VESTAMID® Care ML17

PA12 Evonik Operations GmbH

Product Texts

Low viscosity polyamide 12 for medical application

VESTAMID® Care ML17 is resistant to body fluids and toxicologically safe.

Typical application areas for filled VESTAMID Care ML grades include catheters, housing parts, monitoring and imaging devices and durable medical equipment.

The advantages at a glance:

- High flexibility & elasticity
- Good rebound properties
- High impact resistance
- Excellent dimensional stability
- High chemical resistance
- Easy processability & colorability
- Plasticizer-free
- Gamma and EtO sterilization resistant
- Tough and resilient

Biocompatibility of VESTAMID® Care ML

Biocompatiblity was tested following ISO10993-1 recommendations for a surface medical device with up to 30 days body contact.

The material fulfills the requirements of USP<88> class VI.

Tests were performed by independent, certified laboratories.

Biocompatibility tests for VESTAMID® Care:

Standard	Description
ASTM F756-08	Hemocompatibility
ISO 10993-5	Cytotoxicity
ISO 10993-10	Sensitization: Maximization test according to Magnusson and Kligman
ISO 10993-10	Irritation: Intracutaneous Reactivity
ISO 10993-11	Acute Systemic Toxicity
USP Class VI	Acute Systemic Toxicity Intracutaneous Reactivity Muscle Implantation

Processing of VESTAMID® Care

For information about processing of VESTAMID®, please follow the general commendations about "Processing of VESTAMID® compounds".

The values presented are typical or average values, they do not constitute a specification.

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM
OR VISIT OUR PRODUCT AT WWW.EVONIK.COM/MEDICAL-TECHNOLOGY

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**21 / ***	cm³/10min	ISO 1133
Temperature	**210 / ***	°C	-
Load	**2.16 / ***	kg	-
[C] Molding shrinkage, parallel	**0.7 / ***	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.2 / ***	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**1400 / 1120**	MPa	ISO 527

[C] Yield stress	**43 / 41**	MPa	ISO 527
[C] Yield strain	**5 / 13**	%	ISO 527
[C] Nominal strain at break	**>50 / 40**	%	ISO 527
[C] Charpy impact strength, +23°C	**N / N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N / 50**	kJ/m²	ISO 179/1eU
[C] Type of failure	**- / C(N)**	-	-
[C] Charpy notched impact strength, +23°C	**4.5 / 4.5**	kJ/m²	ISO 179/1eA
[C] Type of failure	**C / C**	-	-
[C] Charpy notched impact strength, -30°C	**6 / 5**	kJ/m²	ISO 179/1eA
[C] Type of failure	**C / C**	-	-
[C] Shore D hardness	**75 / ***	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Melting temperature, 10°C/min	**178 / ***	°C	ISO 11357-1/-3
[C] Glass transition temperature, 10°C/min	**45 / ***	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**50 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**110 / ***	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**140 / ***	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**150 / ***	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10
Thickness tested	**1.6 / ***	mm	-

[C]: CAMPUS

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Relative permittivity, 100Hz	**3.8 / -**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**2.9 / -**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**500 / -**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**281 / -**	E-4	IEC 62631-2-1
[C] Volume resistivity	**>1E13 / 2.3E12**	Ohm*m	IEC 62631-3-1

[C]: CAMPUS

Other properties	**dry / cond**	**Unit**	**Test Standard**
[C] Water absorption	**1.5 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**0.7 / ***	%	Sim. to ISO 62
[C] Density	**1020 / -**	kg/m³	ISO 1183

[C]: CAMPUS

Test specimen production	**Value**	**Unit**	**Test Standard**
ISO Data			
[C] Injection Molding, melt temperature	**210**	°C	ISO 294
Injection Molding, mold temperature	**60**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets

Chemical Resistance
General Chemical Resistance

Certifications
Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

Special Characteristics
High impact or impact modified, Sterilizable, Ethylene Oxide (EtO) Sterilization, Gamma irradiation sterilization

Features
Tribologic Grade

Applications
Medical

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