

Properties	Test Method	Terms	Units	Fiber Reinforced HB		
				GH10	GH20	GH30
				-	-	-
				GF	GF	GF
				10%	20%	30%
-	-	-	-	-	-	
<b>Physical properties</b>						
Density	ISO 1183	-	g/cm <sup>3</sup>	1.14	1.22	1.31
Water absorption	-	23degC, 50%RH 23degC, 60%RH 23degC, Underwater	%	- - 0.06	- - 0.06	- - 0.06
<b>Rheological properties</b>						
Melt Mass-flow Rate	ISO 1133	Temperature Load	g/10min	-	-	-
Melt Volume-flow Rate			cm <sup>3</sup> /10min	5.0	4.4	2.7
			degC	300	300	300
			kg	2.16	2.16	2.16
Moulding shrinkage	-	-	%	-	-	-
Moulding shrinkage (3.2mmt)	-	MD TD	%	0.2 - 0.4 0.3 - 0.5	0.1 - 0.3 0.2 - 0.4	0.1 - 0.2 0.2 - 0.4
Moulding shrinkage (1mmt)	-	MD TD	%	- -	- -	- -
Moulding shrinkage (2mmt)	-	MD TD	%	- -	- -	- -
Moulding shrinkage (3mmt)	-	MD TD	%	- -	- -	- -
<b>Mechanical properties</b>						
Tensile modulus	ISO 527-1 , 527-2	23 degC	MPa	4500	6600	8900
Yield stress			-	-	-	
Yield strain			%	-	-	-
Nominal strain at break			-	-	-	
Stress at 50% strain			MPa	75	89	103
Stress at break			%	2.6	1.5	1.3
Strain at break			MPa	140	154	176
Flexural strength	ISO 178	23 degC	MPa	4300	6400	8800
Flexural modulus						
Charpy impact strength	ISO 179-1 , 179-2	23 degC	kJ/m <sup>2</sup>	-	-	-
Charpy notched impact strength		23 degC	kJ/m <sup>2</sup>	6	7	8
<b>Thermal properties</b>						
Melting temperature	ISO 11357-3		degC	-	-	-
Glass transition temperature	ISO 11357-2		degC	-	-	-
Temperature of deflection under load	ISO 75-1 , 75-2	1.80MPa 0.45MPa	degC	120 126	125 131	130 136
Vicat softening temperature	ISO 306	-	degC	-	-	-
Coefficient of Linear thermal expansion	ISO 11359-2	MD TD	1/degC	4.5E-05 7.5E-05	3.0E-05 6.8E-05	2.5E-05 6.0E-05
Flammability	UL94	-	-	-	-	-
		0.4mmt	-	-	-	-
		0.75mmt	-	HB	HB	HB
		1.5mmt	-	-	-	-
		3.0mmt	-	-	-	-
GWFI(Glow-wire flammability test method for materials)	IEC 60695-2-12	3.0mmt	-	-	-	-
GWIT(Glow-wire ignitability test method for materials)	IEC 60695-2-13	3.0mmt	-	-	-	-
<b>Electrical properties</b>						
Relative permittivity	IEC 60250	100Hz 1MHz	-	-	-	-
Dissipation factor	IEC 60250	100Hz 1MHz	-	-	-	-
Volume resistivity	IEC 60093	-	ohm-m	3.E+14	3.E+14	3.E+14
Surface resistivity	IEC 60093	-	ohm	6.E+15	6.E+15	6.E+15
Electric strength	IEC 60243-1	1mmt	MV/m	34	32	30
		2mmt	-	-	-	-
		3mmt	-	-	20	17
Comparative tracking index	IEC 60112	-	-	175	175	150
	UL746A	-	-	-	-	-

The listed properties are portrayed as general information only and are not product specifications.

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