



# BADAMID® | PPA-GP GF45 HHC

PPA-GF45

45% glass fibers reinforced, high heat stabilized injection moulding grade based on a polyphthalamide, hydrolysis resistant

Properties	Test conditions	Test method	Unit	dry as molded	conditioned 23 °C, 50 % r.F.
<b>Mechanical Properties</b>					
Tensile Modulus	23°C, 1 mm/Min	ISO 527-1/2	MPa	14500	13000
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 yield	23°C, 50 mm/Min	ISO 527-1/2	%	-	-
Tensile stress at break	23°C, 5 mm/Min	ISO 527-1/2	MPa	210	195
Tensile strain at break	23°C, 5 mm/Min	ISO 527-1/2	%	1,8	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	kJ/m <sup>2</sup> kJ/m <sup>2</sup>	60	-
		ISO 179/1eU		-	-
Charpy Notched Impact Strength	23°C -30°C	ISO 179/1eA	kJ/m <sup>2</sup> kJ/m <sup>2</sup>	10	-
		ISO 179/1eA		-	-
Izod Notched Impact Strength	23°C -30°C	ISO 180/1A	kJ/m <sup>2</sup> kJ/m <sup>2</sup>	-	-
		ISO 180/1A		-	-
Ball indentation hardness	358 N	ISO 2039-1	MPa	-	-
<b>Thermal Properties</b>					
Melting temperature	10 K/min	ISO 3146	°C	310	
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	285	
			°C	270	
			°C	-	
Coefficient of linear thermal expansion	parallel across	ISO 11359-2 ISO 11359-2	E-4/K	0,3	
			E-4/K	0,6	
Thermal conductivity	Test plate 2 mm	DIN 52612-1	W/(m*K)	-	
Maximum service temperature	some hours 20.000 h	IEC-60216 IEC-60216	°C	240	
			°C	150	
Flammability		UL94	Wall thickness mm Rating	0,75	
		UL94		HB	
		UL94	Wall thickness mm Rating	1,5	
		UL94		HB	
Glow wire test GWIT		IEC-60695-2-13	Wall thickness mm Temperature °C	-	
		IEC-60695-2-13		-	
		IEC-60695-2-13	Wall thickness mm Temperature °C	-	
		IEC-60695-2-13		-	



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<b>Thermal Properties</b>					
Glow wire test GWFI		IEC-60695-2-12	Wall thickness mm	-	
		IEC-60695-2-12	Temperature °C	-	
		IEC-60695-2-12	Wall thickness mm	-	
		IEC-60695-2-12	Temperature °C	-	
<b>Electrical Properties</b>					
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	10E11	-
Spec. Surface Resistivity	-	IEC-62631-3-2	Ohm	10E12	-
Dielectric Strength	-	IEC-60243-1	kV/mm	35	-
Comparative Tracking Index (CTI)	-	IEC-60112	V	600	-
<b>Other Data</b>					
Water absorption	23°C, Saturation	ISO 62	%	3.5	
Moisture absorption	23°C, 50% r.h.	ISO 62	%	1.5	
Density	23°C	ISO 1183	g/cm <sup>3</sup>	1.45	
Melt Volume Rate (MVR)	Value	ISO 1133	cm <sup>3</sup> /10min	-	
	Temperature	ISO 1133	°C	-	
	Test Load	ISO 1133	kg	-	
Viscosity number	0,5% in 96% H2SO4	ISO 307	cm <sup>3</sup> /g	-	
<b>Processing injection molding</b>					
Melt temperature			°C	320 - 340	
Mold temperature			°C	80 - 90	
Guide Value Moisture			%	< 0.05	
Drying temperature			°C	120	
Guide Value Drying time			h	2 - 4	

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**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.