



Compacted Graphite Iron (CGI)

Durham Foundry manufactures compacted graphite iron, or CGI, to ISO 16112. Within this standard are a range of grades which can be certified by ultimate tensile strength and 0.2% proof stress in N/mm², percentage elongation and typical hardness range in Brinell. There is no chemical data in the standard. Chemical analyses can be supplied but they would be for information only. If castings are ordered with a test certificate, a mechanical test is all that would be normally supplied unless the chemical analysis is specifically requested. The following table shows the grades that we supply as standard.



| Grade | 0.2% Proof Stress (N/mm ²) | Tensile Strength (N/mm ²) | Elongation (%) | Typical Brinell Hardness Range (HBW 10/30) |
|--------------------|--|---------------------------------------|----------------|--|
| ISO 16112/JV/300/S | 210 | 300 | 2.0 | 140 to 210 |
| ISO 16112/JV/350/S | 245 | 350 | 1.5 | 160 to 220 |
| ISO 16112/JV/400/S | 280 | 400 | 1.0 | 180 to 240 |
| ISO 16112/JV/450/S | 315 | 450 | 1.0 | 200 to 250 |
| ISO 16112/JV/500/S | 350 | 500 | 0.5 | 220 to 260 |

The figures above are based on results from separately cast test bars. It should be noted that these results can vary with section thickness which may have a bearing on casting design.

ISO 16112 is not the only standard for compacted graphite iron. There are comparable standards in the ASTM, DIN and SAE ranges and other national standards exist.

This data sheet can be read in conjunction with our information sheet for compacted graphite irons which can be downloaded from our website at <http://www.durhamfoundry.com/technical-data-sheets.html>

If you need to order a casting in compacted graphite iron and are confused by its description, unsure as to which grade you need or it has a specification you don't recognise, please contact us as there is a good chance we will be able to help.

For further information please contact Mike Naylor on castings@durhamfoundry.com or 0044 (0)114 249 4977.