

Product Information

**VESTAMID® Care ME55-B**

**POLYAMIDE 12 ELASTOMER MOLDING COMPOUNDS**



VESTAMID® Care ME55-B is free of plasticizers, heat and light stabilized. VESTAMID® Care ME55-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, Industry and Engineering, 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	<a href="#">TÜV Rheinland</a>	-	ISO 14040, 14044
Blue water consumption	<b>24.3</b>	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	<b>6.5</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	<b>6.5</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	<b>0</b>	Annual crop eq. y	ISO 14040, 14044

#### Mechanical properties ISO

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	<b>51900 / -</b>	psi	ISO 527
Stress at 50% strain	<b>3050 / -</b>	psi	ISO 527
Stress at break	<b>6960 / -</b>	psi	ISO 527
Nominal strain at break, tB	<b>500 / -</b>	%	ISO 527
Charpy impact strength, +23°C	<b>N / -</b>	ftlb/in <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	<b>N / -</b>	ftlb/in <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	<b>47.6 / -</b>	ftlb/in <sup>2</sup>	ISO 179/1eA

Type of failure	P / -	-	-
Charpy notched impact strength, -30°C	7.61 / -	ftlb/in <sup>2</sup>	ISO 179/1eA
Type of failure	C / -	-	-

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	341 / *	°F	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	115 / *	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	181 / *	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	323 / *	°F	ISO 306

Physical properties	dry / cond	Unit	Test Standard
Density	1.01 / -	g/cm <sup>3</sup>	ISO 1183
Water absorption	0.037 / *	%	Sim. to ISO 62
Shore D hardness	58 <sup>[b]</sup> / -	-	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	22.6 / *	%	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	25.9 / *	cm <sup>3</sup> /10min	ISO 1133
Temperature	230 / *	°C	-
Load	2.16 / *	kg	-

## VESTAMID® Care

Polymer analytics	dry / cond	Unit	Test Standard
Viscosity number	<b>4730 / *</b>	in <sup>3</sup> /lb	ISO 307, 1157, 1628
Amino end group	<b>48</b>	mmol/kg	Evonik standard
Carboxyl end group	<b>28</b>	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

#### Color

Natural color

#### Additives

Antioxidant agent, Heat stabilizer

#### Delivery form

Cylindrical pellets, Spherical pellets

#### Chemical Resistance

General chemical resistance