

Durethan® B 30 S FN40 000000

Polyamide 6

LANXESS GmbH

Message:

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

General Information				
UL YellowCard		E245249-473615		
Additive		Flame retardancy		
Features		Halogen-free		
		Flame retardancy		
Agency Ratings		EC 1907/2006 (REACH)		
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
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				ISO 2577
Vertical flow direction: 260°C, 2.00mm ¹	0.90	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 2.00mm ²	0.30	--	%	ISO 2577
Flow direction: 260°C, 2.00mm ³	0.90	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 2.00mm ⁴	0.30	--	%	ISO 2577
Vertical flow direction: 260°C, 3.00mm ⁵	0.90	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 3.00mm ⁶	0.20	--	%	ISO 2577
Flow direction: 260°C, 3.00mm ⁷	0.90	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 3.00mm ⁸	0.20	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	10	--	%	ISO 62
Equilibrium, 23°C, 50% RH	3.0	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	135	--	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3400	1100	MPa	ISO 527-2/1

Tensile Stress				
Yield, 23°C	90.0	45.0	MPa	ISO 527-2/50
Fracture, 23°C	60.0	65.0	MPa	ISO 527-2/5
Tensile Strain				
Yield, 23°C	4.0	23	%	ISO 527-2/50
Fracture, 23°C	16	290	%	ISO 527-2/5
Nominal Tensile Strain at Break (23°C)	9.6	270	%	ISO 527-2/50
Flexural Modulus ⁹ (23°C)	3000	900	MPa	ISO 178/A
Flexural Stress				ISO 178/A
3.5% strain, 23°C	100	26.0	MPa	ISO 178/A
23°C ¹⁰	120	35.0	MPa	ISO 178/A
Flexural Strain at Flexural Strength ¹¹ (23°C)	5.9	8.1	%	ISO 178/A
ISO Shortname	PA 6, GFR, 14-030	--		ISO 1874
Residual Moisture Content	0.030 - 0.070		%	Karl Fisher
Impact	Dry	Conditioned	Unit	Test Method
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	< 10	--	kJ/m ²	ISO 180/1A
23°C	< 10	--	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	No Break	No Break		ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	166	--	°C	ISO 75-2/B
1.8 MPa, not annealed	66.0	--	°C	ISO 75-2/A
Melting Temperature ¹²	222	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	9.0E-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
Comparative Tracking Index ¹³ (Solution A)	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.750 mm)	V-2	--		UL 94
Glow Wire Flammability Index				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
0.800 mm	875	--	°C	IEC 60695-2-13
1.50 mm	850	--	°C	IEC 60695-2-13
3.00 mm	750	--	°C	IEC 60695-2-13
Oxygen Index ¹⁴	28	--	%	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.	60x60x2mm, 80°C MT, 600 bar			
2.	60x60x2mm			
3.	60x60x2mm, 80°C MT, 600 bar			
4.	60x60x2mm			
5.	150x105x3mm, 80°C MT, 500 bar			
6.	150x105x3mm			
7.	150x105x3mm, 80°C MT, 500 bar			
8.	150x105x3mm			
9.	2.0 mm/min			
10.	2.0 mm/min			
11.	2 mm/min			
12.	10°C/min			
13.	Erosion depth: 1.60mm			
14.	Procedure A			

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