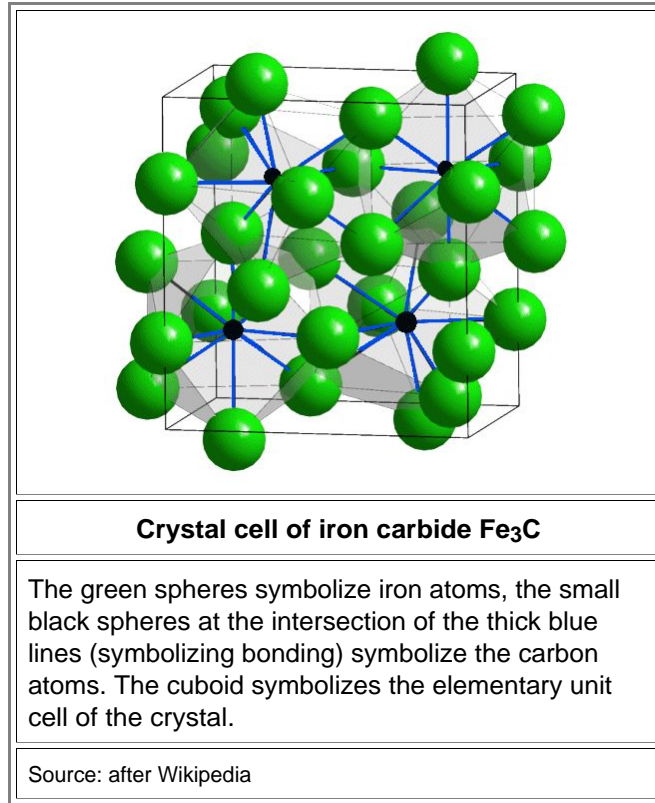


Iron Carbide Fe_3C ; also known as Cementite

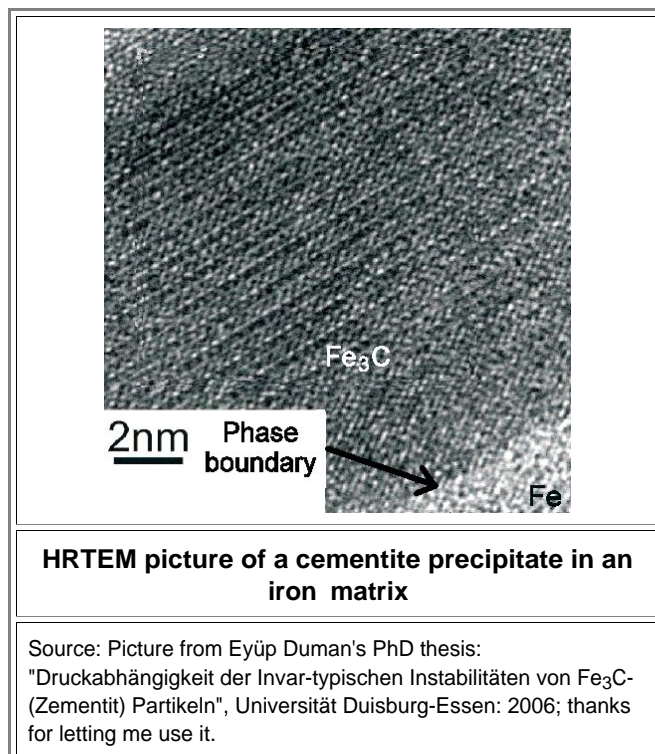
Illustration

Iron carbide, Fe_3C in chemical short-hand, is also known as "**cementite**". It is a [chemical compound](#) of iron and carbon. Iron carbide is normally classified as a "*ceramic*", i.e. it is hard, brittle and an insulator.

Considering that carbon steel is what it is because of cementite, I was amazed how little information I found about the stuff. Its lattice type and so is known, of course (see below) but not much else.



Here is a HRTEM picture of a cementite particle in steel.



✓ Cementite is not found as a mineral in nature, except in iron meteorites. Then it is called *cohenite* after the German mineralogist Emil Cohen who first described it.

- Cementite is rather hard (HV = 800) and brittle. It is magnetic like iron but loses its magnetism at a Curie temperature of 215 °C (424 °F).
- It appears that cementite has no major uses by itself.