

Technical Data

PARAGLAS SOUNDSTOP® noise barrier sheet

Product Description

PARAGLAS SOUNDSTOP® noise barrier sheet is used as transparent noise barrier material along roads and railroads.

Easy to install, form and fabricate, PARAGLAS SOUNDSTOP sheet is extremely resistant to weathering from UV exposure and retains a high transparency for many years providing architecturally appealing structures.

Availability

PARAGLAS SOUNDSTOP sheet is a standard clear transparent sheet.

PARAGLAS SOUNDSTOP GS CC sheet incorporates polyamide filaments and is typically used on bridges and overpasses. In the event of impact by a car or truck, the imbedded filaments will hold the broken sheet, preventing pieces from falling below.

Physical Properties	Test Method	PARAGLAS SOUNDSTOP sheet (a)	PARAGLAS SOUNDSTOP GS CC sheet (b)
Mechanical			
Specific Gravity	ASTM D-792	1.19	1.19
Tensile Strength		10,000 psi (69 MPa)	10,000 psi (69 MPa)
Elongation at Break (%)		4.5	4.8
Modulus of Elasticity	ASTM D-638	400,000 psi (2800 MPa)	400,000 psi (2800 MPa)
Flexural Strength		17,000 psi (117 MPa)	16,500 psi (114 MPa)
Modulus of Elasticity	ASTM D-790	480,000 psi (3300 MPa)	475,000 psi (3300 MPa)
Compressive Strength (Yield)	ASTM D-695	17,000 psi (117 MPa)	18,000 psi (124 MPa)
Resistance Against Stone Projectiles (15 mm thickness)	EN 1794-1	Pass	Pass
Unnotched Charpy Impact		6.5 ft-lbs/in ²	6.5 ft-lbs/in ²
Weathered 5 years AZ		6.5 ft-lbs/in ²	6.5 ft-lbs/in ²
-5°F	ASTM D-4812	6.5 ft-lbs/in ²	6.5 ft-lbs/in ²
Optical (Colorless)			
Refractive Index	ASTM D-542	1.49	1.49
Light Transmission, Total		92%	92%
Weathered 5 years AZ	ASTM D-1003	92%	92%
Haze		1%	1%
Weathered 5 years AZ	ASTM D-1003	1.5%	1.5%
Yellowness Index		< 1	< 1
Weathered 5 years AZ	ASTM E-313	1.5	1.5
Thermal Properties			
Resistance to Brushfire (15 mm thickness)	EN 1794-2	Class 2	Class 2
Deflection Temperature under load, 264 psi	ASTM D-648	195°F (91°C)	210°F (99°C)
Co-efficient of Linear Expansion		0.000040 in/in/°F	0.000040 in/in/°F
	ASTM D-696	(0.072 mm/m °C)	(0.072 mm/m °C)
Vicat Softening Temperature	ASTM D-1525	220 °F (105°C)	239°F (115°C)
Flammability, Burning Rate (15 mm thickness)	ASTM D-635	0.6 in/min (14 mm/min)	0.8 in/min (20 mm/min)
Self Ignition Temperature	ASTM D-1929	850°F (455°C)	910°F (490°C)
Smoke Density Rating (15 mm thickness)	ASTM D- 2843	20%	20%
Service Temperature	–	≤ 160°F (71°C)	≤ 180°F (82°C)
		15 mm 32 dB	15 mm 32 dB
		20 mm 34 dB	20 mm 34 dB
		25 mm 36 dB	25 mm 36 dB
Sound Transmission Loss			
	ASTM E-90	15 mm Thickness 3.66 lb/ft ² (17.9 Kg/m ²)	3.66 lb/ft ² (17.9 Kg/m ²)
		20 mm Thickness 4.86 lb/ft ² (23.8 Kg/m ²)	4.86 lb/ft ² (23.8 Kg/m ²)
		25 mm Thickness 6.1 lb/ft ² (29.8 Kg/m ²)	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.

Chemical Resistance of PARAGLAS SOUNDSTOP® noise barrier sheet

The table below gives an indication of the chemical resistance of PARAGLAS SOUNDSTOP sheet and PARAGLAS SOUNDSTOP GS CC sheet. Plastic materials can be attacked by chemicals in several ways. The methods of fabrication and/or conditions of exposure of PARAGLAS SOUNDSTOP sheet, as well as the manner in which the chemicals are applied, can influence the final results even for "R" coded chemicals. Some of these factors include:

Fabrication – stress generated while sawing, sanding, machining, drilling, and/or forming.

Exposure – length of exposure, stresses induced during the life of the product due to various loads, changes in temperatures, etc.

Application of Chemicals – by contact, rubbing, wiping, spraying, etc.

Chemical	Code
Acetone	N
Ammonium Chloride	R
Ammonium Hydroxide (Concentrated)	R
Aromatic Based Graffiti Removers	N
Battery Acid	R
Benzene	N
Butyl Acetate	N
Calcium Chloride (100%)	R
Calcium Hypochlorite	R
Calcium / Magnesium Acetate	R
Citric acid (20%)	R
CMAK (Potassium Acetate/Calcium Magnesium acetate)	R
Diesel Oil	R
Ethyl Alcohol (30%)	LR
Ethyl Alcohol (95%)	N
Ethylene Glycol	R
Gasoline	LR

The table should be used as only a general guide and, in case of doubt, it should be supplemented by tests made under actual working conditions.

The codes used to describe chemical resistance are:

R = Resistant

PARAGLAS SOUNDSTOP sheet withstands this substance for long periods and at temperatures up to 120°F (49°C).

LR = Limited Resistance

PARAGLAS SOUNDSTOP sheet only resists the action of this substances for short periods at room temperatures. The resistance for a particular application must be determined.

N = Not Resistant

PARAGLAS SOUNDSTOP sheet is not resistant to this substance. It is either swelled, attacked, dissolved or damaged in some manner.

Chemical	Code
Heptane	R
Hexane	R
Hydrochloric Acid	R
Ice Ban® Ultra™ M	R
Isopropyl Alcohol	LR
Kerosene	R
Lacquer Thinner	N
Magnesium Chloride	R
Methyl Alcohol (30%)	LR
Methyl Alcohol (100%)	N
Methyl Ethyl Ketone (MEK)	N
Methylene Chloride	N
Potassium Acetate	R
Sodium Acetate	R
Sulphuric Acid (3%)	R
Sulphuric Acid (30%)	R
Sulphuric Acid (Concentrated)	N
Toluene	N



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