Memtech Acoustics

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:

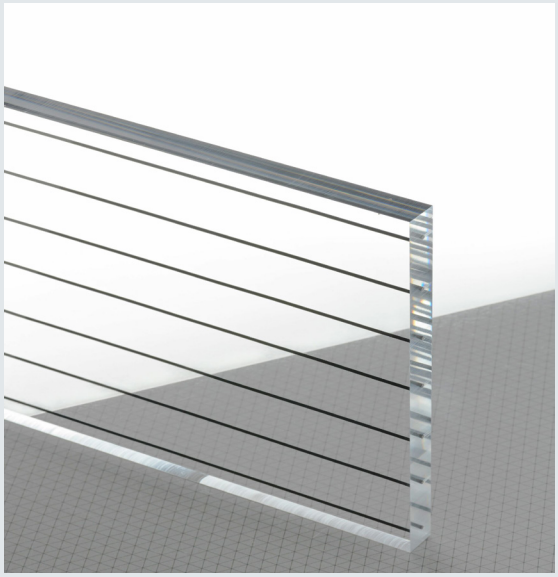
Standard sizes:

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



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Physical Characteristics of ACRYLITE® Soundstop GS CC

Property		Test Standard	Typical Soundstop GS CC (a) (b)
Mechanical	Specific Gravity	ASTM D792	1.19
	Tensile Strength Elongation at Break (%) Modulus of Elasticity	ASTM D638	11,000 psi (76 MPa) 6.8% 450,000 psi (3100 MPa)
	Flexural Strength Flexural Strain at Break (%) Modulus of Elasticity	ASTM D790	16,500 psi (114 MPa) 4.3% 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 – 400 kg Pendulum Impact (>15mm)	EN 1794-2: 2003, Annex B EN 1794-2: 2011, Annex B EN 1794-2-2020, Annex A	Pass – Class 5 Pass – Class 3 Pass - Class 3
	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% 5.0%
	Initial Yellowness Index 15 years natural outdoor weathering	ASTM E313	<1.0 <1.8
Thermal	Resistance to Brushfire (>15 mm)	EN 1794-2: 2011, Annex A	Pass – Class 2
	Deflection Temperature under load, 264 psi (1.82 MPa) (>12 mm)	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)	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)	ASTM D2843	0.3%
	Service Temperature	–	< 180°F (82°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 20 mm Thickness 25 mm Thickness		3.66 lb/ft^2 (17.9 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 mm) thickness unless noted otherwise. Some values will change with thickness.

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