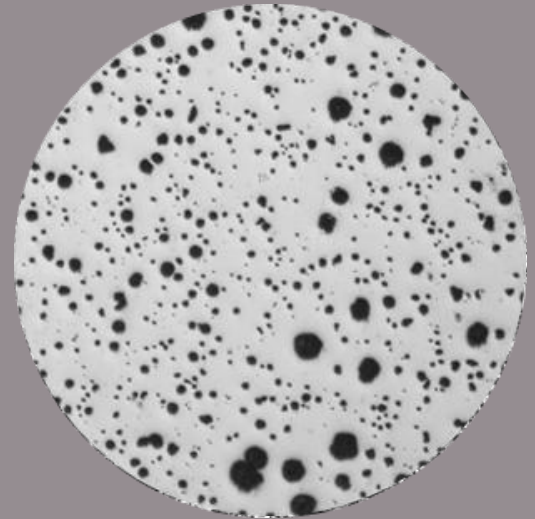




## Ductile Iron

Durham Foundry manufactures ductile iron to ISO 1083. Within this standard are a range of grades which can be certified by ultimate tensile strength and 0.2% proof stress in N/mm2 and percentage elongation.

This ductility results in excellent properties in tension as well as compression when compared to grey cast iron. 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 tensile 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/mm2)	Tensile Strength (N/mm2)	Elongation (%)	Charpy Impact (J)
ISO1083/JS/4 00-18-LT/S	240	400	18	12
ISO1083/JS/4 00-18-RT/S	250	400	18	14
ISO1083/JS/4 00-18/S	250	400	18	
ISO1083/JS/4 00-15/S	250	400	15	
ISO1083/JS/4 50-10/S	310	450	10	
ISO1083/JS/5 00-7/S	320	500	7	
ISO1083/JS/6 00-3/S	370	600	3	
ISO1083/JS/7 00-2/S	420	700	2	

For the 400-18 grades with an impact test, the charpy is done at -20 deg C for the LT grade and at 23 deg C for the RT grade. We can achieve the impact results in the as cast state without the need for heat treatment.

The figures above are based on results from separately cast test bars. It should be noted that they can vary with section thickness which may have a bearing on casting design. There is no data for hardness within the standard for the grades above.

ISO 1083 is not the only standard for ductile cast iron. It can be ordered to the Euronorm standard BS EN 1563 where there is a very similar range of grades. There are also comparable standards in the ASTM, DIN and SAE ranges. Other national standards exist along with various trade named standards, most of which are obsolete, the exception to that being the Meehanite range of ductile irons. SG iron, SGI and Spheroidal Graphite iron all refer to the same material.

This data sheet can be read in conjunction with our information sheet for ductile 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 ductile 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.