Technical Data Sheet

Sustarin® H (Delrin®) black - ASTM

POM-H

Typical characteristics

- Good dimensional stability
- Low moisture absorption
- Good wear resistance

Typical industries

- Conveyor Technology & Automation
- Mechanical Engineering Industry
- Electronics

	Test method	Unit	Guideline value
General properties			
Density	ASTM D792	g / cm^3	1.42
Water Absorption	ASTM D570	%	0.7
Water Absorption 24 hours	ASTM D570	%	0.2
Mechanical properties			
Tensile Strength at yield 73°F	ASTM D638	psi	10500
Tensile Modulus	ASTM D638	psi	420000
Elongation at Break	ASTM D638	%	40
Flexural Strength	ASTM D790	psi	12000
Flexural Modulus	ASTM D790	psi	400000
Compressive Strength	ASTM D695	psi	16000
Rockwell Hardness	ASTM D785	M	94
Rockwell Hardness	ASTM D785	R	122
Shear Strength	ASTM D732	psi	9000
Izod Impact, Notched	ASTM D256	ft-lb/in	1.2
Coefficient of Friction, Dynamic			0.12
Thermal properties			
Thermal Conductivity		in/hr/ft^2 /°F	2.0
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F x10^{-5}	6.7
Melting Point		°F	347
Continuous Service Temperature, Air		°F	185

	Test method	Unit	Guideline value
Deflection Temperature at 1.8Mpa (264psi)	ASTM D648	°F	242
Deflection Temperature at 1.8Mpa (66psi)	ASTM D648	°F	290
Flammability, UL94		1/8 inch	HB
Electrical properties			
Dielectric constant	ASTM D150	1MHz	3.1
Dielectric strength	ASTM D149	V/mil	400
Surface resistivity	ASTM D257	Ω/cm	10^{16}
Compliance properties			
FDA			Yes
NSF			No
USDA			Yes

The short-term maximum application temperature only applies to very low mechanical stress for a few hours. The long-term maximum application temperature is based on the thermal ageing of plastics by oxidation, resulting in a decrease of the mechanical properties. This applies to an exposure to temperatures for at least 5.000 hours causing a 50% loss of the tensile strength from the original value (measured at room temperature). This value says nothing about the mechanical strength of the material at high application temperatures. In case of thick-walled parts, only the surface layer is affected by oxidation from high temperatures. With the addition of antioxidants, a better protection of the surface layer is achieved. In any case, the center area of the material remains unaffected. The minimum application temperature is basically influenced by possible stress factors like impact and/or shock under application. The values stated refer to an minimum degree of impact stress. The electrical properties as stated result from measurements on natural, dry material. With other colours (in particular black) or saturated material, there may be clear differences in the electrical properties. The data stated above are average values ascertained by statistical tests on a regular basis. They are in accordance with DIN EN 15860. They serve as information about our products and are presented as a guide to choose from our range of materials. This, however, does not include an assurance of specific properties or the suitability for particular application purposes that are legally binding. Since the properties also depend on the dimension of the semi-finished products and the degree of crystallization (e.g. nucleating by pigments), the actual values of the properties of a particular product may differ from the indicated values.