

Product Information

VESTAMID® *Terra* DS18 natural color

Medium viscosity polyamide 1010

VESTAMID *Terra* DS18 natural color is a medium viscosity PA 1010 basic polymer. VESTAMID *Terra* DS18 is semi-crystalline, which is the reason for its high mechanical resistance and chemical stability. It absorbs only little water. As a result its mechanical properties vary little when exposed to changing environmental humidity, and the material features a high dimensional stability.

VESTAMID *Terra* DS18 can be used to manufacture films with good transparency. The high melting point of VESTAMID *Terra* DS18 compounds results in a high heat deflection temperature that can be advantageous for some applications.

VESTAMID *Terra* DS18 occupies a position between the high-performance long-chain polyamides such as PA 12 and PA 1212 and the standard polyamides PA 6 and PA 66, which have a shorter chain length.

Because of its chemical and physical properties, and the plant origin of its monomers, VESTAMID *Terra* DS18 is an interesting addition to conventional longer-chain polyamides, and it also meets the growing demand for materials made from renewable raw materials.

VESTAMID *Terra* DS18 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 DS is the polycondensation product of 1,10-decamethylene diamine (D) and 1,10-decanedioic acid (sebacic acid—S). Because both monomers are extracted from castor oil, VESTAMID® Terra DS is based on natural, renewable resources up to 100%.

Property		Test method international	national	Unit	VESTAMID Terra DS18
Density	23°C	ISO 1183	DIN EN ISO 1183	g/cm ³	1.05
Tensile test		ISO 527-1	DIN EN ISO 527-1		
Stress at yield		ISO 527-2	DIN EN ISO 527-2	MPa	54
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	1700
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	7 C ¹⁾
Vicat softening temperature		ISO 306	DIN EN ISO 306		
Method A	10 N			°C	196
Method B	50 N			°C	171
Water absorption		ISO 62	DIN EN ISO 62		
	saturation			%	1.8
Viscosity number		ISO 307	DIN EN ISO 307	cm ³ /g	180
Melting range		ISO 11357			
DSC	2 nd heating			°C	200
Percentage of Renewable Carbon (calculation)		ASTM 6866		%	100
Global Warming Potential (GWP)*		Evonik, PE International		kg CO ₂ equivalents/ kg material	2.8

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