

CELANYL® A3 GF20 BK 9005/U

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

Product information

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| Part Marking Code | >PA66-GF20< | ISO 11469 |
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Rheological properties

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| 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/m ² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 5.5/- | kJ/m ² | ISO 179/1eA |

Thermal properties

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| 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

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

| | | |
|--------------------------|------------------------|----------------|
| Humidity absorption, 2mm | 1.9 % | Sim. to ISO 62 |
| Water absorption, 2mm | 6.7 % | Sim. to ISO 62 |
| Density | 1280 kg/m ³ | ISO 1183 |

Additional information

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| 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

Injection molding

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Injection molding Preprocessing

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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 absorb 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.