

Product Information

**VESTAMID® Care ME62**

**POLYAMIDE 12 ELASTOMER MOLDING COMPOUNDS**



VESTAMID® Care ME62 is free of plasticizers and heat and light stabilized. VESTAMID® Care ME62 is resistant to body fluids and toxicologically safe.

VESTAMID® Care ME 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**

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

**Key Features**

**Industrial Sector**

Sustainable, Medical Devices

**Delivery form**

Pellets, Granules

**Sustainability**

Sustainable electricity

**Conformity**

Biocompatibility, Medical application

**Processing**

Injection molding

**Additives**

Unfilled

LCA-values	dry	Unit	Test Standard
LCA name of certificate	<a href="#">VESTAMID® E mix</a>	-	ISO 14040, 14044
LCA certifier	<a href="#">TÜV Rheinland</a>	-	ISO 14040, 14044
Blue water consumption	<b>14.2</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
GWP savings as compared to 2023 reference	<b>-1.6</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	<b>370 / -</b>	MPa	ISO 527
Tensile strength	<b>23 / -</b>	MPa	ISO 527
Yield stress	<b>23 / -</b>	MPa	ISO 527
Yield strain	<b>32 / -</b>	%	ISO 527
Stress at 50% strain	<b>22 / -</b>	MPa	ISO 527
Stress at break	<b>44 / -</b>	MPa	ISO 527
Nominal strain at break, tB	<b>330 / -</b>	%	ISO 527
Typical for the mat. nom. strain at br., tB	<b>200</b>	%	ISO 527
Tensile creep modulus, 0,5% Strain, 1000h	<b>* / 200</b>	MPa	ISO 899-1
Charpy impact strength, +23°C	<b>N / -</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	<b>N / -</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	<b>120 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eA

Type of failure	<b>P / -</b>	-	-
Charpy notched impact strength, -30°C	<b>8 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / -</b>	-	-
Flexural modulus, 23°C	<b>366 / -</b>	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	<b>13 / -</b>	MPa	ISO 178
Flexural strength, 23°C	<b>19 / -</b>	MPa	ISO 178
Flexural strain at flexural strength, 23°C	<b>9 / -</b>	%	ISO 178

<b>Thermal properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Melting temperature	<b>171 / *</b>	°C	ISO 11357-1/-3
Glass transition temperature, DSC	<b>10 / *</b>	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	<b>45 / *</b>	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>100 / *</b>	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>165 / *</b>	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>110 / *</b>	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>200 / *</b>	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	<b>200 / *</b>	E-6/K	ISO 11359-1/-2
Melting Temperature	<b>171</b>	°C	ASTM D 3418

<b>Physical properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1030 / -</b>	kg/m <sup>3</sup>	ISO 1183
Water absorption	<b>1.1 / *</b>	%	Sim. to ISO 62
Humidity absorption	<b>0.5 / *</b>	%	Sim. to ISO 62
Shore D hardness	<b>61<sup>[b]</sup> / -</b>	-	ISO 7619-1
Density	<b>1030</b>	kg/m <sup>3</sup>	ASTM D 792

b: 3 seconds

<b>Burning Behav.</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Burning behav. at 1.5 mm nom. thickn.	<b>HB / *</b>	class	IEC 60695-11-10

Thickness tested	<b>1.6 / *</b>	mm	-
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**Electrical properties**

	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Volume resistivity, V	<b>2E10 / 2.5E9</b>	Ohm*m	IEC 62631-3-1
Surface resistivity, C, circular electrodes	<b>- / 3E13</b>	Ohm per square	IEC 62631-3-2
Relative permittivity, 100Hz	<b>9 / -</b>	-	IEC 62631-2-1
Relative permittivity, 1MHz	<b>4 / -</b>	-	IEC 62631-2-1
Dissipation factor, 100Hz	<b>1000 / -</b>	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	<b>1200 / -</b>	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	<b>39 / -</b>	kV/mm	Sim. to IEC 60243-1

**Rheological properties**

	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Melt volume-flow rate, MVR	<b>13 / *</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>240 / *</b>	°C	-
Load	<b>2.16 / *</b>	kg	-
Molding shrinkage, parallel	<b>0.7 / *</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>1.1 / *</b>	%	ISO 294-4, 2577
Mold temperature	<b>35 / *</b>	°C	-
Melt temperature	<b>200 / *</b>	°C	-

**Polymer analytics**

	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Viscosity number	<b>190 / *</b>	cm <sup>3</sup> /g	ISO 307, 1157, 1628

**Test specimen production**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Injection Molding, melt temperature	<b>220</b>	°C	ISO 294
Injection Molding, mold temperature	<b>35</b>	°C	ISO 294
Injection Molding, injection velocity	<b>200</b>	mm/s	ISO 294

## VESTAMID® Care

### Characteristics

#### Special Characteristics

Light-stabilized, High heat resistant

#### Features

Low coefficient of friction

#### Regulatory

US Pharmacopeia Class VI conformity

#### Color

Natural color

#### Chemical Resistance

General chemical resistance