Durethan® B30SFN31 000000

PA6 FR(30) Envalior

Injection Molding, Unreinforced, Flame Retardant (halogen free), Heat Stabilized

ISO 1043 PA6 FR(30)

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	1.0 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	3500 / 1200	MPa	ISO 527
Yield stress	80 / 45	MPa	ISO 527
Yield strain	3.9 / 25	%	ISO 527
Nominal strain at break	4.9 / -	%	ISO 527
Impact Strength (Charpy), +23°C	70 / no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	65 / 80	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	- / 12	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	- / 10	kJ/m²	ISO 179/1eA
Flexural Modulus (23°C)	3500 / 1300	MPa	ISO 178
Flexural strength	120 / 45	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	10 / 11	kJ/m²	ISO 180/1A
Impact Strength (Izod), 23°C	50 / -	kJ/m²	ISO 180/1U

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	75 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	185 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	80 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	90 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	V-0 / *	class	UL 94
Thickness tested	1.5 / *	mm	-
Oxygen index	36 / *	%	ISO 4589-1/-2
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (1)	0.4	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (2)	0.75	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	1.5	mm	-
Glow Wire Ignition Temperature)	960	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.4	mm	-
Glow Wire Ignition Temperature)	960	°C	IEC 60695-2-13
GWIT - thickness tested (2)	0.75	mm	-
Glow Wire Ignition Temperature)	960	°C	IEC 60695-2-13
GWIT - thickness tested (3)	1.5	mm	-

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.6 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.5 / -	-	IEC 62631-2-1
Dissipation Factor, 100Hz	140 / -	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	195 / -	E-4	IEC 62631-2-1
Volume Resistivity	>1E13 / -	Ohm*m	IEC 62631-3-1
Electric Strength	23 / -	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

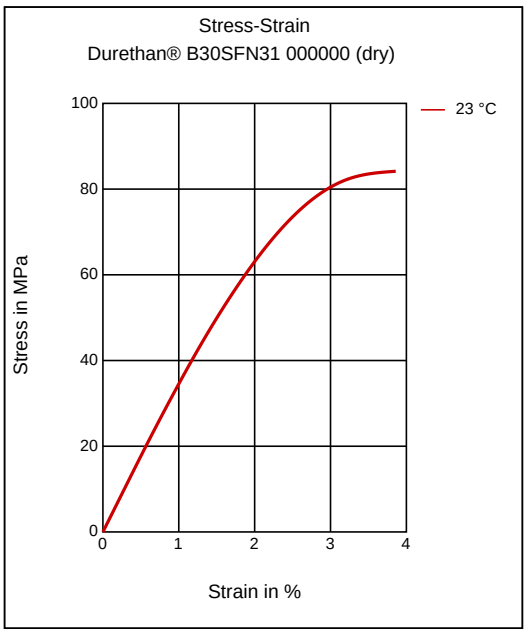
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	8.5 / *	%	Sim. to ISO 62
Humidity absorption	2.7 / *	%	Sim. to ISO 62
Density	1170 / -	kg/m³	ISO 1183
Bulk density	700	kg/m³	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	260	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

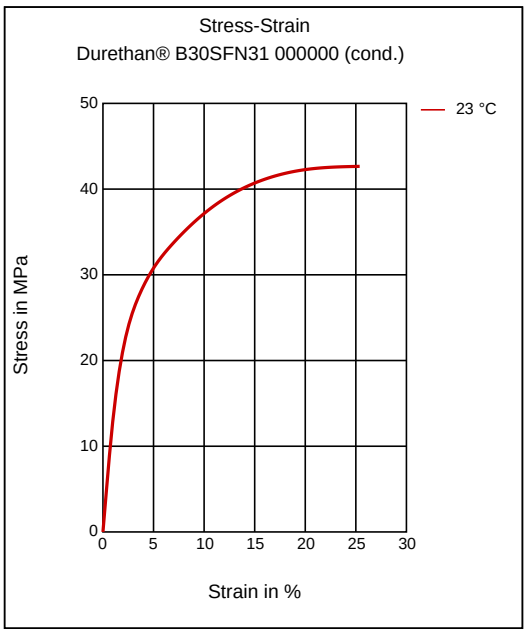
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 6	h	-
Processing humidity	≤0.07	%	-
Melt temperature	255 - 270	°C	-
Mold temperature	80 - 100	°C	-

Diagrams

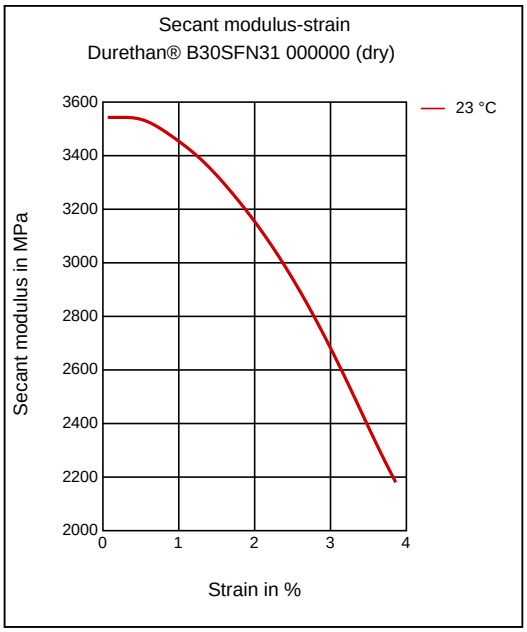
Stress-strain



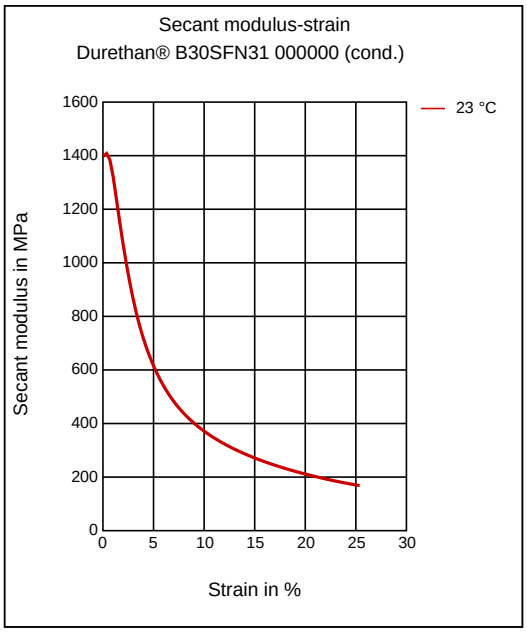
Stress-strain



Secant modulus-strain



Secant modulus-strain



Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Halogen-free, Heat aging stabilized

Delivery form
Pellets

Applications
Electrical and Electronical

Injection Molding

PREPROCESSING
Residual moisture content: 0.03 - 0.07%
Drying temperature dry air dryer: 80 °C

Drying time dry air dryer 2 - 6 h

PROCESSING
Melt temperature (Tmin - Tmax): 255 - 270 °C

Mold temperature: 80 - 100 °C

Disclaimer

- any bodily implant application for greater than 30 days
- any critical component in any medical device that supports or sustains human life.

At all times, our standard terms and conditions of sale apply.