CELANYL® A3 GF20 BK 9005/U

Polyamide 66 compound, 20% glass fibre reinforced
General purpose grade, easy flowing, suitable for various applications.

Product information

Part Marking Code	>PA66-GF20<		ISO 11469

Rheological properties

Moulding shrinkage range, parallel	0.4 - 0.8	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.8 - 1.2	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	6900 / -	MPa	ISO 527-1/-2
Stress at break, 5mm/min	135 / -	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.6 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	40 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	5.5 / -	kJ/m²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	260	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	235	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	250	°C	ISO 75-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	UL 94

Other properties

Humidity absorption, 2mm	1.9	%	Sim. to ISO 62
Water absorption, 2mm	6.7	%	Sim. to ISO 62
Density	1280	kg/m³	ISO 1183

Additional information

Injection molding

The following conditions apply to a standard injection molding process. Machine temperatures: barrel 265-290°C (PA66), 235-270°C (PA6), nozzle and hot runners up to 300°C (up to 290°C products with flame retardants). Mold temperatures: 60-80°C, (80-100°C highly reinforced grades). Back pressure: typically, 5-10 bar (hydraulic pressure). Temperatures exceeding 300°C and long residence time could lead to additives degradation and brittleness of the material. In case of gas generation in the melt, please verify moisture content and processing temperatures. Usage of regrind is possible depending on the molded part characteristics. For further details, please refer to the document 'Instructions for injection molding' or contact our technical support team.

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Processing Texts

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Injection molding Preprocessing	The following conditions apply to a standard injection molding process. Machine temperatures: barrel 265-290°C (PA66), 235-270°C (PA6), nozzle and hot runners up to 300°C (up to 290°C products with flame retardants). Mold temperatures: 60-80°C, (80-100°C highly reinforced grades). Back pressure: typically, 5-10 bar (hydraulic pressure). Temperatures exceeding 300°C and long residence time could lead to additives degradation and brittleness of the material. In case of gas generation in the melt, please verify moisture content and processing temperatures. Usage of regrind is possible depending on the molded part characteristics. For further details, please refer to the document 'Instructions for injection molding' or contact our technical support team.
Injection molding Postprocessing	PA materials reach their final performance with a water content of about 1.5 to 3.5% by weight, depending on the type. This percentage corresponds to the point of equilibrium between the rates of absorption and desorption of moisture. After molding, in favorable environmental conditions, a part can quickly absorbs moisture up to 0.5-1.0%, while the equilibrium will be reached during its life. A conditioning treatment can accelerate further the initial water absorption of the molded parts. Conditioning is usually carried out in hot and humid environment (for example 50°C, 100% RH), inside climatic chambers. Slight dimensional variations (increase in volume due to the water absorbed) must be considered, especially in unfilled grades. Post-treatments of parts may also include the annealing (60-80°C in oven, up to four hours). This procedure can be useful to relax any internal stresses.