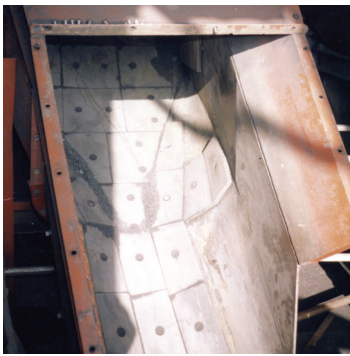


K-HARD

Ni Hard Cast Lining System



Key Benefits

- Excellent impact and sliding abrasion resistance
- Operates at elevated temperatures
- Can be easily fixed or replaced
- Castings can cater for complex forms

K-HARD cast products and linings are used to protect plant and equipment from crushing, impact and sliding induced abrasion associated with handling or conveying abrasive bulk solid materials.

Manufacture

K- Hard is a white cast iron alloyed with nickel and chrome and is manufactured in traditional casting foundries where the addition of these elements to the casting process results in a component with excellent abrasion and corrosion resistant characteristics that can increase the hardness to between 450 to 600 Brinell. The process comprises of recycled scrap and a blend of other raw materials being feed into an electric induction or gas fired furnace where it is smelted at 1200°C. Upon conversion into a molten state the furnace is tapped and the cast is poured into a ladle where exacting amounts of cast are poured into blank sand moulds that have been produced by the use of patterns.

Depending on the complexity of the casting, the component may need to be fettled once it has cooled and been removed from the mould. Likewise, to meet certain specifications, the casting can be annealed in order to enhance its wear and performance characteristics.

Application

K-HARD castings are primarily used to protect plant and equipment from the effects of handling abrasive bulk solids or liquids. With its extreme hardness characteristics it can counter impact, sliding and friction induced abrasion in either a pneumatic, mechanical or hydraulic state. Due to its structural integrity as a cast component, K-HARD can be used as a stand alone piece of equipment that offers a protective system against material wear which negates the need for a separate structure to support it.

Forms of supply

Many forms of supply can be produced with the limiting factor invariably being the capacity of the furnace and the handling facilities the foundry have available. As such, shapes of supply vary in both size and complexity. Many industries have utilised K-HARD castings in areas of mineral crushing, through to mixing, pulverising or conveyance of solids feeding processes such as furnaces, boilers or kilns to name but a few. Its resistance to both corrosion and elevated temperature make the use of K-HARD very adaptable to a host of areas within the mineral processing industry where other wear resistant materials may not cater for all criteria applicable with the application.

Installation

The bespoke design concept associated with our K-HARD castings can cater for a suitable arrangement used to secure the liner into the piece of equipment it is intending to protect. Some designs are engineered to create an interlocking system of separate parts that form a complete assembly, where as other parts can be produced which permits the use of standard fasteners to secure the casting to the structure. In certain applications, adhesives can be used to bed and joint the castings into areas where the amount of impact experienced is minimal.

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-HARD, 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 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 supervise your own workforce.

K-HARD

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Typical list of applications

- Ash grinders
- Crushers
- Chute liners
- Dredging equipment
- Pipework
- Pumps and impellers
- Plough blades
- Venturis
- Wear parts

The information contained on this product information sheet is to be used as guidance only. The advice and technical data given is done so in good faith and does not constitute any warranty or guarantee on product performance or suitability. We hereby reserve the right to change the technical information herewith without notification or prior agreement.

Physical and Mechanical Properties

PARAMETERS	UNIT	Value
Hardness	BHN	450 – 600
Tensile strength	N/mm ²	280 – 340
Modulus of elasticity	Gpa	290 – 370
Impact strength	Kg/m	4.8 – 6.2

Chemical Composition

GRADE	C	SI	MN	NI	CR	S	P	MO
K-Hard 1	3.20	0.30	0.20	3.00	1.50	0.12	0.15	0.50
K-Hard 2	2.80	0.30	0.20	3.00	1.50	0.12	0.15	0.50
K-Hard 4	3.20	1.50	0.20	4.00	8.00	0.12	0.15	0.50

 **Kingfisher**

Kingfisher Industrial
Cradley Business Park
Overend Road
Cradley Heath
West Midlands
United Kingdom B64 7DW

T +44 (0)1384 410777
F +44 (0)1384 410877
E enquiries@kingfisher-industrial.co.uk
www.kingfisher-industrial.co.uk