Celanese
The chemistry inside innovation™

CELSTRAN® PA66-GF40-0101P10/11

PA66/6 Copolymer with 40% ash content
Material code according to ISO 1043-1: PA66

Nylon 66/6 Copolymer reinforced by 40 weight percent long glass fibers. The pellets are cylindrical and normally as well as the embedded fibers 10 mm long.

Parts molded of CELSTRAN have outstanding mechanical properties such as high strength and stiffness combined with high heat deflection. The notched impact strength is increased at elevated and low temperatures due to the fiber skeleton built in the parts. The long fiber reinforcement reduces creep significantly.

The very isotropic shrinkage in the molded parts minimizes the warpage.

Complex parts can be manufactured with high reproducibility by injection molding.

Can be used for substituting die cast metal with the advantage of Weight reduction, no corrosion problems, no post treatment.

Typical mechanical properties

	dry/cond.		
Tensile Modulus	12800 / 9000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	240 / 165	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.3 / 2.7	%	ISO 527-1/-2
Flexural Modulus	11500 / 8300	MPa	ISO 178
Flexural Strength	350 / 270	MPa	ISO 178
Charpy impact strength, 23°C	80 / 105	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	75 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	40 / 35	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	42 / -	kJ/m²	ISO 179/1eA
Izod impact strength, 23°C	72 / -	kJ/m²	ISO 180/1U
Izod impact strength, -30°C	65	kJ/m²	ISO 180/1U

Thermal properties

Melting temperature, 10°C/min	240	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	235	°C	ISO 75-1/-2
Temp. of deflection under load, 8 MPa	220	°C	ISO 75-1/-2

Other properties

Water absorption, 2mm	1.2	%	Sim. to ISO 62
Density	1460	kg/m³	ISO 1183

Injection

Drying Temperature	70 - 80	°C	
Drying Time, Dehumidified Dryer	2 - 4	h	
Processing Moisture Content	0.15	%	
Melt Temperature Optimum	300	°C	Internal
Screw tangential speed	0.1	m/s	
Max. mould temperature	90 - 120	°C	
Back pressure	3	MPa	
Injection speed	medium		

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塑料数据专家 www.ponci.com.cn/wxb/ +13538586433 +18816996168