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XILOY™ SO2315

Technical Datasheet
Version number 03
2018

XILOY™ SO2315 is a transparent styrene-maleic-anhydride (SMA) modified PMMA injection molding resin designed for use as a functional substrate in diagnostics applications. It offers:

- built-in anhydride functionality
- easy processing, suitable for microfluidics
- dimensional stability up to 112°C
- good optical properties

Application areas

XILOY™ SO2315 is an injection molding resin designed for use as a functional substrate, for instance for Point-Of-Care diagnostics.
The built-in anhydride functionality of XILOY™ SO2315 enables a quick and reproducible attachment of "bio-anchors" (e.g. amino acids, peptides, proteins) employed in diagnostic tests.
Its good flow properties and excellent dimensional stability up to 112°C makes XILOY™ SO2315 a good choice for microfluidic devices.

Injection molding guidelines

XILOY™ SO2315 can be processed on injection molding machines with 3-zone general purpose screws for engineering thermoplastics.

An important processing parameter for XILOY™ SO2315 is melt temperature. Should this temperature become higher than 290°C, rotational speed, injection speed and back pressure have to be regulated so that the build-up of frictional heat in the melt is minimized during both plasticizing and injection.

If production is delayed longer than 15 minutes, the barrel temperature should be reduced by 50°C while the machine is not in use. Upon restarting, the barrel should be emptied first.

Injection molds

In general all common tool steels are suitable. For optical parts it is advised to use high polished mold surfaces.

Storage and handling

XILOY™ SO2315 can be added to the injection molding equipment through regular feeder systems.

Health and safety

All health related risks are mentioned in the Safety Data Sheet (SDS). Please contact: productstewardship@polyscope.eu to receive the SDS.

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Mechanical properties

	Unit	Typical value	Test method
Impact properties			
Charpy unnotched impact strength (23°C)	kJ/m^2	18	ISO 179/1eU
Tensile properties			
Tensile stress at break	N/mm^2	80	ISO 527-2
Elongation at break	%	3	ISO 527-2
E-modulus	N/mm^2	3500	ISO 527-2

Thermal properties

	Unit	Typical value	Test method
Vicat softening temperature	°C	112	ISO 306 (B)

Specific properties

	Unit	Typical value	Test method
Melt flow index at 220°C and 100N	dg/min	7	ISO 1133
Luminous transmittance	%	92	ASTM D1003

Recommended processing conditions

	Unit	Typical value
Pre-drying temperature	°C	80
Pre-drying time in desiccant-type drier	hrs	2-3
Melt temperature	°C	240-260
Mold temperature	°C	80-100
Shear rates	s^{-1}	200-800

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