

# Plexiglas® Solar IM20

聚甲基丙烯酸甲酯-丙烯酸

Evonik Industries AG

## Technical Data

### Product Description

PLEXIGLAS® Solar IM20 is an amorphous thermoplastic molding compound (PMMA).

Typical properties of PLEXIGLAS® molding compounds are:

- Good flow
- High mechanical strength, surface hardness and abrasion resistance
- High light transmission
- Very good weather resistance
- Easy to process
- High heat resistance

Special properties of PLEXIGLAS® Solar IM20 are:

- Adjusted transmission characteristics for photo voltaic applications (PV, CPV)
- Increase of power yield and module efficiency
- Prolonging lifetime of cells, lenses or covers.

Application:

Field of use is injection molding of optical and technical parts as well as extrusion of profiles and sheets.

Examples:

Covers for build-in photo voltaic, radial and linear Fresnel lenses for CPV/CSP applications.

### General

Features	<ul style="list-style-type: none"> <li>• 高强度</li> <li>• 高透過率</li> <li>• 良好的加工性能</li> </ul>	<ul style="list-style-type: none"> <li>• 良好的流动性</li> <li>• 耐候性, 良好</li> <li>• 耐磨损性, 良好</li> </ul>	<ul style="list-style-type: none"> <li>• 耐热性, 高</li> <li>• 无定形的</li> <li>• 硬度高</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• 光学应用</li> <li>• 镜头</li> </ul>	<ul style="list-style-type: none"> <li>• 片材</li> <li>• 太阳能电池板</li> </ul>	<ul style="list-style-type: none"> <li>• 型材</li> </ul>
Forms	<ul style="list-style-type: none"> <li>• 粒子</li> </ul>		
Processing Method	<ul style="list-style-type: none"> <li>• 挤出</li> <li>• 片材挤出成型</li> </ul>	<ul style="list-style-type: none"> <li>• 型材挤出成型</li> <li>• 注射成型</li> </ul>	

Physical	额定值 单位制	测试方法
Density	1.19 g/cm <sup>3</sup>	ISO 1183
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	3.00 cm <sup>3</sup> /10min	ISO 1133
Mechanical	额定值 单位制	测试方法
Tensile Modulus	3300 MPa	ISO 527-2/1
Tensile Stress (断裂)	77.0 MPa	ISO 527-2/5
Tensile Strain (断裂)	5.5 %	ISO 527-2/5
Impact	额定值 单位制	测试方法
Charpy Unnotched Impact Strength (23°C)	20 kJ/m <sup>2</sup>	ISO 179/1eU
Thermal	额定值 单位制	测试方法
Heat Deflection Temperature		
0.45 MPa, 未退火	103 °C	ISO 75-2/B
1.8 MPa, 未退火	98.0 °C	ISO 75-2/A
Glass Transition Temperature	117 °C	ISO 11357-2
Vicat Softening Temperature	108 °C	ISO 306/B50
CLTE - 流动 (0 到 50°C)	8.0E-5 cm/cm/°C	ISO 11359-2

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Optical	额定值 单位制	测试方法
Refractive Index	1.490	ISO 489
Transmittance <sup>3</sup>	92.0 %	ISO 13468-2
Haze	< 0.500 %	ASTM D1003

Injection	额定值 单位制
Drying Temperature	< 98 °C
Drying Time	2.0 到 3.0 hr
Processing (Melt) Temp	220 到 260 °C
Mold Temperature	60 到 90 °C