PRODUCT INFORMATION

TAROLOX GFR 5

PBT medium viscosity 25% glass fibres reinforced, heat stabilized, halogen free flame retardant UL94 V0, good flame proofing also at low thickness, good flow, good mechanical and thermal properties. High CTI value.

ISO short	ISO 1043: PBT GF25 FR(40)
Form	Pellets
UL file	E143048

Key Features

- Good impact - stiffness balance
- Light natural colour
- Designed for injection moulding applications
- Improved heat resistance
- Halogen free
- Glass fibres reinforced
- Flame retardant
- Low density
- Antimony trioxide free

Availability

- LP: laser printable
- L: UV stabilized
- All colours

Compliance

- UL94 V0 approved all colours at 0,4 - 0,75 - 1,5 - 3,0 mm. UL746 B approved.

Process

- INJECTION MOULDING

Application

- Power tools
- Household
- Electronic
- Electrical
- Connectors
- Building
- Automotive

Property	Method	Unit	Value	Condition	State
ELECTRICAL					
Tracking Resistance (CTI - Method A)	IEC 60112	Volt	525		
PHYSICAL					
Density (+23°C)	ISO 1183	g/cm^3	1,51		

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Granule Humidity	Internal method	%	<0,05	
Water Absorption (24h / +23°C)	ISO 62	%	0,04	
Water Absorption at Saturation	ISO 62	%	0,22	
Mould Shrinkage (Parallel)	Internal method	%	0,3-0,5	
Mould Shrinkage (Normal)	Internal method	%	0,5-0,8	
Melting temperature (DSC)	ISO 11357	°C	225	
MECHANICAL				
Tensile Modulus	ISO 527-1,2	MPa	9300	Speed 1 mm/min
Elongation at Break	ISO 527-1,2	%	2,4	Speed 50 mm/min
Tensile Break Strength	ISO 527-1,2	MPa	93	Speed 50 mm/min
Flexural Modulus	ISO 178	MPa	8100	Speed 1 mm/min
Flexural Break Strength	ISO 178	MPa	135	Speed 1 mm/min
IZOD Notched Impact	ASTM D256	J/m	42	-20°C
IZOD Notched Impact	ASTM D256	J/m	62	+23°C
IZOD Notched Impact (+23°C)	ASTM D256	kJ/m^2	5,7	
CHARPY Notched Impact (+23°C)	ISO 179/1eA	kJ/m^2	5,2	
CHARPY Unnotched Impact (+23°C)	ISO 179/1eU	kJ/m^2	43	
CHARPY Unnotched Impact (-25°C)	ISO 179/1eU	kJ/m^2	38	
THERMAL				
Softening Temperature - 5 kg (VST/B/50)	ISO 306	°C	207	50°C / h
Deflection Temperature 1,80 MPa (HDT A)	ISO 75A	°C	210	120°C / h
Ball Pressure Test	IEC 60695-10-2	°C	215	
FLAMMABILITY				
Flame Behaviour (0,4 mm)	UL94	Class	V0	UL approved
Flame Behaviour (0,75 mm)	UL94	Class	V0	UL approved
Flame Behaviour (1,5 mm)	UL94	Class	V0	UL approved
Flame Behaviour (3,0 mm)	UL94	Class	V0	UL approved

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Glow Wire Flammability Index-GWFI (1 mm)	IEC 60695-2-12	°C	960
Glow Wire Ignition Temperature-GWIT (1 mm)	IEC 60695-2-13	°C	775

INJECTION MOULDING	**Value**
Drying Temperature (Circulating Air Oven)	80 - 120°C
Drying Temperature (Desiccant Dryer)	80 - 120°C
Drying Time (Circulating Air Oven)	3 - 6 h
Drying Time (Desiccant Dryer)	2 - 4 h
Suggested Max Moisture	< 0,04%
Suggested Max Regrind	< 20%
Melt Temperature	250 - 270°C
Feed Temperature	60°C
Rear Temperature	235°C
Middle Temperature	245°C
Front Temperature	255°C
Nozzle Temperature	260°C
Mould Temperature	60 - 100°C
Injection Rate	Medium to Fast
Injection Pressure	40 - 100 Mpa
Packing Pressure	30 - 80 Mpa
Back Pressure	0,5 - 1 Mpa
Screw Revolving Speed	70 rpm @ Diameter 60 mm
Screw Revolving Speed	95 rpm @ Diameter 45 mm
Screw Revolving Speed	140 rpm @ Diameter 30 mm
Screw Revolving Speed	220 rpm @ Diameter 20 mm
Screw Revolving Speed	300 rpm @ Diameter 15 mm
Cushion	2 - 6 mm
Screw L/D Ratio	18 - 22
Screw Compression Ratio	2:1 - 2,5:1
Vent Depth	0,02 mm

Notes During processing, a dehumidifying hopper dryer is recommended at a temperature of 60 to 80°C.