

K-FLEX® IN CLAD SYSTEM



K-FLEX® IN CLAD SYSTEM

- ▶ Non-metallic flexible coating
- ▶ Designed for oil & gas and industrial use
- ▶ Developed for the most challenging environments
- ▶ High mechanical and chemical resistance
- ▶ Resistance to uv, sea salt, oil and other atmospheric agents
- ▶ Easy to install without special tools
- ▶ Full range of accessories
- ▶ Can be applied to any insulation system

Site



Video



The **first flexible elastomeric foam** approved by **DNV** for **LNG** and **cryogenic** applications



TECHNICAL DATA

K-FLEX® IN CLAD SYSTEM ▶ TECHNICAL DATA		
▼ Property ▼	▼ Value ▼	▼ Test method ▼
Material	Flexible polymeric barrier	
Colour	Grey and Black	
Thickness	1.2 mm (± 0.2)	
MAX Surface Temperature	80°C (176°F)	
MAX application temperature, IN CLAD System	105°C (221°F) 120°C (248°F)	IN CLAD with K-FLEX® ST IN CLAD with K-FLEX® ECO
MIN application temperature, IN CLAD System	-200°C (-328°F)	IN CLAD System with K-FLEX® ST tested at -163°C (-260°F) and approved with a statement of feasibility by DNV
Water Vapour Permeability	μ > 90.000	EN12086
Specic weight	1,8 (± 0.1 g/cm³)	
Tensile Strength	>=6,9 MPa	ISO 37 (Typical value 7.5 MPa)
Elongation to break	>100%	ISO 37 (Typical value: elongation at 70%, elongation to break 300%)
Elastic Modulus	>=60 MPa	ISO 37 (Typical value 70 MPa)
Modulus 10%	>1.5 MPa	ISO 37
Peel adhesion	>50 KPa	ISO 2411
Shear strength	>20 N/25mm	ISO 34-1
Hardness	>=80 ShA	ISO 7619, ASTM D2240
UV Resistance	Extremely good	2 years of exposure in New River, Arizona (Stati Uniti d'America), come per ASTM G 7-97, no pitting, no cracking, no blistering
Salt Spray resistance	Extremely good	ISO 3768 / ASTM B 117-73, 480 hours. No color shade, no scaling, no blistering
Ozone resistance	Extremely good	ASTM D1171 72h 50ppmh 20%, no oxidation
Resistance to aging	Extremely good	ISO 4982, after 360h, 72MJ, elongation to break and modulus conform to specification
Resistance to oil	Extremely good	ISO 1817; after 72h immersion in oil IRM 903, elonga- tion to break and modulus conform to specification
Impact resistance	Extremely good	EN12691; 1 kg, 20mm, 600mm
Health aspects	Dust and fiber free	
Spread o flame	Pass	BS 476 pt 7
Fire propagation	Pass	NF 92501
Fire requirements for shipbuilding	Pass	BS 476 pt 6
Approvals and Supervisions	CE Marine Mark Approved (MED, module B) Type approval by American Bureau of Shipping Type approval by Det Norske Veritas Type approval by Lloyd's Register	DNV LNG Statement of Feasibility ABS Approval
Other properties	The product is compliant to the requirements of Norsok standard R-004 ed 3 (par. 5.9 non metallic jacketing) Application: Product is flexible down to -20°C Fixing: neoprenic glue (K-FLEX® K414, K-FLEX® K420) Sealing: SMP sealant (Bostik Findley / Simson ISR 70-03 or ISR 70-05)	

K-FLEX® reserves the right to change data and technical requirements without notice.

GENERAL INFORMATION



K-FLEX® IN CLAD SYSTEM TUBES

Insulation system specifically designed for aggressive environments such as offshore platforms, industrial, oil and petrochemical plants exposed to the sun and sea water and in situations where a high performance material is required. **IN CLAD SYSTEM** tubes are composed of **K-FLEX® ST** insulation coated with **IN CLAD** flexible polmeric film. The overlap facilitates installation and provides the coating system with a weather-proof seal. **K-FLEX® IN CLAD SYSTEM** prevents corrosion under insulation (CUI) in your installation.



K-FLEX® IN CLAD SYSTEM SHEETS

K-FLEX® IN CLAD SYSTEM sheets are ideal for insulating large industrial pipes, tanks, silos and awkwardly shaped equipment. The system is flexible, easy to work and does not require special tooling for cutting and gluing. Sealing the joints with silicone ensures total water- and weather-proofing. The protective **IN CLAD** foil is the ideal solution to protect thermal and acoustic insulation materials. It can be applied on different insulating materials such as mineral wool, PUR/PIR, FOAMGLASS, Aerogel, etc.

K-FLEX® IN CLAD SYSTEM ▶ RANGE			
	▼ Length ▼	▼ Thicknesses ▼	▼ Diameters ▼
K-FLEX® IN CLAD - Tubes	1 m	9-13-19-25-32-40-50 mm	from 15 to 168* mm
	▼ Thicknesses ▼		▼ Height ▼
K-FLEX® IN CLAD - Sheets	6-10-13-19-25-32-40-50 mm		1000 mm
K-FLEX® IN CLAD - Adhesive sheets	6-10-13-19-25-32-40-50 mm		1000 mm

* For diameters greater than 168mm, use sheet

ACCESSORIES



Preformed IN CLAD elbows - Gray



Preformed IN CLAD elbows - Black



Preformed “T” connections IN CLAD - Gray



Preformed “T” connections IN CLAD - Black



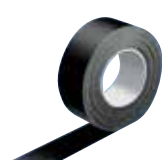
IN CLAD foil - Gray



IN CLAD foil - Black



IN CLAD tape - Gray



IN CLAD tape - Black



IN CLAD pipe support



IN CLAD pipe support with silicone collar



Silicone collar