

Solid Polycarbonate Sheets



MAKROLON® Sheet Abrasion Resistant (AR) is an abrasion and enhanced UV resistant polycarbonate sheet that offers glass like hardness coupled with the impact strength of standard polycarbonate. MAKROLON® Sheet AR offers a unique clear hard coat finish that provides superior clarity when subjected to repeated contact, cyclical cleaning and even vandalism. MAKROLON® Sheet AR has a 10 year guarantee against breakage and 5 years against delamination and weathering.

Applications:

MAKROLON® Sheet AR is ideal for outdoor applications. Typical applications include schools and hospital shelter glazing. MAKROLON® AR sheets are also used extensively in correctional and psychiatric facilities. Additionally, the product performs well for view windows and machine guards in harsh chemical environments. Due to its scratch resistant coating, MAKROLON® AR sheets cannot be formed like other MAKROLON® Sheets.

YOUR BENEFITS

- Extreme impact strength
- Broad temperature resistance
- Good fire behaviour
- High transparency

TYPICAL PROPERTIES

PHYSICAL	TYPICAL VALUES	UNIT	STANDARDS
Specific gravity	1.2		ISO1183A
Light transmission, clear, 3.0mm	86	%	ASTM D1003
Chemical resistance	pass		ANSI Z26.1
Taber abrasion, 100 cycles CS10F, delta haze	1-2	%	ASTM D1044
MECHANICAL			
Tensile strength, ultimate	65.5	MPa	ISO527
Flexural strength	93.1	MPa	ISO178
Compressive strength	86.2	MPa	ISO604
Modulus of elasticity	2344	MPa	ISO527
Poisson's ratio	0.38		
Izod impact strength, notched @ 3.0mm	6.4 ~ 8.5	J/cm	ISO180
Izod impact strength, unnotched @ 3.0mm	32	J/cm	ISO180
Instrumented impact, 3.0mm > 61 J ASTM D3763			
THERMAL			
Coefficient of thermal expansion	0.7	10 ⁻⁴ /°C	ASTM D696
Heat deflection temperature, @ 1.82 MPa	132.2	°C	ASTM D648
Heat deflection temperature, @ 0.46 MPa	137.8	°C	ASTM D648
ELECTRICAL			
Dielectric constant, @ 10 Hz	2.96		ASTM D150
Dielectric constant, @ 60 Hz	3.17		ASTM D150
Volume resistivity	8.2x 10 ¹⁶	Ohm-cm	ASTM D257
Dissipation factor, @ 60 Hz	0.0009		ASTM D150
Dissipation factor, @ 1 MHz	0.01		ASTM D150
Arc resistance		Seconds	ASTM D495
Stainless steel strip electrode	10 ~ 11		
Tugnsten electrodes	120		
Dielectric strength, in air, @ 3.175mm	14690	V/mm	ASTM D149
FLAMMABILITY			
Horizontal burn, AEB	<25.4	mm	ISO 1210: 1992
Ignition temperature, self	577	°C	ISO871
Ignition temperature, flash	466	°C	ISO871
UL 94, clear @ 1.5mm	HB		UL 94
UL 94, clear @ 3.0mm	V1		UL 94
OPTICAL			
Light transmission @ 3.0mm	86	%	ASTM D1003

Product Liability Clause: This information and our technical advise whether verbal, in writing or by way of trials, are given in good faith but without warranty. Our advice does not release you from the obligation to verify the information provided in our safety data and technical information sheets and to test the products as to their suitability for the intended use and processes. The application, use and processing of our products and the products manufactured by you on the basis of our technical advise are beyond our control and therefore entirely your own responsibility. Our products are sold in accordance with the current version of our Terms and Conditions of Sale. The high-tech material made of Typical Values Unit Standards

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High Impact Strength:

MAKROLON® Sheet AR is virtually unbreakable with 250 times the impact strength of float glass and 30 times that of acrylic.

Availability:

MAKROLON® AR sheets are available in:

Grades: AR both sides, UV 2 sides

Colour: Clear

Gauges: From 3.0mm to 12.7mm

Standard Size: 2440mm x 1220mm

Other sizes and thickness on request subject to conditions.

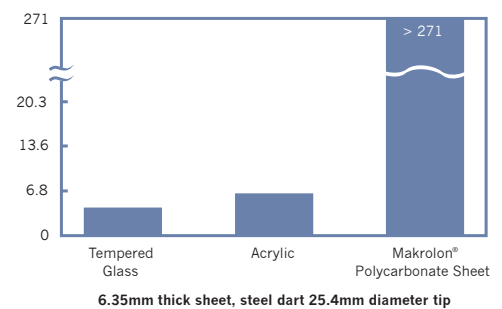
Cleaning and Maintenance:

Under normal conditions, MAKROLON® Sheet AR should be washed on a regular basis with mild solution of soap and warm water, using a soft cloth or sponge. To prevent water spots, thoroughly dry with a chamois or sponge. Do not use abrasive cleaners or sharp instruments such as razors or scrapers that may gouge the surface. For graffiti removal, organic solvents such as butyl cellosolve, kerosene, VM & P naphtha or mineral spirits work well. Methanol, denatured ethanol and isopropyl alcohol are also excellent cleansing agents. It is important to rinse off the surface thoroughly after cleaning.

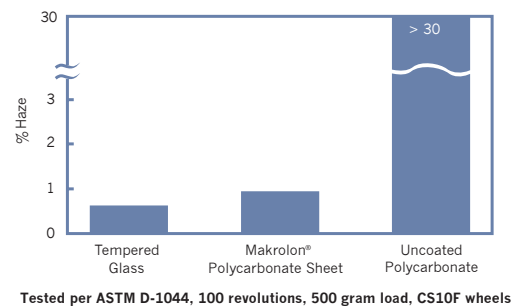
Performance Warranty:

Bayer MaterialScience Pty Ltd warrants the original purchasers of MAKROLON® Sheet AR, that the product is free from defects due to manufacture or workmanship. Request warranty for full details.

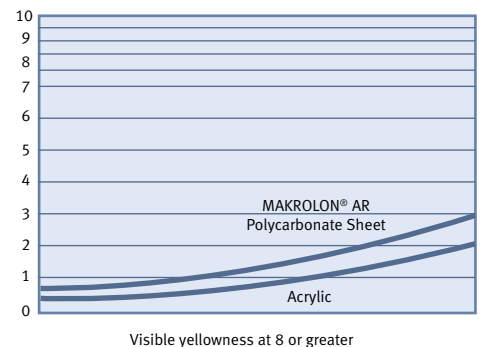
IMPACT RESISTANCE



TABER ABRSION



YELLOWNESS INDEX



LAS0337/DS/AR/Jul09

For more information please visit the web site or contact your local Bayer MaterialScience sales office.



ISO 9001

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