

**Product Texts**

Injection Molding, 30% Glass Reinforced, Flame Retardant (halogen free), Heat Stabilized, Laser Transparent Black

ISO 1043 (PA66+PA6)-GF30 FR(40)

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	0.8 / *	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	10500 / 6500	MPa	ISO 527
<sup>[C]</sup> Stress at break	138 / 87	MPa	ISO 527
<sup>[C]</sup> Strain at break	2.9 / 5.7	%	ISO 527
Flexural modulus, 23°C	10100 / 6300	MPa	ISO 178
Flexural strength	230 / 150	MPa	ISO 178
<sup>[C]</sup> Charpy impact strength, +23°C	65 / 70	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	60 / 60	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	- / 11	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	- / 10	kJ/m <sup>2</sup>	ISO 179/1eA
Izod impact strength, +23°C	55 / 65	kJ/m <sup>2</sup>	ISO 180/1U
Izod notched impact strength, +23°C	10 / 12	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	- / 10	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-30	°C	-
Ball indentation hardness	207 / -	MPa	ISO 2039-1

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	230 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	250 / *	°C	ISO 75-1/-2
Vicat softening temperature, B	233 / *	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	20 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	70 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
Burning behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	-
<sup>[C]</sup> Burning Behav. 5V at thickness h	5VA / *	class	IEC 60695-11-20
Thickness tested	1.5 / *	mm	-
<sup>[C]</sup> Oxygen index	34 / *	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (1)	0.4	mm	-
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (2)	0.75	mm	-
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	1.5	mm	-
Glow Wire Ignition Temperature (GWIT)	750	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.4	mm	-
Glow Wire Ignition Temperature (GWIT)	750	°C	IEC 60695-2-13
GWIT - thickness tested (2)	0.75	mm	-
Glow Wire Ignition Temperature (GWIT)	750	°C	IEC 60695-2-13
GWIT - thickness tested (3)	1.5	mm	-

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	4 / 7.3	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	3.4 / 3.9	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	200 / 1090	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	175 / 555	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	>1E13 / 2.7E11	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	* / 2.7E14	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	40 / 36	kV/mm	IEC 60243-1
<sup>[C]</sup> Comparative tracking index	600 / -	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
<sup>[C]</sup> Water absorption	4.4 / *	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	1.4 / *	%	Sim. to ISO 62
<sup>[C]</sup> Density	1420 / -	kg/m <sup>3</sup>	ISO 1183
Bulk density	700	kg/m <sup>3</sup>	-

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Injection Molding, melt temperature	270	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

[C]: CAMPUS

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	265 - 285	°C	-
Mold temperature	80 - 100	°C	-

## Characteristics

### Processing

Injection Molding

### Delivery form

Pellets, Black

### Special Characteristics

Flame retardant, Halogen-free, Heat stabilized or stable to heat

### Features

Laser Transparent

### Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

## Other text information

### 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): 265 - 285 °C

Mold temperature: 80 - 100 °C