

Durethan® B 31 F 000000

Polyamide 6

LANXESS Corporation

Message:

PA 6, non-reinforced, Extrusion, low viscosity, no additives

General Information				
Features		Low Viscosity		
Agency Ratings		EC 1907/2006 (REACH)		
Processing Method		Extrusion		
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
Water Absorption				ISO 62
Saturation, 23°C	10	--	%	
Equilibrium, 23°C, 50% RH	3.0	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	140	50.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	2800	800	MPa	ISO 527-2/1
Tensile Stress (Yield, 23°C)	75.0	35.0	MPa	ISO 527-2/50
Tensile Strain (Yield, 23°C)	4.0	25	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	20	> 50	%	ISO 527-2/50
Flexural Modulus ¹ (23°C)	2600	700	MPa	ISO 178/A
Flexural Stress ² (3.5% Strain)	90.0	20.0	MPa	ISO 178/A
Flexural Strain at Flexural Strength ³ (23°C)	5.0	8.0	%	
ISO Shortname	PA 6,E, 14-030	--		ISO 1874
Residual Moisture Content	0.030 to 0.12		%	Karl Fisher
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	5.0	< 5.0	kJ/m ²	
23°C	5.0	50	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	55 kJ/m ²		
23°C	No Break	No Break		

Notched Izod Impact Strength				ISO 180/1A
-30°C	7.0	7.5	kJ/m ²	
23°C	7.0	50	kJ/m ²	
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	No Break	No Break		
23°C	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	150	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	50.0	--	°C	ISO 75-2/A
8.0 MPa, Unannealed	40.0	--	°C	ISO 75-2/C
Vicat Softening Temperature	200	--	°C	ISO 306/B120
Melting Temperature ⁴	222	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C	8.0E-5	--	cm/cm/°C	
Transverse : 23 to 55°C	8.0E-5	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14	1.0E+13	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+14	1.0E+12	ohms·cm	IEC 60093
Electric Strength (23°C, 1.00 mm)	30	35	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
23°C, 100 Hz	3.90	18.0		
23°C, 1 MHz	3.50	4.00		
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.60 mm	HB	--		
3.20 mm	HB	--		
Oxygen Index ⁵	24	--	%	ISO 4589-2
Injection	Dry	Unit	Test Method	
Drying Temperature - Dry Air Dryer	80.0		°C	
Drying Time - Dry Air Dryer	2.0 to 6.0		hr	
Processing (Melt) Temp	260 to 280		°C	
Mold Temperature	80.0 to 100		°C	
NOTE				
1.	2.0 mm/min			
2.	2.0 mm/min			

3.	Pull Rate: 2 mm/min; 50% RH
4.	10°C/min
5.	Procedure A

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