



097: Welding and Cutting, Gas

Non-welder cautions

If at all possible, leave the area. An inadvertent spark can ignite your clothing, burn a hole in your test leads, damage your insulated tools, and create other hazards.

Never try to get the attention of the person doing the welding, unless there is an emergency.

Never touch something that has just been welded on. It is likely hot enough to cause a severe burn. The more massive the object, the longer it will stay hot.

Do not assume danger has passed just because the person welding put down the welding or cutting torch. The welding rig itself is dangerous.

Welder personal cautions

Use the correct attachment for the job. It's safer, and more quality-conscious, to take the time to get the right tool than it is to "wing it" with the wrong one.

Wear gloves suitable for gas welding and cutting.

Wear a face shield and other suitable PPE when using a cutting torch, per the training you got when qualified to use this equipment.

Turn the welding equipment off at the bottle valve, not just the regulator, when the welding rig is not in use.

Protecting others

You must provide protection along the horizontal plane.

You can provide horizontal protection with any of several methods. For example, you can use free-standing screens. Just keep in mind your goal is to prevent sparks and debris from injuring others.

You must provide protection along the vertical plane if you are working in an area where people can be exposed to sparks and debris if they are above or below you. For example, if you are doing your work on a platform made of grating, you must provide this protection.

You can provide vertical protection with any of several methods. For example, you can use fire-resistant plywood and fire blankets under your welding area and the same above it.

Gas cautions

If an acetylene valve freezes up, thaw it with lukewarm water. Pour the water over the valve, not the cylinder. Never use a flame to thaw a valve on an acetylene tank.

Because compressed fuel gases and acetylene are liquid while under pressure, keep the cylinders positioned so that the valve is up. Otherwise, you may release shots of liquid rather than gas. The liquid will subsequently expand and produce a pronounced concentration of gas.

Handle compressed gas cylinders delicately. Dropping one on the floor can break the valve, creating a rocket that can easily go through a brick wall while leaving a trail of explosive gas. If you knock two cylinders together hard, both might let go.

Discussion leader duties for this session:

Obtain a gas welding and cutting rig (compressed gas, carts, valve/regulator assembly, hoses) for demonstration during the discussion portion.

What this Safety Talk covers:

Safety when working with or around gas welding and cutting equipment.

Discussion notes :

Review and Discussion

Why should you leave the area of a gas welding or cutting operation if you really don't need to be there?

What are some general cautions for non-welders in the presence of welding and cutting?

What PPE should a person who is using a cutting torch do doing gas welding wear?

How should you shut off gas welding and cutting equipment when not in use?

What kind of horizontal protection is required?

What kind of vertical protection is required?

How should you thaw a frozen gas valve?

In what position should a gas bottle be when in use?

What are some safety concepts for transporting gas bottles?

What are some safety concepts related to the gas hoses?

To reduce the likelihood of valve breakage, keep the cap screwed on any cylinder not in use. Shut off the valve if you are not using the cylinder rather than leaving the regulator to act as a valve. If you leave the cylinder unattended overnight or longer, shut the valve off and remove the regulator to prevent breaking the regulator and the valve.

Shut off the valve and remove the regulator if you are transporting the cylinder. Never lift a cylinder by the regulator or the valve.

Do not wrap hoses tightly. Exceeding their bend radius will result in a weak hose that may burst in use.

Inspect hoses before use. Replace any that appear cracked. Replace hoses that have a “blister” or other deformity.

Use a fire watch for 30 minutes after welding and cutting ceases.

Participant's Signature and Date

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