

Product Information

VESTAMID® *Terra* HS18 natural color

Medium viscosity polyamide 610

VESTAMID *Terra* HS18 natural color is a medium viscosity PA 610 basic polymer for monofilaments and bristles with high recovery for paint brushes and tooth brushes.

The carbonamide groups ($-\text{CO}-\text{NH}-$) of the polyamides form hydrogen bridge bonds between the chains of the macromolecules, thereby substantially promoting crystallinity and increasing their strength, melting point, resistance to chemicals and even water absorption. This is characteristic of all semi-crystalline polyamides.

Because of its semi-crystalline morphology VESTAMID *Terra* HS18 natural color provides a high impact strength, excellent chemical resistance (e.g. against greases, oils, alkalis and saline solutions), a low coefficient of friction and high abrasion resistance.

Properties of VESTAMID *Terra* HS18 natural color vary little with changing humidity due to their low moisture absorption.

VESTAMID *Terra* HS18 natural color is supplied as cylindrical granules, ready for processing, in moisture-proof bags.

VESTAMID® Terra is a group of new polyamides, the monomers for which are based entirely or partly on renewable raw materials.

VESTAMID® Terra HS is the polycondensation product of 1,6-hexamethylene diamine (H) and 1,10-decanedioic acid (sebacic acid—S). Because sebacic acid is extracted from castor oil, VESTAMID® Terra HS is based on natural, renewable resources up to 62%.

Property		Test method international	national	Unit	VESTAMID Terra HS18
Density	23°C	ISO 1183	DIN EN ISO 1183	g/cm ³	1.08
Tensile test		ISO 527-1	DIN EN ISO 527-1		
Stress at yield		ISO 527-2	DIN EN ISO 527-2	MPa	61
Strain at yield				%	5
Strain at break				%	> 50
Tensile modulus		ISO 527-1 ISO 527-2	DIN EN ISO 527-1 DIN EN ISO 527-2	MPa	2100
CHARPY impact strength		ISO 179/1eU	DIN EN ISO 179/1eU		
	23°C			kJ/m ²	N ¹⁾
	-30°C			kJ/m ²	N ¹⁾
CHARPY notched impact strength		ISO 179/1eA	DIN EN ISO 179/1eA		
	23°C			kJ/m ²	7 C ¹⁾
	-30°C			kJ/m ²	6 C ¹⁾
Vicat softening temperature		ISO 306	DIN EN ISO 306		
Method A	10 N			°C	220
Method B	50 N			°C	196
Water absorption		ISO 62	DIN EN ISO 62		
	saturation			%	3.3
Viscosity number		ISO 307	DIN EN ISO 307	cm ³ /g	180
Melting range		ISO 11357			
DSC	2 nd heating			°C	222
Percentage of Renewable Carbon (calculation)		ASTM 6866		%	62
Global Warming Potential (GWP)*		Evonik, PE International		kg CO ₂ equivalents/ kg material	4.1

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

*preliminary data

¹⁾ C = Complete break, incl. hinge break H
N = No break