Cutting Methods

Plasma cutting is a process that is used to cut steel and other metals of different thicknesses (or sometimes other materials) using a plasma torch. In this process, an inert gas (in some units, compressed air) is blown at high speed out of a nozzle; at the same time an electrical arc is formed through that gas from the nozzle to the surface being cut, turning some of that gas to plasma. The plasma is sufficiently hot to melt the metal being cut and moves sufficiently fast to blow molten metal away from the cut.

Laser cutting is a technology that uses a laser to cut materials, which is used in the production line and is typically used for industrial manufacturing applications. Laser cutting works by directing the output of a high power laser, by computer, at the material to be cut. The material then either melts, burns, vaporizes away, or is blown away by a jet of gas, leaving an edge with a high quality surface finish. Industrial laser cutters are used to cut flat-sheet material as well as structural and piping materials.

A **water jet cutter** is a tool capable of slicing into metal or other materials using a jet of water at high velocity and pressure, or a mixture of water and an abrasive substance. The process is essentially the same as water erosion found in nature but greatly accelerated and concentrated. It is often used during fabrication or manufacture of parts for machinery and other devices. It has found applications in a diverse number of industries from mining to aerospace where it is used for operations such as cutting, shaping, carving, and reaming.

Machines	Bed Sizes	Thickness Range	Tolerance
Plasma	12 M x 3 M	2mm - 150mm	
Laser (6Kw)	6.5 M x 2.5 M	2mm - 25mm	+/- 0.5mm
Water Jet	4 M x 2 M	2mm - 150mm	+/- 0.3

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