

TECHNYL STAR® S 218 MT40 NATURAL

Polyamide 6
Solvay Engineering Plastics

Message:

TECHNYL STAR® S 218 MT40 Natural is based on a patented high flow polyamide 6 resin (TechnylStar), reinforced with 40% mineral filler, heat stabilized, for injection moulding. This grade offers good mechanical properties and is characterized by a high fluidity of the melt.

General Information				
Filler / Reinforcement		Mineral filler, 40% filler by weight		
Additive		heat stabilizer		
Features		Heat Stabilized - Inorganic		
		Excellent appearance		
		Low warpage		
Uses		Handle		
		Application in Automobile Field		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS compliance		
Appearance		Natural color		
Forms		Particle		
Processing Method		Injection molding		
Multi-Point Data		Isothermal Stress vs. Strain (ISO 11403-1)		
Resin ID (ISO 1043)		PA6-MD40		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.45	--	g/cm ³	ISO 1183/A
Water Absorption (23°C, 24 hr)	0.72	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	6000	2400	MPa	ISO 527-2/1A
Tensile Strength				
Yield, 23°C	75.0	55.0	MPa	ASTM D638
Fracture, 23°C	7.00	22.0	MPa	ASTM D638
Fracture, 23°C	90.0	55.0	MPa	ISO 527-2/1A
Tensile Strain (Break, 23°C)	8.0	34	%	ISO 527-2
Flexural Modulus (23°C)	5500	1850	MPa	ISO 178
Flexural Stress (23°C)	150	65.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.0	9.0	kJ/m ²	ISO 179/1eA

Charpy Unnotched Impact Strength				
23°C	120	100	kJ/m²	ISO 179/1eU
23°C	150	330	kJ/m²	ISO 179/1fU
Notched Izod Impact (23°C)	5.0	8.0	kJ/m²	ISO 180
Unnotched Izod Impact (23°C)	100	245	kJ/m²	ASTM D256
Unnotched Izod Impact Strength (23°C)	100	200	kJ/m²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	186	--	°C	ISO 75-2/Bf
1.8 MPa, not annealed	90.0	--	°C	ISO 75-2/Af
Melting Temperature	221	--	°C	ISO 11357-3
Flammability	Dry	Conditioned	Test Method	
Flame Rating				UL 94
0.8 mm	HB	--	UL 94	
1.6 mm	HB	--	UL 94	
3.2 mm	HB	--	UL 94	
Injection	Dry	Unit		
Drying Temperature	80			°C
Suggested Max Moisture	0.20			%
Rear Temperature	230 - 235			°C
Middle Temperature	235 - 245			°C
Front Temperature	245 - 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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