

# ACRYLITE® Sheet Solar 0Z023

Polymethyl Methacrylate Acrylic  
Evonik Cyro LLC

Message:

ACRYLITE® 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 photovoltaic applications (PV, CPV),  
provides better energy conversion efficiency and module efficiency,  
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/cm <sup>3</sup>	ISO 1183
Water Absorption - 24h/23C <sup>1</sup>	38.0	mg	ISO 62
Fire Rating	B2		DIN 4102
Weight Gain - during immersion <sup>2</sup>	< 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 <sup>2</sup>	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/B50
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 <sup>3</sup> (3000 μm)	92.0	%	ISO 13468-2
Haze (3000 μm)	< 0.50	%	ASTM D1003
NOTE			
1.	Method 1		
2.	Method 1		
3.	D65		

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#### Recommended distributors for this material

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