**Properties of Mild Steel**

<http://mechanicalinventions.blogspot.com.au/2014/08/mild-steel-properties-of-mild-steel.html>

Mild steel is tough, ductile and malleable. It has good tensile strength but poor corrosion resistance. It is mainly used as an all-purpose engineering material.

Mild steel composition

Mild steel contains:

* Carbon 0.16 to 0.18 % (maximum 0.25% is allowable)
* Manganese 0.70 to 0.90 %
* Silicon maximum 0.40%
* Sulfur maximum 0.04%
* Phosphorous maximum 0.04%
* A small amount of carbon makes mild steel to change it properties. Different amount of carbon produces different types of steels. There are small spaces between the iron lattices. Carbon atoms get attached to this spaces and makes it stronger and harder. The harder the steel the lesser the ductility.
* The modulus of elasticity calculated for the industry grade mild steel is 210,000 Mpa. It has an average density of about 7860 kg/m3.
* Mild steel is a great conductor of electricity. So it can be used easily in the welding process.
* Because of its malleability, mild steel can be used for constructing pipelines and other construction materials. Even domestic cook wares are made of mild steel. It is ductile and not brittle but hard.
* Mild steel can be easily magnetized because of its ferromagnetic properties. So electrical devices can be made of mild steel.
* Mild steel is very much suitable as structural steel. Different automobile manufacturers also use mild steel for making the body and parts of the vehicle.
* Mild steel can be easily machined in the lathe, shaper, drilling or milling machine. Its hardness can be increased by the application of carbon.
* Mild steel is very much prone to rust because it has high amount of carbon. When rust free products are needed people prefer stainless steel over mild steel.

