durham foundry (SHEFFIELD) LTD

Compacted Graphite Iron

What is Compacted Graphite Iron?

This describes a range of cast irons where the graphite forms round ended flakes rather than sharp flakes or spheres. This gives a range of irons that have toughness with good heat transfer and vibration properties.

History

- First patented in the late 1940's.
- Popularity increased in the 80's and 90's.
- National and International standards introduced from the late 80's.

Terminology

- Compacted graphite iron, compacted graphite cast iron, vermicular cast iron, compacted graphite (vermicular) iron and CGI all refer to the same range of compacted graphite irons.

Properties

- Good thermal conduction.
- Good vibration and sound damping.
- High strength to weight ratio.
- Good under continual heating and cooling cycles.
- Low thermal expansion. Good thermal shock resistance.
- Easy to machine.
- Good cold toughness.

Uses

- Exhaust manifolds.
- Large marine cylinder blocks.
- Bedplates.
- Brackets and couplings.
- Ingot moulds.
- Truck brake drums.
- Pump housings and hydraulic components.
- Cylinder liners.
- Train brake discs.

Material Standards

- BS EN 16079 and ISO 16112
- Equivalent DIN, ASTM, SAE and other national standards.

If you need to order a casting in compacted graphite 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 16112.

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