

CELANYL® A3 HH GF20 NC 1102/HA

Polyamide 66 compound, 20% glass fibre reinforced, heat stabilized.

Designed for technical application in automotive, suitable for any application that require long term heat ageing resistance.

Product information

Part Marking Code

>PA66-GF20<

ISO 11469

Rheological properties

Moulding shrinkage range, parallel

0.5 %

ISO 294-4, 2577

Moulding shrinkage range, normal

0.9 %

ISO 294-4, 2577

Typical mechanical properties

dry/cond.

Tensile Modulus

7000/-

MPa

ISO 527-1/-2

Stress at break, 5mm/min

135/-

MPa

ISO 527-1/-2

Strain at break, 5mm/min

2.8/-

%

ISO 527-1/-2

Flexural Modulus

6000/-

MPa

ISO 178

Charpy impact strength, 23°C

40/-

kJ/m²

ISO 179/1eU

Izod notched impact strength, 23°C

6.5/-

kJ/m²

ISO 180/1A

Thermal properties

Temp. of deflection under load, 1.8 MPa

250 °C

ISO 75-1/-2

Temp. of deflection under load, 0.45 MPa

255 °C

ISO 75-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.

HB class

UL 94

Thickness tested

1.6 mm

UL 94

Burning Behav. at thickness h

HB class

UL 94

Thickness tested

3.2 mm

UL 94

Glow Wire Flammability Index, 0.75mm

650 °C

IEC 60695-2-12

Glow Wire Flammability Index, 3mm

650 °C

IEC 60695-2-12

FMVSS Class

B

ISO 3795 (FMVSS 302)

Electrical properties

dry/cond.

Volume resistivity

1E13/-

Ohm.m

IEC 62631-3-1

Surface resistivity

1E13/-

Ohm

IEC 62631-3-2

Electric strength

21/-

kV/mm

IEC 60243-1

Other properties

Humidity absorption, 2mm

2 %

Sim. to ISO 62

Water absorption, 2mm

6.5 %

Sim. to ISO 62

Density

1270 kg/m³

ISO 1183



CELANYL® A3 HH GF20 NC 1102/HA

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.

Processing Texts

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.

Injection molding Preprocessing

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%.

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,



CELANYL® A3 HH GF20 NC 1102/HA

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.

Other Approvals

Other Approvals

OEM	Specification	Additional Information
VW Group*	VW50127	* best fitting grade to PA66-5, not officially approved

