

CELANYL® A3 H J20 BK 9005/C/UV

PA66, unfilled, heat ageing stabilized, good low temperature impact resistance *Toughened grade for outstanding impact resistance over a wide temperature range.*

Part Marking Code>PA66-I<	Product information			
Viscosity number Moulding shrinkage range, parallel 155 cm ³ /g ISO 307, 1157, 1628 Moulding shrinkage range, normal 1.6 - 2.0 % ISO 294.4, 2577 Typical mechanical properties dry/cond. Tensile Modulus 2000/- MPa ISO 527-1/-2 Yield stress, 50mm/min 50/- MPa ISO 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Flexural Modulus 100 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 500 527-1/-2 ISO 507-1/-2 ISO 507-1/-2 ISO 507-1/-2 ISO 507-1/-2 ISO 178/16U Charpy inpact strength, 23°C N/- KJ/m² ISO 180/1A ISO 180/1A ISO 180/1A ISO 75-1/-2 ISO 75-1/-2 ISO 75-1/-2 ISO 75-1/-2 ISO 75-1/-2	Part Marking Code	>PA66-I<		ISO 11469
Viscosity number Moulding shrinkage range, parallel 155 cm ³ /g ISO 307, 1157, 1628 Moulding shrinkage range, normal 1.6 - 2.0 % ISO 294.4, 2577 Typical mechanical properties dry/cond. Tensile Modulus 2000/- MPa ISO 527-1/-2 Yield stress, 50mm/min 50/- MPa ISO 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Flexural Modulus 100 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 500 527-1/-2 ISO 507-1/-2 ISO 507-1/-2 ISO 507-1/-2 ISO 507-1/-2 ISO 178/16U Charpy inpact strength, 23°C N/- KJ/m² ISO 180/1A ISO 180/1A ISO 180/1A ISO 75-1/-2 ISO 75-1/-2 ISO 75-1/-2 ISO 75-1/-2 ISO 75-1/-2	Rheological properties			
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Moulding shrinkage range, normal 1.6 - 2.0 % ISO 294-4, 2577 Typical mechanical properties dry/cond. ISO 527-1/-2 Tensile Modulus 2000/- MPa ISO 527-1/-2 Strain at break, 50mm/min 50/- MPa ISO 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Flexural Strength 64/- MPa ISO 178 Charpy impact strength, 23°C N/- KJ/m² ISO 179/1eU Charpy notched impact strength, 23°C 70/- KJ/m² ISO 180/1A Izod notched impact strength, 23°C 50/- KJ/m² ISO 180/1A Izod notched impact strength, 40°C 18 KJ/m² ISO 180/1A Izod notched impact strength, 40°C 18 KJ/m² ISO 11357-1/-3 Terme. of deflection under load, 1.8 MPa 75 °C ISO 173/1-51 ISO 75-1/-2 Flammability Thickness tested 3.2 mm UL 94	,		U U	
Tensile Modulus 2000/- MPa ISO 527-1/-2 Yield stress, 50mm/min 50/- MPa ISO 527-1/-2 Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 527-1/-2 Flexural Strength 64/- MPa ISO 178 Flexural Strength 64/- MPa ISO 178 Charpy impact strength, 23°C N/- kJ/m² ISO 179/1eA Izod notched impact strength, 23°C 50/- kJ/m² ISO 180/1A Izod notched impact strength, 23°C 50/- kJ/m² ISO 180/1A Izod notched impact strength, -40°C 18 kJ/m² ISO 180/1A Izod notched impact strength, -40°C 18 kJ/m² ISO 180/1A Izod notched impact strength, -40°C 18 kJ/m² ISO 180/1A Izod notched impact strength, -40°C 18 kJ/m² ISO 180/1A Izod notched impact strength, -40°C 18 kJ/m² ISO 180/1A				
