

Product Information

VESTAMID® Care ME55

POLYAMIDE 12 ELASTOMER MOLDING COMPOUNDS



VESTAMID® Care ME55 is free of plasticizers and heat and light stabilized. VESTAMID® Care ME55 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

Sustainability

Sustainable electricity

Processing

Injection molding

Delivery form

Pellets, Granules

Optics

Translucent

Resistance to

Heat (thermal stability), UV / light / weathering

Conformity

Biocompatibility, Medical application

Additives

Unfilled

LCA-values

	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® E mix	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	14.2	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
GWP savings as compared to 2023 reference	-1.6	kg CO ₂ eq./kg	ISO 14040, 14044

Mechanical properties ISO

	dry / cond	Unit	Test Standard
Tensile modulus	230 / -	MPa	ISO 527
Yield stress	17 / -	MPa	ISO 527
Yield strain	44 / -	%	ISO 527
Stress at 50% strain	17 / -	MPa	ISO 527
Stress at break	39 / -	MPa	ISO 527
Nominal strain at break, tB	435 / -	%	ISO 527
Tensile creep modulus, 0,5% Strain, 1000h	* / 100	MPa	ISO 899-1
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	94 / -	kJ/m ²	ISO 179/1eA

Type of failure	P / -	-	-
Charpy notched impact strength, -30°C	22 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Stress at 5% elongation	10.3 / -	MPa	ISO 527
Stress at 10% elongation	14.4 / -	MPa	ISO 527
Stress at 20% elongation	17.2 / -	MPa	ISO 527
Stress at 50% elongation	18.4 / -	MPa	ISO 527
Stress at 100% elongation	22.1 / -	MPa	-
Strain at break TPE	239 / -	%	ISO 527
Stress at break TPE	35.9 / -	MPa	ISO 527

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	166 / *	°C	ISO 11357-1/-3
Glass transition temperature, DSC	-20 / *	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	45 / *	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	90 / *	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	160 / *	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	100 / *	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	200 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	200 / *	E-6/K	ISO 11359-1/-2
Melting Temperature	166	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1030 / -	kg/m ³	ISO 1183
Water absorption	1.1 / *	%	Sim. to ISO 62
Humidity absorption	0.5 / *	%	Sim. to ISO 62
Shore D hardness	55 ^[b] / -	-	ISO 7619-1

Density	1030	kg/m ³	ASTM D 792
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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	-
Burnin behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	3.2 / *	mm	-

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	3E9 / -	Ohm*m	IEC 62631-3-1
Relative permittivity, 100Hz	9.5 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	4.3 / -	-	IEC 62631-2-1
Dissipation factor, 100Hz	950 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	1100 / -	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	38 / -	kV/mm	Sim. to IEC 60243-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	24 / *	cm ³ /10min	ISO 1133
Temperature	240 / *	°C	-
Load	2.16 / *	kg	-
Molding shrinkage, parallel	0.8 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.3 / *	%	ISO 294-4, 2577
Mold temperature	35 / *	°C	-
Melt temperature	200 / *	°C	-

Polymer analytics	dry / cond	Unit	Test Standard
Viscosity number	190 / *	cm ³ /g	ISO 307, 1157, 1628

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

Characteristics

Applications

Medical devices

Special Characteristics

Light-stabilized, U.V. stabilized, High heat resistant

Features

Low coefficient of friction

Regulatory

US Pharmacopeia Class VI conformity, Cytotoxicity ISO 10993-5

Color

Natural color

Chemical Resistance

General chemical resistance