Memtech Acoustics

ACRYLITE® Soundstop XT
Noise Barrier Sheet

Product

ACRYLITE® Soundstop XT is a highly transparent specialty grade of extruded acrylic designed specifically for noise barriers.

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:	15, 18, 20, 25 mm	



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Physical Characteristics of ACRYLITE® Soundstop XT

Property		Test Standard	Typical Value (0.250" thickness)
Mechanical	Specific Gravity	ASTM D792	1.19
	Tensile Strength Elongation at Break (%) Modulus of Elasticity	ASTM D638	10,000 psi (69 MPa) 4.0% 450,000 psi (3100 MPa)
	Flexural Strength Flexural Strain at Break (%) Modulus of Elasticity	ASTM D790	15,800 psi (109 MPa) 4.0% 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^2
	Resistance to Stone Impact (>12mm)	EN 1794-1: 2018, Annex C	Pass
	Risk of Falling Debris – 45kg Pendulum Impact (>12mm)	EN 1794-2: 2003, Annex B EN 1794-2: 2011, Annex B	Pass – Class 3 Pass – Class 2
	Impact by Windborne Debris in Hurricanes (>15mm)	ASTM E1996	Pass
Optical	Refractive Index	ASTM D542	1.49
	Initial Light Transmission 15 years natural outdoor weathering	ASTM D1003	92% 92%
	Initial Haze 15 years natural outdoor weathering	ASTM D1003	1.0% 4.2%
	Initial Yellowness Index 15 years natural outdoor weathering	ASTM E313	<1.0 <1.0
Thermal	Resistance to Brushfire (>12 mm)	EN 1794-2: 2011, 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)	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)	ASTM D2843	0.5%
	Service Temperature	–	< 160°F (71°C)
Sound Transmission	Sound Transmission Class (STC)	ASTM E90	15 mm 32 dB 20 mm 34 dB 25 mm 36 dB
Weight per Square Foot	15 mm Thickness 18mm Thickness 20 mm Thickness 25 mm Thickness		3.66 lb/ft^2 (17.9 kg/m^2) 4.40 lb/ft^2 (21.5 kg/m^2) 4.86 lb/ft^2 (23.8 kg/m^2) 6.10 lb/ft^2 (29.8 kg/m^2)

(a) Typical values: should not be used for specification purposes.

(b) Values shown are for 0.250" (6.35 mm) thickness unless noted otherwise. Some values will change with thickness.

Memtech Acoustics
2175 Avon Industrial Dr.
Rochester Hills, MI 48309
248.289.1123

memtechacoustics.com
sales@memtechacoustics.com

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