

Durethan® BG 30 FN05 000000

Polyamide 6

LANXESS GmbH

Message:

PA 6, 30 % glass, injection molding, halogen free flame retardant, low tendency to warp

General Information				
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight			
Additive	Flame retardancy			
Features	Low warpage			
	Halogen-free			
	Flame retardancy			
Agency Ratings	EC 1907/2006 (REACH)			
Processing Method	Injection molding			
Resin ID (ISO 1043)	PA G FR (30)			
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.41	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				ISO 2577
Vertical flow direction: 260°C, 2.00mm ¹	0.80	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 2.00mm ²	0.20	--	%	ISO 2577
Flow direction: 260°C, 2.00mm ³	0.80	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 2.00mm ⁴	0.20	--	%	ISO 2577
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	5400	2000	MPa	ISO 527-2/1
Tensile Stress (Break, 23°C)	75.0	30.0	MPa	ISO 527-2/5
Tensile Strain (Break, 23°C)	2.4	> 20	%	ISO 527-2/5
Flexural Modulus ⁵ (23°C)	5200	2000	MPa	ISO 178/A
Flexural Stress				ISO 178/A
3.5% strain, 23°C	--	40.0	MPa	ISO 178/A
23°C ⁶	120	45.0	MPa	ISO 178/A
Flexural Strain at Flexural Strength ⁷ (23°C)	3.3	7.0	%	ISO 178/A
ISO Shortname	PA 6, GFHR, 12-050, G30	--		ISO 1874
Admissible Residence Time at Tmax			min	
Residual Moisture Content	0.030 - 0.070		%	Karl Fisher

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	< 10	< 10	kJ/m ²	ISO 179/1eA
23°C	< 10	< 10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	45	28	kJ/m ²	ISO 179/1eU
23°C	55	70	kJ/m ²	ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	< 10	< 10	kJ/m ²	ISO 180/1A
23°C	< 10	< 10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	45	45	kJ/m ²	ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	95.0	--	°C	ISO 75-2/A
Vicat Softening Temperature	195	--	°C	ISO 306/B120
Ball Pressure Test (201°C)	Pass	--		IEC 60695-10-2
Melting Temperature ⁸	222	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	6.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	7.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Comparative Tracking Index (CTI)	PLC 0	--		UL 746
Comparative Tracking Index (Solution A)	550	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.400 mm	V-0	--		UL 94
0.750 mm	V-0	--		UL 94
1.50 mm	V-0	--		UL 94
3.00 mm	V-0	--		UL 94
Glow Wire Flammability Index				IEC 60695-2-12
0.400 mm	960	--	°C	IEC 60695-2-12
0.750 mm	960	--	°C	IEC 60695-2-12
1.50 mm	960	--	°C	IEC 60695-2-12
3.00 mm	960	--	°C	IEC 60695-2-12
Glow Wire Ignition Temperature				IEC 60695-2-13
0.400 mm	960	--	°C	IEC 60695-2-13

0.750 mm	900	--	°C	IEC 60695-2-13
1.50 mm	800	--	°C	IEC 60695-2-13
3.00 mm	800	--	°C	IEC 60695-2-13
Injection	Dry	Unit	Test Method	
Drying Temperature - Dry Air Dryer	80.0		°C	
Drying Time - Dry Air Dryer	2.0 - 6.0		hr	
Processing (Melt) Temp	250 - 270		°C	
Mold Temperature	80.0 - 100		°C	
NOTE				

1.	60x60x2mm, 80°C MT, 600 bar
2.	60x60x2mm
3.	60x60x2mm, 80°C MT, 600 bar
4.	60x60x2mm
5.	2.0 mm/min
6.	2.0 mm/min
7.	2 mm/min
8.	10°C/min

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