

VESTAMID[®] NRG

High performance steel pipe protection
for trenchless laying



VESTAMID® NRG – a new material for extruded coatings for steel pipes

Evonik offers a new high-performance coating for steel pipes.

Sophisticated applications

The versatile, mechanically durable VESTAMID® NRG coating system combines the advantages of a polyethylene coating and a fiber cement mortar casing. The new pipe coating can be used in non-conventional methods of pipe laying such as

- Horizontal Directional Drilling (HDD) method with percussive impact
- Soil displacement technique with non-steerable hammers
- Dynamic ramming technique with non-steered ramming machines
- Ploughing / Plowing method

Product benefits and characteristics

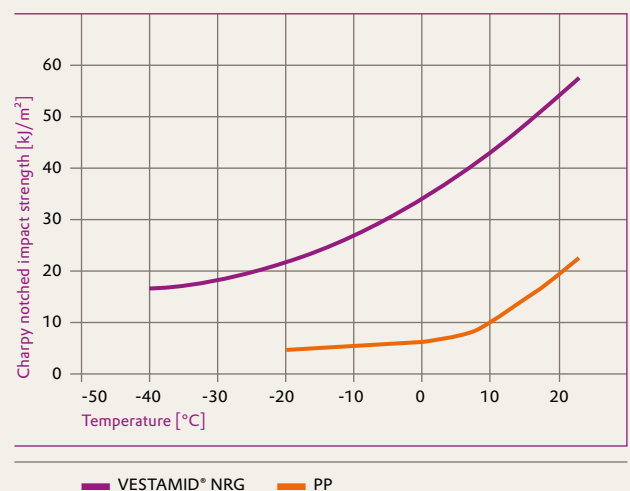
The principal benefits of VESTAMID® NRG (PA12) as a coating material are its

- exceptional impact resistance and viscosity, even at low temperatures
- superb stress crack resistance
- excellent abrasion resistance
- low sliding friction coefficient

Product properties in comparison to other coating materials

VESTAMID® NRG, a polyamide 12, offers a greater degree of shore hardness than polyethylene or polypropylene. Unlike a polyethylene or polypropylene coating, the anti-corrosion barrier created by the VESTAMID® NRG coating additionally offers highest mechanical protection for the coated steel pipe. For years now, VESTAMID® NRG has been used in the cable industry, in medical applications and in the making of machines and instruments.

Notch impact strength in accordance with
DIN ISO 179-1/1eA



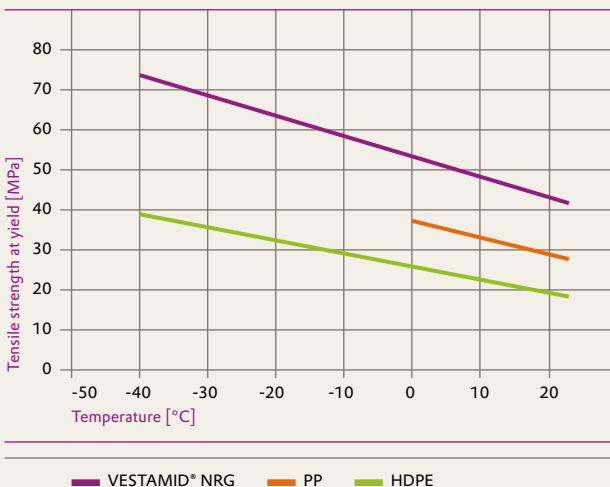
A comparison of notch impact strengths demonstrates the excellent properties of VESTAMID® NRG against those of polypropylene, especially at low temperatures.



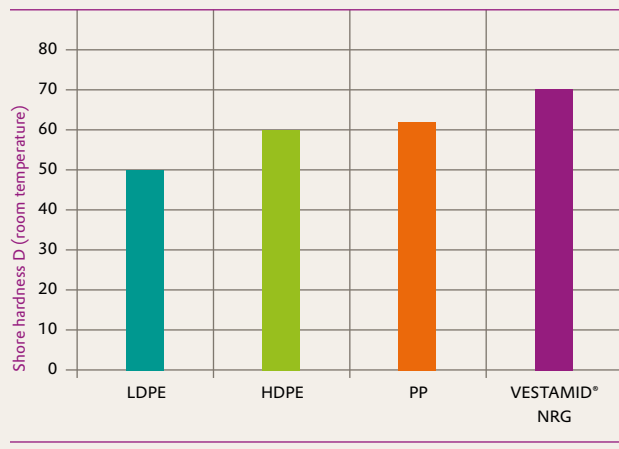
VESTAMID® NRG (PA 12) for high performance steel pipe protection

Material properties	Unit	Test method	Typical value
Density at 73 °F resp. 23 °C	g/cm ³	ISO 1183	1.02
Tensile strength at yield	MPa psi	ASTM D638/ISO 527	39 5760
Elongation at break	%	ASTM D638/ISO 527	>200
Flexural Modulus	MPa	ISO 527	1300
Moisture absorption 73 °F resp. 23 °C/50% r.h.	%	ISO 62	0.8
Water absorption (saturation)	%	ISO 62	1.5
Thermal properties			
Melting range DSC 2 nd heating	°F °C	ISO 11357	350 177
Vicat softening temperature Method A 10N	°F °C	ISO 306	349 176
Method B 50N	°F °C		302 150

Tensile testing in accordance with DIN ISO 527



Shore D hardness in accordance with DIN EN ISO 868



The fact that this material is harder also shows in the strength values it achieves, such as stress at yield. Polypropylene, which is stronger than polyethylene, can only be used at temperatures to 0 °C.

VESTAMID® NRG offers a greater degree of shore hardness than polyethylene and polypropylene.

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