

TECACOMP PPS TRM XS black 1014938 - Compounds

Chemical Designation

PPS (Polyphenylensulfide)

Colour

black

Density

1.47 g/cm³

Fillers

carbon fibres, solid lubricant

Main features

→ very good bearing and wear properties

Target Industries

→ automotive industry
→ mechanical engineering

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength	50 mm/min	135	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)	50 mm/min	22500	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)	50 mm/min	0,5	%	DIN EN ISO 527-1	
Compression strength	5 mm/min	155	MPa	EN ISO 604	
Compression modulus	1 mm/min	4650	MPa	EN ISO 604	
Impact strength (Charpy)		18	kJ/m ²	DIN EN ISO 179-1eU	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		90	°C	DIN 53765	
Melting temperature		280	°C	DIN 53765	
Heat distortion temperature	HDT A	280	°C	ISO-R 75 Method A	
Heat distortion temperature	HDT B	285	°C	ISO-R 75 Method B	
Service temperature	short term	260	°C	-	
Service temperature	long term	230	°C	-	
Thermal expansion (CLTE)	longitudinal (at 23 - 80 °C)	9	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	transverse (at 23 - 80 °C)	47	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal conductivity	in-plane	1,1	W/(K*m)	DIN EN 821	
Thermal conductivity	through-plane	0,7	W/(K*m)	DIN EN 821	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
volume resistivity		6,2 x 10 ¹	Ω*m	DIN EN ISO 3915	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	23 °C / 50 % relative humidity up to saturation	< 0,1	%	DIN EN ISO 62	(1) No listing at UL (Yellow Card).
Molding shrinkage	longitudinal	0,13	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	0,64	%	DIN EN ISO 294-4	
Flammability (UL94)		V0		DIN IEC 60695-11-10; 1)	
Melt flow index (MFI)	316 °C / 2,16 kg	35	g/10 min	DIN EN ISO 1133	
MVR	316 °C / 2,16 kg	29	cm ³ /10 min	DIN EN ISO 1133	
Bulk density		0,55	g/cm ³	EN ISO 60	
<i>Processing parameter</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Cylinder/processing temperature		300 - 350	°C	-	
Mould temperature		140 - 160	°C	-	
Material temperature		335 - 360	°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.

<i>Pre-drying</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Permissible residual moisture content		< 0,05	%	-	
Drying temperature		140 - 150	°C	-	
Drying time		4 - 6	h	-	

→ To achieve optimum mechanical properties, it is recommended to pre-dry the material with the above mentioned parameters.

→ Information on storage and shelf life: The granules must be stored in dry, normally tempered rooms and in closed containers. For moisture-sensitive materials, the granules must be sealed airtight. Protection against direct sunlight must be guaranteed. The granules are usually subject to the requirements of no shelf life limitation. Shelf Life may be limited by some additives.

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