

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

Biocompatibility 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

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

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	210 / -	MPa	ISO 527
Stress at 50% strain	14 / -	MPa	ISO 527
Stress at break	22 / -	MPa	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 / -	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N / -	kJ/m ²	ISO 179/1eU

Charpy notched impact strength, +23°C	66 / -	kJ/m ²	ISO 179/1eA
Type of failure	P / -	-	-
Charpy notched impact strength, -30°C	86 / -	kJ/m ²	ISO 179/1eA
Type of failure	P / -	-	-

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	175 / *	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	40 / *	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	58 / *	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	126 / *	°C	ISO 306

Physical properties	dry / cond	Unit	Test Standard
Density	1010 / -	kg/m ³	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	1.6 / *	mm	-
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 / *	cm ³ /10min	ISO 1133
Temperature	230 / *	°C	-
Load	2.16 / *	kg	-

Polymer analytics	dry / cond	Unit	Test Standard
Viscosity number	162 / *	cm ³ /g	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