

VESTAMID® D D18

Polyamide 612
Evonik Industries AG

Message:

Characterization: medium-viscosity base product
Applications: monofilaments, bristles with high recovery for paint brushes and tooth brushes
Its advantages over PA 12 exhibit in the
heat deflection temperature (melting point nearly 40 °C higher)
tensile and flexural strength
outstanding recovery at high wet strength
The PA 612 compounds of the VESTAMID® D series consequently represent specialty products that complement the comprehensive selection of PA 12 compounds of the VESTAMID® L series.

General Information				
Features	Food Contact Acceptable			
	Fuel Resistant			
	Good Abrasion Resistance			
	Grease Resistant			
	High ESCR (Stress Crack Resist.)			
	High Impact Resistance			
	Medium Viscosity			
	Oil Resistant			
	Solvent Resistant			
Uses	Monofilaments			
Agency Ratings	EU 10/2011			
	FDA 21 CFR 177.1500			
Appearance	Black			
	Natural Color			
Forms	Granules			
Processing Method	Extrusion			
	Injection Molding			
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.06	1.06	g/cm ³	ISO 1183
Molding Shrinkage ¹				ISO 294-4
Across Flow	1.1	--	%	
Flow	1.3	--	%	
Water Absorption				ISO 62
Saturation, 23°C	2.7	--	%	

Equilibrium, 23°C, 50% RH	1.0	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2200	1700	MPa	ISO 527-2/1A
Tensile Stress (Yield)	60.0	52.0	MPa	ISO 527-2/1A
Tensile Strain				ISO 527-2/1A
Yield	4.0	20	%	
Break	> 50	> 50	%	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C, Complete Break	6.0	7.0	kJ/m ²	
23°C, Complete Break	6.0	9.0	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed ²	170	170	°C	ISO 75-2/B
0.45 MPa, Unannealed	140	140	°C	ISO 75-2/B
1.8 MPa, Unannealed ³	75.0	--	°C	ISO 75-2/A
1.8 MPa, Unannealed	60.0	55.0	°C	ISO 75-2/A
Vicat Softening Temperature	180	180	°C	ISO 306/B
Melting Temperature ⁴	215	215	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	1.3E-4	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength	28	--	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.80	--		
1 MHz	3.40	--		
Dissipation Factor				IEC 60250
100 Hz	0.026	--		
1 MHz	0.031	--		
Comparative Tracking Index ⁵ (Solution A)	> 600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.60 mm	HB	HB		
3.20 mm	HB	HB		
Additional Information	Dry	Conditioned		Test Method
Electrolytical Corrosion	A1	A1		IEC 60426

ISO Shortname	PA612, LN, 14-020	--	ISO 1874
NOTE			
1.	specimen 127x12.7x3.2 mm processing acc. to ISO 1874-2		
2.	after conditioning at 180 °C / 60 min		
3.	after conditioning at 180 °C / 60 min		
4.	2nd Heating		
5.	50 drops Value		

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