



PRODUCT INFORMATION

**TAROLOX 10 G4 X0**

PBT medium viscosity 20% glass fibres reinforced, flame retardant UL94 V0, good flow, good surface appearance, good mechanical and thermal properties, high dimensional stability.

**ISO short Form** ISO 1043: PBT-GF20 FR(17)  
**Form** Pellets  
**UL file** E143048

**Key Features**

- Good impact - stiffness balance
- Light natural colour
- Designed for injection moulding applications
- Glass fibres reinforced
- Flame retardant
- Good flowability
- Good dimensional stability

**Availability**

- W: lubricated
- LP: laser printable
- L: UV stabilized
- H: heat stabilized
- All colours

**Compliance**

- UL94 V0 approved all colours at 0,97 mm. UL746 B approved. IMQ T180 approved for lampholders.

**Process**

- INJECTION MOULDING

**Application**

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

Property	Method	Unit	Value	Condition	State
<b>ELECTRICAL</b>					
Volume Resistivity	IEC 60093	Ohm cm	> 10E15		
Dielectric Strength	IEC 60243-1	kV/mm	24	2 mm	
Dissipation Factor Frequency	IEC 60250	-	0,020		
Dielectric Constant	IEC 60250	-	3,6		
Tracking Resistance (CTI - Method A)	IEC 60112	Volt	250		

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Tracking Resistance (CTI - Method B)	IEC 60112	Volt	175M
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**PHYSICAL**

Density (+23°C)	ISO 1183	g/cm <sup>3</sup>	1,58	
Filler content	ISO 3451	%	20	850°C - 1 h
Granule Humidity	Internal method	%	< 0,05	
Water Absorption (24h / +23°C)	ISO 62	%	0,05	
Water Absorption at Saturation	ISO 62	%	0,25	
Mould Shrinkage (Parallel)	Internal method	%	0,4 - 0,6	
Mould Shrinkage (Normal)	Internal method	%	0,6 - 0,9	
Melting temperature (DSC)	ISO 11357	°C	225	

**MECHANICAL**

Tensile Modulus	ISO 527-1,2	MPa	8000	Speed 1 mm/min
Elongation at Break	ISO 527-1,2	%	3	Speed 50 mm/min
Tensile Break Strength	ISO 527-1,2	MPa	110	Speed 50 mm/min
Flexural Modulus	ISO 178	MPa	7500	Speed 1 mm/min
Flexural Break Strength	ISO 178	MPa	165	Speed 1 mm/min
IZOD Notched Impact (+23°C)	ASTM D256	J/m	65	
CHARPY Notched Impact (+23°C)	ISO 179/1eA	kJ/m <sup>2</sup>	5,5	

**THERMAL**

Softening Temperature - 1 kg (VST/A/50)	ISO 306	°C	215	50°C / h
Softening Temperature - 5 kg (VST/B/50)	ISO 306	°C	210	50°C / h
Deflection Temperature 1,80 MPa (HDT A)	ISO 75A	°C	205	120°C / h
Deflection Temperature 0,45 MPa (HDT B)	ISO 75B	°C	215	120°C / h
Ball Pressure Test	IEC 60695-10-2	°C	215	
Continuous service temperature (20.000 h)	UL746 B	°C	90 (130H)	
Continuous service temperature (short term)	UL746 B	°C	130 (160H)	
Coefficient of linear thermal expansion (parallel)	ISO 11359-1,-2	K <sup>-1</sup>	3x10E(-5)	-30°C /+30°C

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**FLAMMABILITY**

Flame Behaviour (0,97 mm)	UL94	Class	V0	UL approved
Flame Behaviour (1,6 mm)	UL94	Class	V0	
Flame Behaviour (3,2 mm)	UL94	Class	V0	
Glow Wire Flammability Index-GWFI (2 mm)	IEC 60695-2-12	°C	960	
Oxygen index	ASTM D2863	%	31	

**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 Re grind	< 10%
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

*The listed data are in the normal range of product properties, they should not be used to establish specification nor as the basis of design. Values are valid for natural coloured version only.*

Unless specified to the contrary, the given values have been established on standardized test specimens at room temperature. These values are for natural colour only. The figures should be regarded as guide values only and not as binding minimum values. Please note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mold/die, the processing conditions, pigments and any other additives.

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Screw Compression Ratio 2:1 - 2,5:1

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Vent Depth 0,02 mm

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