

TECHNYL® C 218 V30 BLACK 21N

Polyamide 6
Solvay Engineering Plastics

Message:

TECHNYL® C 218 V30 Black 21N is a polyamide 6, reinforced with 30% of glass fiber, heat stabilized, for injection moulding. The product offers an excellent combination between thermal and mechanical properties.

General Information				
UL YellowCard		E44716-235523		
Filler / Reinforcement		Glass fiber reinforced material, 30% filler by weight		
Additive		heat stabilizer		
Features		Heat Stabilized - Inorganic		
		Good dimensional stability		
		Good liquidity		
		Good demoulding performance		
Uses		Electrical/Electronic Applications		
		Connector		
		Application in Automobile Field		
Agency Ratings		EC 1907/2006 (REACH)		
		UL QMFZ2		
RoHS Compliance		RoHS compliance		
Appearance		Black		
		Natural color		
Forms		Particle		
Processing Method		Injection molding		
Multi-Point Data		Isothermal Stress vs. Strain (ISO 11403-1)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Resin ID (ISO 1043)		PA6-GF30		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.36	--	g/cm ³	ISO 1183/A
Water Absorption				ISO 62
23°C, 24 hr	1.1	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.2	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	10000	6000	MPa	ISO 527-2/1A

Tensile Strength				
Fracture, 23°C	170	--	MPa	ASTM D638
Fracture, 23°C	180	115	MPa	ISO 527-2/1A
Tensile Elongation				
Fracture, 23°C	3.5	--	%	ASTM D638
Fracture, 23°C	3.2	6.5	%	ISO 527-2
Flexural Modulus				
23°C	8900	--	MPa	ASTM D790
23°C	8500	4900	MPa	ISO 178
Flexural Strength				
23°C	255	--	MPa	ASTM D790
23°C	250	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	10	18	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				
23°C	75	90	kJ/m ²	ISO 179/1eU
23°C	70	--	kJ/m ²	ISO 179/1fU
Notched Izod Impact				
23°C	130	--	J/m	ASTM D256
23°C	9.0	19	kJ/m ²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	218	--	°C	ISO 75-2/Bf
1.8 MPa, not annealed	205	--	°C	ASTM D648
1.8 MPa, not annealed	208	--	°C	ISO 75-2/Af
Melting Temperature	222	--	°C	ISO 11357-3
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14	1.0E+12	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+13	ohms·cm	IEC 60093
Dielectric Strength (2.00 mm)	--	22	kV/mm	IEC 60243-1
Relative Permittivity	3.80	4.50		IEC 60250
Dissipation Factor	0.020	0.090		IEC 60250
Comparative Tracking Index				
				IEC 60112
Solution a	600	600	V	IEC 60112
Solution B	475	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.40 mm)	HB	--		UL 94
Glow Wire Flammability Index (1.6 mm)				
	650	--	°C	IEC 60695-2-12

Oxygen Index	23	--	%	ISO 4589-2
Injection	Dry	Unit		
Drying Temperature	80		°C	
Suggested Max Moisture	0.20		%	
Rear Temperature	230 - 235		°C	
Middle Temperature	235 - 240		°C	
Front Temperature	240 - 250		°C	
Mold Temperature	60 - 90		°C	
Injection instructions				

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point mini -20°C. Recommended time 2-4h Injection Advice:

For reinforced polyamide, Solvay recommends the use of steel with a high content of Carbon and purified for polishing to avoid or limit the abrasion. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (DIN Norm) or X160CrMoV12 (EN Norm) - 1.2601 /1.2379 (DIN Norm). For Mould Temperature, in the case of parts where the surface roughness is required we can recommend a temperature of 90°C to 120°C with an optimum at 105°C.

The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design

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