

VALOX™ 4012G resin

Polybutylene Terephthalate

SABIC Innovative Plastics Europe

Message:

VALOX 4012G is a 10% glass fiber reinforced PBT injection molding resin with excellent mechanical properties. Applications: connectors. This grade is a 4012 with improved cycle time and ductility.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Features	Fast molding cycle ductility		
Uses	Connector		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.39	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/1.2 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow ¹	0.60 - 0.90	%	Internal method
Flow: 3.20mm	0.60 - 1.6	%	Internal method
Transverse flow ²	0.70 - 1.0	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	0.070	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	117	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ³	4600	MPa	ASTM D638
--	4500	MPa	ISO 527-2/1
Tensile Strength			
Yield ⁴	75.0	MPa	ASTM D638
Yield	72.0	MPa	ISO 527-2/5
Fracture ⁵	75.0	MPa	ASTM D638
Fracture	72.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁶	3.0	%	ASTM D638
Yield	4.0	%	ISO 527-2/5
Fracture ⁷	3.0	%	ASTM D638

Fracture	4.0	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁸	3940	MPa	ASTM D790
-- ⁹	3500	MPa	ISO 178
Flexural Stress			
--	110	MPa	ISO 178
Yield, 50.0mm span ¹⁰	110	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹¹			ISO 179/1eA
-30°C	6.0	kJ/m ²	ISO 179/1eA
23°C	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹²			ISO 179/1eU
-30°C	45	kJ/m ²	ISO 179/1eU
23°C	45	kJ/m ²	ISO 179/1eU
Notched Izod Impact			
-30°C	74	J/m	ASTM D256
23°C	74	J/m	ASTM D256
-30°C ¹³	6.0	kJ/m ²	ISO 180/1A
23°C ¹⁴	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹⁵			ISO 180/1U
-30°C	37	kJ/m ²	ISO 180/1U
23°C	37	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	4.00	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, unannealed, 100 mm span ¹⁶	215	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	175	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁷	170	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	205	°C	ASTM D1525, ISO 306/B50 11 ¹⁸
--	208	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	6.0E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	6.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	8.0E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	8.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	8.5E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093

Dielectric Strength			IEC 60243-1
0.800mm, in oil	30	kV/mm	IEC 60243-1
1.60mm, in oil	25	kV/mm	IEC 60243-1
3.20mm, in oil	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.10		IEC 60250
60 Hz	3.10		IEC 60250
1 MHz	3.00		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
1 MHz	0.014		IEC 60250
Comparative Tracking Index			IEC 60112
--	250	V	IEC 60112
Solution B	150	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm, Testing by SABIC)	HB		UL 94
Glow Wire Flammability Index (1.00 mm)	750	°C	IEC 60695-2-12
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 - 60.0	°C	
Rear Temperature	230 - 245	°C	
Middle Temperature	240 - 255	°C	
Front Temperature	245 - 265	°C	
Nozzle Temperature	240 - 260	°C	
Processing (Melt) Temp	250 - 270	°C	
Mold Temperature	40.0 - 100	°C	
NOTE			
1.	Tensile Bar		
2.	Tensile Bar		
3.	5.0 mm/min		
4.	Type 1, 5.0 mm/min		
5.	Type 1, 5.0 mm/min		
6.	Type 1, 5.0 mm/min		
7.	Type 1, 5.0 mm/min		
8.	1.3 mm/min		
9.	2.0 mm/min		
10.	1.3 mm/min		
11.	80*10*4 sp=62mm		
12.	80*10*4 sp=62mm		

13.	80*10*4
14.	80*10*4
15.	80*10*4
16.	120*10*4 mm
17.	120*10*4 mm
18.	标准 B (120°C/h), 载荷2 (50N)

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


WECHAT