Preliminary Data Sheet

Copper filled PLA
Latest revision: May 2015

Properties	Test methods	Units	copperFill
Physical properties			
Specific gravity	ISO 1183	g/cm^3	4,0
Water absorption at saturation, 23 °C	ISO 62	%	1,8
Humidity absorption, 23 °C/50 % r.h.	ISO 62	%	0,3
Mould shrinkage (flow direction, 3 mm)	ISO 2577	%	0,15 - 0,35
Mechanical properties			
Tensile strength (max.)	ISO 527	MPa	25
Elongation at break	ISO 527	%	3 – 10
Flexural strength	ISO 178	MPa	40
Flexural modulus	ISO 178	GPa	7,0
IZOD impact strength, notched	ISO 180/1eA	kJ/m^2	5,5
IZOD impact strength, unnotched	ISO 180/1eU	kJ/m^2	10
Thermal properties			
Heat distortion temperature (1,81 MPa)	ISO 75	°C	-
Relative temperature index, 3 mm, with impact	UL 746B	°C	-
Coefficient of linear thermal expansion	ISO 11359	$K\text{-}1 \cdot 10^{-5}$	-
Flammability			
Burning behaviour	IEC 60695-11-10	-	HB @ 3,2 mm
UL recognition	UL94	-	-
Electrical properties			
Surface resistivity	ASTM D257	/sq	10^{11}
Comparative tracking index	IEC 60112	V	-
Glow wire rating, 1,6 mm	IEC 695-2-1	°C	-

Processing conditions (injection moulding)

Drying conditions (dehumidifying drier)	:	4 Hours @ 60 °C
Maximum allowable moisture content	:	0,05 %
Melt temperature	:	160 - 230 °C
Mould temperature	:	20 - 60 °C
Screw speed	:	0,1 - 0,2 m/s
Back pressure	:	0 - 1,0 MPa
Injection pressure	:	Keep to a minimum
Injection speed	:	Fast ram speed
Hold pressure	:	Keep to a minimum

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