

K-FLEX CLAD® IN - ECO

Closed cell elastomeric insulation
Adhered to a Polymeric Sheet



DESCRIPTION

K-FLEX Clad® IN - ECO, available in both tubular and sheet form, is a composite product of halogen-free, closed cell elastomeric insulation adhered to a gray polymeric sheet. K-FLEX ECO™ does not contain carbon black (in accordance with US Navy Environmental Department standards), fibers, PVC or CFCs.

K-FLEX Clad® IN - ECO is non-porous and complies with *Health, Safety and Environmental requirements*. It provides salt water and impact resistance, as well as UV protection, making it an excellent choice for severe outdoor conditions.

K-FLEX Clad® IN - ECO is available in 3-foot length tubes up to 1-1/2" wall thickness. Sheet product is available in 36" x 48" sheets or 36" wide rolls up to 2" thickness. A full line of accessory products (tape and adhesives) are available.

The polymeric sheet cladding provides a secondary moisture vapor barrier to the

inherently moisture-resistant closed cell foam core.

APPLICATIONS

K-FLEX ECO™ was developed for applications where corrosive smoke and environmental issues (toxicity) are critical and is certified to Electric Boat Corporation Specification EB 4013. K-FLEX Clad® IN - ECO is an ideal choice for industrial plants, offshore platforms, FPSOs, LNG Terminals and for the shipbuilding industry.

It is well-suited for extreme temperature applications, due to the ability of the outer polymeric covering to expand and contract with rapid temperature cycles, and stainless steel applications since it does not contain halogens that can contribute to corrosion problems. K-FLEX Clad® IN - ECO meets IMO requirements for shipbuilding and off-shore platforms.

K-FLEX Clad® IN - ECO has a low thermal conductivity, a high water vapor diffu-

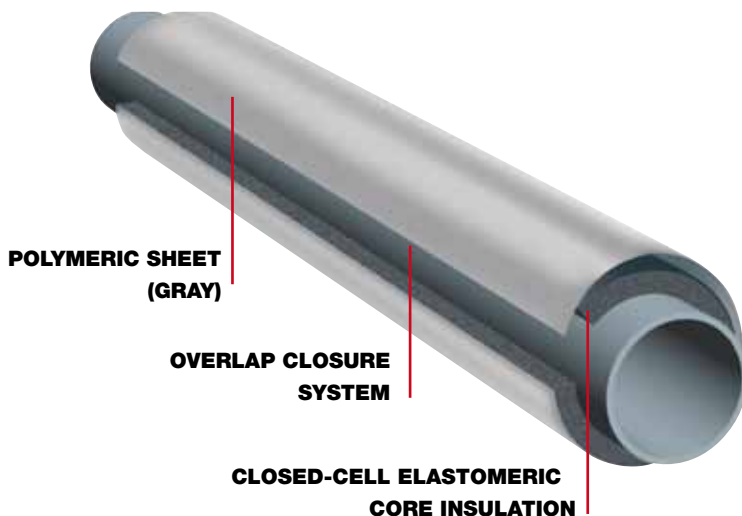
sion resistance factor, and practically eliminates the problem of under insulation corrosion. It is easy to install and combines excellent performance with low maintenance requirements. The cladding is flexible enough to protect against damage from traffic (does not dent like traditional metal jackets) and allows for easy maintenance.

K-FLEX Clad® IN - ECO (halogen-free) should be used as the core insulation on stainless steel applications above 100°F. The temperature range for K-FLEX Clad® IN - ECO is -297°F to +300°F (-182°C to +150°C).

INSTALLATION

A unique overlap closure system, which eliminates through seams on longitudinal seams, ensures against moisture penetration. No special tools and fewer materials are necessary at the job site, allowing for quick installation.

K-FLEX® 320 Contact Adhesive is an aggressive adhesive specially formulated for the clad jacket and insulation core system and is recommended for longitudinal, butt and overlap seams.



FOR SPECIFIC INSTALLATION INSTRUCTIONS
SEE K-FLEX CLAD® INSTALLATION GUIDE

SPECIFICATION COMPLIANCE

- ASTM C 534 Type 1 (Tubing), Grade 1
- USDA Compliant
- RoHS Compliant
- ASTM E84 1-1/2" 25/350-tested according to UL 723 and NFPA 255 Complies with requirements of CAN/ULC S102-M88
- Meets IMO requirements for shipbuilding and off-shore platforms (K-FLEX Clad® IN - ECO)



K-FLEX CLAD® IN - ECO PRODUCT DATA

Available in factory-applied tube or sheet



PHYSICAL PROPERTIES OF K-FLEX CLAD® IN POLYMERIC SHEET

ATTRIBUTES	K-FLEX CLAD® IN	TEST METHODS
MATERIAL TYPE	CHLOROSULFONATED POLYETHYLENE	
THICKNESS	0.30"	
REACTION TO FIRE	25/350	ASTM E 84
WATER VAPOR DIFFUSION	0.001 PERM-IN	ASTM E 96
WEATHER, UV RESISTANCE	EXCELLENT	ASTM G 53
CORROSION RISK	THE SYSTEM PROVIDES PROTECTION FOR CORROSION UNDER INSULATION	
SALT SPRAY RESISTANCE	EXCELLENT	BS 903 F12
WEAR RESISTANCE	EXCELLENT	BS 903 A2
OZONE RESISTANCE	EXCELLENT	BS 903 A43, ASTM D1171
CHEMICAL RESISTANCE	EXCELLENT	ACIDS, ALCOHOLS, ALKALIES, OILS
TENSILE ELONGATION	>100%	BS 903 A2
COLOR	GRAY	

PHYSICAL PROPERTIES OF ELASTOMERIC CORE MATERIAL (ECO)

THERMAL CONDUCTIVITY (K) BTU/HR/FT ² /°F/IN (W/MK)	90°F MEAN: .282 (.041) 75°F MEAN: .270 (.039) 50°F MEAN: .263 (.038)	ASTM C 177
OPERATING TEMPERATURE RANGE UPPER (1" THICKNESS MINIMUM) LOWER	300°F -297°F	
DENSITY	4.5 LBS/FT ³	ASTM D 1056
OPTICAL SMOKE DENSITY	<150	ASTM E 662
WATER VAPOR PERMEABILITY	EXCELLENT (0.03 PERM-IN)	ASTM E 96
TOXICITY	HALOGEN-/DIOXIN-/CFC-FREE	EB 4013
FLEXIBILITY	EXCELLENT	EB 4013
MEETS IMO SOLAS AGREEMENT	YES	MSC 61 (67), A 653
ABS AND LLOYD'S CERTIFIED	YES	SOLAS AGREEMENT (IMO)
FLAME & SMOKE	US NAVY STANDARD FOR 50 LB STEAM USE 25/50-RATED UP TO 3/8"	EB 4013 ASTM E 84

PHYSICAL PROPERTIES OF COMPOSITE SYSTEM

REACTION TO FIRE	25/350	ASTM E 84, BS 476 PART 7 CL. 1, IMO RES. A653 (16), LLOYDS REGISTER
NORMAL CLIMATIC CONDITION (24 WEEKS)	NON-CORROSIVE, NO BREAKAGE/BLISTERING	ASTM G7