



# CELANYL® A3 HH GF20 NC 1102/HA CELANYL®

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

Part Marking Code         >PA66-GF20         ISO 1146           Continuous Service Temperature         140 °C         IEC 60216           Rheological properties           Moulding shrinkage, parallel         0.5/- %         ISO 294-4, 257           Moulding shrinkage, normal         0.9/- %         ISO 294-4, 257           Typical mechanical properties           Tensile modulus         7000/- MPa         ISO 527-1/-           Tensile stress at break, 5mm/min         135/- MPa         ISO 527-1/-           Tensile strain at break, 5mm/min         2.8/- %         ISO 527-1/-           Flexural modulus         6000/- MPa         ISO 17           Flexural strength         180/- MPa         ISO 17           Charpy impact strength, 23 °C         40/- kJ/m²         ISO 179/1e           Izod notched impact strength, 23 °C         6.5/- kJ/m²         ISO 180/1	ISO 1043 ISO 11469 IEC 60216-1  ISO 294-4, 2577 ISO 294-4, 2577  ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU ISO 180/1A
Resin Identification         PA66-GF20 / PA66-GF20          ISO 104 / ISO 1146	ISO 11469 IEC 60216-1 ISO 294-4, 2577 ISO 294-4, 2577 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Part Marking Code         >PA66-GF20         ISO 1146           Continuous Service Temperature         140 °C         IEC 60216           Rheological properties           Moulding shrinkage, parallel         0.5/- %         ISO 294-4, 257           Moulding shrinkage, normal         0.9/- %         ISO 294-4, 257           Typical mechanical properties           Tensile modulus         7000/- MPa         ISO 527-1/-           Tensile stress at break, 5mm/min         135/- MPa         ISO 527-1/-           Tensile strain at break, 5mm/min         2.8/- %         ISO 527-1/-           Flexural modulus         6000/- MPa         ISO 17           Flexural strength         180/- MPa         ISO 17           Charpy impact strength, 23 °C         40/- kJ/m²         ISO 179/1e           Izod notched impact strength, 23 °C         6.5/- kJ/m²         ISO 180/1	ISO 11469 IEC 60216-1 ISO 294-4, 2577 ISO 294-4, 2577 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Continuous Service Temperature  140 °C  Rheological properties  Moulding shrinkage, parallel  Moulding shrinkage, normal  0.5/-  Moulding shrinkage, normal  0.9/-  6/-  7/-  6/-  7/-  6/-  6/-  7/-  7	ISO 294-4, 2577 ISO 294-4, 2577 ISO 294-4, 2577 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Rheological properties  Moulding shrinkage, parallel Moulding shrinkage, normal  O.5/- Moulding shrinkage, normal  O.9/-  Moulding shrinkage, normal  ISO 294-4, 257  ISO 294-4, 257  Moulding shrinkage, normal  ISO 527-1/4  ISO 527-1/4  ISO 179/16  ISO 179/16  ISO 180/1	ISO 294-4, 2577 ISO 294-4, 2577 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Moulding shrinkage, parallel  Moulding shrinkage, normal  O.5/-  Moulding shrinkage, normal  O.9/-  W ISO 294-4, 257  ISO 294-4, 257  Typical mechanical properties  dry/cond.  