

## TECHNICAL INFORMATION

# ACRYLITE® Soundstop XT Noise Barrier Sheet

## Transparent Noise Barriers

### Product

ACRYLITE® Soundstop XT is a highly transparent specialty grade of extruded acrylic.

### Properties

In addition to the well-known and proven properties of standard ACRYLITE® acrylic sheet such as:

- Excellent light transmission and brilliance
- Extremely high weather resistance
- High surface hardness
- Lightweight – half the weight of glass
- 11 times the impact strength of glass

ACRYLITE® Soundstop XT offers the following special features:

- Many traditional sound barriers create a tunnel effect when driving, but the transparency of ACRYLITE® Soundstop XT allows for more comfortable driving conditions.
- ACRYLITE® Soundstop XT offers a superior sound reduction rating (STC) of 32 dB or higher by ASTM E90.
- Large noise barrier panels reduce the need for steel supporting structures and enhance the transparency of the noise barrier.
- ACRYLITE® Soundstop XT is available in colorless sheet as well as various transparent colors.

### Machining

ACRYLITE® Soundstop XT can be machined just like standard ACRYLITE® acrylic sheet.

### Applications

These properties make ACRYLITE® Soundstop XT especially suitable for:

- Noise control on highway and railways
- Wind barriers on bridges
- Impact resistant glazing for pedestrian bridges and trails/greenways

### Product Offering

ACRYLITE® Soundstop XT is available in the following sizes and thicknesses:

Width: up to 8 ft wide (2.4 m)

Length: up to 19.5 ft long (6.0 m)

Thicknesses: 12, 15, 20, 25 mm



## Typical Values – ACRYLITE® Soundstop XT

Physical Properties	Test Standard	ACRYLITE® Soundstop XT (a) (b)
<b>Mechanical</b>		
Specific Gravity	ASTM D792	1.19
Tensile Strength		10,000 psi (69 MPa)
Elongation at Break (%)	ASTM D638	4.0%
Modulus of Elasticity		450,000 psi (3100 MPa)
Flexural Strength		15,800 psi (109 MPa)
Flexural Strain at Break (%)	ASTM D790	4.0%
Modulus of Elasticity		470,000 psi (3240 MPa)
Compressive Strength (Yield)	ASTM D695	17,000 psi (117 MPa)
Rockwell Hardness	ASTM D785	M-100
Unnotched Charpy Impact, 5 years natural outdoor weathering	ASTM D4812	6.5 ft-lbs/in <sup>2</sup>
Impact by Windborne Debris in Hurricanes (>15mm)	ASTM E1996	Pass
<b>Optical (Colorless)</b>		
Refractive Index	ASTM D542	1.49
Initial Light Transmission		92%
15 years natural outdoor weathering	ASTM D1003	92%
Initial Haze		1.0%
15 years natural outdoor weathering	ASTM D1003	4.2%
Initial Yellowness Index		<1.0
15 years natural outdoor weathering	ASTM E313	<1.0
<b>Thermal</b>		
Resistance to Brushfire (15 mm)	EN 1794-2, Annex A	Pass - Class 2
Deflection Temperature under load, 264 psi (1.82 MPa) (12mm)	ASTM D648	220°F (104°C)
Coefficient of Linear Expansion	ASTM D696	0.000040 in/in/°F (0.072 mm/m °C)
Vicat Softening Temperature	ASTM D1525	220 °F (104°C)
Flammability, Burning Rate (12 mm thickness and greater)	ASTM D635	0.70 in/min (17.8 mm/min) – CC2
Self-Ignition Temperature	ASTM D1929	860°F (460°C)
Smoke Density Rating (12 mm thickness and greater)	ASTM D2843	0.5%
Service Temperature	–	< 160°F (71°C)
<b>Sound Transmission</b>		
Sound Transmission Class (STC)	ASTM E90	15 mm 32 dB 20 mm 34 dB 25 mm 36 dB
<b>Weight per Square Foot</b>		
	15 mm Thickness	3.66 lb/ft <sup>2</sup> (17.9 kg/m <sup>2</sup> )
	20 mm Thickness	4.86 lb/ft <sup>2</sup> (23.8 kg/m <sup>2</sup> )
	25 mm Thickness	6.1 lb/ft <sup>2</sup> (29.8 kg/m <sup>2</sup> )
(a) Typical values: should not be used for specification purposes.		
(b) Values shown are for 0.250" (6 mm) thickness unless noted otherwise. Some values will change with thickness.		

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