

VESTAMID® *Care* ME



VESTAMID® *Care* ME grades represent a range of flexible polyether block amide (PEBA) resins of varying hardness for processing via extrusion or injection molding. VESTAMID® *Care* ME materials are available as standard and bonding-modified grades.

Flexible and reliable

VESTAMID® *Care* ME standard grades have a proven history in catheter applications. Due to their broad range of flexibility, VESTAMID® *Care* ME grades are used in different parts of catheter constructions – may it be the distal end, requiring a low modulus for non-traumatic insertion, or the proximal end, needing a high modulus for force and torque transmission.

Newly developed VESTAMID® *Care* ME-B bonding grades enable a further freedom of design without raising issues regarding biocompatibility: VESTAMID® *Care* ME-B grades were specially modified to adhere to Daikin's Neoflon™ EFEP RP-5000 fluoropolymer without the need for any adhesive upon processing via coextrusion. Thereby, multilayer tubings can be realized, which combine the individual properties of both EFEP and PEBA, and do not contain any compatibilizer or adhesive, that might migrate out of the device.

The advantages at a glance

- High flexibility & elasticity
- Good rebound properties
- High impact resistance
- High dimensional stability
- High chemical resistance
- High toughness
- Easy processability & colorability
- Free of volatile plasticizers

Approvals

All VESTAMID® *Care* ME and ME-B grades were tested on biocompatibility for applications within the body of up to 30 days contact time and comply with USP <88> class VI and ISO 10993 standards.

VESTAMID® Care ME – Base grades

Properties	Test method	Unit	VESTAMID® Care ME40	VESTAMID® Care ME47	VESTAMID® Care ME55	VESTAMID® Care ME62	VESTAMID® Care ME71	
Density	23°C	ISO 1183	g/cm ³	1.01	1.03	1.03	1.03	1.01
Tensile test 23°C	50 mm/min	ISO 527-1						
Stress at 50% strain		ISO 527-2	MPa	9.5	17	17	23	30
Tensile strength			MPa	17	38	38	42	56
Strain at break			%	>200	>200	>200	>200	>200
Tensile modulus		ISO 527-1 / -2	MPa	80	220	220	370	1100
Tensile creep modulus	1000 h	ISO 899-1	MPa	60	100	100	200	200
CHARPY impact strength	23 °C	ISO 179/1eU	kJ/m ²	N	N	N	N	N
	-30 °C		kJ/m ²	N	N	N	N	N
CHARPY notched impact strength	23 °C	ISO 179/1eA	kJ/m ²	N	N	N	120 P	120 P
	-30°C		kJ/m ²	N	22 C	22 C	8 C	8 C
Shore hardness D		ISO 868		40	47	55	62	71
Temperature of deflection under load		ISO 75-1						
Method A	1.8 MPa	ISO 75-2	°C		45	45	45	
Method	0.45 MPa		°C	55	90	90	100	
Vicat softening temperature		ISO 306						
Method A	10 N		°C	125	160	160	165	
Method B	50 N		°C	60	100	100	110	144
Linear thermal expansion	23 – 55 °C	ISO 11359						
longitudinal			10 ⁻⁴ K ⁻¹	2.4	2.0	2.0	2.0	
transverse			10 ⁻⁴ K ⁻¹	2.1	2.0	2.0	2.0	
Flammability acc. UL94	1.6 mm	IEC 60695		HB	HB	HB	HB	
Mold shrinkage		determined on						
in flow direction		3mm sheets	%	0.6 – 0.9	0.6 – 1.1	0.6 – 1.1	0.6 – 1.1	
in transverse direction		with film gate	%	0.7 – 1.3	0.9 – 1.5	0.9 – 1.5	0.9 – 1.4	
		at rim, mold						
		temp. 80°C						
		ISO 294-4						
Water absorption		ISO 62						
23 °C, saturation			%	1.0	1.1	1.1	1.1	
23 °C, 50% rel. humidity			%					0.6

N = No break, P = Partial break, C = Complete break, incl. hinge break, HB = Horizontal burning

VESTAMID® Care ME – Bonding Grades

Properties	Test method	Unit	VESTAMID® Care ME40-B	VESTAMID® Care ME55-B	VESTAMID® Care ME62-B	VESTAMID® Care ME71-B
Density 23°C	ISO 1183	g/cm ³	1.00	1.01	1.02	1.01
Tensile test 23°C 50 mm/min Stress at 50% strain Tensile strength Strain at break	ISO 527-1 ISO 527-2	MPa MPa %	12 27 >200	20 39 >200	25 42 >200	30 59 >200
Tensile modulus	ISO 527 -1 / -2	MPa	180	330	500	1060
Tensile creep modulus 1000 h	ISO 899-1	MPa	60	100	200	200
CHARPY impact strength 23 °C -30 °C	ISO 179/1eU	kJ/m ² kJ/m ²	N N	N N	N N	N N
CHARPY notched impact strength 23°C -30°C	ISO 179/1eA	kJ/m ² kJ/m ²	100 P 34 C	57 P 80 C	100 P 8 C	6 C 5 C
Shore hardness D	ISO 868		46	56	64	71
Vicat softening temperature Method A Method B	ISO 306 10 N 50 N	°C °C	122	159	169 126	173 137
Water absorption 23 °C, saturation 23 °C, 50% rel. humidity	ISO 62	% %	1.5 0.7	1.6 0.7		

N = No break, P = Partial break, C = Complete break, incl. hinge break

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