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Datasheet AE1100SW



AE1100 is a cast polyamide 6 heavy duty, high impact, and chemical resistance material for bigger parts. It has high wear resistance at low and middle speeds and performs especially well under harsh conditions such as contact with sand or dust. Due to its balanced mechanical properties and its exceptional machinability, it is the ideal engineering material for a wide range of applications.

Application

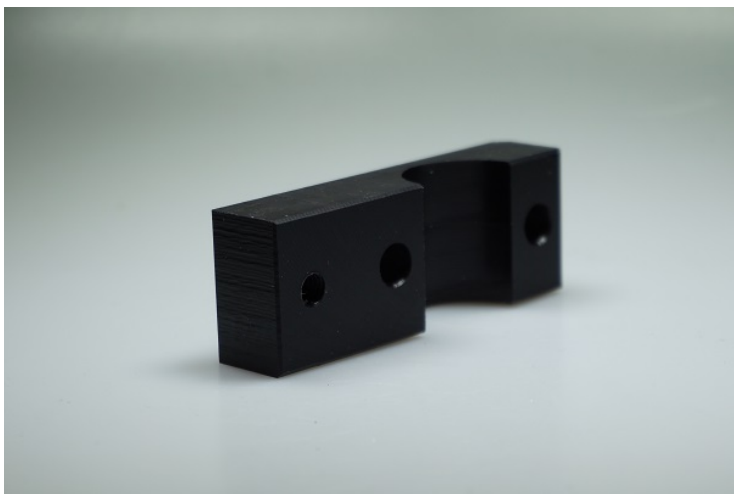
Construction material for mechanical applications with high load and long life

Material

Cast nylon polyamide 6.

Availablity

	Value	Unit
Rod diameters	30-800	mm
Tube inside diameter	30-840	mm
Tube outside diameter	50-880	mm
Length standard	1000/2000	mm
Sheet thickness	8-165	mm
Sheet size	1000-1220X1000-3050	mm





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AE1100SW - Specifications

Physical properties

	Test standard	Value	Unit
Density		1,15	g/cm³
Thermal conductivity	Method A	0,23	W/m°K
Specific heat capacity	IEC 1006	1,7	J/g.K
Moisture absorption at 23°C, 50% RH	ISO 62	2,2	%
Water absorption at 23 °C	ISO 62	6,5	%
Flammability	UL 94	HB	[-]

Mechanical properties

	Test standard	Value	Unit
Yield stress	ISO 527	80	MPa
Elongation at break	ISO 527	40	%
Modulus of elasticity in tension	ISO 527	3100	MPa
Bending modulus	Flexural test	3400	MPa
Flexural strength	ISO 178	140	MPa
Charpy impact strength +23°C	ISO 179/1eU	no break	kJ/m²
Charpy notched impact strength +23°C	ISO/1eA	>4	kJ/m²
Ball indentation hardness	ISO 2039	160	N/mm²
Compressive modulus		on request	

Thermal properties

	Test standard	Value	Unit
Min. working temperature		-40	°C
Max. working temperature		105	°C
Intermittent working temperature		170	°C
Heat distortion temperature		on request	
Melting temperature	ISO 3146	220	°C
Thermal coefficient of linear expansion	DINB 53752	7 - 8	1/K.10-5

Friction properties

	Test standard	Value	Unit

Electrical properties

	Test standard	Value	Unit
Dielectric constant	DIN 53483	3,7	[-]
Dielectric loss factor	DIN 53483	0,03	[-]
Dielectric strength	IEC 243	50	KV/mm
Dielectric constant at 1MHZ	IEC 250	3,7	[-]
Volume resistivity	IEC 93	10^{15}	Ω.cm
Surface resistivity	IEC 93	10^{13}	Ω

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Electrical properties

Resistance to tracking (CTI)	DIN EN 60112	600	[-]

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