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Strain at break, 50mm/min >35/- % ISO 527-1/-2 Flexural Modulus 2020/- MPa ISO 178 Flexural Strength 64/- MPa ISO 178 Charpy impact strength, 23°C N/- kJ/m² ISO 179/1eU Charpy notched impact strength, 23°C 70/- kJ/m² ISO 179/1eU Charpy notched impact strength, 23°C 50/- kJ/m² ISO 179/1eU Lod notched impact strength, 23°C 50/- kJ/m² ISO 180/1A Izod notched impact strength, -40°C 18 kJ/m² ISO 180/1A Thermal properties . ISO 175/-1/-3 ISO 180/1A Melting temperature, 10°C/min 265 °C ISO 11357-1/-3 ISO 75-1/-2 Temp. of deflection under load, 1.8 MPa 75 °C ISO 75-1/-2 ISO 75-1/-2 Flammability Thickness tested 3.2 mm UL 94 Electrical properties dry/cond. UL 94 Volume resistivity 1E13/- Ohm.m IEC 62631-3-1 Other properties . . Sim. to ISO 62				
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Charpy notched impact strength, 23°C70/-kJ/m²ISO 179/1eAIzod notched impact strength, 23°C50/-kJ/m²ISO 180/1AIzod notched impact strength, -40°C18kJ/m²ISO 180/1AThermal propertiesMelting temperature, 10°C/min265°CISO 11357-1/-3Temp. of deflection under load, 1.8 MPa75°CISO 75-1/-2Temp. of deflection under load, 0.45 MPa160°CISO 75-1/-2FlammabilityThickness tested3.2 mmUL 94Electrical propertiesVolume resistivity1E13/-Ohm.mIEC 62631-3-1Other propertiesHumidity absorption, 2mm1.7 %Sim. to ISO 62Sim. to ISO 62	Flexural Strength	64/-	MPa	ISO 178
Izod notched impact strength, 23°C50/-kJ/m²ISO 180/1AIzod notched impact strength, -40°C18kJ/m²ISO 180/1AThermal propertiesMelting temperature, 10°C/min265°CISO 11357-1/-3Temp. of deflection under load, 1.8 MPa75°CISO 75-1/-2Temp. of deflection under load, 0.45 MPa160°CISO 75-1/-2FlammabilityThickness tested3.2 mmUL 94Electrical propertiesVolume resistivity1E13/-Ohm.mIEC 62631-3-1Other propertiesHumidity absorption, 2mm1.7 %Sim. to ISO 62Sim. to ISO 62	Charpy impact strength, 23°C	N/-	kJ/m²	ISO 179/1eU
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Thermal properties Melting temperature, 10° C/min 265 °C ISO 11357-1/-3 Temp. of deflection under load, 1.8 MPa 75 °C ISO 75-1/-2 Temp. of deflection under load, 0.45 MPa 160 °C ISO 75-1/-2 Flammability Thickness tested 3.2 mm UL 94 Electrical properties dry/cond. UL 94 Volume resistivity 1E13/- Ohm.m IEC 62631-3-1 Other properties 1.7 % Sim. to ISO 62 Water absorption, 2mm 7 % Sim. to ISO 62	Izod notched impact strength, 23°C	50/-		ISO 180/1A
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Temp. of deflection under load, 1.8 MPa75 °CISO 75-1/-2Temp. of deflection under load, 0.45 MPa160 °CISO 75-1/-2Flammability Thickness tested3.2 mmUL 94Electrical properties Volume resistivitydry/cond.IEC 62631-3-1Other properties Humidity absorption, 2mm1.7 % 7 %Sim. to ISO 62 Sim. to ISO 62	Thermal properties			
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Humidity absorption, 2mm1.7 %Sim. to ISO 62Water absorption, 2mm7 %Sim. to ISO 62	Volume resistivity	1E13/-	Ohm.m	IEC 62631-3-1
Water absorption, 2mm7 %Sim. to ISO 62	Other properties			
Water absorption, 2mm7 %Sim. to ISO 62	Humidity absorption, 2mm	1.7	%	Sim. to ISO 62
	• •	1070	kg/m³	ISO 1183



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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 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,





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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.