

TECACOMP® PET TRM black 9415 - Compounds

Chemical Designation

PET (Polyethylene terephthalate)

Colour

black

Density

1.5 g/cm³

Fillers

carbon fibres, PTFE

Main features

→ very good bearing and wear properties

Target Industries

→ automotive industry

→ mechanical engineering

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	50 mm/min	14500	MPa	DIN EN ISO 527-1	
Tensile strength	50 mm/min	175	MPa	DIN EN ISO 527-1	
Elongation at break	50 mm/min	2,0	%	DIN EN ISO 527-1	
Impact strength (Charpy)		25	kJ/m ²	DIN EN ISO 179-1eU	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		70	°C	DIN 53765	
Melting temperature		255	°C	DIN 53765	
Heat distortion temperature	HDT A	235	°C	ISO-R 75 Method A	
Heat distortion temperature	HDT B	255	°C	ISO-R 75 Method B	
Service temperature	long term	110	°C	-	
Service temperature	short term	170	°C	-	
Other properties	parameter	value	unit	norm	comment
Molding shrinkage	longitudinal	0,24	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	0,79	%	DIN EN ISO 294-4	
Melt flow index (MFI)	280 °C / 5 kg	85	g/10 min	DIN EN ISO 1133	
Bulk density		0,67	g/cm ³	EN ISO 60	
Processing parameter	parameter	value	unit	norm	comment
Cylinder/processing temperature		260 - 280	°C	-	
Mould temperature		130 - 160	°C	-	
Material temperature		270 - 280	°C	-	

→ This material can be processed as a thermoplastic taking the normal technical provisions into account. The above mentioned information refers exclusively to the injection moulding process.

→ Processing should be carried out as gently as possible, in order to maintain the maximum fibre length in the component. Back pressure and injection rate should be adjusted to the component geometry accordingly. The optimum processing temperature depends upon the respective geometry of the moulded part and can be different from machine to machine.

Predrying	parameter	value	unit	norm	comment
Permissible residual moisture content		< 0,02	%	-	
Drying temperature		< 120	°C	-	
Drying time		3 - 6	h	-	

→ In order to achieve optimum mechanical properties, pre-drying of the material is recommended with the parameters mentioned above.

→ Granulate should preferably be stored in dry rooms at normal temperatures and be protected from direct sunlight.

Our information and statements reflect to current state of our knowledge and shall inform about the products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for the use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests on injection moulded samples, dry as moulded. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensinger-online.com. Technical changes reserved.