

Vyncolit® X6051

Phenolic

Vyncolit N.V.

Message:

Vyncolit X6051 is a phenolic molding compound with excellent mechanical properties and a good flexibility.

General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Features	Good flexibility		
Appearance	Black		
	Green		
Forms	Particle		
Processing Method	Resin transfer molding		
	Compression molding		
	Injection molding		

Physical	Nominal Value	Unit	Test Method
Density	1.38	g/cm³	ISO 1183
Molding Shrinkage - Flow	0.40 - 0.55	%	ISO 294-4
Water Absorption (23°C, 24 hr)	0.15	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (Injection Molded)	6000	MPa	ISO 527-2
Tensile Stress (Break, Injection Molded)	50.0	MPa	ISO 527-2
Tensile Strain (Break, Injection Molded)	0.55	%	ISO 527-2
Flexural Modulus (Injection Molded)	5500	MPa	ISO 178
Flexural Stress (Injection Molded)	130	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (Injection Molded)	4.0	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	11	kJ/m²	ISO 179

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	180	°C	ISO 75-2/A
8.0 MPa, not annealed	150	°C	ISO 75-2/C
Linear thermal expansion coefficient			ASTM E831
Flow	3.5E-5	cm/cm/°C	ASTM E831
Lateral	5.5E-5	cm/cm/°C	ASTM E831

Flammability	Nominal Value	Test Method
Flame Rating		UL 94

1.60 mm	HB	UL 94
4.00 mm	V-1	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 C1 Powder Density, ISO 60: 0.5 to 0.65 g/cm³ Post Shrinkage, ISO 2577: 0.5 to 0.6% HDT A (1.80 MPa) Unannealed, ISO 75A, Injection Molding: 170 to 190°C HDT A (8.0 MPa) Unannealed, ISO 75A, Injection Molding: 140 to 160°C CCLTE, Flow (TMA), ASTM E831, Injection Molding: 30 to 40 cm⁻⁶/cm°C CCLTE, Transverse (TMA), ASTM E831, Injection Molding: 50 to 60 cm⁻⁶/cm°C Flexural Strength, ISO 178, Injection Molding: 120 to 140 MPa Flexural Modulus, ISO 178, Injection Molding: 4.5 to 6.5 GPa Strain to failure in Flexure, ISO 178, Injection Molding: 2 to 2.2% Tensile Stress at Break, ISO 527-1,-2, Injection Molding: 40 to 60 MPa Tensile Modulus, ISO 527-1,-2, Injection Molding: 5 to 7 GPa Tensile Strain at Break, ISO 527-1,-2, Injection Molding: 0.5 to 0.6% Charpy Notched Impact Strength, ISO 179, Injection Molding: 3 to 5 kJ/m² Charpy Unnotched Impact Strength, ISO 179, Injection Molding: 10 to 12 kJ/m² Compressive Strength, ISO 604: 180 to 210 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

