

Durethan® BC 304 H3.0 000000

Polyamide 6

LANXESS GmbH

Message:

PA 6, non-reinforced, injection molding, improved impact strength, heat-aging stabilized

General Information				
Additive	heat stabilizer			
Features	Impact resistance, good			
	Good heat aging resistance			
Agency Ratings	EC 1907/2006 (REACH)			
Processing Method	Injection molding			
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity				
--	1.06	--	g/cm ³	ASTM D792
23°C	1.06	--	g/cm ³	ISO 1183
Apparent Density	0.60	--	g/cm ³	ISO 60
Molding Shrinkage				
Vertical flow direction: 260°C, 3.00mm ¹	1.5	--	%	ISO 2577
Vertical flow direction: 120°C, 2 hours, 3.00mm ²	0.46	--	%	ISO 294-4
Flow direction: 260°C, 3.00mm ³	1.1	--	%	ISO 2577
Flow direction: 120°C, 2 hours, 3.00mm ⁴	0.38	--	%	ISO 2577
Water Absorption				ISO 62
Saturated, 23°C	7.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.2	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	80.0	35.0	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				
23°C ⁵	1800	800	MPa	ASTM D638
23°C	1800	800	MPa	ISO 527-2/1
Tensile Strength (Yield, 23°C)	45.0	35.0	MPa	ASTM D638, ISO 527-2/50
Tensile Elongation				
Yield, 23°C	4.0	--	%	ASTM D638
Yield, 23°C	4.5	30	%	ISO 527-2/50

Fracture, 23°C	> 200	> 200	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	> 50	> 50	%	ISO 527-2/50
Flexural Modulus				
23°C	1600	752	MPa	ASTM D790
23°C ⁶	1600	700	MPa	ISO 178/A
Flexural Strength				
5.0% strain, 23°C	55.2	31.0	MPa	ASTM D790
3.5% strain ⁷	55.0	25.0	MPa	ISO 178/A
23°C ⁸	60.0	30.0	MPa	ISO 178
Flexural Strain at Flexural Strength ⁹ (23°C)	7.0	9.0	%	
Burning Behavior ¹⁰ (> 1.00 mm)	passed	--		ISO 3795
ISO Shortname	PA 6-HI, GHR, 14-020	--		ISO 1874
Residual Moisture Content	0.030 - 0.12		%	Karl Fisher
Films	Dry	Conditioned	Unit	Test Method
Film Puncture Energy				ISO 6603-2
-- ¹¹	125	--	J	ISO 6603-2
-- ¹²	120	125	J	ISO 6603-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	20	20	kJ/m ²	ISO 179/1eA
23°C	85	120	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		ISO 179/1eU
23°C	No Break	No Break		ISO 179/1eU
Notched Izod Impact				
-40°C, 3.18 mm	650	650	J/m	ASTM D256
23°C, 3.18 mm	650	920	J/m	ASTM D256
-30°C	30	17	kJ/m ²	ISO 180/1A
23°C	70	100	kJ/m ²	ISO 180/1A
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, not annealed, 3.99mm	90.0	--	°C	ASTM D648
0.45 MPa, not annealed	90.0	--	°C	ISO 75-2/B
1.8 MPa, not annealed, 3.99mm	50.0	--	°C	ASTM D648
1.8 MPa, not annealed	50.0	--	°C	ISO 75-2/A
8.0 MPa, not annealed	40.0	--	°C	ISO 75-2/C

Vicat Softening Temperature	150	--	°C	ISO 306/B50, ISO 306/B120
Ball Pressure Test (194°C)	Pass	--		IEC 60695-10-2
Melting Temperature ¹³	222	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	1.5E-4	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	1.6E-4	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14 - 1.0E+15	1.0E+13 - 1.0E+14	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	1.0E+12 - 1.0E+13	ohms·cm	IEC 60093
Dielectric Strength				IEC 60243-1
23°C, 1.00 mm	35	35	kV/mm	IEC 60243-1
23°C, 3.00 mm	36	36	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz ¹⁴	3.30	9.60		IEC 60250
23°C, 1 MHz ¹⁵	3.10	3.50		IEC 60250
23°C, 100 Hz	3.30	11.0		IEC 60250
23°C, 1 MHz	3.00	3.50		IEC 60250
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.010	0.15		IEC 60250
23°C, 100 Hz	7.0E-3	0.18		IEC 60250
	0.015	0.090		
23°C, 1 MHz	0.010	0.060		IEC 60250
Comparative Tracking Index				
Solution a ¹⁶	600	--	V	IEC 60112
Solution B ¹⁷	600	--	V	IEC 60112
--	--	600	V	ASTM D3638
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.60 mm	HB	--		UL 94
3.20 mm	HB	--		UL 94
Glow Wire Flammability Index (2.00 mm)	650	--	°C	IEC 60695-2-12
Oxygen Index ¹⁸	21	--	%	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 - 280		°C	
Mold Temperature	80.0 - 90.0		°C	
NOTE				

1.	150x150x3; MT 80°C; 500 Bar
2.	150x150x3
3.	150x150x3; MT 80°C; 500 Bar
4.	150x150x3
5.	1.0 mm/min
6.	2.0 mm/min
7.	2.0 mm/min
8.	2.0 mm/min
9.	Pull Rate: 2 mm/min; 50% RH
10.	US-FMVSS302
11.	-30°C
12.	23°C
13.	10°C/min
14.	Tinfoil Electrodes
15.	Tinfoil Electrodes
16.	Erosion depth: 1.70mm
17.	Erosion depth: 2.30mm
18.	Procedure A

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

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