Tensile modulus  Tensile stress at break, 5mm/min  135/-  Tensile strain at break, 5mm/min  2.8/-  Flexural modulus  6000/-  Flexural strength  180/-  Charpy impact strength, 23°C  ISO 179/1e  ISO 180/1	ISO 294-4, 2577  ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Moulding shrinkage, normal  0.9/- %  ISO 294-4, 257  Typical mechanical properties  Tensile modulus  7000/- MPa  ISO 527-1/- Tensile stress at break, 5mm/min  135/- MPa  ISO 527-1/- Tensile strain at break, 5mm/min  2.8/- %  ISO 527-1/- Flexural modulus  6000/- MPa  ISO 17  Flexural strength  180/- MPa  ISO 17  Charpy impact strength, 23°C  40/- kJ/m²  ISO 180/1	ISO 294-4, 2577  ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Typical mechanical properties  Tensile modulus  Tensile stress at break, 5mm/min  Tensile strain at break, 5mm/min  Tensile strain at break, 5mm/min  Tensile strain at break, 5mm/min  2.8/-  Flexural modulus  6000/-  MPa  ISO 527-1/-  Flexural strength  180/-  Charpy impact strength, 23°C  Izod notched impact strength, 23°C  Adv/-  Light MPa  ISO 527-1/-  MPa  ISO 17  ISO 179/1e  ISO 179/1e	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Tensile modulus 7000/- MPa ISO 527-1/- Tensile stress at break, 5mm/min 135/- MPa ISO 527-1/- Tensile strain at break, 5mm/min 2.8/- % ISO 527-1/- Flexural modulus 6000/- MPa ISO 17 Flexural strength 180/- MPa ISO 17 Charpy impact strength, 23°C 40/- kJ/m² ISO 179/1e Izod notched impact strength, 23°C 6.5/- kJ/m² ISO 180/1	ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Tensile stress at break, 5mm/min  Tensile strain at break, 5mm/min  135/-  Elexural modulus  6000/-  Flexural strength  Charpy impact strength, 23°C  ISO 527-1/-  MPa  ISO 527-1/-  MPa  ISO 527-1/-  MPa  ISO 17  MPa  ISO 17  MPa  ISO 17  ISO 17  ISO 179/1e  ISO 179/1e  ISO 180/1	ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Tensile strain at break, 5mm/min 2.8/- % ISO 527-1/- Flexural modulus 6000/- MPa ISO 17 Flexural strength 180/- MPa ISO 17 Charpy impact strength, 23°C 40/- kJ/m² ISO 179/1e Izod notched impact strength, 23°C 6.5/- kJ/m² ISO 180/1	ISO 527-1/-2 ISO 178 ISO 178 ISO 179/1eU
Flexural modulus 6000/- MPa ISO 17 Flexural strength 180/- MPa ISO 17 Charpy impact strength, 23°C 40/- kJ/m² ISO 179/1e Izod notched impact strength, 23°C 6.5/- kJ/m² ISO 180/1	ISO 178 ISO 178 ISO 179/1eU
Flexural strength 180/- MPa ISO 17 Charpy impact strength, 23°C 40/- $kJ/m^2$ ISO 179/1e Izod notched impact strength, 23°C 6.5/- $kJ/m^2$ ISO 180/1	ISO 178 ISO 179/1eU
Charpy impact strength, 23°C 40/- kJ/m² ISO 179/1e Izod notched impact strength, 23°C 6.5/- kJ/m² ISO 180/1	ISO 179/1eU
Izod notched impact strength, 23°C 6.5/- kJ/m² ISO 180/1	
	ISO 180/1A
Poisson's ratio 0.35/- <sup>[C]</sup>	
[C]: Calculated	
Thermal properties dry/cond.	
Temperature of deflection under load, 1.8 MPa 250/* °C ISO 75-1/-	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa 255/* °C ISO 75-1/	ISO 75-1/-2
Flammability dry/cond.	
·	IEO 0000E 44 40
	IEC 60695-11-10 IEC 60695-11-10
	IEC 60695-11-10
	IEC 60695-11-10
	IEC 60695-2-12
	IEC 60695-2-12
	ISO 3795 (FMVSS 302)
	,
Electrical properties dry/cond.	
·	IEC 62631-3-1
	IEC 62631-3-2
	IEC 60243-1
Comparative tracking index 450/- IEC 6011	IEC 60112
Physical/Other properties dry/cond.	
Humidity absorption, 2mm 2/* % Sim. to ISO 6	Sim. to ISO 62
Water absorption, 2mm 6.5/* % Sim. to ISO 6	01 1 100 00
Density 1270/- kg/m <sup>3</sup> ISO 118	

Printed: 2025-05-29 Page: 1 of 2

Revised: 2024-08-16 Source: Celanese Materials Database





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## Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.15	%
Melt Temperature Optimum	295	°C
Min. melt temperature	285	°C
Max. melt temperature	305	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	70	°C
Max. mould temperature	120	°C

#### Characteristics

Processing Injection Moulding

Delivery form Granules

Special characteristics Heat stabilised or stable to heat

### **Automotive**

OEM STANDARD ADDITIONAL INFORMATION

VW Group VW 50127 \*Best Fitting Grade To PA66-5, Not Officially Approved

Printed: 2025-05-29 Page: 2 of 2

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