Product data sheet, May 2021

Exolon® Silent Sound BF AR

Solid polycarbonate sheet 12 mm

I Line
Innovative

Your benefits:

- Tested safety according to ZTV-LSW06/EN 14388
- Anti-graffiti Test according to NF F 31-112
- Bird-friendly (according to ONR 191040)
- Good fire rating

Solid **Exolon® Silent Sound** sheets are clear, polished, UV-stabilized polycarbonate sheets and available as extended UV and Abrasion-resistant AR (anti graffity like)/ Bird friendly BF version. They offer extreme impact strength that exceeds the physical properties of other products of their class. **Exolon®** sheets resist temperatures of -100 to +120 °C, exhibit high optical clarity and have a good fire rating.

Exolon® Silent Sound sheets meet the sound technical requirements for noise reduction and the demands of road and railway safety, stability such as form and ageing stability. **Exolon® Silent Sound UV** can be bent cold and also manufactured flat. Furthermore **Exolon® Silent Sound** sheets can be thermoformed, cold-curved and machined with ease.

Applications:
Exolon® Silent Sound can be used for noise protection barriers on motorways with heavy traffic, dual carriageways and railways. Incapseling of machinery, transfo's and high voltage cables along tracks.

Vandalism:
The sheets offer protection against involuntary breakage and wilfull destruction. The sheets are virtually unbreakable and do not splinter.

	Test Conditions	Typical values[1]	Unit	Standard
PHYSICAL				
Density		1200	kg/m³	ISO 1183-1
Water absorption saturation	water at 23 °C	0.30	%	ISO 62
Water absorption equilibrium	23 °C, 50% relative humidity	0.12	%	ISO 62
Refractive index	Procedure A	1.587	–	ISO 489
MECHANICAL				
Tensile modulus	1 mm/min	2350	MPa	ISO 527-1,-2
Yield stress	50 mm/min	› 60	MPa	ISO 527-1,-2
Yield strain	50 mm/min	6	%	ISO 527-1,-2
Nominal strain at break	50 mm/min	› 50	%	ISO 527-1,-2
Flexural modulus	2 mm/min	2350	MPa	ISO 178
Flexural strength	2 mm/min	90	MPa	ISO 178
Charpy impact strength	23 °C, unnotched	non-break	kJ/m²	ISO 179-1eU
Charpy impact strength	23 °C, 3 mm	80P	kJ/m²	ISO 179-1eA
Izod impact strength	23 °C, 3.2 mm, notched	70P	kJ/m²	ISO 180-A
THERMAL				
Vicat softening temperature	50 N, 50°C/h	148	°C	ISO 306
Thermal conductivity	23°C	0.20	W/(m.K)	ISO 8302
Coefficient of linear thermal expansion	23 to 55°C	0.65	104/K	ISO 11359-1, -2
Temperature of deflection under load	1.80 Mpa	128	°C	ISO 75-1, -2
Temperature of deflection under load	0.45 Mpa	140	°C	ISO 75-1, -2
ELECTRICAL				
Electrical strength	1 mm	34	kV/mm	IEC 60243-1
Volume resistivity		1E14	Ohm.m	IEC 60093
Surface resistivity		1E16	Ohm	IEC 60093
Relative permitivity	100 Hz	3.1	–	IEC 60250
Relative permitivity	1 MHz	3.0	–	IEC 60250
Dissipation factor	100 Hz	5	10^{-4}	IEC 60250
Dissipation factor	1 MHz	95	10^{-4}	IEC 60250

[1] These values are measured on injection molded samples, and are not intended for specification purposes.

Made of makrolon®

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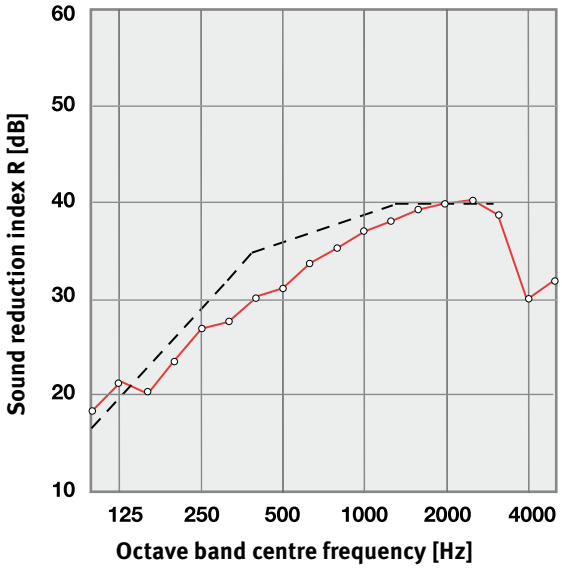
Ideas, innovative, intelligent, interesting... Exolon Group i-line represents the next generation of quality products. This seal guarantees innovative and intelligent first-class solutions at all times for a multitude of requirements.



RESULTS dB [EN ISO 140-3]	
Sum of deviation	32
Average deviation	2.00
Displacement designated curve	-16
Sound reduction index R_w	36

Spectrum adaptation terms		
	C	**C_{tr}**
100 – 3,150 Hz	-2	-5
100 – 5,000 Hz	-3	-5
50 – 3,150 Hz	-2	-6
50 – 5,000 Hz	-3	-6
$\Delta L_{A,R,Str}$ (ZTV-LSW 88)		32
DL_R (DIN EN 1793-2)		31 (B3)

EUROPEAN CERTIFICATES for Exolon® Silent Sound UV
Resistance to brushwood fire according to(*):
DIN EN 1794-2, Annex A: Class 2 ZTV-LSW 06, Section 2.5.4
Impact of Stones according to:
DIN EN 1794-1, Annex C: Passed
Danger of falling debris according to:
DIN EN 1794-2, Annex B: Class 3
Bird Protection according to:
ONR 191040 (Austrian Standards Institutes) : Passed
Anti-graffiti like(**)
according to NF F 31-112

(*) Fire certificates are limited in time and scope, always check if the mentioned certificate is valid for the purchased Polycarbonate sheet type at the date of delivery. Polycarbonate sheets may change their fire behavior due to ageing and weathering. The indicated fire rating was tested on new / unweathered Product in accordance with the indicated fire classification standards.
(**) further information can be found in the related Technical Information

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