

# MAFES Dawg Tracks

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MISSISSIPPI STATE UNIVERSITY™  
MS AGRICULTURAL AND  
FORESTRY EXPERIMENT STATION

*Working Safely  
When Welding*

Welding, cutting and brazing all combined pose a health and safety risk to over 500,000 people each year in the USA. The Occupational Safety and Health Administration (OSHA) states that risks from fatal injuries alone are more than 4 deaths per 1,000 workers over a lifetime.

With these facts in mind, I believe that it is prudent for us to discuss some safety tips that will reduce risks around welding jobs.

## **DANGERS OF WELDING HAZARDS-**

Welding, cutting and brazing are jobs that enable us to get the job done and are quite prevalent in our agriculture industry. But, like most tasks in any industry, not just agriculture, there are risks and hazards involved:

- Fire hazards
- Electrical hazards, including the possibility of a fatal shock
- Exposure to toxic fumes and gases
- Loud noise
- Burns to the skin
- Eye injuries, resulting from burns or from particles that get into the eyes

## **TIPS TO CONSIDER BEFORE PREPARING TO WELD-**

- Be sure that you are authorized and are fully trained to use the equipment. Also, you should read the operator's manual of the equipment for the equipment that you will be using.
- Make sure that the area where you will be working is fully ventilated to prevent the accumulation of toxic fumes and gases. Never use oxygen for ventilation; instead, open doors and windows or use exhaust fans, or other means.
- Check for potential fire hazards. Make sure that there are no combustible materials nearby. If combustible materials are close by, move them to a location at least 35 feet from the welding and cutting area. Be sure that there is water, sand and a charged ABC fire extinguisher nearby. If you have other questions see your Superintendent or Facility Coordinator, whichever is the case.
- Never weld on a wooden floor. If it is necessary to do so, wet the floor down or use other type of protection to cover the floor. Be sure to observe any other location in the welding area for flammable materials and take the means to protect them as well.
- Consider installing a curtain to keep passersby from viewing the arcs.
- Never direct a torch toward another person while you're lighting it.

## **OTHER GENERAL SAFETY TIPS-**

- ✓ Wear pants without cuffs, avoid clothes and gloves with snags, tears or worn spots. Keep all the pockets empty and sealed, and never wear polyester or nylon clothing, which could melt onto your skin. Leather or wool are better choices than cotton flannel, unless the material has been treated with flame retardant materials.
- ✓ Depending upon the type of job you will be doing, you might be required to wear:
  - ~ A welding helmet
  - ~ A fire-resistant shirt, coveralls, apron, pants and/or chaps
  - ~ Fire resistant gloves
  - ~ High top leather or rubber boots
  - ~ A respirator
  - ~ Goggles
  - ~ Hearing protection
- ✓ Carefully check your pockets for lighters, matches or any other materials that could be dangerous around heat or flames.
- ✓ Never weld, cut or do related work on drums, barrels or tanks that could explode.
- ✓ Pay close attention to the floor surfaces. For example, steel conducts electricity, so you would need an insulating mat. You really should have a rubber mat to stand on if wet ground is present.
- ✓ Support the pressurized cylinders so they can't tip over. Make sure that the cylinder caps are screwed on tight and are replaced on all empty cylinders.
- ✓ If a cylinder leaks around the valve or fuse plug, tag it to indicate the fault and report it to supervision.
- ✓ Know that it may be required to have a second person standing by with a fire extinguisher to extinguish potential flames from sparks.
- ✓ Don't weld near room where flammable materials are stored.
- ✓ Keep all welding equipment free of grease and oil.

### **DO:**

- Weld only in authorized areas and make sure it is clear of chemicals and well ventilated.
- Inspect the equipment before each use.
- Clear the area of bystanders before you start.

### **DON'T:**

- Use defective equipment that isn't in good repair.
- Weld with upturned sleeves or collars- Sparks could get caught in them
- Lay a torch down on a table with oil residues present- Oil and oxygen don't mix.

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Excerpts: [www.gemplers.com](http://www.gemplers.com)

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