

## Preliminary Data Sheet

Stainless steel filled PLA

Latest revision: September 2016

Properties	Test methods	Units	steelFill
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### *Physical properties*

Specific gravity	ISO 1183	g/cm <sup>3</sup>	3,13
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	23
Elongation at break	ISO 527	%	1 - 3
Flexural strength	ISO 178	MPa	30
Flexural modulus	ISO 178	GPa	3,0
IZOD impact strength, notched	ISO 180/1eA	kJ/m <sup>2</sup>	4,5
IZOD impact strength, unnotched	ISO 180/1eU	kJ/m <sup>2</sup>	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-1·10 <sup>-5</sup>	-

### *Flammability*

Burning behaviour	IEC 60695-11-10	-	HB @ 3,2 mm
UL recognition	UL94	-	-

### *Electrical properties*

Surface resistivity	ASTM D257	Ω/sq	-
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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