

Durethan® DP 2801 000000

Polyamide 66
LANXESS Corporation

Message:
PA 66, non-reinforced, injection molding, halogen free flame retardant

General Information				
UL YellowCard		E245249-473612		
Additive		Flame retardancy		
Features		Halogen-free		
		Flame retardancy		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.14	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 2577
Vertical flow direction: 280°C, 2.00mm ¹	1.2	--	%	ISO 2577
Vertical flow direction: 120°C, 4 hours, 2.00mm ²	0.11	--	%	ISO 2577
Flow direction: 280°C, 2.00mm ³	1.1	--	%	ISO 2577
Flow direction: 120°C, 4 hours, 2.00mm ⁴	0.42	--	%	ISO 2577
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	151	70.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3500	1400	MPa	ISO 527-2/1
Tensile Stress				
Yield, 23°C	94.0	55.0	MPa	ISO 527-2/50
Fracture, 23°C	80.0	55.0	MPa	ISO 527-2/5
Tensile Strain				
Yield, 23°C	4.2	20	%	ISO 527-2/50
Fracture, 23°C	11	230	%	ISO 527-2/5
Nominal Tensile Strain at Break (23°C)	10	160	%	ISO 527-2/50
Flexural Modulus ⁵ (23°C)	3200	1300	MPa	ISO 178/A
Flexural Stress				ISO 178/A
3.5% strain, 23°C	105	36.0	MPa	ISO 178/A
23°C ⁶	127	49.0	MPa	ISO 178/A
Flexural Strain at Flexural Strength ⁷ (23°C)	6.2	8.0	%	ISO 178/A

Burning Behavior ⁸ (> 1.00 mm)	passed	--		ISO 3795
ISO Shortname	PA 66, GFHR, 14-030; ISO 1043-PA FR (30)			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	15	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	120	190	kJ/m ²	ISO 179/1eU
23°C	110 kJ/m ²	No Break		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				ISO 180/1U
-30°C	110	130	kJ/m ²	ISO 180/1U
23°C	80 kJ/m ²	No Break		ISO 180/1U
Multi-Axial Instrumented Impact Energy				ISO 6603-2
-30°C	5.10	--	J	ISO 6603-2
23°C	13.1	27.2	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force				ISO 6603-2
-30°C	2400	--	N	ISO 6603-2
23°C	3730	4630	N	ISO 6603-2
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	210	--	°C	ISO 75-2/B
1.8 MPa, not annealed	75.0	--	°C	ISO 75-2/A
8.0 MPa, not annealed	60.0	--	°C	ISO 75-2/C
Vicat Softening Temperature	> 230	--	°C	ISO 306/B120
Ball Pressure Test (249°C)	Pass	--		IEC 60695-10-2
Melting Temperature ⁹	265	--	°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	9.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method

Comparative Tracking Index				IEC 60112
Solution a	600	--	V	IEC 60112
Solution B ¹⁰	400	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.750 mm)	V-2	--		UL 94
Glow Wire Flammability Index (1.00 mm)	960	--	°C	IEC 60695-2-12
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	775	--	°C	IEC 60695-2-13
1.50 mm	775	--	°C	IEC 60695-2-13
3.00 mm	775	--	°C	IEC 60695-2-13
Oxygen Index ¹¹	30	--	%	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	260 - 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.	US-FMVSS302			
9.	10°C/min			
10.	Erosion depth: 1.80mm			
11.	Procedure A			

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