

Durethan® BC 30 S 000000

Polyamide 6

LANXESS GmbH

Message:

PA 6, non-reinforced, injection molding

General Information				
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.12	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Vertical flow direction: 270°C, 2.00mm ¹	0.90	--	%	ISO 294-4
Vertical flow direction: 120°C, 2 hours, 2.00mm ²	0.30	--	%	ISO 294-4
Flow direction: 270°C, 2.00mm ³	1.0	--	%	ISO 294-4
Flow direction: 120°C, 2 hours, 2.00mm ⁴	0.30	--	%	ISO 294-4
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3200	1000	MPa	ISO 527-2/1
Tensile Stress (Yield, 23°C)	80.0	45.0	MPa	ISO 527-2/50
Tensile Strain (Yield, 23°C)	4.0	24	%	ISO 527-2/50
Flexural Modulus ⁵ (23°C)	2800	1000	MPa	ISO 178/A
Flexural Stress ⁶				
3.5% strain	90.0	30.0	MPa	ISO 178/A
23°C	105	40.0	MPa	ISO 178
Flexural Strain at Flexural Strength ⁷ (23°C)	6.0	7.0	%	
ISO Shortname	PA 6, GR, 14-030	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ⁸	25.0	--	J	ISO 6603-2
-- ⁹	55.0	--	J	ISO 6603-2
Film Puncture Force				ISO 6603-2
-- ¹⁰	4400	--	N	ISO 6603-2
-- ¹¹	5000	--	N	ISO 6603-2
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	30	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	No Break	No Break		ISO 179/1eU
Notched Izod Impact				ISO 180/1A
-30°C	< 10	< 10	kJ/m ²	ISO 180/1A
23°C	< 10	20	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength				ISO 180/1U
-30°C	200	--	kJ/m ²	ISO 180/1U
23°C	No Break	No Break		ISO 180/1U
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	172	--	°C	ISO 75-2/B
1.8 MPa, not annealed	66.0	--	°C	ISO 75-2/A
Melting Temperature ¹²	221	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	1.0E-4	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	8.0E-5	--	cm/cm/°C	ISO 11359-2
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 - 280		°C	
Mold Temperature	80.0 - 90.0		°C	
NOTE				
1.	60x60x2; WZ 80°C; 600 Bar			
2.	60x60x2			
3.	60x60x2; WZ 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.	-30°C			
9.	23°C			
10.	-30°C			
11.	23°C			
12.	10°C/min			

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

