



Austenitic Cast Iron

What is Austenitic Cast Iron?

This describes a range of cast irons with nickel, and to a lesser extent chromium and copper as the alloying elements. This produces a metallic matrix that is austenitic at ambient temperatures and can be produced either in a flake or spheroidal graphite form.

History

- Commercially available from the mid 1900s.
- National standard introduced in 1962.

Terminology

- Austenitic cast iron and Ni Resist refer to the same range of alloyed irons.

Properties

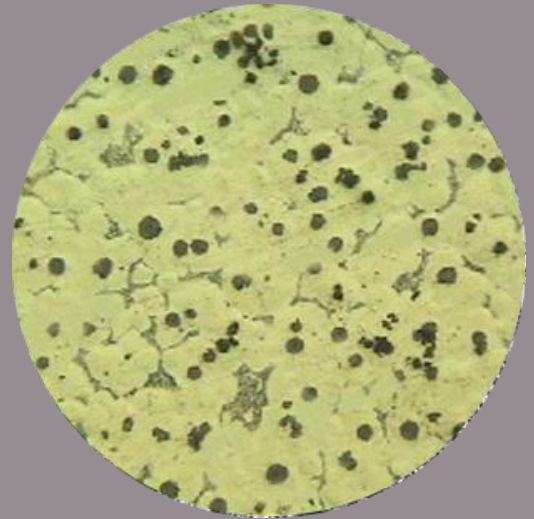
- Available in grey or ductile iron grades.
- Good scaling resistance.
- High resistance to heat.
- Low thermal expansion. Good thermal shock resistance.
- Good corrosion resistance in sea water and alkaline liquids and gases.
- Some grades have good corrosion resistance in weak acids.
- Good cold toughness and resistance to erosion.
- Good machineability.
- Some ductile grades can be welded.
- Some grades are non magnetic.
- Can be cheaper than an equivalent steel casting.

Uses

- Pumps and valves.
- Turbocharger housings and exhaust gas manifolds.
- Low temperature environments such as refrigeration.
- Gas turbine housings.
- Glass moulds.
- Vessels for caustic alkalis.
- Parts requiring dimensional stability.
- Parts requiring low magnetic permeability.
- Piston rings and liners.

Material Standards

- BS 3468, BS EN 13835 and ISO 2892
- Equivalent DIN, ASTM, SAE and other national standards.



If you need to order a casting in austenitic cast 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 ISO 2892.