

Product Texts

Vectra® MT1305 VF3001 (natural) is a 15% glass reinforced, easy flow LCP grade for injection molding.

Vectra® MT1305 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

Provides easier flow than MT1310 VF3001 (natural)

Slightly tougher, but may warp slightly more than MT1310 in some parts

Chemical abbreviation according to ISO 1043-1 : LCP

Inherently flame retardant

UL-Listing V-0 in natural and black at 0.44mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electricals 240°C, mechanicals 220°C at 0.85mm. UL = Underwriters Laboratories (USA)

Flammability at thickness h V-0 -

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	0.1	%	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	12000	MPa	ISO 527
^[C] Stress at break	190	MPa	ISO 527
^[C] Strain at break	3	%	ISO 527
^[C] Charpy notched impact strength, +23°C	80	kJ/m ²	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	230	°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	162	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	10	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	18	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at thickness h	V-0	class	IEC 60695-11-10

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	3.5	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	3	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	200	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	34	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Density	1500	kg/m ³	ISO 1183

[C]: CAMPUS

Characteristics

Processing

Injection Molding

Delivery form

Pellets, Black, Natural Color

Special Characteristics

Flame retardant, Light stabilized or stable to light, U.V. stabilized or stable to weather, Heat stabilized or stable to heat

Certifications

Food contact notification (FCN), US Pharmacopeia Class VI Approved, Drug Master File, Device Master File

Applications

Medical

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

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.