

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		
Features		Flame Retardant		
		Halogen Free		
Agency Ratings		EC 1907/2006 (REACH)		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.14	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 280°C, 2.00 mm ¹	1.2	--	%	
Across Flow : 120°C, 2 hr, 2.00 mm ²	0.11	--	%	
Flow : 280°C, 2.00 mm ³	1.1	--	%	
Flow : 120°C, 2 hr, 2.00 mm ⁴	0.42	--	%	
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
Break, 23°C	80.0	55.0	MPa	ISO 527-2/5
Tensile Strain				
Yield, 23°C	4.2	20	%	ISO 527-2/50
Break, 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 ⁶				
3.5% Strain	105	36.0	MPa	ISO 178/A
23°C	127	49.0	MPa	ISO 178
Flexural Strain at Flexural Strength ⁷ (23°C)	6.2	8.0	%	

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	< 5.0		min	
Residual Moisture Content	0.030 to 0.070		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ⁹	5.10	--	J	
-- ¹⁰	13.1	27.2	J	
Film Puncture Force				ISO 6603-2
-- ¹¹	2400	--	N	
-- ¹²	3730	4630	N	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	< 10	< 10	kJ/m ²	
23°C	< 10	15	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	120	190	kJ/m ²	
23°C	110 kJ/m ²	No Break		
Notched Izod Impact Strength				ISO 180/1A
-30°C	< 10	< 10	kJ/m ²	
23°C	< 10	10	kJ/m ²	
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	110	130	kJ/m ²	
23°C	80 kJ/m ²	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	210	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	75.0	--	°C	ISO 75-2/A
8.0 MPa, Unannealed	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 ¹³	265	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C	7.0E-5	--	cm/cm/°C	
Transverse : 23 to 55°C	9.0E-5	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method

Comparative Tracking Index				IEC 60112
Solution A	600	--	V	
Solution B ¹⁴	400	--	V	
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	
1.50 mm	775	--	°C	
3.00 mm	775	--	°C	
Oxygen Index ¹⁵	30	--	%	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 270		°C	
Mold Temperature	80.0 to 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.	US-FMVSS302			
9.	-30°C			
10.	23°C			
11.	-30°C			
12.	23°C			
13.	10°C/min			
14.	Depth of Erosion: 1.80 mm			
15.	Procedure A			

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