CELANYL® A3 H GF20 NC 1102/2

PA66-GF20 Celanese

Product Texts

General purpose grade with improved flexibility, suitable for dry as molded assembling.

Flammability @1.6mm nom. thickn.	HB	-

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
[C] Molding shrinkage, parallel	**0.6 / ***	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.8 / ***	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**6500 / -**	MPa	ISO 527
[C] Stress at break	**125 / -**	MPa	ISO 527
[C] Strain at break	**7 / -**	%	ISO 527

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Temp. of deflection under load, 1.80 MPa	**235 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**250 / ***	°C	ISO 75-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Water absorption	**6.3 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**1.8 / ***	%	Sim. to ISO 62
[C] Density	**- / 1260**	kg/m³	ISO 1183

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Applications
General Purpose

Delivery form
Granules, Natural Color

Regional Availability
North America, Europe, Asia Pacific

Other text information

Injection molding

PA materials, stocked in a moisture-proof packaging, can be processed without drying; however, it is always recommended drying the product that comes from a large package (e.g. Octabin). The moisture content suggested for the injection molding process should be lower than 0.15%, according to the grade and to the molded part characteristics. The materials containing flame retardants should have moisture content below 0.10%. Red phosphorous containing grades must always be dried below 0.08%. The drying time depends on the moisture content and the drying conditions. Typically, 4-8 hours at 80-90°C using dehumidified air (dew point of -20°C) are suitable conditions for a starting moisture content of 0.20%-0.40%.
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.
PA materials reach their final performance with a water content of about 1.5 to 3.5% by weight, depending on the type. This

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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.

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