

Dust Collection

LASER CUTTING APPLICATIONS

What is Laser Cutting?

An industrial process that uses plasma and other gases to cut through various materials such as: stainless steel, aluminum, and others.

While it is mainly used for conductive materials, it is responsible for helping the automotive, medical, aerospace, engineering, and electronic industries.

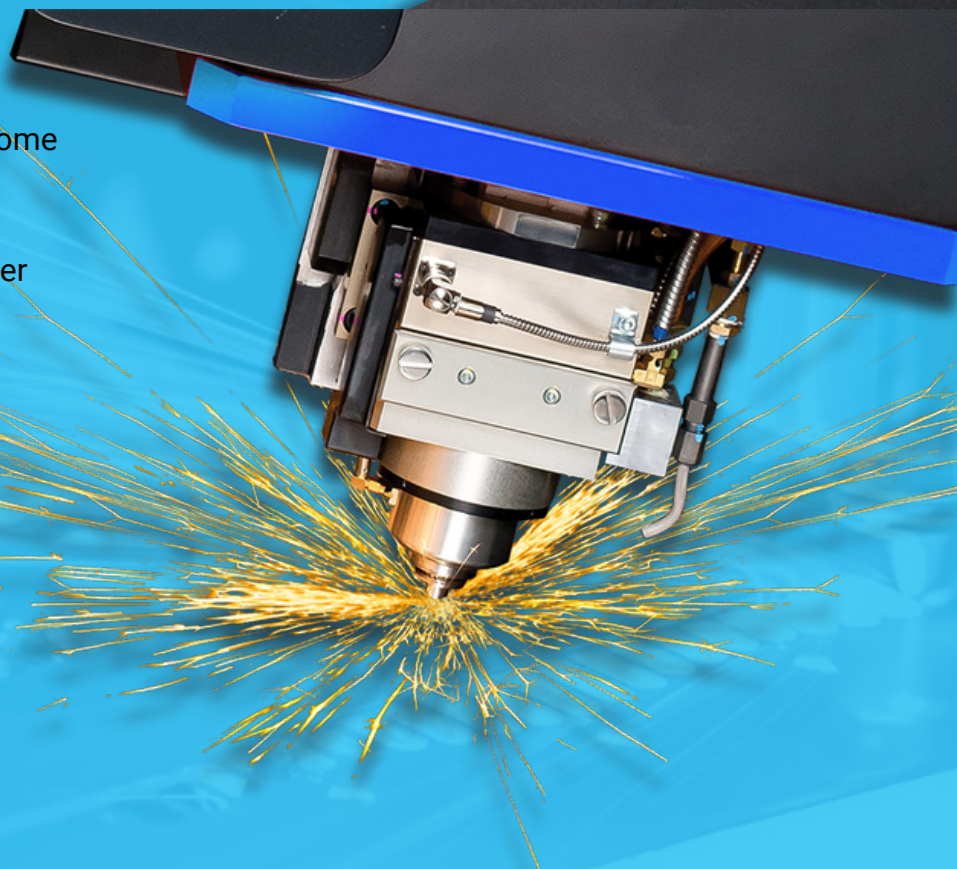
Metallic dusts and fumes are released into the air from laser cutting. This creates health and safety concerns for workers.

Filter Selection

Media selection should be considered. Some options that we have include:

- Hydro-Oleo Phobic Spunbond Polyester
- Fire Retardant Cellulose Polyester
- Fire Retardant Nano*

*High Efficiency Sparks are present



CONTROLLING DUST & FUMES

Different Types of Lasers

In laser cutting, different lasers are used depending on what type of material is being cut.

- CO2 lasers use a mix of carbon dioxide and other gases.
- Nd lasers uses neodymium to cut through materials.

Dust particles and smoke is generated during the laser cutting process.

Health & Safety Risks

The health and safety of those involved in the laser cutting should be a priority. Exposure to particulate generated include health effects such as:

- Eye/Skin Irritation & Allergies
- Respiratory Issues
- Occupational Asthma
- Lung Cancer (Long-Term Exposure)
- Metal Fume Fever

Particles from the laser cutting process can cause machinery to break down and interfere with permissible exposure limits on workers.

*Hexavalent Chrome

Like welding, hexavalent chrome is produced by cutting through stainless steel or chrome. It is a highly toxic cancer-causing substance. When inhaled, it can cause many different health problems. From lung issues to kidney damage, hexavalent chrome is a substance that shouldn't be taken lightly.

*HEPA filtration is recommended.

Other Hazardous Particles

Besides hexavalent chrome, other particles and fumes are also harmful to one's health.

- Metallic Dust Particles - These particles are produced when cutting through various materials/metals.
- Zinc Oxide - Produced from cutting galvanized metal. Exposure to this can lead to metal fume fever and other adverse health effects.
- Manganese - A toxic compound mainly used in steel production. Exposure to this can lead to

Combustible Dust

Like welding, the risk of combustible dust is present. Mainly when dealing with metallic dust particles. These particles can ignite and lead to explosive consequences.

In some cases, testing may be required to see if certain materials are combustible.

Dust Collector Filters

At Environmental Filter, we manufacture dust collector filters for many different applications including laser cutting and welding. Whether it's a small weld shop or a large project that is needing filtration, let us help you with your dust collection needs.



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107 Flint Street Jonesboro AR, 72401
870-358-4440
www.efisales.com