



GREY CAST IRON EN-GJL-200

Grey Iron is a type of cast iron that has a graphite microstructure. It is named after the grey colour of the fracture it forms, which is due to the presence of graphite. It is the most common cast iron and the most widely used cast material based on weight.

It is used for housings where the stiffness of the component is more important than its tensile strength, such as internal combustion engine cylinder blocks, pump housings, valve bodies, electrical boxes, and decorative castings. Grey iron also has very good damping capacity, hence its use as the base for machine tool mountings.

Chemical Composition

Chemical composition can be defined by the manufacturer, as long as the material produced meets required mechanical property. A typical chemical composition to obtain a graphitic microstructure is 2.5 to 4.0% carbon and 1 to 3% silicon by weight. Graphite may occupy 6 to 10% of the volume of grey iron. Silicon is important to making grey iron because silicon is a graphite stabilizing element in cast iron, which means it helps the alloy produce graphite instead of iron carbides; at 3% silicon almost no carbon is held in chemical combination with the iron.

Typical Mechanical Properties

Tensile Strength	200 - 300 MPa
Yield Strength	130 - 195 MPa
Elongation	0.3 - 0.8% min.
Compressive Strength	720 Mpa

Comparative Specifications

Material	Country/Standards
EN-GJL-200	European Union / EN
EN-JL1030	European Union / EN
EN-GJL-200	Germany / DIN
JL 200	International / ISO
JL 250	International / ISO
FC200	Japan / JIS
SA-278 Class No. 200	USA / ASME
HT200	China

To discuss your requirements, call a member of NovaCast's team on +44 (0) 1225 707466, or email sales@novacast.co.uk

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