

K-FLOW

Ferritic Stainless Steel Lining System



Key Benefits

- Good abrasion & corrosion resistance
- Low co-efficient of friction
- Welded by conventional methods
- Enhances flow promotion

K-FLOW is particularly suited to applications where protection is required from a combination of sliding and friction induced abrasion along with the need to keep bulk solids flowing.

Manufacture

K-FLOW wearplate is manufactured in the form of hot and cold rolled strip and single sheets. The steel is produced in an electric arc furnace, which undergoes secondary treatment by a combined blowing process and in turn is continuous cast. The slabs are then passed onto a wide-strip hot rolling mill. In the production of hot-strip and sheet cut from coiled stock, the strip is subsequently annealed in a bell furnace, pickled, straightened and cut to length. In cold-strip production, annealed and pickled strip is reduced to the desired thickness in a cold-rolling mill, reannealed in open continuous furnaces so as to undergo recrystallization and then descaled.

Application

The main reason we use of our K-FLOW plate is for the lining of plant and equipment that suffers from a degree of both sliding and friction induced abrasion as well to assist the conveyance of non-flowing bulk solids. With its good resistance to corrosion and the ability to self polish in service which in turn reduces its coefficient of friction, it is ideally suited for the protection and lining of plant that suffers from a degree of wear along with the bridging or ratholling of the product it is storing or conveying. Engineers and plant managers benefit greatly from choosing K-FLOW, as it keeps bulk solids flowing in many applications within mineral processing industries.

Forms of supply

As the majority of applications that K-FLOW tends to be used for is bunker and chute linings, then we supply this material in either strip or plate.

The maximum sheet size available is 6000x1500 and in thickness is ranging from 1mm to 30mm. As it is a ferritic stainless steel it can be worked in very similar ways to carbon steel producing fabrications of complex geometry.

How is it fitted?

As a wear resistant liner K-FLOW can be fitted by mechanical fasteners or by a welding process. Dependant on the environment in which the application is in, will normally determine what installation process is used. The use of fasteners requires preparation prior to installation and depends on the existing substrate to be structurally sound. Welding of the liners can be carried out using either MMA, MIG or TIG processes and when fully installed gives the liner assembly a structural integrity of its own.

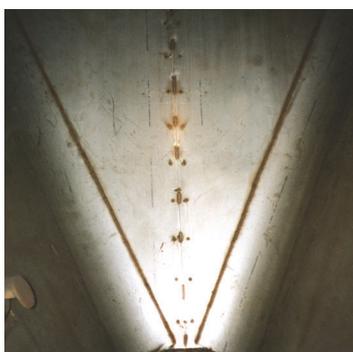
As with most wear resistant materials the success of the system often depends on the quality and accuracy of the installation.

Before committing to the use of our K-FLOW range of materials, we recommend consultation takes place with one of our qualified engineers in order to assess its suitability for particular applications.

Should you have a requirement for the product to be installed or form part of a system, then we would welcome the opportunity in discussing with you your requirements for the design, manufacture, installation and erection of the system using our fully trained staff and workforce, alternatively we will be happy to consult with or even supervise your own workforce.

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Typical list of applications

- Bunkers
- Chutes
- Hoppers
- Rail Wagons
- Scrubber Vessels
- Truck Bodies

Physical and Mechanical Properties

PARAMETERS	UNIT	Value
Density	kg/m ³	7700
Electrical resistance @ 20°C	Ωmm ² /m	0.6
Tensile strength	N/mm ²	450 to 600
Elongation @ fracture	N/mm ²	> 20
Hardness	HB	160
Thermal expansion @ 100°C	10-6/K	10.5
	200°C	11.0
	300°C	11.5
	400°C	12.0
	500°C	500
Thermal conductivity @ 20°C	W/m.K	25
Specific thermal capacity @ 20°C	j/kg.K	460

Chemical Composition

MINERAL CONTENT	APPROXIMATE FIGURES %
C	0.03
Si	0.5
Mn	0.5
P	0.04
S	0.02
Cr	10.5-12.5
Ni	0.3-1.0
N	0.03

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