

CELANYL® XS3 GF50 BK 9005/V/FA

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Compound designed for parts with high mechanical requirements, typically used to replace metal due to the high stiffness and strength, stable after conditioning. It shows better creep behavior and dimensional stability vs. an equivalent PA66 grade, with lower warpage and excellent surface finish. Suitable for drinking water applications.

Product information

Resin Identification	(PA66+PA6I/6T)-GF50	ISO 1043
Part Marking Code	>(PA66+PA6I/6T)-GF50<	ISO 11469
Continuous Service Temperature	120 °C	IEC 60216-1

Rheological properties

Moulding shrinkage range, parallel	0.1 - 0.4 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.4 - 0.6 %	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	17500 / 16500	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	240 / 210	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.8 / 3	%	ISO 527-1/-2
Flexural modulus	16000 / 14000	MPa	ISO 178
Flexural strength	380 / 300	MPa	ISO 178
Charpy impact strength, 23°C	100 / 95	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	95 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	13 / 14	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	11 / -	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	13 / 15	kJ/m ²	ISO 180/1A
Poisson's ratio	0.33 / 0.33 ^[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	235 / *	°C	ISO 75-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.6 / *	mm	IEC 60695-11-10
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94

Electrical properties

	dry/cond.		
Volume resistivity	1E12 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	32 / -	kV/mm	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112
Relative permittivity, printed circuits and boards, 2.5 GHz	4.1 / -		IEC 61189-2-721
Dissipation factor, printed circuits and boards, 2.5 GHz	0.0118 / -	E-4	IEC 61189-2-721

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1 / *	%	Sim. to ISO 62
Water absorption, 2mm	3.5 / *	%	Sim. to ISO 62
Density	1580 / -	kg/m ³	ISO 1183

Injection

Drying Recommended	yes
Drying Temperature	80 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.1 %
Melt Temperature Optimum	290 °C
Min. melt temperature	270 °C
Max. melt temperature	305 °C
Screw tangential speed	≤0.2 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	60 °C
Max. mould temperature	100 °C

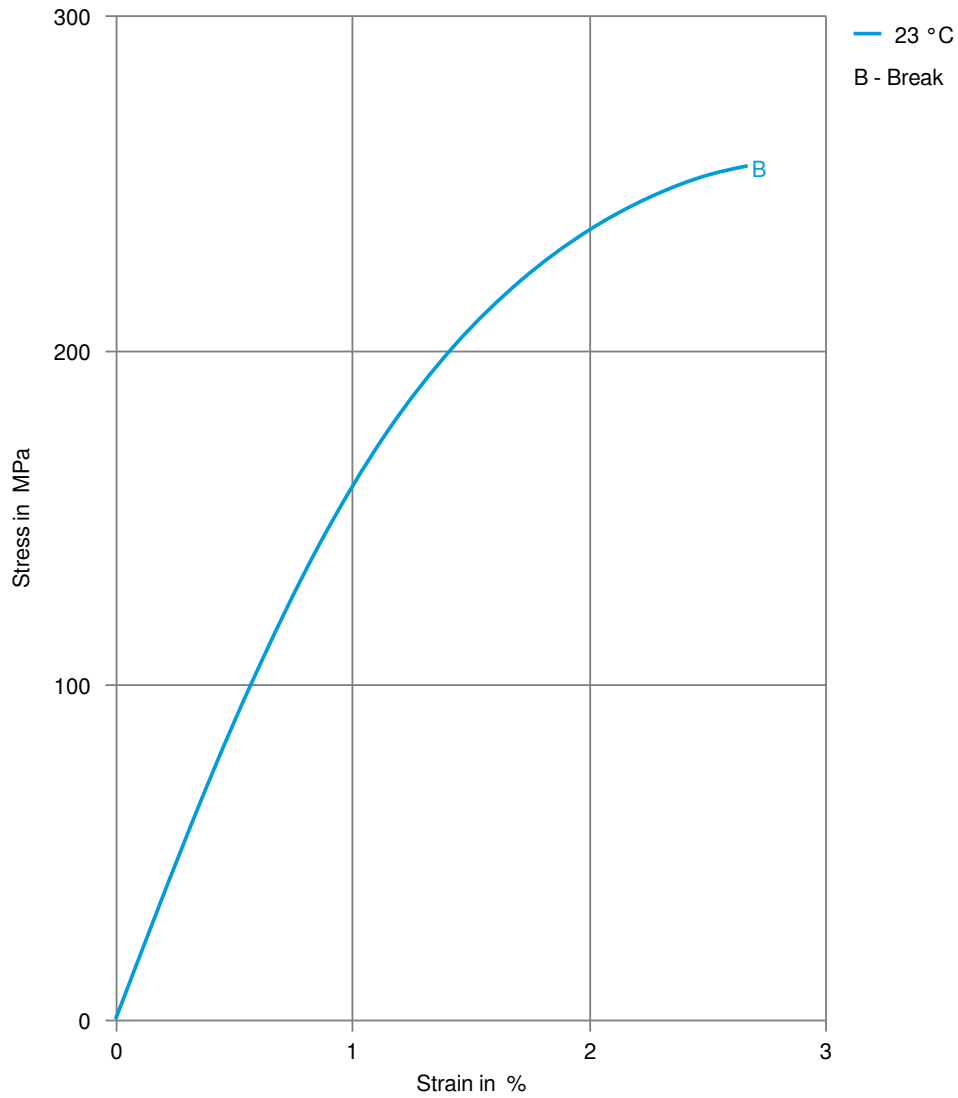
Characteristics

Processing	Injection Moulding
Special characteristics	High Gloss, Low Warpage, Improved creep

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Stress-strain (dry)



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Secant modulus-strain (dry)

