

VESTAMID® Care ML21

Polyamide 12
Evonik Industries AG

Message:

VESTAMID® Care ML grades cover a range of polyamide 12 resins of different viscosity for processing via extrusion or injection molding. The VESTAMID® Care ML product range consists of unstabilized base resins as well as stabilized or reinforced compounds. VESTAMID® Care ML resins are characterized by several outstanding properties, such as high impact & notched impact resistance, dimensional stability, good sliding properties, high abrasion resistance and resistance against chemicals. Unfilled VESTAMID® Care ML grades are for example the materials of choice for catheters and tubings, where VESTAMID® Care ML materials meet even highest challenges in applications such as angioplasty balloon catheters. Typical areas of application for reinforced VESTAMID® Care ML grades include housing-parts, monitoring and imaging devices and durable medical equipment. Due to their low water uptake, filled VESTAMID® Care ML grades even resist steam autoclaving for more than 500 cycles. The advantages at a glance :

- High impact resistance
- High dimensional stability
- High chemical resistance
- Low sliding friction
- High toughness
- High abrasion resistance
- Easy processability & colorability

General Information			
Features	Biocompatible		
	Good Abrasion Resistance		
	Good Chemical Resistance		
	Good Colorability		
	Good Dimensional Stability		
	Good Impact Resistance		
	Good Processability		
	Good Toughness		
	Low Friction		
Uses	Medical Devices		
	Medical/Healthcare Applications		
	Tubing		
Agency Ratings	ISO 10993		
	USP 88		
	USP Class VI		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.01	g/cm³	ISO 1183

Molding Shrinkage			ISO 294-4
Across Flow : 2.00 mm	1.3	%	
Flow : 2.00 mm	0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	1.6	%	
Equilibrium, 23°C, 50% RH	0.80	%	
Viscosity Number	230	cm ³ /g	ISO 307
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1400	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	45.0	MPa	ISO 527-2/50
Tensile Strain (Yield, 23°C)	5.0	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	> 50	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	9.0	kJ/m ²	
23°C, Complete Break	32	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	110	°C	ISO 75-2/B
1.8 MPa, Unannealed	50.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	170	°C	ISO 306/A
--	140	°C	ISO 306/B
Melting Temperature (DSC) ¹	178	°C	ISO 11357
CLTE - Flow (23 to 55°C)	1.5E-4	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.60 mm	HB		
3.20 mm	HB		
NOTE			
1.	2nd Heating		

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