

## TECHNICAL DATA SHEET

### VS103

Applications : Interlayer film for architectural and design laminated glass.  
Suitable for laminated glass with or without insertion (PDLC, fabric, etc.)  
Characteristic : Thermosetting EVA-based polymer film.

#### Specifications

	Properties	Test method	Unit	Value *
Optical properties	Color	-	-	Super Clear
	Transmittance (380-1100 nm) **	TPIAS method	%	≥ 97
	UV cut off	TPIAS method	nm	380
	Haze (LG 33.1 structure)	TPIAS method	%	≤ 0.2
	Haze (LG 33.2 structure)	TPIAS method	%	≤ 0.3
	Refractive index	ISO 489	-	1.475
Mechanical properties	Adhesion to glass	ASTM D903	N/cm	≥ 70
	Young's modulus	ASTM D412	MPa	9
	Elongation at break	ASTM D412	%	> 600
	Tensile strength at break	ASTM D412	MPa	≥ 18
	Secant modulus at 10% strain	ASTM D412	MPa	9
	Hardness shore A	ASTM D2240	-	68
Other properties	Water absorption	ASTM D570	%	< 0.1
	WVTR	ASTM F1249	g/m <sup>2</sup> 24h	≤ 30
	%Cross-linking	TPIAS method	%	≥ 90
	Yellowness after UV exposure test	TPIAS method	Delta YI	≤ 4
	Yellowness after damp heat test	TPIAS	Delta YI	≤ 2

\* All data are initial QC values, cured at 130°C for 40 minutes.

\*\* Transmittance of LG 33.1 structure.

#### Dimensions and packaging

Thickness (mm)	Roll length (m)	Width (mm)	Core diameter (mm)	Packaging
0.38	100	up to 2600	76 or 152	Individual cardboard box
0.76	50			

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#### Test reports and certifications

Test topic	Test standard	Certified by	Glass system	Result
SGCC listing	ANSI Z97.1	SGCC & Intertek	44.1 float glass	Passed
Ball drop test	DIN EN 356	F&K	44.2 float glass	Class P1A
Pendulum test	DIN EN 12600	F&K	44.2 float glass	Class 2B2
Durability test (Heat, humidity and UV)	DIN EN ISO 12543-4	F&K	44.2 float glass	Passed
Sound reduction Rw (C; Ctr)	EN ISO 10140-2	ift Rosenheim	44.2 float glass	36 (-1;-2) dB
			66.2 float glass	37 (-1;-2) dB
			66.4 float glass	38 (-2;-3) dB
			88.2 float glass	39 (-1;-2) dB
			66.4 float glass with PDLC	38 (-1;-2) dB
Laminated glass for building	TIS 1222-2539	Thailand Automotive Institute	44.1 float glass	Passed

\* Please ask for full report if needed.



#### Processing

##### Glass temperature parameter for sufficient cross-linking

Lowest glass temperature	110 °C / 230 °F
Highest glass temperature	135 °C / 275 °F

\* Temperature of glass inside of the oven.

\*\* Please see the processing detail from the recommended condition for vacuum bag oven document.

#### Storage and shelf life

Recommended storage conditions	Temperature < 30 °C / Humidity < 60 %RH
Shelf life	9 months after production date