

Technical Data Sheet

Glasic 1412

Thermoset Polyester
LyondellBasell Industries
Engineering Plastics

Product Description

Grade 1412 is one of the most versatile and universal molding materials available anywhere. Flame and track resistant, low shrink for close dimensional control and surface smoothness, high physical properties. Developed for injection molding but also suitable for compression or transfer applications. Glasic's highest temperature material, Grade 1412 is truly a premium material at a reasonable cost. Grade 1412 is approved for Mil specifications MAI-30, MAI-60 and MAT-30.

General

Filler / Reinforcement	• Glass Fiber		
Features	• Electrically Insulating • Flame Retardant	• Good Electrical Properties • Low Shrinkage	• Tracking Resistant
Uses	• Appliance Components • Automotive Applications	• Electrical Housing • Electrical/Electronic Applications	
Agency Ratings	• MIL M-14, Type MAI-30	• MIL M-14, Type MAI-60	• MIL M-14, Type MAT-30
Appearance	• Black • Colors Available	• Red • Tan	• White
Forms	• BMC - Bulk Molding Compound		
Processing Method	• Compression Molding	• Injection Molding	

Physical	Nominal Value (English)		Nominal Value (SI)	Test Method
Density / Specific Gravity	1.78		1.77 g/cm ³	ASTM D792
Water Absorption (24 Hr)	0.16 %		0.16 %	ASTM D570
Mechanical	Nominal Value (English)		Nominal Value (SI)	Test Method
Tensile Modulus (Compression Molded)	1.80E+6 psi		12400 MPa	ASTM D638
Tensile Strength (Yield, Compression Molded)	6470 psi		44.6 MPa	ASTM D638
Flexural Modulus (Compression Molded)	1.90E+6 psi		13100 MPa	ASTM D790
Flexural Strength (Compression Molded)	24100 psi		166 MPa	ASTM D790
Compressive Strength	25800 psi		178 MPa	ASTM D695
Shear Strength	9320 psi		64.3 MPa	ASTM D732
Impact	Nominal Value (English)		Nominal Value (SI)	Test Method
Notched Izod Impact (Compression Molded)	8.7 ft-lb/in		470 J/m	ASTM D256
Thermal	Nominal Value (English)		Nominal Value (SI)	Test Method
RTI Elec	320 °F		160 °C	UL 746B
RTI Str	320 °F		160 °C	UL 746B
Electrical	Nominal Value (English)		Nominal Value (SI)	Test Method
Surface Resistivity	• 6.8E+14 ohms • 2.0E+13	• 6.8E+14 ohms • 2.0E+13		ASTM D257
Dielectric Strength (Method A (short-time))	490 V/mil		19 kV/mm	ASTM D149
Dielectric Constant				ASTM D150
60 Hz	• 5.30 • 5.70	• 5.30 • 5.70		
1 Mhz	4.30		4.30	
Dissipation Factor				ASTM D150
60 Hz	• 0.018 • 0.039	• 0.018 • 0.039		
1 Mhz	• 0.023 • 0.15	• 0.023 • 0.15		
Arc Resistance	192 sec		192 sec	ASTM D495
Flammability	Nominal Value (English)		Nominal Value (SI)	Test Method
Flame Rating	V-0		V-0	UL 94

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Additional Information

Permittivity, ASTM D150, 60 Hz, Condition A: 5.3
Permittivity, ASTM D150, 60 Hz, Condition D: 5.7
Permittivity, ASTM D150, 1 MHz, Condition A: 4.3
Permittivity, ASTM D150, 1 MHz, Condition D: 4.3
Insulation Resistance, ASTM D257, Condition A: 68.2 Ohm x 10e13
Insulation Resistance, ASTM D257, Condition C: 2.0 Ohm x 10e13
Track Resistance, ASTM D2303: 1500 minutes
Dissipation Factor, ASTM D150, 60 Hz, Condition A: 0.018
Dissipation Factor, ASTM D150, 60 Hz, Condition D: 0.039
Dissipation Factor, ASTM D150, 1 MHz, Condition A: 0.023
Dissipation Factor, ASTM D150, 1 MHz, Condition D: 0.152

Notes

These are typical property values not to be construed as specification limits.