



KOHLHAUER® NOISE BARRIERS – QUALITY OF LIFE **MAKROLON® SILENT SOUND (POLYCARBONATE)**

Austria · Belgium · China · Czech Republic · France · Germany · Greece · Hong Kong · Italy · Korea · Latvia · Netherlands · Poland · Romania · Russia · Slovakia · Spain · Sweden · Switzerland · United Kingdom



Transparent sheet material
Different thicknesses
Eco-friendly



KOHLHAUER **SCORSA**® – UTMOST FUNCTIONALITY **MAKROLON**® SILENT SOUND - **POLYCARBONATE**

Makrolon® Silent Sound Polycarbonate is the ideal solution for transparent noise protection. Its high durability, its outstanding weather resistance and its excellent transparency permits an economical realization of sustainable noise barriers.

Makrolon® Silent Sound Polycarbonate Sheets produced by Bayer MaterialScience are the perfect solution for transparent noise protection combined to KOHLHAUER **SCORSA**® FRAME system. Two German enterprises reknown in their sector for the high quality offered to their costumers.

Benefits

- Excellent sound insulation permits the use of thinner sheets and therefore saves money
- Impact resisting, protected against vandalism (250 times more resistant than silicate glass and 20 times more than acrylic sheets)
- Fulfils the criteria of EN-1793 and German ZTV-Lsw 06
- Highly resistant against solar radiation and climatic influences
- Outstanding resistance to atmospheric corrosion
- Low weight
- Resistance against abrasion and chemicals through its coated surface
- Flame retardant
- Suitable for KOHLHAUER **SCORSA**® FRAME systems

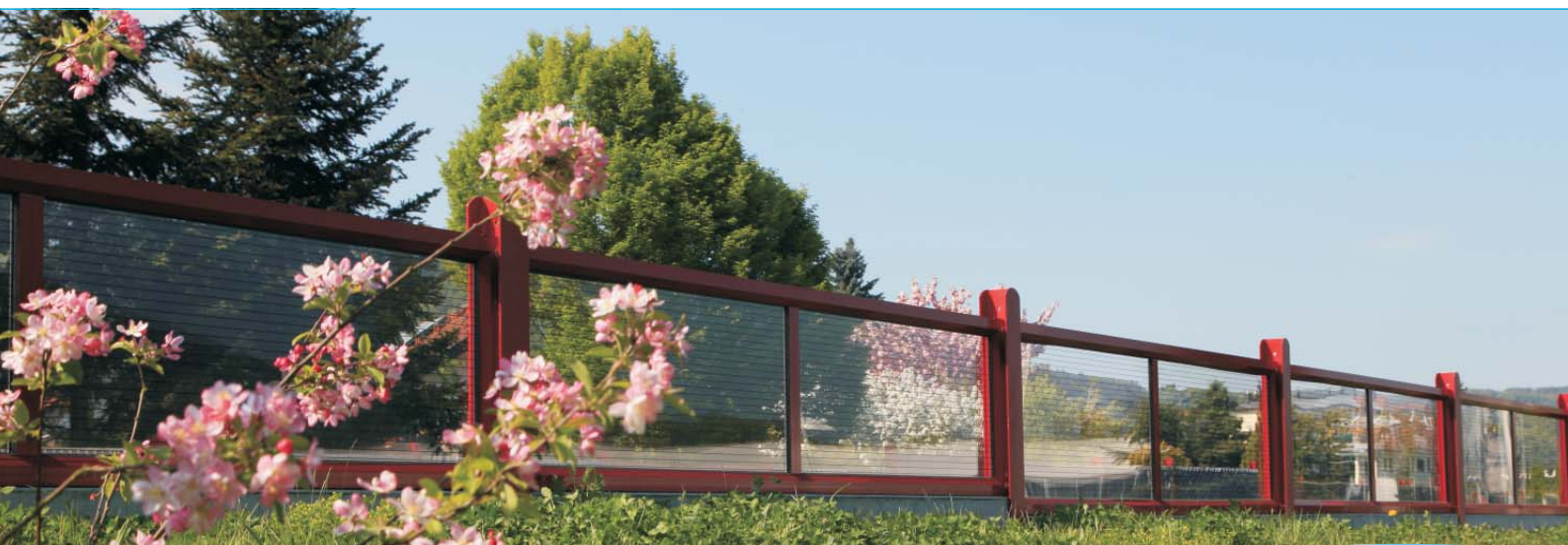
MAKROLON® SILENT SOUND - The ecological solution

Makrolon® Silent Sound Polycarbonate is distinguished by its optimal environmental features. Its energy balance, recycling options and ecological and toxicological aspects satisfy all key requirements.

No waste is created during the production and processing of Makrolon® sheets, only cut-offs that can easily be fed back into the processing cycle. At the end of their product life, sheets can be recycled as energy.

Due to its special properties, the material's aging and weathering resistance ensures that the sheets remain intact over many years, which means they do not have to be replaced ahead of time.

It contains extremely low quantities of chlorine, bromine, iodine and fluorine. Besides, it does not contain any heavy metals such as cadmium, lead, mercury or chrome compounds.



MARKROLON® SILENT SOUND - OUTSTANDING FEATURES

The characteristics of Makrolon® Silent Sound Polycarbonate sheets have been tested and proven. The following tables display the properties of the material.

MECHANICAL PROPERTIES	VALUE	OTHER PHYSICAL PROPERTIES	VALUE
Yield stress	> 60 MPa	Density	1.2 gr/cm ³
Elongation at yield stress	6 %	Humidity absorption (standard climate)	0.15 %
Tensile strength	> 60 MPa	Humidity absorption (water immersion)	0.35 %
Elongation at break	> 70 %	Refraction index	1.586
Elasticity modulus	2400 MPa	Vicat refractory deformation temperature	148 °C
Flexural strength	ca. 90 MPa	Thermal conductivity	0.2 W/m°C
		Thermal coefficient of expansion	0.065 mm/m°C
		Heat deformation 1,80 MPa	127 °C
		Heat deformation 0,45 MPa	139 °C
		Fire behavior	28 %

KOHLHAUER **SCORSA**® with Makrolon® Silent Sound (by Bayer MaterialScience) as sheet material is a complete high-quality noise barrier system that fulfils all requirements and expectations, as the following data demonstrate. "Frame-R" system is designed for use along roads and "Frame-B" system for use on bridges and other exposed sections.

KOHLHAUER SCORSA® WITH MAKROLON® SILENT SOUND	"FRAME-R" 8 mm *	"FRAME-B" 15 mm *
Format	3960 x 1000 mm	1960 x 3000 mm
Airborne sound insulation	DL _R = 27 dB (group B3)	DL _R = 31 dB (group B3)
Dry weight	0.60 kN	1.12 kN
Normal (90°) load (due to wind and static)	0,82 kN/m ²	1,31 kN/m ²
Normal (90°) load (due to snow clearance)	15 kN/(2x2 m)	15 kN/(2x2 m)
Danger of falling debris	NPD	Class 6
Impact of stones	Fulfilled	Fulfilled
Resistance to brushfire	Class 2	Class 2
Estimated service life	30 years	30 years

* Different sheet thicknesses on request





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The reasonable and proven
all-round Grid-Insulation-
System (GIS) with many
design variations.



The plantable noise
barrier - eco-friendly,
sustainable and high
functional.



Double benefit: Noise barrier
combined with sustainable
power generation through
solar technology.

