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**Carbon Steels**

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**Acknowledgement**

Mr John Gibson is a highly regarded educator and engineer. John taught Industrial Arts at a number of high schools before taking a position at Sydney Teachers’ College, then University of Sydney. He had an engineering education consultancy and has extensive experiencing working with NESA on Engineering Studies syllabus development and the HSC examination committee. The STEM Industry School Partnerships (SISP) Program asked John for his responses to the iTeachSTEM topic discussion questions. SISP is grateful to John for submitting these example discussion responses.

# What is the normal range of Carbon in plain Carbon steels?

The normal range of Carbon in plain Carbon steels is from 0.05% to 2.0%.

1. **As the carbon content increases from 0 to 2.0%, how does steel’s tensile strength and, ductility change?**

As carbon content increases, the tensile strength increases and, the ductility decreases.

1. **What range of carbon steels’ are heat-treatable?**

Steels, in the Carbon range from 0.4% to 1.2%, are heat-treatable.

1. **Describe the structure within steels called Pearlite.**

Pearlite is a two-phase mixture of Ferrite (alpha) and cementite (Fe3C). The components are in a laminated form.