EVONIK INDUSTRIES

Product Information

VESTAMID® *Terra* HS16-GF30

Glass-fiber reinforced, medium viscosity polyamide 610

VESTAMID *Terra* HS16-GF30 is a glass-fiber reinforced, heat stabilized, medium viscosity PA 610 compound for injection molding application. The material contains about 30% glass fibers, an ageing protective agent and processing aid for a fast and even form filling.

The carbonamide groups (-CO-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* HS16-GF30 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* HS16-GF30 vary little with changing humidity due to their low moisture absorption.

VESTAMID *Terra* HS16-GF30 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* HS16-GF30
Density	23°C	ISO 1183	DIN EN ISO 1183	g/cm³	1.32
Tensile test		ISO 527-1	DIN EN ISO 527-1		
Stress at break		ISO 527-2	DIN EN ISO 527-2	MPa	146
Strain at break				%	3
Tensile modulus		ISO 527-1 ISO 527-2	DIN EN ISO 527-1 DIN EN ISO 527-2	MPa	8300
CHARPY impact strength		ISO 179/1eU	DIN EN ISO 179/1eU		
	23°C			kJ/m²	66 C[1)]
	-30°C			kJ/m²	57 C[1)]
CHARPY notched impact strength		ISO 179/1eA	DIN EN ISO 179/1eA		
	23°C			kJ/m²	9 C[1)]
	-30°C			kJ/m²	8 C[1)]
Vicat softening temperature		ISO 306	DIN EN ISO 306		
Method A	10 N			°C	219
Method B	50 N			°C	213
Water absorption		ISO 62	DIN EN ISO 62		
	saturation			%	2.3
Melting range		ISO 11357			
DSC	2nd heating			°C	222
Percentage of Renewable Carbon	(calculation)	ASTM 6866		%	62
Global Warming Potential (GWP)*		Evonik, PE International		kg CO_2 equivalents/ kg material	4.6

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