

Durethan® B 30 S FN30 000000

Polyamide 6

LANXESS GmbH

Message:

PA 6, non-reinforced, injection molding, halogen free flame retardant, heat-aging resistance

General Information				
UL YellowCard		E245249-100915707		
Features		Good heat aging resistance		
		Halogen-free		
Processing Method		Injection molding		
Resin ID (ISO 1043)		PA FR(30)		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.14	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Vertical flow direction: 260°C, 2.00mm ¹	0.90	--	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.30	--	%	ISO 294-4
Flow direction: 260°C, 2.00mm ³	0.90	--	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.30	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	9.0	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.6	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3700	1200	MPa	ISO 527-2/1
Tensile Stress				
Yield, 23°C	80.0	40.0	MPa	ISO 527-2/50
Fracture, 23°C	80.0	50.0	MPa	ISO 527-2/5
Tensile Strain				
Yield, 23°C	3.5	20	%	ISO 527-2/50
Fracture, 23°C	14	> 50	%	ISO 527-2/5
Nominal Tensile Strain at Break (23°C)	10	> 50	%	ISO 527-2/50
Flexural Modulus ⁵ (23°C)	3600	1200	MPa	ISO 178/A
Flexural Stress ⁶				
3.5% strain	110	35.0	MPa	ISO 178/A
23°C	120	45.0	MPa	ISO 178

Flexural Strain at Flexural Strength ⁷ (23°C)	5.5	8.0	%	
ISO Shortname	PA 6, GFHR, 12-030; ISO 1043-PA FR (30)			ISO 1874
Residual Moisture Content	0.030 - 0.070			Karl Fisher
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	< 10	15	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	75	75	kJ/m ²	ISO 179/1eU
23°C	90 kJ/m ²	No Break		ISO 179/1eU
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	65	85	kJ/m ²	ISO 180/1U
23°C	90 kJ/m ²	No Break		ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	185	--	°C	ISO 75-2/B
1.8 MPa, not annealed	65.0	--	°C	ISO 75-2/A
Ball Pressure Test (207°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	7.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	8.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+16	--	ohms	IEC 60167
Volume Resistivity (23°C)	1.0E+15	--	ohms·cm	IEC 60093
Dielectric Strength (23°C, 1.00 mm)	31	--	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI)	PLC 0	--		UL 746
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.380 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
0.800 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	775	--	°C	IEC 60695-2-13
0.800 mm	775	--	°C	IEC 60695-2-13
1.50 mm	775	--	°C	IEC 60695-2-13
Oxygen Index ⁹	40	--	%	ISO 4589-2
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.	60x60x2; MT 80°C; 600 Bar			
2.	60x60x2			
3.	60x60x2; MT 80°C; 600 Bar			
4.	60x60x2			
5.	2.0 mm/min			
6.	2.0 mm/min			
7.	Pull Rate: 2 mm/min; 50% RH			
8.	10°C/min			
9.	Procedure A			

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