POM-C-NAT

PSR Plastics
Components to Industry

Trade Name: Comco-POMC

DIN EN ISO 1043 designation: POM C

Modification: None

Colour: Natural -Whitish, Black, Blue

Properties	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g/cm³	1,41
Moisture Absorption			
Saturation in air of 23°C/50% RH	DIN EN ISO 62	%	0,2
Flammability acc.to UL 94 (Thickn. 3mm/6mm)	ISO 1210 (UL 94)		HB / HB
Mechanical Properties	***Test specimen - Dry**		
Yield point	DIN EN ISO 527	MPa	67
Elongation at break	DIN EN ISO 527	%	30
Tensile modulus of elasticity	DIN EN ISO 527	MPa	2800
Notched impact strength (Charpy)	ISO 179/1eA/Pendel 1J	kJ/m²	6
Ball indentation hardness	DIN EN ISO 2039-1	N/mm²	150
Shore - Hardness	DIN 53505	Skala D	81
Thermal Properties			
Melting temperature	ISO 11357	°C	165
Thermal conductivity	DIN 52612	W/(mK)	0,31
Specific thermal capacity	DIN 52612	kJ/(kgK)	1,5
Coefficient of linear thermal expansion	Average betw.20°C-60°C	$°C^{-1}$	110
Service temperature - long term		°C	-50 to 100
Service temperature - short-term, max.		°C	140
Heat deflection temperature, Method A:1,8 MPa	DIN EN ISO 75	°C	110
Electrical Properties			
Dielectric constant, 100 HZ	IEC 60250		3,8
Dielectric dissipation factor, 100 Hz	IEC 60250		0,002
Volume resistivity	IEC 60093	Ohm m	10^{13}
Surface resistivity	IEC 60093	Ohm	10^{13}
Comparative tracking index CTI, Sol. A	IEC 60112		600
Dielectric strength	IEC 60243	kV/mm	40

Application Examples
Gearwheels, Impellers, Bearings, Sliding Bearings, Seals, Tool Handles, Etc.

Remarks
The following applies to Polyamides:
Under the influence of moisture absorption, the mechanical properties change. The material becomes tougher and more resistant to impact, the modulus of elasticity declines. Depending on the environmental atmosphere, the temperature and the period of moisture absorption, only the surface layer is affected by alterations of property to a certain depth. On thick-walled parts, the center area remains unaffected. 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 a minimum degree of impact stress. The electrical properties as stated result from measurements on natural, dry material. With other colors (in particular black) or saturated material, there may be clear differences in the electrical properties. The values indicated result from numerous individual measurements for an approximation of the values and are to our today's knowledge. 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.

* The mechanical properties of fiber reinforced material were measured on injection molded samples, parallel to fiber direction. Special construction details of further material specifications on request.

This table is a valuable help in the choice of a material. The data listed here fall within the normal range of product properties. However, they are not guaranteed and they should not be used to establish material specification limits nor used alone as the basis of design.

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