Vyncolit® X620/1

Phenolic

Vyncolit N.V.

Message:

Vyncolit X620/1 is a glass fiber and graphite filled phenolic molding compound with excellent tribological properties and excellent chemical resistance in several media.

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

Physical	Nominal Value	Unit	Test Method
Density	1.67	g/cm³	ISO 1183
Apparent Density	0.74	g/cm³	ISO 60
Molding Shrinkage - Flow	0.20	%	ISO 294-4
Water Absorption (23°C, 24 hr)	0.050	%	ISO 62
Post Shrinkage	0.020	%	ISO 2577
Flexural Strain at Break	0.90	%	ISO 178
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (Injection Molded)	18000	MPa	ISO 527-2
Tensile Stress (Break, Injection Molded)	67.0	MPa	ISO 527-2
Tensile Strain (Break, Injection Molded)	0.49	%	ISO 527-2
Flexural Modulus (Injection Molded)	16000	MPa	ISO 178
Flexural Stress (Injection Molded)	133	MPa	ISO 178
Compressive Stress	171	MPa	ISO 604
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (Injection Molded)	2.7	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	6.9	kJ/m²	ISO 179
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (1.8 MPa, Unannealed)	> 250	°C	ISO 75-2/A
Linear thermal expansion coefficient			ASTM E831
Flow	1.1E-5	cm/cm/°C	ASTM E831
Lateral	3.9E-5	cm/cm/°C	ASTM E831
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: 50rpmInjection Time: 2 to 8 secHold Time: 1 to 5 sec/mmCure Time, 0.125 in: 5 to 12 sec/mmAll ISO properties listed were tested in accordance with ISO 3167The value listed as Molding Shrinkage, ISO 294-4, was tested in accordance with ISO 2577.ISO Type: PF 2 C1Powder Density, ISO 60: 0.65 to 0.8 g/cm^{3}Post Shrinkage, ISO 2577: 0.01 to 0.08%HDT A (1.80 MPa) Unannealed, ISO 75A, Injection Molding: 200 to 220°CHDT A (8.0 MPa) Unannealed, ISO 75A, Injection Molding: 175 to 195°CCLTE, Flow (TMA), ASTM E831, Injection Molding: 15 to 25 cm^-6/cm°CCLTE, Transverse (TMA), ASTM E831, Injection Molding: 30 to 40 cm^-6/cm°CFlexural Strength, ISO 178, Injection Molding: 120 to 140 MPaFlexural Modulus, ISO 178, Injection Molding: 13.5 to 15.5 GPaStrain to failure in Flexure, ISO 178, Injection Molding: 0.85 to 0.95%Tensile Stress at Break, ISO 527-1,-2, Injection Molding: 50 to 70 MPaTensile Modulus, ISO 527-1,-2, Injection Molding: 17.5 to 19.5 GPaTensile Strain at Break, ISO 527-1,-2, Injection Molding: 0.4 to 0.5%Charpy Notched Impact Strength, ISO 179, Injection Molding: 2.5 to 4 kJ/m^{2}Charpy Unnotched Impact Strength, ISO 179, Injection Molding: 6 to 8 kJ/m^{2}Compressive Strength, ISO 604: 160 to 190 MPa

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