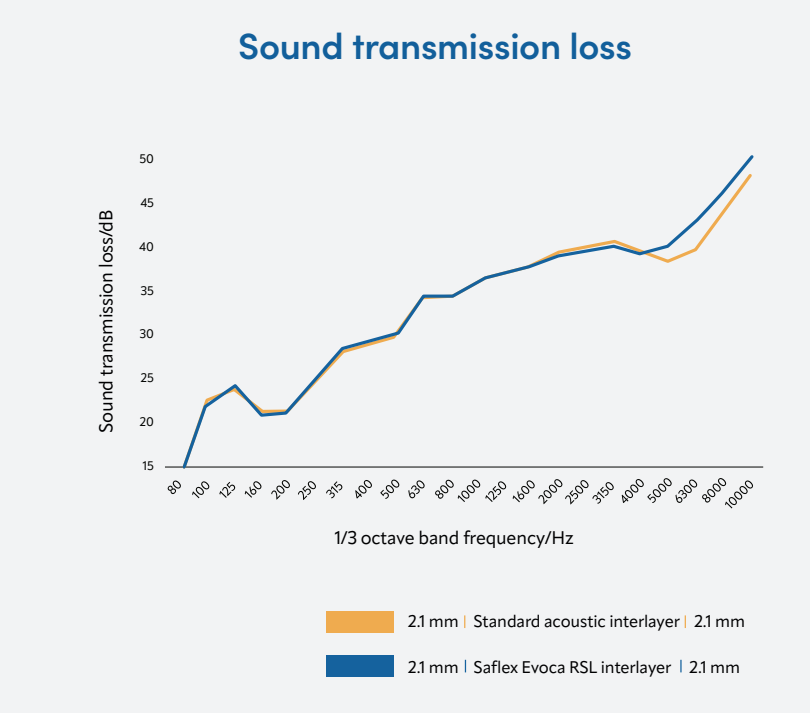
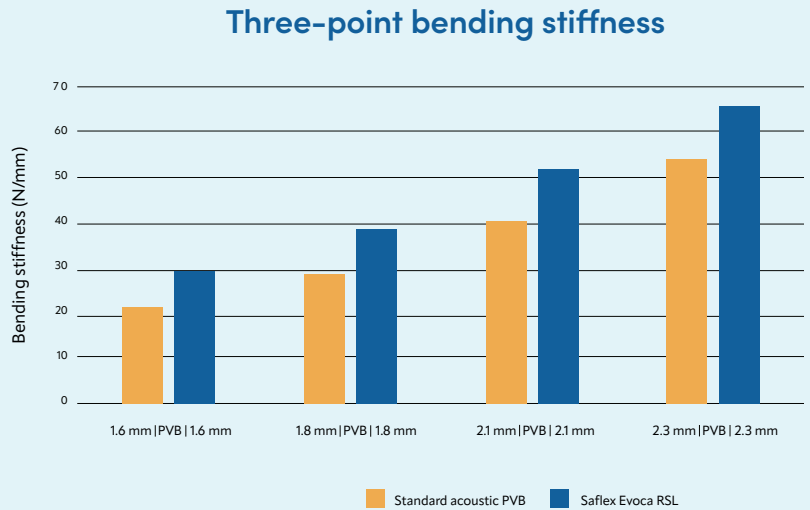
*Can depend on glass thickness

Enhanced comfort

- The high-damping acoustic core layer compensates for thinner and asymmetric glass configurations, improving the trade-off between acoustics and glazing weight.
- Improved higher-frequency noise damping by 2.5 dB, addressing the wind noise susceptibility of EVs in the critical sidelite glazing position

Increased efficiency

- Enables thinner glazing designs, helping to reduce weight and extend drive range
- Offers multifunctional acoustic products, including solar-absorbing and colored interlayer variations, simplifying laminate design and reducing complexity
- Optimized sheet properties for door glass lamination processes



Product offerings

Product	Thickness (mm)	Formulation	Recommended deair process
LP41	0.76	Clear acoustic	Nip; vacuum bag or ring
LP47	0.76	Acoustic colors	Nip; vacuum bag or ring
LM41	0.76	Acoustic solar	Nip; vacuum bag or ring
LM47	0.76	Acoustic solar colors	Nip; vacuum bag or ring

Saflex Evoca RSL performance properties

Technical data	Property	Test method	Units	Test conditions	Saflex Evoca RSL
Physical	Specific gravity	ASTM D792	-	23°C	1.083
	Specific heat	ASTM E1269	Joule/kg — K	50°C	2330
Mechanical	Elongation at failure	JIS K6771	%	23°C/50% RH	190
	Tensile strength	JIS K6771	MPa	23°C/50% RH	25
Thermal	Coefficient of thermal expansion	ASTM E831	ppm/°C	-10°C–30°C	415
	Thermal conductivity	ASTM E1530-19	W/m — K	115°C	0.181

Optical properties and solar performance

Formulation	Product name	Tvis ¹	Tts ¹	Color properties ²			
		Typical	Typical	Hue L* (typical)	Hue a* (typical)	Hue b* (typical)	Delta E* (max.)
Clear acoustic	LP41	88.0%					
Acoustic solar	LM41 0000S2	82.2%	63.9%				
	LM41 0000S4	84.5%	68.0%				
Acoustic colors	LP47 351800	18.0%	45.0%	49.2	-2.3	2.5	3.5
	LP47 352700	27.0%	50.8%	59.1	-3.5	2.4	2.5
Acoustic solar color	LM47 3518S1	18.0%	37.3%	49.2	-4.3	1.7	3.5

¹ ISO13837 Lambda 900 Spectrophotometer. III A/2° (2.3 mm/2.3 mm clear glass)

² ASTM E1348/E308 Spectrophotometer. III. D65/10° Obs./CIElab (2.3 mm/2.3 mm clear glass)

The data set forth in this document are based on samples tested and are not guaranteed for all samples or applications.

The data are intended as guides and do not reflect product specifications for any particular property.

Visit saflex-vanceva.eastman.com/evoca-rsl to learn how Evoca RSL can help transform EVs.

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