Technical Data Sheet

SustaABS - ASTM

ABS

Typical characteristics

- Low moisture absorption
- Good noise absorption properties
- High stiffness

Typical industries

- Aerospace
- Electronics
- Mechanical Engineering Industry

	Test method	Unit	Guideline value
General properties			
Density	ASTM D792	g / cm^3	1.04
Water Absorption	ASTM D570	%	0.7
Water Absorption 24 hours	ASTM D570	%	0.45
Dissipation Factor	ASTM D150	1MHz	0.015
Mechanical properties			
Tensile Strength at Yield	ASTM D638	psi	6100
Hardness	ASTM D2240	Shore D	74
Tensile Modulus	ASTM D638	psi	310000
Tensile Elongation	ASTM D638	%	2000
Flexural Strength	ASTM D790	psi	10500
Flexural Modulus	ASTM D790	psi	340000
Compressive Strength	ASTM D695	psi	7600
Rockwell Hardness	ASTM D785	R	102
Izod Impact, Notched	ASTM D256	ft-lb/in	8
Coefficient of Friction, Dynamic			0.35
Thermal properties			
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F x10^{-5}	5.6
Continuous Service Temperature, Air		°F	170
Deflection Temperature at 1.8Mpa (66psi)	ASTM D648	°F	230
Flammability, UL94		1/8 inch	HB
Electrical properties			

	Test method	Unit	Guideline value
Surface resistivity	ASTM D257	Ω/cm	$>10^{13}$
Compliance properties			
FDA			No
NSF			No
USDA			No

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.