Product Information

VESTAMID® Care ME40-B

POLYAMIDE 12 ELASTOMER MOLDING COMPOUNDS

VESTAMID® Care ME40-B is free of plasticizers, heat and light stabilized. **VESTAMID® Care ME40-B** is resistant to body fluids and toxicologically safe.

VESTAMID® Care ME-B grades are engineered to adhere to different polymer types in a multi-layer tube or film extrusion without the need of adhesives, compatibilizers or additives that might migrate out of the device.

VESTAMID® Care ME-B grades are flexible polyether block amides (PEBA) resins.

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 ME-B

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

The results presented were generated from a small number of production lots. They are therefore provisional and not yet the result of a statistical analysis.

Key Features

Industrial Sector
Automotive and Mobility, Medical Devices, Sports and Lifestyle, 3D Printing

Processing
Injection molding, Extrusion, Hotmelt adhesive bonding, Hot compression moulding, 3D Printing

Delivery form
Pellets, Granules

Optics
Translucent

Resistance to
Heat (thermal stability)

Electrical
Insulating

Conformity
Biocompatibility, Medical application

Additives
Unfilled

LCA-values	dry	Unit	Test Standard
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	**24.3**	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	**6.5**	kg CO_2 eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	**6.5**	kg CO_2 eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	**0**	Annual crop eq. y	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**30500 / -**	psi	ISO 527
Stress at 50% strain	**2030 / -**	psi	ISO 527
Stress at break	**3190 / -**	psi	ISO 527
Nominal strain at break, tB	**>50 / -**	%	ISO 527
Typical for the mat. nom. strain at br., tB	**384**	%	ISO 527
Charpy impact strength, +23°C	**N / -**	ftlb/in^2	ISO 179/1eU
Charpy impact strength, -30°C	**N / -**	ftlb/in^2	ISO 179/1eU

Charpy notched impact strength, +23°C	**31.4 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**P / -**	-	-
Charpy notched impact strength, -30°C	**40.9 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**P / -**	-	-

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	**347 / ***	°F	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	**104 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**136 / ***	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**259 / ***	°F	ISO 306

Physical properties	dry / cond	Unit	Test Standard
Density	**1.01 / -**	g/cm³	ISO 1183
Humidity absorption	**0.076 / ***	%	Sim. to ISO 62
Shore D hardness	**47[b] / -**	-	ISO 7619-1

b: 3 seconds

Burning Behav.	dry / cond	Unit	Test Standard
Burning behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.0630 / ***	in	-
Oxygen index	**21 / ***	%	ISO 4589-1/-2

Optical properties	dry	Unit	Test Standard
Color b	**13**	-	CIE

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**54.5 / ***	cm³/10min	ISO 1133
Temperature	**230 / ***	°C	-
Load	**2.16 / ***	kg	-

Polymer analytics	dry / cond	Unit	Test Standard
Viscosity number	**4480 / ***	in^3/lb	ISO 307, 1157, 1628
Amino end group	**50**	mmol/kg	Evonik standard
Carboxyl end group	**25**	mmol/kg	Evonik standard

Characteristics

Applications
Packaging, Medical devices

Processing
Film extrusion, Profile extrusion, Sheet extrusion, Blow molding, Thermoforming, Compression molding, K&K process, Additive manufacturing

Special Characteristics
Halogen-free, PTFE-free, Semi-crystalline

Features
Lightweight, Good adhesion, Flexible

Regulatory
US Pharmacopeia Class VI conformity, Cytotoxicity ISO 10993-5

Color
Natural color

Additives
Antioxidant agent, Heat stabilizer

Delivery form
Cylindrical pellets, Spherical pellets

Chemical Resistance
General chemical resistance