ABS

ACRYLONITRILE BUTADIENE STYRENE

Material description

ABS is a (polymer mixture) blend of SAN and butadiene acrylonitrile rubber. This amorphous thermoplastic is rigid and tough even at low temperatures down to - 40 °C. ABS is characterised by its high hardness, good scratch resistance and high impact strength. Other advantages of ABS are its high surface and contact resistance with very low static charge. ABS can be painted and galvanised.

Conformities

RoHS, REACH

Physical properties	Test method	Value	Unit
Density	DIN EN ISO 1183-1	1.04	g/cm3
Water absorbtion	DIN EN ISO 62	0.3	%
Sliding friction			
Abrasion resistance			

Mechanical properties	Test method	Value	Unit
Yield stress	DIN EN ISO 527	38	MPa
Elongation at break	DIN EN ISO 527	50	%
Tensile modulus of elasticity	DIN EN ISO 527	2000	MPa
Notched impact strength	DIN EN ISO 179	25	kJ/m2
Shore Hardness D	DIN EN ISO 868	74	

Thermal properties	Test method	Value	Unit
Thermal conductivity	DIN 52612-2	0.17	W/(m*K)
Heat capacity	DIN 52612-1	1.2	kJ/(kg*K)
Coefficient of thermal expansion	DIN 53752	90	10^{-6*K}-1
Operating temperature short term		100	°C
Operating temperature long term		-40 bis 80	°C
Heat deflection temperature	DIN EN ISO 75 / A	80	°C
Flammability	UL 94, 3 mm	HB	

Electrical properties	Test method	Value	Unit
Volume resistivity	IEC 60093	10^{15}	Ω * cm
Surface resistivity	IEC 60093	10^{14}	Ω * cm
Dielectric strength	IEC 60243	20	kV/mm
Comparative tracking index (CTI)	IEC 60112	600	CTI

These technical data have been determined as average values by our suppliers from many individual measurements. In all measurements, the test specimens were tested in the dry state. We pass on the data with reservation. The table does not claim to be complete or correct. Material technology is subject to constant further development. No rights or guarantees can be derived from it. Own tests are necessary because the environmental and operating conditions (humidity, temperature, mechanical forces, radiation and chemicals, etc.) set limits in the application.

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