

Plasma Arc Cutting #1

- Is a metal cutting process using plasma (a jet of gas that has been **ionized** by an electrical arc)
- Plasma is the fourth state of matter (after solid, liquid and gas) and is characterized by extreme heat and electrical conductivity
- When a gas reaches a certain temperature or is subjected to a strong electrical field, it ionizes and becomes a plasma (plasma occurs naturally in lightning and stars and in man-made objects such as fluorescent bulbs and plasma television, which contain **cold plasma** to make them safe for everyday use)



- Concentrated plasma is incredibly hot (the cutting arc can reach 40,000 degrees F)
- Plasma arcs produce dangerous levels of **ultraviolet** (UV) and **infrared** light and create enough noise to damage hearing, necessitating the use of protective equipment
- Plasma cutting also produces fumes requiring proper ventilation
- Filter lenses should have a shade factor of between 7 and 9

