

TECACOMP® PEEK TRM X black 4004

Polyetheretherketone

Ensinger GmbH

Message:

Main features
very good bearing and wear properties
Target Industries
automotive industry
mechanical engineering

General Information			
Filler / Reinforcement	Carbon fiber reinforced material		
Additive	Lubricant		
Features	Good wear resistance		
	Lubrication		
Uses	Application in Automobile Field		
Appearance	Dark gray		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.61	g/cm ³	
Apparent Density	0.66	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (380°C/5.0 kg)	18	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	14.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Transverse flow	0.64	%	ISO 294-4
Flow	0.26	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	< 0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	12500	MPa	ISO 527-2/50
Tensile Stress	155	MPa	ISO 527-2/50
Tensile Strain (Break)	1.8	%	ISO 527-2/50
Flexural Modulus ¹	10300	MPa	ISO 178
Flexural Stress ²	190	MPa	ISO 178
Compressive Modulus	4100	MPa	ISO 604/1
Compressive Stress	185	MPa	ISO 604/5
Flexural Strain ³	2.1	%	ISO 178
Service Temperature			
long term	260	°C	

short term	300	°C	
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength	28	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	335	°C	ISO 75-2/B
1.8 MPa, not annealed	315	°C	ISO 75-2/A
Glass Transition Temperature	143	°C	DIN 53765
Melting Temperature	343	°C	DIN 53765
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 55°C	1.5E-5	cm/cm/°C	ISO 11359-2
Flow: 200 to 300°C	2.8E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	3.7E-5	cm/cm/°C	ISO 11359-2
Horizontal: 200 to 300°C	1.2E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity			DIN EN 821
-- ⁴	0.70	W/m/K	DIN EN 821
-- ⁵	1.0	W/m/K	DIN EN 821
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.6E+5	ohms	DIN EN 61340
Volume Resistivity	1.7E+8	ohms·cm	DIN EN 61340
Flammability	Nominal Value	Unit	Test Method
Flammability Classification	V-0		IEC 60695-11-10, -20
Injection	Nominal Value	Unit	
Drying Temperature	140 - 180	°C	
Drying Time	4.0 - 6.0	hr	
Suggested Max Moisture	0.020	%	
Processing (Melt) Temp	360 - 400	°C	
Mold Temperature	160 - 200	°C	
NOTE			
1.	2.0 mm/min		
2.	2.0 mm/min		
3.	2 mm/min		
4.	Through-plane		
5.	In-plane		

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