Technical Data Sheet

BADATECH HT® | PEEK 2111 CF20 S1

HIGH-PERFORMANCE POLYMER

20% carbon fibre filled polyetheretherketone (PEEK), for thermally and/or chemically highly stressed components

Properties	Test conditions	Test method	Unit	dry as molded
Mechanical Properties				
Tensile Modulus	23°C, 1 mm/Min	ISO 527-1/2	MPa	15500
Tensile Strength at yield	23°C, 50 mm/Min	ISO 527-1/2	MPa	-
Tensile strain at yield	23°C, 50 mm/Min	ISO 527-1/2	%	-
Nominal strain at break	23°C, 50 mm/Min	ISO 527-1/2	%	-
Tensile stress at break	23°C, 5 mm/Min	ISO 527-1/2	MPa	190
Tensile strain at break	23°C, 5 mm/Min	ISO 527-1/2	%	2.4
Flexural Modulus	23°C	ISO 178	MPa	-
Flexural Strength	23°C	ISO 178	MPa	-
Charpy Impact Strength	23°C -30°C	ISO 179/1eU ISO 179/1eU	kJ/m² kJ/m²	52 -
Charpy Notched Impact Strength	23°C -30°C	ISO 179/1eA ISO 179/1eA	kJ/m² kJ/m²	10 -
Izod Notched Impact Strength	23°C -30°C	ISO 180/1A ISO 180/1A	kJ/m² kJ/m²	- -
Ball indentation hardness	358 N	ISO 2039-1	MPa	-
Thermal Properties				
Melting temperature	10 K/min	ISO 3146	°C	343
Temperature of deflection under load	0,45 MPa 1,8 MPa 8 MPa	ISO 75-1/2 ISO 75-1/2 ISO 75-1/2	°C °C °C	- 285 -
Coefficient of linear thermal expansion	parallel across	ISO 11359-2 ISO 11359-2	E-4/K E-4/K	- -
Thermal conductivity	Test plate 2 mm	DIN 52612-1	W/(m*K)	-
Maximum service temperature (50% decrease in tensile strength)	some hours 20.000 h	IEC-60216 IEC-60216	°C °C	- -
Flammability		UL94 UL94 UL94 UL94	Wall thickness mm Rating Wall thickness mm Rating	1.5 V-0 - -
Glow wire test GWIT		IEC-60695-2-13 IEC-60695-2-13 IEC-60695-2-13 IEC-60695-2-13	Wall thickness mm Temperature °C Wall thickness mm Temperature °C	- - - -
Glow wire test GWFI		IEC-60695-2-12 IEC-60695-2-12 IEC-60695-2-12 IEC-60695-2-12	Wall thickness mm Temperature °C Wall thickness mm Temperature °C	2 960 - -
Electrical Properties				
Relative Permittivity	1 MHz	IEC-62631-2-1	-	-
Dissipation Factor	1 MHz	IEC-62631-2-1	E-4	-
Spec. Volume Resistivity	-	IEC-62631-3-1	Ohm*cm	-

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Spec. Surface Resistivity	-	IEC-62631-3-2	Ohm	<10E5
Dielectric Strength	-	IEC-60243-1	kV/mm	-
Comparative Tracking Index (CTI)	-	IEC-60112	V	-
Other Data				
Water absorption	23°C, Saturation	ISO 62	%	-
Moisture absorption	23°C, 50% r.h.	ISO 62	%	-
Density	23°C	ISO 1183	g/cm³	1.33
Melt Volume Rate (MVR) 	Value Temperature Test Load	ISO 1133 ISO 1133 ISO 1133	cm³/10min °C kg	- - -
Processing injection molding				
Melt temperature			°C	370 - 390
Mold temperature			°C	180 - 210
Guide Value Moisture			%	< 0.02
Drying temperature			°C	150
Guide Value Drying time			h	3

Issue date 23.06.2023

Legend

- = not tested
NB = No break

Based on our current state of knowledge, this data represents reference values and, unless otherwise stated, stands for uncoloured material. Therefore, it does not constitute a warranty of certain properties, more particularly it is no material specification. It is the responsibility of the processors to check the suitability of the material for a particular application as well as compliance with statutory regulations and intellectual property rights. The data stated above may be modified at any time without prior notice. The information does not imply any contractual obligation on our part, any liability is expressly excluded.