TECACOMP PP HTE PW black 1014974 - Compounds

Chemical Designation
PP (Polypropylene)

Colour
black

Density
1.96 g/cm^3

Fillers
graphite

Main features
- high electrical conductivity
- high thermal conductivity
- very good chemical resistance

Target Industries
- bipolar plates for fuel cells
- hydrogen industry
- separator plates for redox-flow batteries

Mechanical properties	*parameter*	*value*	*unit*	*norm*		*comment*
Flexural strength		48	MPa	DIN EN ISO 178		
Thermal properties	***parameter***	***value***	***unit***	***norm***		***comment***
Glass transition temperature		0	°C	-	1)	(1) literature value (2) literature value (3) literature value (4) literature value
Melting temperature		165	°C	-	2)	
Heat distortion temperature		148	°C	ISO-R 75 Method A		
Service temperature	short term	-30 - 130	°C	-	3)	
Service temperature	long term	-30 - 90	°C	-	4)	
Thermal expansion (CLTE)	at -30 - 30 °C	8	10^{-6} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	at 30 - 60 °C	11	10^{-6} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	at 60 - 90 °C	14	10^{-6} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	at 90 - 130 °C	17	10^{-6} K^{-1}	DIN EN ISO 11359-1;2		
Thermal conductivity	in-plane	66	W/(K*m)	ISO 22007-4:2008		
Thermal conductivity	through-plane	20	W/(K*m)	ISO 22007-4:2008		
Electrical properties	***parameter***	***value***	***unit***	***norm***		***comment***
Specific electrical conductivity	in-plane	168	S/cm	DIN EN ISO 3915		
volume resistance		5,9 x 10^{-3}	Ω*cm	DIN EN ISO 3915		
Other properties	***parameter***	***value***	***unit***	***norm***		***comment***
Water absorption	23 °C / 50 % relative humidity up to saturation	< 0,1	%	DIN EN ISO 62		

→ Please refer to the separately enclosed processing guidelines for detailed processing instructions.

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