TECHNYL® A 221 NATURAL-1

Polyamide 66

Solvay Engineering Plastics

Message:

TECHNYL® A 221 Natural-1 is an unfilled polyamide 66, for injection moulding, with a special crystallizing agent, for fast cycles. 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.

General Information	
UL YellowCard	E44716-235575
Features	Good dimensional stability Fast molding cycle Good liquidity Good demoulding performance Excellent appearance
Uses	Connector
Agency Ratings	UL QMFZ2
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/cm³	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)	3200	1700	MPa	ISO 527-2/1A
Tensile Strength				
Yield, 23°C	98.0	--	MPa	ASTM D638
Yield, 23°C	95.0	65.0	MPa	ISO 527-2/1A
Fracture, 23°C	90.0	45.0	MPa	ISO 527-2/1A
Tensile Elongation				
Fracture, 23°C	15	--	%	ASTM D638
Fracture, 23°C	20	> 100	%	ISO 527-2
Flexural Modulus				
23°C	3200	--	MPa	ASTM D790
23°C	3150	1400	MPa	ISO 178

Flexural Strength				
23°C	120	120	MPa	ASTM D790
23°C	125	55.0	MPa	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	4.0	12	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Notched Izod Impact (23°C)	80	--	J/m	ASTM D256
Unnotched Izod Impact Strength (23°C)	60	--	kJ/m²	ISO 180/1U
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, not annealed	200	--	°C	ISO 75-2/Bf
1.8 MPa, not annealed	80.0	--	°C	ASTM D648
1.8 MPa, not annealed	90.0	--	°C	ISO 75-2/Af
Melting Temperature	262	--	°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
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 2-4hInjection 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

Recommended distributors for this material

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