VECTRA® MT®1310

(LCP+PTFE)-GF30 Celanese

Product Texts

Vectra® MT1310 VF3001 (natural) is a 30% glass reinforced, easy flow LCP grade for injection molding.

Vectra® MT1310 VF3001 (natural) is a special grade developed for medical industry applications and complies with:

- Food Contact Substance Notification (FCN) No. 742 of the Food and Drug Administration (FDA) and is listed in the Drug Master File (DMF 8464) and the Device Master File (MAF 315)
- the corresponding EU and national registry regulatory requirements
- biocompatibility in tests corresponding to USP 23 Class VI/ISO 10993
- low residual monomers
- no animal products

The Standard for the Industry. Excellent balance of properties, including easy flow, easy processing, thermal stability, chemical resistance, mechanical and electrical properties. Suitable for vapor phase surface mount electrical and electronic devices.
Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant

Flammability at thickness h	V-0	-

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Molding shrinkage, parallel	**0.2**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.4**	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**15000**	MPa	ISO 527
[C] Stress at break	**190**	MPa	ISO 527
[C] Strain at break	**2.1**	%	ISO 527
[C] Charpy notched impact strength, +23°C	**46**	kJ/m²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**280**	°C	ISO 11357-1/-3
[C] Temp. of deflection under load, 1.80 MPa	**235**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**250**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**160**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**6**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**23**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at thickness h	**V-0**	class	IEC 60695-11-10
[C] Oxygen index	**45**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4.2**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**3.7**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**160**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**180**	E-4	IEC 62631-2-1
[C] Volume resistivity	**1E13**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**>1E15**	Ohm	IEC 62631-3-2
[C] Electric strength	**31**	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Humidity absorption	**0.04**	%	Sim. to ISO 62
[C] Density	**1620**	kg/m³	ISO 1183

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets, Natural Color

Special Characteristics
Flame retardant, Light stabilized or stable to light, Sterilizable, Ethylene Oxide (EtO) Sterilization, Steam sterilization, Gamma irradiation sterilization

Features
Thermal Stability

Chemical Resistance
General Chemical Resistance

Certifications
Food contact, Food approval BfR, Food approval FDA 21 CFR, Food contact notification (FCN), Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved, Drug Master File, Device Master File

Applications
Medical

Regional Availability
North America, Europe

Other text information

Injection molding
Vectra resins are well known for their excellent thermal and hydrolytic stability. In order to ensure these properties are optimum, the resin should be dried correctly prior to processing. The Vectra MT-grades MT1300, MT1305, MT1310, MT1335, MT1340 and MT1345 should be dried at 150°C for a minimum of 4 hours in a desiccant dryer.
A three-zone screw evenly divided into feed, compression, and metering zones is preferred. A higher percentage of feed flights may be needed for smaller machines: 1/2 feed, 1/4 compression, 1/4 metering.

Vectra LCPs are shear thinning, their melt viscosity decreases quickly as shear rate increases. For parts that are difficult to fill, the molder can increase the injection velocity to improve melt flow.