PLEXIGLAS® Sheet Solar 0Z023

Polymethyl Methacrylate Acrylic

Evonik Industries AG

Message:

PLEXIGLAS® Solar 0Z023 is an extruded acrylic sheet material (polymethyl methacrylate, PMMA) that is highly weather-resistant and transparent.
Special 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
Other Typical Properties
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
Applications
Covers for build-in photovoltaics
Hot embossing of radial and linear Fresnel lenses for CPV/CSP applications

General Information			
Features	Good Processability		
	Good Weather Resistance		
	High Hardness		
	High Strength		
	Scratch Resistant		
Uses	Lenses		
	Solar Panels		
Appearance	Clear/Transparent		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.19	g/cm³	ISO 1183
Water Absorption - 24 h, 23°C [1]	38.0	mg	ISO 62
Fire Rating	B2		DIN 4102
Weight Gain - during immersion [2]	< 2.1	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Ball Indentation Hardness	183	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3300	MPa	ISO 527-2/1
Tensile Stress (Break)	77.0	MPa	ISO 527-2/5
Tensile Strain (Break)	5.5	%	ISO 527-2/5
Impact	**Nominal Value**	**Unit**	**Test Method**

Charpy Unnotched Impact Strength (23°C)	20	kJ/m^2	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	103	°C	ISO 75-2/B
1.8 MPa, Unannealed	98.0	°C	ISO 75-2/A
Vicat Softening Temperature	108	°C	ISO 306/B
CLTE - Flow (0 to 50°C)	8.0E-5	cm/cm/°C	ISO 11359-2
Flammability	**Nominal Value**		**Test Method**
Flame Rating (1.60 mm)	HB		UL 94
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.490		ISO 489
Transmittance [3]	92.0	%	ISO 13468-2
Haze	< 0.50	%	ASTM D1003
NOTE			
1.	Method 1, specimen 60 x 60 x 2 mm^3		
2.	Method 1		
3.	D65		

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