

**HEAVY REFRIGERATION MECHANIC//
SR. HEAVY REFRIGERATION MECHANIC**

PIPE FITTING		
Activity	Hazard Identification	Required Precautions
1. Driving to and from work site.	1. Motor vehicle accident; striking pedestrians, bicyclists, or individuals using rollerblades.	1. Wear prescription lenses, if required, and seatbelt. Verify that all equipment on vehicle is secured properly. Stay alert for pedestrians, bicyclists, and individuals using rollerblades.
2. Handling heavy, awkward 20' lengths of pipe.	2a. Back strain; overexertion.	2a. Know your weight-lifting capacity and get help if needed. Lift using leg muscles. Keep back straight. Use mechanical lifting equipment.
	2b. Hitting someone or something with the pipe.	2b. Watch where you are going. Handle piping carefully.
	2c. Tripping; slipping.	2c. Survey area for hazards. Walk carefully to maintain footing.
3. Using power tools such as grinder, portable saw, pipe cutter, and pipe threading machine.	3a. Electric shock; electrocution.	3a. Inspect cord before use. Keep power cord away from work area. Plug tools into GFCI-protected outlets. Do not use electric tools if work area is wet.
	3b. Tripping over or cutting power cord.	3b. Keep power cord away from work area.
	3c. Injury from flying bits of material.	3c. Wear safety glasses, and optionally a dust mask, gloves, long-sleeve shirt and/or coveralls.
	3d. Drill or saw catching; drill bit breaking; severe lacerations; dismemberment.	3d. Keep tools in good condition. Inspect tools before use. Verify that guards work properly. Do not put hands near blades. When using tools, make sure you have a good center of gravity and are properly balanced. Hold tools securely with two hands to maintain control.
	3e. Getting caught in pipe threading machine.	3e. Do not wear loose clothing, jewelry, or keys. Stay alert while working with pipe threader.
	3f. Back strain from using manual pipe threader.	3f. Position yourself properly when pushing the die handle.

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	3g. Getting cut by metal chips.	3g. Properly dispose of rags used to clean pipe in order to prevent injury to yourself or others from oil and metal chips.
4. Using fitters tools, pipe wrenches, and combination wrenches (hand tools).	4a. Cuts, pinches, smashes, punctures, severing of fingers.	4a. Keep tools in good condition. Inspect tools before use. Ear safety glasses. Work away from yourself. Use normal caution required for all hand tools.
	4b. Wrench slipping and worker hitting self or others with wrench or dropping wrench on self or others.	4b. Wear hard hat. Handle tools carefully with dry gloves or hands. Make sure you have a firm footing so you do not fall.
5. Welding.	5a. Getting flashed.	5a. Wear welding mask. Prevent reflected arc rays by changing angle at which you are working. If it is not possible to change your angle, put up a nonreflective board on the wall behind you. All non-essential personnel should leave the area.
	5b. Getting burned.	5b. Wear protective clothing: welding jacket, gloves, and welding mask.
	5c. Hot metal bouncing up into face or eyes.	5c. Wear goggles or safety glasses under welding mask.
	5d. Fire hazard from flying sparks.	5d. Remove flammable materials from work area. Wear welding jacket. Have coworker fire watch with an extinguisher.
	5e. Inhalation of fumes.	5e. Use fans to ventilate area. Wear respirator.
	5f. Electric shock; electrocution.	5f. Wear dry clothing. Make especially sure that gloves are dry. Keep leads in good repair and out of standing water. Do not stand in standing water.
	5g. Injury to others.	5g. Be aware of other workers or pedestrians in the area. Block welding area with a screen.

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6. Storing or transporting compressed gas cylinders and oxygen/acetylene torch.	6a. Explosion of compressed gas.	6a. Do not allow cylinder valves or regulator assemblies to come into contact with grease, oil, or lubricants. Wear proper eye protection.
	6b. Rupture of cylinder if valve breaks off.	6b. Always install protective valve cover. Always secure cylinder to a stand or a wall.
7. Cutting (burning), soldering, or brazing with oxygen/acetylene outfit.	7a. Regulator diaphragm rupturing when torch is turned on.	7a. Turn regulator adjusting screw counterclockwise to disengage plunger before turning on cylinder.
	7b. Acetylene explosion.	7b. Stand acetylene tank vertically before using.
	7c. Torch explosion.	7c. Install spark arrestors on torch and regulators.
	7d. Burning self.	7d. Wear gloves, overalls, and leather chaps. Always burn away from yourself.
	7e. Starting a fire.	7e. Always keep fire extinguisher nearby and have a person stand by as a firewatch. Must have a burning permit.
	7f. Burns form metal dripping on self.	7f. Do not reach to burn; always work level with torch.
	7g. Inhalation of fumes.	7g. Work in a well-ventilated area. Use exhaust fans and tubes for ventilation.
	7h. Flash burn to eyes.	7h. Wear burning goggles to protect eyes.
	7i. Burning tar coating and/or galvanized coating creates a poisonous gas.	7i. Tar coating is usually wrapped in cardboard. Silver coating on pipes or plates indicates galvanized coating. If possible, use reciprocating saw to cut instead of burning with torch. If it is not possible to saw the pipe or plate, the area must be very well ventilated with incoming and outgoing air. Wear air pack to avoid breathing fumes.
	7j. Buildup of acetylene from leaks.	7j. Check hose and connections for leaks and damage before using.

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8. Working outdoors in sunny and/or hot weather.	8a. Heat exhaustion; sunstroke.	8a. Work outside in cooler part of day—morning or early evening. Wear a hat. Drink plenty of water. Take frequent breaks.
	8b. Sunburn; skin cancer.	8b. Use sunscreen and wear a hat.
9. Working outdoors in very cold temperatures.	9. Frostbite.	9. Wear proper clothing for low temperatures: insulated coveralls, gloves, and hat.