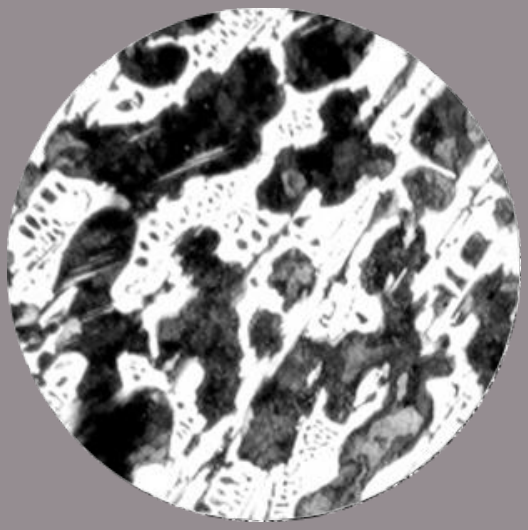
durham foundry (SHEFFIELD) LTD

Wear Resistant Chrome Iron



What is Wear Resistant Chrome Iron?

This describes a range of cast irons with chromium, and to a lesser extent nickel, copper and molybdenum as the alloying elements. This produces hard, wear resistant iron as cast that can be further hardened by heat treatment. Hardness up to 650 HB can be achieved.

History

- Commercially available from the mid 1900s.
- Extensive work done by The International Nickel Company to further develop the material.
- National standards introduced in the 1970's
- Modern material standards give a wide range of possible uses.

Terminology

- Chrome iron, high chrome iron, wear resistant iron, abrasion resistant cast iron, white iron and Ni Hard all refer to the same range of alloyed irons.

Properties

- Excellent wear resistance.
- A range of hardness and toughness to suit different applications.
- Can be heat treated to improve the as cast hardness and toughness.
- Good corrosion resistance when compared to mild steel.
- Can work well in abrasive conditions at elevated temperatures.
- Difficult to machine. Requires specialist tooling, techniques or heat treatment.
- Extremely difficult to weld.

Uses

- Abrasion resistant applications – Crushing, grinding or milling.
- Mining, quarrying and dredging.
- Ball, hammer, rod and grinding mills.
- Shotblast parts.
- Brick moulds.
- Coal grinding in power stations
- Pumps, impellors & valves for abrasive liquids.
- Pulveriser grinding rings.
- Fire bars and fire grates.
- Pipe bends on sand delivery pipes.

Material Standards

- BS 4844, BS EN 12513 and BS ISO 21988
- Equivalent DIN, ASTM, SAE and other national standards.
- The Ni Hard range of grades.

If you need to order a casting in wear resistant iron and are confused by its description or it has a specification you don't recognise on a drawing, please contact us as there is a good chance we will recognise it. If we don't, we have access to a world wide data base that should enable us to identify the material and offer the equivalent grade within BS ISO 21988.

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