PLEXIGLAS®
THE ORIGINAL BY RÖHM

PLEXIGLAS®
Solid Sheet

PLEXIGLAS® Solar 0Z023

Product

PLEXIGLAS® Solar 0Z023 is an extruded acrylic sheet material (polymethyl methacrylate, PMMA) that is highly weather-resistant and transparent.

Properties

Besides the general properties of PLEXIGLAS® like

- high mechanical strength, surface hardness and scratch resistance
- ease of processing
- good thermoformability
- high heat deflection temperature
- greater impact strength than glass combined with much lighter weight

PLEXIGLAS® Solar 0Z023 possesses the following properties:

- UV transmission is specially adjusted to photovoltaics applications (PV, CPV),
- providing better energy conversion efficiency and module efficiency, and
- longer service life of photo cells, lenses and covers

Applications

Due to these properties PLEXIGLAS® Solar 0Z023 is suitable for the following applications

- Use in environment with high solar exposure
- Hot embossing of radial and linear Fresnel lenses for CPV/CSP applications

Processing

PLEXIGLAS® Solar 0Z023 can be machined with the same parameters and equipment as standard PLEXIGLAS®.

The following fabricating guidelines are available:

- Machining of PLEXIGLAS® (No. 311-1)
- Forming of PLEXIGLAS® (No. 311-2)
- Joining of PLEXIGLAS® (No. 311-3)
- Surface treatment of PLEXIGLAS® (No. 311-4)
- Fabricating tips of PLEXIGLAS® solid sheets (No. 311-5)

Product range

PLEXIGLAS® Solar sheets are supplied with PE masking film on both sides. The standard size for grade 0Z023 is 3,050 x 2,050 mm in thicknesses 3 and 4 mm.

Manufacturing / delivery on request.

We would be pleased to inform you on request about other sizes (e.g., greater lengths), cut-to-size sections, thicknesses, terms and conditions.

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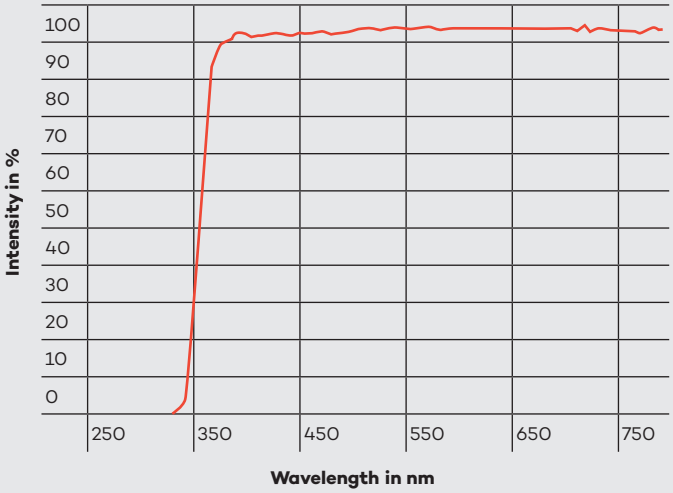
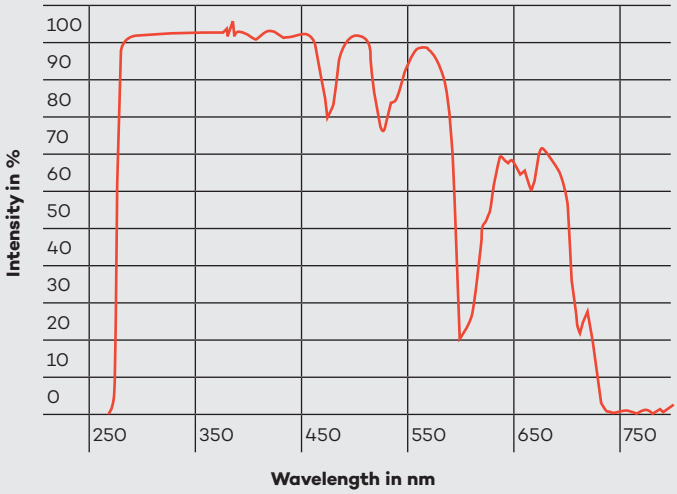
Technical Data				
Typical values (23 °C/50 % r. F.) (3 mm thickness)	**PLEXIGLAS® Solar 0Z023**	**Parameter**	**Unit**	**Test Method**
Mechanical Properties				
Tensile modulus	3300	1 mm/min	MPa	ISO 527
Stress @ break	77	5 mm/min	MPa	ISO 527
Strain @ break	5.5	5 mm/min	%	ISO 527
Charpy impact strenght	20	23 °C	KJ/m^2	ISO 179/1eU
Ball indentation hardness	183	-	MPa	ISO 2039-1
Thermal Properties				
Vicat softening temperature	108	B / 50	°C	ISO 306
Temp. of deflection under load	103	0,45 MPa	°C	ISO 75
Temp. of deflection under load	98	1,8 MPa	°C	ISO 75
Coeff. of linear therm. expansion	8	0 – 50 °C	E–5 / °K	ISO 11359
Building material class (according to Baustoffklasse DIN 4102)	B2	-	-	DIN 4102
Combustion behavior	Class 3	-	-	DIN EN 13501
Flammability UL 94	HB	1.6 mm	Class	IEC 707
Optical Properties				
Luminous transmittance	92	D65	%	ISO 13468-2
Haze	< 0.5	-	-	ASTM D1003
Refractive index	1.49	-	-	ISO 489
Other Properties				
Density	1.19	-	g/cm^3	ISO 1183
Behavior towards water				
Water absorption (24 hrs, 23 °C) from dry state; specimen 60 x 60 x 2 mm^3	38	-	-	ISO 62, Method 1
Max. weight gain during immersion	2.1	-	-	ISO 62, Method 1
Permeationskoeffizient für			$\frac{g\ cm}{cm^2\ h\ Pa}$	
Water vapour	$2.3 \cdot 10^{-10}$	-	-	-
N_2	$4.5 \cdot 10^{-15}$	-	-	-
O_2	$2.0 \cdot 10^{-14}$	-	-	-
CO_2	$1.1 \cdot 10^{-13}$	-	-	-
Air	$8.3 \cdot 10^{-15}$	-	-	-

Transmission in the UV and VIS Range
PLEXIGLAS® Solar 0Z023, sheet thickness 3 mm



Transmission in the UV, VIS and IR Range
PLEXIGLAS® Solar 0Z023, sheet thickness 3 mm



For further typical data please see the Technical Information of PLEXIGLAS® GS/XT (211-1).

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Acrylic Products

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