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

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

VESTAMID® Care

Key Features

Industrial Sector
Sustainable, Medical Devices

Optics
Translucent

Sustainability
Sustainable electricity

Resistance to
Heat (thermal stability), UV / light / weathering

Processing
Injection molding

Conformity
Biocompatibility, Medical application

Delivery form
Pellets, Granules

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	**33400 / -**	psi	ISO 527
Yield stress	**2470 / -**	psi	ISO 527
Yield strain	**44 / -**	%	ISO 527
Stress at 50% strain	**2470 / -**	psi	ISO 527
Stress at break	**5660 / -**	psi	ISO 527
Nominal strain at break, tB	**435 / -**	%	ISO 527
Tensile creep modulus, 0,5% Strain, 1000h	*** / 14500**	psi	ISO 899-1
Charpy impact strength, +23°C	**N / -**	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	**N / -**	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, +23°C	**44.7 / -**	ftlb/in²	ISO 179/1eA

Type of failure	**P / -**	-	-
Charpy notched impact strength, -30°C	**10.5 / -**	ftlb/in^2	ISO 179/1eA
Type of failure	**C / -**	-	-

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Stress at 5% elongation	**1490 / -**	psi	ISO 527
Stress at 10% elongation	**2090 / -**	psi	ISO 527
Stress at 20% elongation	**2490 / -**	psi	ISO 527
Stress at 50% elongation	**2670 / -**	psi	ISO 527
Stress at 100% elongation	**3210 / -**	psi	-
Strain at break TPE	**239 / -**	%	ISO 527
Stress at break TPE	**5210 / -**	psi	ISO 527

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	**331 / ***	°F	ISO 11357-1/-3
Glass transition temperature, DSC	**-4 / ***	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**113 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**194 / ***	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**320 / ***	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**212 / ***	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**0.000111 / ***	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	**0.000111 / ***	in/in/°F	ISO 11359-1/-2
Melting Temperature	**331**	°F	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	**1.03 / -**	g/cm^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	**1.03**	g/cm³	ASTM D 792

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	-
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.1260 / ***	in	-

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	**965 / -**	V/mil	Sim. to IEC 60243-1

Rheological properties	**dry / cond**	**Unit**	**Test Standard**
Melt volume-flow rate, MVR	**24 / ***	cm³/10min	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	**95 / ***	°F	-
Melt temperature	**392 / ***	°F	-

Polymer analytics	**dry / cond**	**Unit**	**Test Standard**
Viscosity number	**5260 / ***	in³/lb	ISO 307, 1157, 1628

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**428**	°F	ISO 294
Injection Molding, mold temperature	**95**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/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