

Technical Information

VESTAMID® NRG 1003 natural color



VESTAMID®NRG 1003 is a low-viscosity and heat-stabilized polyamide 12 compound developed for the manufacturing of thermoplastic composite tapes.

VESTAMID®NRG 1003 is characterized by excellent bonding to reinforcement fibres.

The material has an excellent compatibility against hydrocarbons (i.e. crude oil) and oilfield chemicals (i.e. paraffin inhibitors) resulting in high dimensional stability and unaffected properties of parts in contact with those.

The typical characteristics of PA 12 are low water absorption, good dimensional stability and almost unchanged properties at varying ambient humidity. Typical temperatures for processing are 200°C–240°C.

VESTAMID®NRG 1003 is supplied as cylindrical granules, ready for processing, in moisture-proof bags.

Properties of VESTAMID® NRG 1003 natural color

Properties	Test method	Unit	Value	
Density	23°C	ISO 1183	g/cm ³	1.01
Melting range		ISO 11357		
DSC	2 nd heating		°C	178
Tensile test		ISO 527-1		
Stress at yield		ISO 527-2	MPa	46
Strain at yield			%	5
Strain at break			%	> 200
Tensile modulus		ISO 527-1 ISO 527-2	MPa	1400
CHARPY impact strength		ISO 179/1eU		
	23°C		kJ/m ²	N ¹⁾
	-30°C		kJ/m ²	N ¹⁾
CHARPY notched impact strength		ISO 179/1eA		
	23°C		kJ/m ²	5 C ¹⁾
	-30°C		kJ/m ²	4 C ¹⁾
Temperature of deflection under load				
Method A	1.8 MPa	ISO 75-1	°C	50
Method B	0.45 MPa	ISO 75-2	°C	120
Vicat softening temperature		ISO 306		
Method A	10 N		°C	170
Method B	50 N		°C	140
Viscosity number		ISO 307	cm ³ /g	100

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

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.