

TECHNYL® A 205F BLACK 651

Polyamide 66
Solvay Engineering Plastics

Message:

TECHNYL® A 205F Black 651 is an unreinforced polyamide 66 for injection moulding. This grade offers two main advantages: excellent filling qualities and UL 94 V2 under 0.4 mm. It is particularly suitable for the moulding of long parts with thin wall sections

General Information				
UL YellowCard		E44716-235549		
Features		Fast molding cycle		
		Good liquidity		
		Good demoulding performance		
Uses		Large household appliances and small household appliances		
		Application in Automobile Field		
Agency Ratings		EN 45545		
		UL QMFZ2		
RoHS Compliance		RoHS compliance		
Appearance		White		
		Black		
		Grey		
		Natural color		
Forms		Particle		
Processing Method		Injection molding		
Multi-Point Data		Isothermal Stress vs. Strain (ISO 11403-1)		
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	1.2	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.8	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3200	1400	MPa	ISO 527-2/1A
Tensile Strength				
Yield, 23°C	80.0	--	MPa	ASTM D638
Yield, 23°C	80.0	50.0	MPa	ISO 527-2/1A
Fracture, 23°C	70.0	45.0	MPa	ISO 527-2/1A

Tensile Strain				
Yield, 23°C	4.0	10	%	ISO 527-2
Fracture, 23°C	25	--	%	ASTM D638
Fracture, 23°C	30	> 100	%	ISO 527-2
Flexural Modulus				
23°C	3350	--	MPa	ASTM D790
23°C	3000	1500	MPa	ISO 178
Flexural Strength				
23°C	125	--	MPa	ASTM D790
23°C	110	50.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.0	10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Notched Izod Impact (23°C)	5.0	10	kJ/m ²	ISO 180
Unnotched Izod Impact (23°C)	45.0 kJ/m ²	No Break		ASTM D256
Unnotched Izod Impact Strength (23°C)	No Break	No Break		ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	205	--	°C	ISO 75-2/Bf
1.8 MPa, not annealed	65.0	--	°C	ISO 75-2/Af
Melting Temperature	263	--	°C	ISO 11357-3
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	5.0E+15	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+15	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	550	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.40 mm	V-2	--		UL 94
0.8 mm	V-2	--		UL 94
1.6 mm	V-2	--		UL 94
Glow Wire Flammability Index (1.6 mm)	850	--	°C	IEC 60695-2-12

Oxygen Index	29	--	%	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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