

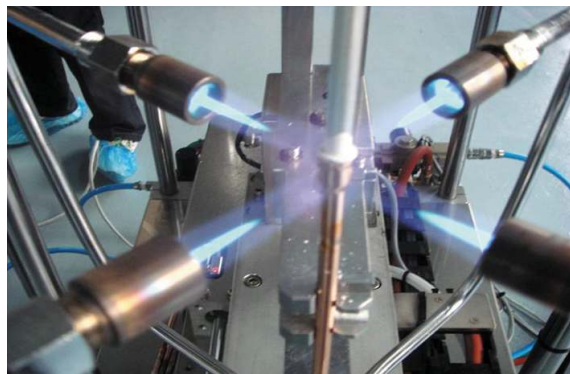


OXYGEN Application

O₂ APPLICATION

Oxygen (O₂) is an active, life-sustaining component of the atmosphere: making up 20.94%. It is colorless, odorless and tasteless. Oxygen is commonly used, with or instead of air, to increase the amount of oxygen available for combustion or biological activity. This increases reaction rates and leads to greater throughput in existing equipment and smaller sizes for new equipment.

Oxygen has numerous uses in steelmaking and other metals refining and fabrication processes, in chemicals, pharmaceuticals, petroleum processing, glass and ceramic manufacture, and pulp and paper manufacture. It is used for environmental protection in municipal and industrial effluent treatment plants and facilities. Oxygen also has numerous uses in healthcare, both in hospitals, outpatient treatment centers and home use. For some uses, such as effluent treatment and pulp and paper bleaching, oxygen is converted to ozone (O₃), an even more reactive form, to enhance the rate of reaction and to ensure the fullest possible oxidation of undesired compounds.



Metal Brazing & Cutting

Pure oxygen, instead of air, is used to increase the flame temperature to allow localized melting of the workpiece material. A common propane/air flame burns at about 2,260 K (1,980 °C: 3,590 °F), a propane/oxygen flame burns at about 2,626 K (2,263 °C: 4,087 °F).

In oxy-fuel brazing, a brazing torch is used to weld metals. Brazing metal results when two pieces are heated to a temperature that produces a shared pool of molten metal. The molten pool is generally supplied with additional metal called filler.

Filler material depends upon the metals to be welded.

In oxy-fuel cutting, a torch is used to heat metal to its kindling temperature. A stream of oxygen is then trained on the metal, burning it into a metal oxide that flows out of the kerf as slag.

