

Durethan® B 30 S 000000

Polyamide 6

LANXESS Corporation



www.ulprospector.com

Technical Data

Product Description

PA 6, non-reinforced, injection molding

General

Material Status	• Commercial: Active
Literature ¹	• Processing - Durethan (English) • Technical Datasheet - ASTM (English) • Technical Datasheet - ISO (English)
UL Yellow Card ²	• E245249-473560
Search for UL Yellow Card	• Durethan®
Availability	• Latin America • North America
Agency Ratings	• EC 1907/2006 (REACH)
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
--	1.14	--	g/cm ³	ASTM D792
23°C	1.14	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	ISO 60
Molding Shrinkage				
Across Flow : 260°C, 3.00 mm ⁴	1.2	--	%	ISO 2577
Across Flow : 120°C, 2 hr, 3.00 mm ⁵	0.40	--	%	ISO 294-4
Flow : 260°C, 3.00 mm ⁴	1.0	--	%	ISO 2577
Flow : 120°C, 2 hr, 3.00 mm ⁵	0.32	--	%	ISO 2577
Water Absorption				ISO 62
Saturation, 23°C	10	--	%	
Equilibrium, 23°C, 50% RH	3.0	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁶	3200	1100	MPa	ASTM D638
-5°C	3200	1000	MPa	ISO 527-2/1
Tensile Strength				
Yield, 23°C	80.0	40.0	MPa	ASTM D638 ISO 527-2/50
Break, 23°C	50.0	60.0	MPa	ASTM D638
Tensile Elongation				
Yield, 23°C	4.0	20	%	ASTM D638 ISO 527-2/50
Break, 23°C	35	> 50	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	20	> 50	%	ISO 527-2/50
Tensile Creep Modulus				ISO 899-1
1 hr	--	800	MPa	
1000 hr	--	600	MPa	
Flexural Modulus				
23°C	2700	703	MPa	ASTM D790
23°C ⁷	2900	850	MPa	ISO 178/A
Flexural Strength				
5.0% Strain, 23°C	115	35.0	MPa	ASTM D790
3.5% Strain ⁷	95.0	25.0	MPa	ISO 178/A
23°C ⁷	110	35.0	MPa	ISO 178



Durethan® B 30 S 000000

Polyamide 6

LANXESS Corporation**UPMold PROSPECTOR®**

www.ulprospector.com

Mechanical	Dry	Conditioned	Unit	Test Method
Flexural Strain at Flexural Strength ⁸ (23°C)	6.0	8.0	%	
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ₉	10.0	--	J	
-- ₁₀	12.0	--	J	
Film Puncture Force				ISO 6603-2
-- ₉	6540	--	N	
-- ₁₀	5140	--	N	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	< 10	< 10	kJ/m ²	
23°C	< 10	20	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Notched Izod Impact				
23°C, 3.18 mm	59	750	J/m	ASTM D256
23°C	< 10	< 10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	No Break	No Break		
23°C	No Break	No Break		
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	140	50.0	MPa	ISO 2039-1
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed, 3.99 mm	180	--	°C	ASTM D648
0.45 MPa, Unannealed	160	--	°C	ISO 75-2/B
1.8 MPa, Unannealed, 3.99 mm	60.0	--	°C	ASTM D648
1.8 MPa, Unannealed	55.0	--	°C	ISO 75-2/A
8.0 MPa, Unannealed	45.0	--	°C	ISO 75-2/C
Vicat Softening Temperature	200	--	°C	ISO 306/B50 ISO 306/B120
Melting Temperature ¹¹	222	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C	1.0E-4	--	cm/cm/°C	
Transverse : 23 to 55°C	1.1E-4	--	cm/cm/°C	
RTI Elec (1.50 mm)	105	--	°C	UL 746
RTI Imp (1.50 mm)	65.0	--	°C	UL 746
RTI Str (1.50 mm)	75.0	--	°C	UL 746
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13 to 1.0E+14	1.0E+12 to 1.0E+13	ohm	IEC 60093
Volume Resistivity (23°C)	1.0E+15	1.0E+12	ohm-cm	IEC 60093
Electric Strength				IEC 60243-1
23°C, 1.00 mm	30	30	kV/mm	
23°C, 3.00 mm	30	35	kV/mm	
Dielectric Constant				IEC 60250
23°C, 50 Hz ¹²	3.80	20.0		
23°C, 1 MHz ¹²	3.40	4.60		
23°C, 100 Hz	4.00	15.0		
23°C, 1 MHz	3.50	4.00		



Durethan® B 30 S 000000

Polyamide 6

LANXESS Corporation

Electrical	Dry	Conditioned	Unit	Test Method
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.050	2.3		
23°C, 100 Hz	0.017	0.20		
23°C, 1 MHz	0.020	0.12		
	0.070	0.40		
Comparative Tracking Index				
Solution A ¹³	600	--	V	IEC 60112
Solution B	600	--	V	IEC 60112
--	--	600	V	ASTM D3638
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.50 mm	V-2	--		
3.00 mm	V-2	--		
Glow Wire Flammability Index (2.00 mm)	750	--	°C	IEC 60695-2-12
Oxygen Index ¹⁴	26	--	%	ISO 4589-2
Burning Behavior ¹⁵ (> 1.00 mm)	passed	--		ISO 3795
Additional Information	Dry	Conditioned	Unit	Test Method
ISO Shortname	PA 6, GR, 14-030	--		ISO 1874

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	
Residual Moisture Content	0.030 to 0.12 %	Karl Fisher

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 150x150x3; MT 80°C; 500 Bar

⁵ 150x150x3

⁶ 1.0 mm/min

⁷ 2.0 mm/min

⁸ Pull Rate: 2 mm/min; 50% RH

⁹ -30°C

¹⁰ 23°C

¹¹ 10°C/min

¹² Tinfoil Electrodes

¹³ Depth of Erosion: 1.30 mm

¹⁴ Procedure A

¹⁵ US-FMVSS302

upmold.com



Durethan® B 30 S 000000

Polyamide 6

LANXESS Corporation

UPMold PROSPECTOR®

www.ulprospector.com

Where to Buy

Supplier

LANXESS Corporation

Pittsburgh, PA USA

Telephone: 800-LANXESS

Web: <http://www.us.lanxess.com/>

Distributor

Bay State Polymer

Telephone: 800-277-7797

Web: <http://www.baystatepolymer.com/>

Availability: North America

Nexeo Solutions

Telephone: 888-594-6009

Web: <http://www.nexeosolutions.com/>

Availability: North America



upmold.com

