

Vyncolit® X658

Phenolic

Vyncolit N.V.

Message:

Vyncolit X658 is a glass fiber and mineral filled phenolic molding compound with excellent mechanical and thermal properties and a very good dimensional stability.

General Information			
Filler / Reinforcement	Glass \Mineral		
Appearance	Black		
Forms	Particle		
Processing Method	Resin transfer molding		
	Compression molding		
	Injection molding		

Physical	Nominal Value	Unit	Test Method
Density	2.10	g/cm³	ISO 1183
Molding Shrinkage - Flow	0.15 - 0.25	%	ISO 294-4
Water Absorption (23°C, 24 hr)	0.10	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (Injection Molded)	18500	MPa	ISO 527-2
Tensile Stress (Break, Injection Molded)	50.0	MPa	ISO 527-2
Tensile Strain (Break, Injection Molded)	0.40	%	ISO 527-2
Flexural Modulus (Injection Molded)	13000	MPa	ISO 178
Flexural Stress (Injection Molded)	90.0	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (Injection Molded)	3.0	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	5.0	kJ/m²	ISO 179

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	190	°C	ISO 75-2/A
8.0 MPa, not annealed	163	°C	ISO 75-2/C
Linear thermal expansion coefficient			ASTM E831
Flow	2.0E-5	cm/cm/°C	ASTM E831
Lateral	2.5E-5	cm/cm/°C	ASTM E831

Electrical	Nominal Value	Unit	Test Method
Dielectric Strength	30	kV/mm	IEC 60243-1
Comparative Tracking Index	175	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94

1.60 mm	V-0	UL 94
4.00 mm	V-0	UL 94
Injection	Nominal Value	Unit
Rear Temperature	60.0	°C
Middle Temperature	73.9	°C
Nozzle Temperature	87.8	°C
Processing (Melt) Temp	98.9 - 116	°C
Mold Temperature	166 - 188	°C
Injection Pressure	100 - 248	MPa
Holding Pressure	30.0 - 89.6	MPa
Back Pressure	4.83 - 15.2	MPa
Injection instructions		

Plastication: 50rpm Injection Time: 2 to 8 sec Hold Time: 1 to 5 sec/mm Cure Time, 0.125 in: 5 to 12 sec/mm All ISO properties listed were tested in accordance with ISO 3167 The value listed as Molding Shrinkage, ISO 294-4, was tested in accordance with ISO 2577. ISO Type: PF 2 C3 Powder Density, ISO 60: 0.9 to 1.05 g/cm³ Post Shrinkage, ISO 2577: 0.05 to 0.15% HDT A (1.80 MPa) Unannealed, ISO 75A, Injection Molding: 180 to 200°C HDT A (8.0 MPa) Unannealed, ISO 75A, Injection Molding: 155 to 170°C CCLTE, Flow (TMA), ASTM E831, Injection Molding: 15 to 25 cm⁻⁶/cm°C CCLTE, Transverse (TMA), ASTM E831, Injection Molding: 20 to 30 cm⁻⁶/cm°C Flexural Strength, ISO 178, Injection Molding: 80 to 100 MPa Flexural Modulus, ISO 178, Injection Molding: 12 to 14 GPa Strain to failure in Flexure, ISO 178, Injection Molding: 0.75 to 0.85% Tensile Stress at Break, ISO 527-1,-2, Injection Molding: 40 to 60 MPa Tensile Modulus, ISO 527-1,-2, Injection Molding: 17.5 to 19.5 GPa Tensile Strain at Break, ISO 527-1,-2, Injection Molding: 0.3 to 0.5% Charpy Notched Impact Strength, ISO 179, Injection Molding: 2 to 4 kJ/m² Charpy Unnotched Impact Strength, ISO 179, Injection Molding: 4 to 6 kJ/m² Compressive Strength, ISO 604: 220 to 260 MPa

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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



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