

## Technical Data Sheet *GRINCODE* multiaxial rockshield Protection of corrosion-resistant coating



*GRINCODE* multiaxial rockshield is a composite manufactured using up-to-date high-strength glass-fiber and synthetic nonwoven material and impregnated with environmental friendly thermoplastic resins.

**Typical application**: protection of corrosionresistant coating (insulation) on gas- and oil pipelines from physical damage when being laid

in rocky and permafrost soil. Effective protection of pre-insulated surface of large-bore pipelines used in oil&gas producing industry. Rockshield is needed for laying pipelines in rocky soil and permafrost. Rockshield is also used in complex inorganic soils with rocks, pebbles inclusions etc.

Properties	Unit	Value
Overall dimensions		
- width	mm	1260 (+60/-
		10)
- length	mm	930-4700
- thickness	mm	3±1
Surface weight	kg/m <sup>2</sup>	1500±500
Impact resistance, not less than	J	35 <sup>3</sup>
Longitudinal tensile strength (a 50x220 mm ribbon) at +	kgf	≥450
23°C		
Transverse tensile strength (a 50x220 mm ribbon) at + 23°C	kgf	≥410
Stability in aggressive media	%	≥90
Resistance to abrasion	%	≥90
Flexibility		undamaged
Transition resistance	Ohm*m²	≤150
Frost resistance	%	10
Elongation at break, not more than	%	10
Water absorption, not less than	%	7

## Physical and mechanical properties

Manufacture of the material with other physical and mechanical properties is accepted upon agreeing about with a consumer.



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**Advantages**: Multiaxial fabrics ensure rigidity and tensile-, breaking- flexing strength, puncture resistance of a structure. Nonwowen ensures damping of impact loads which occur when backfilling of a pipeline with coarse fractions of frozen and rocky soils and when laying a pipeline amidst cryolithic soils.

## Regulatory documents:

• TU 23.14.12-033-00205009-2017