



A Basic Overview Of Oxyacetylene Welding And Cutting

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Oxyfuel welding is a process that uses heat created by a gas flame to melt the base material. The gas flame created by combustion of oxygen and a fuel. Common fuels are propane, butane, hydrogen and natural gas. Oxygen and acetylene burn at between 5600 and 6300 degrees, it is the hottest of any gas flame and is capable of melting almost any metal. Oxyfuel welding with acetylene is called oxyacetylene welding, or simply gas welding.

The Oxyfuel process is versatile, it can be used for cutting, heating, soldering and brazing. It can be less expensive than arc welding and is portable. Oxyfuel welding can be used to weld any thickness of metal. However Oxyfuel welding can be difficult to master, and there are some serious safety issues due to the extreme flammability of acetylene and the high pressure of the gas cylinders.

A standard Oxyfuel welding setup consists of an oxygen tank, an acetylene tank, regulator and gauges, gas hoses, a torch and tip.

Oxyfuel welding may use fusion welding, where the base metals are fused together without a filler material, or more commonly a filler metal in the form of a welding rod is introduced to fill the weld.

Oxyacetylene cutting uses acetylene and oxygen to preheat metal to 1600 degrees, then uses pure oxygen to burn away the preheated metal. Because this is achieved by oxidation, it is only effective on metals that are easily oxidized at this temperature. Such metals are mild steel and low alloy steels. Oxyfuel cutting can be used to cut thicknesses from 2/8" to up to 12".

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