Technical Data Sheet

BADATRON® | PPS CF20 S3

PPS-CF20

Ultra high viscosity PPS-compound with high toughness, 20% carbon fiber reinforcement

Properties	Test conditions	Test method	Unit	dry as molded
Mechanical Properties				
Tensile Modulus	23°C, 1 mm/Min	ISO 527-1/2	MPa	18400
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	175
Tensile strain at break	23°C, 5 mm/Min	ISO 527-1/2	%	1.1
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	49 -
Charpy Notched Impact Strength	23°C -30°C	ISO 179/1eA ISO 179/1eA	kJ/m² kJ/m²	- -
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	280
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	270 210 -
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	1.6 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	- - - -
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	<1.0E3

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Properties	Test conditions	Test method	Unit	dry as molded
Spec. Surface Resistivity	-	IEC-62631-3-2	Ohm	<1.0E3
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	1.42
Melt Volume Rate (MVR) Value Temperature Test Load	 Value Temperature Test Load	 ISO 1133 ISO 1133 ISO 1133	 cm³/10min °C kg	 17 315 5
Processing injection molding				
Melt temperature			°C	325 - 340
Mold temperature			°C	135 - 150
Guide Value Moisture			%	< 0.02
Drying temperature			°C	150
Guide Value Drying time			h	2

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