



# JOB AID HAZARD AWARENESS INFO

## INDUSTRIAL LASERS

In material processing, lasers with average optical power above 1 kilowatt (kW) are used mainly for industrial materials processing applications. Laser systems in the 50-300W range are used primarily for pumping, plastic welding and soldering applications.

Lasers above 300W are used in brazing, thin metal welding, and sheet metal cutting applications. High power applications, such as hardening, cladding, and deep penetrating welding, require multiple kW of optical power, and are used in a broad range of industrial processes.

Micro material processing is a category that includes all laser material processing applications under 1 kilowatt.

### Hazards Involved/Arise

- Class 3B and 4 Laser - Radiation exposure to eyes
- Class 3B and 4 Laser - Radiation exposure to skin
- Reflected Class 4 Laser - Radiation to eyes or skin
- Laser Generated Air Contaminants (LGACs)
- High voltage electrical sources



### People Affected

- Laser system designers
- Laser operators
- Laser safety officers
- Affected employees

### Existing Controls

- Proper Labelling
- Proper enclosures based on class of laser used
- Laser interlock controlled key access
- Eye and skin Personal Protective Equipment (PPE) as recommended by the Laser Safety Hazard Assessment
- Occupational hygiene control program for LGACs
- Engineered local exhaust ventilation
- Electrical safety procedures
- Standards and codes for safe use of lasers

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Content developed by WSPS Advisory Committees

375-BBT-023-IGDO| REVISED JUNE 2017

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