Durethan® BKV15 000000

PA*-GF15 Envalior

Injection Molding, 15% Glass Reinforced

ISO 1043 PA*-GF15

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Density, 73°F	1230	kg/m³	ASTM D 792

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	6000 / 3000	MPa	ISO 527
Stress at Break	125 / 75	MPa	ISO 527
Strain at Break	3 / 12	%	ISO 527
Impact Strength (Charpy), +23°C	45 / 70	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	35 / 35	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	- / 10	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	- / 10	kJ/m²	ISO 179/1eA
Puncture - maximum force, +23°C	644 / -	N	ISO 6603-2
Puncture - maximum force, -30°C	585 / -	N	ISO 6603-2
Puncture energy, +23°C	4 / -	J	ISO 6603-2
Puncture energy, -30°C	3 / -	J	ISO 6603-2
Flexural Modulus (23°C)	5200 / 3100	MPa	ISO 178
Notched Impact Strength (Izod)	10 / 10	kJ/m²	ISO 180/1A
Temperature	-30	°C	-
Impact Strength (Izod), 23°C	30 / 80	kJ/m²	ISO 180/1U
Ball Indentation Hardness	170 / 80	MPa	ISO 2039-1
ASTM Data			
Tensile Modulus	6198 / 3103	MPa	ASTM D 638
Tensile Strength at Break	130 / 70.3	MPa	ASTM D 638
Elongation at Break	3 / 5	%	ASTM D 638
Flexural Modulus	5399 / 2896	MPa	ASTM D 790
Flexural Strength	200 / 120	MPa	ASTM D 790
Notched Impact Strength (Izod), 1/8 in	64.1 / 251	J/m	ASTM D 256
Notched Impact Strength (Izod), Low-Temperature	53.4 / 53.4	J/m	ASTM D 256
Temperature	-40	°C	-

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	213 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	210 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	30 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	80 / *	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	22 / *	%	ISO 4589-1/-2
ASTM Data			
DTUL @ 66 psi	215	°C	ASTM D 648
DTUL @ 264 psi	200	°C	ASTM D 648

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4 / 10	-	IEC 62631-2-1
Relative permittivity, 1MHz	4 / 5	-	IEC 62631-2-1
Dissipation Factor, 100Hz	50 / 2000	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	150 / 1200	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E12	Ohm	IEC 62631-3-2
Electric Strength	40 / 35	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	8.5 / *	%	Sim. to ISO 62
Humidity absorption	2.6 / *	%	Sim. to ISO 62
Density	1230 / -	kg/m³	ISO 1183
Bulk density	700	kg/m³	-

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	138 / *	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°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 - 290	°C	-
Mold temperature	80 - 100	°C	-

Characteristics

Processing
Injection Molding

Additives
Release agent

Delivery form
Pellets

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 - 290 °C

Mold temperature: 80 - 100 °C

Disclaimer

- any critical component in any medical device that supports or sustains human life.

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