

Makrolon® WS - Welding Shield

Solid polycarbonate sheet for arc welding processes



Your benefits:

- certified according to DIN EN ISO 25980 : 2014
- extreme impact strength
- easy to fabricate

Makrolon® WS sheets are polycarbonate sheets which comply with requirements for transparent screens in arc welding processes. They protect against the hazardous radiation emitted during arc welding processes and meet the requirements on light transmission, UV-stability and fire resistance specified in EN ISO 25980: 2014. The sheets are available in different colours.

Makrolon® WS sheets offer extreme impact strength that exceeds the physical properties of other products of their class. They resist to temperatures of -100 to +120 °C.

Applications:

Makrolon® WS can be used in cases where people outside of the welding area need to be protected against the hazardous radiation of arc welding processes.

Typical applications for **Makrolon® WS** are shielding of machines, robots or facilities where arc welding is taking place, such as windows in welding cabins or as separation walls between welding robots.

Makrolon® WS is not suitable as a welding filter or visor in welding helmets, or for workplaces where the welder has to be protected against the reflection of welding light.

	Test Conditions	Typical values ⁽¹⁾	Unit	Standard
PHYSICAL Density Water absorption saturation Water absorption equilibrium Refractive index	water at 23 °C 23 °C, 50% relative humidity Procedure A	1200 0.30 0.12 1.587	kg/m³ % ~	ISO 1183-1 ISO 62 ISO 62 ISO 62 ISO 489
MECHANICAL Tensile modulus Yield stress Vield strain Nominal strain at break Flexural modulus Flexural strength Charpy impact strength Izod impact strength	1 mm/min 50 mm/min 50 mm/min 2 mm/min 2 mm/min 23 °C, unnotched 23 °C, 3 mm, notched 23 °C, 3.2 mm, notched	2350 >60 >50 2350 90 non-break 80P 90P	MPa MPa % MPa KJ/m² kJ/m² kJ/m²	ISO 527-1,-2 ISO 527-1,-2 ISO 527-1,-2 ISO 527-1,-2 ISO 178 ISO 178 ISO 179-1eU ISO 179-1eA ISO 180-A
THERMAL Vicat softening temperature Thermal conductivity Coefficient of linear thermal expansion Temperature of deflection under load Temperature of deflection under load	50 N, 50°C/h 23°C 23 to 55°C 1.80 Mpa 0.45 Mpa	148 0.20 0.65 128 140	°C W/mK 10⁻⁴/K °C °C	ISO 306 ISO 8302 ISO 11359-1,-2 ISO 75-1,-2 ISO 75-1,-2

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

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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.

Available sizes:

Makrolon® WS sheets are available in thicknesses 3 and 4 mm in the following size:

Size (standard):

1.250 x 2.050 mm

Colours:

Makrolon® WS green 658 Makrolon® WS bronze 888

Hazard level: as defined in DIN EN ISO 25980: 2014

	green 658	bronze 888
3 mm	0.60	0.70
4 mm	0.57	0.80



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