

TECHNICAL INFORMATION

ACRYLITE® Soundstop GS CC Noise Barrier Sheet

Transparent Noise Barriers

Product

ACRYLITE® Soundstop GS CC is a highly transparent grade of cast acrylic with embedded polyamide threads. In the event of breakage due to an accident, these threads retain any sheet fragments and prevent them from falling down.

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
- ease of fabrication
- high surface hardness
- lightweight – half the weight of glass
- 11 times the impact strength of glass

ACRYLITE® Soundstop GS CC offers the following special features:

- Superior safety! ... ACRYLITE® Soundstop GS CC panels meet the fragment prevention requirements of EN 1794-2.
- Embedded black filaments reduce the odds of bird collision
- Can be used on bridges without additional netting
- Sound reduction (STC) of 32 dB or higher when tested per ASTM E90
- Complies with European noise barrier regulations for railways (including high speed rail) RIL 804.5501
- ACRYLITE® Soundstop GS CC is available in transparent colors

Machining

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

Applications

These properties make ACRYLITE® Soundstop GS CC especially suitable for:

- noise control on highway and railway bridges
- wind barriers on bridges
- Impact resistant glazing for pedestrian bridges and trails/greenways

Product Offering

ACRYLITE® Soundstop GS CC is available in the following sizes, thicknesses, and filament directions:

Standard sizes:

2000 x 3000 mm	2000 x 4000 mm
2000 x 5000 mm	2380 x 3300 mm

Thicknesses:

12, 15, 20, 25 mm

Filament direction:

(-D)	Black filaments along width
(-A)	Black filaments along length
(-J)	Clear filaments along width
(-G)	Clear filaments along length



Typical Values – ACRYLITE® Soundstop GS CC

Physical Properties	Test Standard	ACRYLITE® Soundstop GS CC (a) (b)
Mechanical		
Specific Gravity	ASTM D792	1.19
Tensile Strength		11,000 psi (76 MPa)
Elongation at Break (%)	ASTM D638	6.8%
Modulus of Elasticity		450,000 psi (3100 MPa)
Flexural Strength		16,500 psi (114 MPa)
Flexural Strain at Break (%)	ASTM D790	4.3%
Modulus of Elasticity		470,000 psi (3240 MPa)
Compressive Strength (Yield)	ASTM D695	18,000 psi (124 MPa)
Rockwell Hardness	ASTM D785	M-100
Unnotched Charpy Impact, 5 years natural outdoor weathering	ASTM D4812	6.5 ft-lbs/in ²
Risk of Falling Debris – Pendulum Impact (>12mm)	EN 1794-2, Annex B	Pass – Class 3
Impact by Windborne Debris in Hurricanes (>15mm)	ASTM E1996	Pass
Optical (Colorless)		
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	5.0%
Initial Yellowness Index		<1.0
15 years natural outdoor weathering	ASTM E313	<1.8
Thermal		
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	240°F (116°C)
Coefficient of Linear Expansion	ASTM D696	0.000040 in/in/°F (0.072 mm/m °C)
Vicat Softening Temperature	ASTM D1525	239 °F (115°C)
Flammability, Burning Rate (12 mm thickness and greater)	ASTM D635	0.78 in/min (19.9 mm/min) – CC2
Self-Ignition Temperature	ASTM D1929	878°F (470°C)
Smoke Density Rating (12 mm thickness and greater)	ASTM D2843	0.3%
Service Temperature	–	< 180°F (82°C)
Sound Transmission		
Sound Transmission Class (STC)		15 mm 32 dB
		20 mm 34 dB
		25 mm 36 dB
Weight per Square Foot	15 mm Thickness	3.66 lb/ft ² (17.9 kg/m ²)
	20 mm Thickness	4.86 lb/ft ² (23.8 kg/m ²)
	25 mm Thickness	6.1 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 mm) thickness unless noted otherwise. Some values will change with thickness.		

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