

TECHNYL® A 221T1 NATURAL S

Polyamide 66
Solvay Engineering Plastics

Message:

TECHNYL® A 221T1 Natural S is an unfilled polyamide 66, with a special crystallizing agent for very fast cycles, with improved thermal stability, for injection moulding. This grade offers a good combination between primary properties of the unreinforced polyamide 66 and processing properties leading to increased productivity. These performances are associated with excellent dimensional stability and good rigidity of moulded parts. It is designed to be used in food contact applications.

General Information				
Features		Good dimensional stability		
		Fast molding cycle		
		Good liquidity		
		Good demoulding performance		
		Excellent appearance		
Uses		Connector		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS compliance		
Appearance		Natural color		
Forms		Particle		
Processing Method		Injection molding		
Resin ID (ISO 1043)		PA66		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm ³	ISO 1183/A
Water Absorption				ISO 62
23°C, 24 hr	1.1	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.9	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3500	1600	MPa	ISO 527-2/1A
Tensile Stress				ISO 527-2/1A
Yield, 23°C	95.0	60.0	MPa	ISO 527-2/1A
Fracture, 23°C	90.0	40.0	MPa	ISO 527-2/1A
Tensile Strain (Break, 23°C)	6.5	100	%	ISO 527-2
Flexural Modulus (23°C)	3400	1500	MPa	ISO 178
Flexural Stress (23°C)	120	50.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0	12	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	--		ISO 179/1eU

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	195	--	°C	ISO 75-2/Bf
1.8 MPa, not annealed	85.0	--	°C	ISO 75-2/Af
Melting Temperature	263	--	°C	ISO 11357-3
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+15	1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+16	ohms·cm	IEC 60093
Dielectric Strength (2.00 mm)	27	26	kV/mm	IEC 60243-1
Relative Permittivity	2.90	3.20		IEC 60250
Dissipation Factor	0.030	0.080		IEC 60250
Comparative Tracking Index				IEC 60112
Solution a	600	600	V	IEC 60112
Solution B	500	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.8 mm	V-2	--		UL 94
1.6 mm	V-2	--		UL 94
Glow Wire Flammability Index (1.6 mm)	700	--	°C	IEC 60695-2-12
Oxygen Index	26	--	%	ISO 4589-2
Injection	Dry	Unit		
Drying Temperature	80		°C	
Suggested Max Moisture	0.20		%	
Rear Temperature	265 - 275		°C	
Middle Temperature	270 - 280		°C	
Front Temperature	280 - 285		°C	
Mold Temperature	60 - 80		°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 unfilled polyamide, Solvay recommends the use of high alloy steel with a weak chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (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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