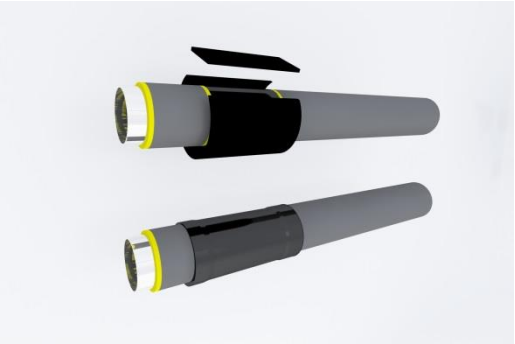
Technical Data Sheet
NOVORAD-ST heat-shrinkable sleeve
Anticorrosive protection of welded pipe joints



NOVORAD-ST heat-shrinkable wraparound sleeve refers to a heat shrinkable band coated with a hot-melt adhesive. The sleeve is used along with NOVORAD-ZK adhesive closure patch and NOVEP epoxy primer. The full set provides a single anticorrosive protection system covering main body of a pipe.

Typical application: NOVORAD-ST heat-shrinkable sleeves provide external corrosion protection of welded pipe joints in building, reconstruction, overhaul repairs of gas pipelines laid underground or underwater in backfilled trenches, with operating temperature of a pipeline ranging from minus 20 °C to plus 80 °C.

A sleeve provides three-layered anticorrosive protection system:

First layer: two-component epoxy primer ensuring highest resistance to cathodic disbondment.
Second layer: hot-melt adhesive which guarantees superior adhesion and high shear strength.
Third layer: radiation-chemically modified layer of polyethylene backing exhibiting heat shrink properties.

A sleeve set consists of:

- NOVORAD-ST double-layered sleeve as band section for each diameter.

- NOVORAD-ZK closure patch to latch a band around a pipe being insulated, so forming a nondetachable ring where width of the patch depends directly on diameter of the pipe.

- NOVEP two-component epoxy primer applied to welding area and edges of polyethylene insulation.

Dimensions

Pipe diameter, mm	Nominal thickness of sleeve, mm	Nominal width of sleeve, mm
Up to 530 inclusive	Not less than 1.5	Not less than 450
Over 530 up to 1422 inclusive	Not less than 2.0	

Sleeve is customizable.

Physical and mechanical properties

	Property	Test method	Unit	NOVORAD-ST 60	NOVORAD-ST 80
ADHESIVE	lap shear strength	ASTM D 1002	MPa	≥2.0	≥2.5
	Softening point	ASTM E 28	°C	100-110	110-120
BACKING	Tensile strength	ASTM D 638	MPa	≥20	≥20
	Elongation at break	ASTM D 638	%	≥500	≥500
	Tensile strength Heat aging	ASTM D 638	MPa	≥14	≥14
	Elongation at break Heat aging	ASTM D 638	%	>350	>350
	Hardness	ASTM D 2240	Shore,D	>50	>50
	Dielectric strength	ASTM D 149	kV/mm	>30	>30
	Dielectric breakdown voltage	ASTM D 149	kV	>35	>35
	Low temperature brittleness	ASTM D 746	°C	≤-70	≤-70
	Volume resistivity	ASTM D 257	Ω*m	$\geq 1*10^{17}$	$\geq 1*10^{17}$
	Water absorption	ASTM D 570	%	≤0.02	≤0.02
	Environmental stress cracking	ASTM D 1693	≥1000 hours	NO cracks	NO cracks
SLEEVE	Cathodic disbondment	ASTM G 8	mm,rad	≤10	≤8
	Cathodic disbondment	ASTM G 42	mm,rad	≤14	≤10
	Impact strength	ASTM G 14	J	≥15	≥15
	Peel strength to pipe surface, PE	NFA 49 716	N/mm	≥7	≥8

	coating and primer		(Kg/cm)		
	Water resistance	ASTM D 870	120 days	No disbondment	No disbondment

Basic benefits

- ✓ minimum installation time thanks to quick uniform shrinkage with no need for additional actions (rolling on with a roller)
- ✓ epoxy primer applied only to steel resulting in high adhesion to surface of steel, less labour required for the application, saved material
- ✓ a sleeve is mounted immediately after the application (without drying period).

Packaging

A sleeve may be supplied as individual sections for a pipe of corresponding diameter or in 20 or 30m rolls complete with closure patches.

Certificates:

- ✓ GOST R certificate