



Badamid® UL A703 GF20 FR HF					
PA66-GF20 FR					
Non halogenated, (red phosphorus and antimony free) flame retardant, 20% glass fibre reinforced injection moulding grade, UL94 listed					
Properties	Test Conditions	Test Methods	Units	Dry as moulded	conditioned 23° C, 50% r.H.
Mechanical Properties					
Modulus of Elasticity, tensile	23° C, 1 mm/Min	ISO 527-1/2	MPa	8 200	5 500
Yield Stress ¹	23° C, 50 mm/Min	ISO 527-1/2	MPa	*	*
Yield Strain ¹	23° C, 50 mm/Min	ISO 527-1/2	%	*	*
Nominal Stress at Break ¹	23° C, 50 mm/Min	ISO 527-1/2	%	*	*
Stress at Break ¹	23° C, 5 mm/Min	ISO 527-1/2	MPa	110	80
Strain at Break ¹	23° C, 5 mm/Min	ISO 527-1/2	%	2,7	3,8
Bending Strength ²	23° C	ISO 178	MPa	-	-
Charpy Impact Strength, unnotched ²	23° C	ISO 179/1eU	kJ/m2	45	60
	-30° C	ISO 179/1eU	kJ/m2	-	-
Notched Charpy Impact Strength ²	23° C	ISO 179/1eA	kJ/m2	6	8
	-30° C	ISO 179/1eA	kJ/m2	-	-
Izod notched Impact Strength ²	23° C	ISO 180/1A	kJ/m2	-	-
	-30° C	ISO 180/1A	kJ/m2	-	-
Thermal Properties					
Melting Temperature ³	10 K/Min	ISO 3146	°C	262	*
Temperature of Deflection under Load ⁴	0.45 MPa	ISO 75-1/2	°C	260	*
	1.8 MPa	ISO 75-1/2	°C	245	*
Coefficient of Linear Thermal Elongation ⁵	parallel direction	DIN 53752	E-4/K	-	*
	transverse direction	DIN 53752	E-4/K	-	*
Maximum Service Temperature	some hours	-	°C	240	*
	20 000 h 50 % Decrease in Tensile Strength or Yield Stress	IEC 216	°C	130	*
Flammability ⁶	0,4 mm	UL 94	Class	V-0	*
	0,8 mm	UL 94	Class	V-0	*
Glow Wire Test	1.5 mm	GWIT	IEC-60695-2-13	775	*
	0.40 mm - 3 mm	GWFI	IEC-60695-2-12	960	*
Electric Properties					
Relative Permittivity ⁷	1 MHz	IEC 250	-	3,5	4,6
Dissipation Factor ⁷	1 MHz	IEC 250	E-4	170	1 000
Specific Volume Resistivity ⁷	-	IEC 93	Ohm cm	10 ¹³	10 ¹⁰
Specific Surface Resistivity ⁷	-	IEC 93	Ohm	-	10 ¹²
Dielectric Strength ⁷	-	IEC 243-1	kV/mm	45	35
Comparative Tracking Index	-	IEC 112	V	600	*
Other data					
Water Absorption	23° C. Saturation	ISO 62	%	6	*
Moisture Absorption	23° C. 50 % r.H.	ISO 62	%	2.2	*
Density	23° C	ISO 1183	g/ccm	1,38	*
Processing					
Melt Temperature	-	-	°C	280 – 300	*
Tool Surface Temperature	-	-	°C	60 – 100	*
Drying Temperature	-	-	°C	80	*
Drying Time	-	-	h	2 - 4	*

LEGEND:

¹ Test Specimen according to ISO 3167. Type A

² Standard bar (80 x 10 x 4) mm

³ Compound for moulding

⁴ Standard bar (110 x 10 x 4) mm

⁵ Specimen (≥ 10 x 10 x 4) mm

⁶ Standard bar [125 x 13 x 0.8(1.6)] mm

⁷ Bar (80 x 80 x 1) mm

⁸ Specimen (≥ 15 x 15 x 4) mm

* not relevant

- not tested

NB = No break

These data are typical values and represent the state of our knowledge at issue date. If not otherwise stated, the data is related to uncolored material. They must not be construed as specification limits or as a guarantee for specific properties.

It is the liability of the processor to test the suitability of the material for a specific application.

Issue date: 2016-03-23