

Makrolon® Silent Sound UV/ AR

Solid polycarbonate sheet 20 mm



Your benefits:

- Tested safety according to ZTV-LSW06/ EN 14388
- Noise reduction DL_r : 34 dB
- 20 mm sheet thickness with extend UV protection
- Good fire rating

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

Makrolon® Silent Sound sheets meet the sound technical requirements for noise reduction and the demands of road safety, stability such as form and ageing stability.

Makrolon® Silent Sound can be bent cold and also manufactured flat.

Applications:

Makrolon® Silent Sound can be used for noise protection barriers on motorways with heavy traffic, dual carriageways and railways.

The sheets offer protection against involuntary breakage and willful destruction. **Makrolon® Silent Sound** sheets can be thermoformed, cold-curved and machined with ease.

	Test Conditions	Typical Values	Unit	Test Method
PHYSICAL				
Density		1.2	g/cm ³	ISO 1183-1
Moisture absorption	after storage in standard climate 23 °C/50 % RH	0.15	%	ISO 62-4
	after storage in water at 23 °C until saturation	0.35	%	ISO 62-1
Refractive index	20 °C	1.586	–	ISO 489
MECHANICAL				
Tensile stress at yield		> 60	MPa	ISO 527-2/1B/50
Elongation at yield		6	%	ISO 527-2/1B/50
Tensile strength		> 60	MPa	ISO 527-2/1B/50
Elongation at break		> 70	%	ISO 527-2/1B/50
Elastic modulus		2,400	MPa	ISO 527-2/1B/1
Limiting flexural stress		approx. 90	MPa	ISO 178
Impact strength	Charpy, unnotched	no break	kJ/m ²	ISO 179/1fU
	Charpy, notched	approx. 11	kJ/m ²	ISO 179/1eA
	Izod, notched	approx. 10	kJ/m ²	ISO 180/1A
	Izod, notched ¹⁾	approx. 70	kJ/m ²	ISO 180/4A
THERMAL				
Vicat softening temperature	Method B50	148	°C	ISO 306
Thermal conductivity		0.2	W/m K	DIN 52612
Coeff. of linear thermal expansion		0.065	mm/m °C	DIN 53752-A
Heat deflection temperature under load	Method A: 1.80 MPa	127	°C	ISO 75-2
	Method B: 0.45 MPa	139	°C	ISO 75-2
ELECTRICAL				
Dielectric strength		35	kV/mm	IEC 60243-1
Volume resistivity		10 ¹⁶	Ohm-cm	IEC 60093
Surface resistivity		10 ¹⁴	Ohm	IEC 60093
Dielectric constant	at 10 ³ Hz	3.1		IEC 60250
	at 10 ⁶ Hz	3		IEC 60250
Dissipation factor	at 10 ³ Hz	0.0005		IEC 60250
	at 10 ⁶ Hz	0.009		IEC 60250

The mechanical properties were measured on sheets of 4 mm or 3 mm⁽¹⁾ thickness.

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makrolon®
Silent Sound

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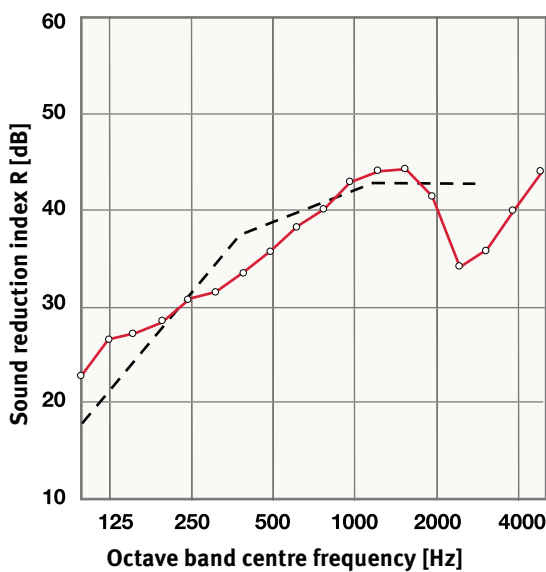
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Results dB		
Sum of deviation	27,3	
Average deviation	1,71	
Displacement designated curve	-15	
Sound reduction index R_w	37	
Spectrum adaptation terms		
	C	C_{tr}
100 - 3 150 Hz	-1	-3
100 - 5 000 Hz	-1	-3
50 - 3 150 Hz	-1	-3
50 - 5 000 Hz	-1	-3
$\Delta L_{A,R,Str}$ (ZTV-LSW 88)	35	
DL_R (DIN EN 1793-2)	34 (B3)	

European Certificates:	
Resistance to brushwood fire according to:	
DIN EN 1794-2, Annex A: Class 1	
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 4	



Bayer MaterialScience

Bayer MaterialScience GmbH
 Otto-Hesse-Straße 19/T9, 64293 Darmstadt, Germany
 Tel. +49 6151 13 03-0
 Fax +49 6151 13 03-500
www.bayersheeteurope.com
sales@bayersheeteurope.com