

Durethan® BC304H3.0 000000
PA6-I

Envalior

Injection Molding, Unreinforced, Heat Stabilized, Improved Impact

ISO 1043 PA6-I

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Density, 73°F	1060	kg/m³	ASTM D 792

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	1800 / 800	MPa	ISO 527
Yield stress	45 / 35	MPa	ISO 527
Yield strain	4.5 / 30	%	ISO 527
Nominal strain at break	>50 / >50	%	ISO 527
Impact Strength (Charpy), +23°C	no break / no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	no break / no break	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	85 / 120	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	20 / 20	kJ/m²	ISO 179/1eA
Puncture energy, +23°C	55 / -	J	ISO 6603-2
Puncture energy, -30°C	60 / -	J	ISO 6603-2
Flexural Modulus (23°C)	1600 / 700	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	70 / 100	kJ/m²	ISO 180/1A
Notched Impact Strength (Izod)	30 / 17	kJ/m²	ISO 180/1A
Temperature	-30	°C	-
Ball Indentation Hardness	80 / 35	MPa	ISO 2039-1
ASTM Data			
Tensile Modulus	1800 / 799.8	MPa	ASTM D 638
Tensile Strength at Yield	45 / 35	MPa	ASTM D 638
Elongation at Yield	4 / -	%	ASTM D 638
Elongation at Break	200 / 200	%	ASTM D 638
Flexural Modulus	1600 / 751.5	MPa	ASTM D 790
Notched Impact Strength (Izod), 1/8 in	646 / 918	J/m	ASTM D 256
Notched Impact Strength (Izod), Low-Temperature	646 / 646	J/m	ASTM D 256
Temperature	-40	°C	-

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	222 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	50 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	90 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	150 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	160 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB / *	class	UL 94
Thickness tested	1.5 / *	mm	-
Oxygen index	21 / *	%	ISO 4589-1/-2
ASTM Data			
DTUL @ 66 psi	90	°C	ASTM D 648
DTUL @ 264 psi	50	°C	ASTM D 648

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.3 / 11	-	IEC 62631-2-1
Relative permittivity, 1MHz	3 / 3.5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	70 / 1750	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	150 / 900	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E14	Ohm	IEC 62631-3-2
Electric Strength	35 / 35	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

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Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	7.5 / *	%	Sim. to ISO 62
Humidity absorption	2.2 / *	%	Sim. to ISO 62
Density	1060 / -	kg/m³	ISO 1183
Bulk density	600	kg/m³	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	270	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.12	%	-
Melt temperature	260 - 280	°C	-
Mold temperature	80 - 90	°C	-

Characteristics

Processing

Injection Molding, Other Extrusion

Additives

Release agent

Delivery form

Pellets

Special Characteristics

Impact modified, Heat aging stabilized

Injection Molding

PREPROCESSING

Residual moisture content: 0.03 - 0.12%

Drying temperature dry air dryer: 80 °C

Drying time dry air dryer 2 - 6 h

PROCESSING

Melt temperature (Tmin - Tmax): 260 - 280 °C

Mold temperature: 80 - 90 °C