

Blizzard Bag I

WELDING SAFETY EXAM

STUDENT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Directions: In the blank that has been provided place the letter that indicates the best answer. Then explain your answer in the space provided below each question.

A. Good Safety      B. Not Good Safety

- \_\_\_\_ 1. Safety glasses should be worn in the welding lab only when the instructor is looking.  
\_\_\_\_\_
- \_\_\_\_ 2. Students who have excessively long hair should wear either a hat or hair nets while operating power equipment.  
\_\_\_\_\_
- \_\_\_\_ 3. Coveralls or appropriate clothing must be worn in the welding laboratory.  
\_\_\_\_\_
- \_\_\_\_ 4. Power equipment should be unplugged when changing bits, grinding discs or performing any maintenance.  
\_\_\_\_\_
- \_\_\_\_ 5. We should try and see how far we can slide on a wet floor.  
\_\_\_\_\_
- \_\_\_\_ 6. Any damaged tools or inoperable equipment should be reported to the instructor of the program.  
\_\_\_\_\_
- \_\_\_\_ 7. Horseplay and practical jokes are not permitted in any area of the laboratory.  
\_\_\_\_\_
- \_\_\_\_ 8. Tools must always be returned to the tool crib.  
\_\_\_\_\_
- \_\_\_\_ 9. You should never get under any automobile that is not supported properly on jack stands and you should never get between equipment or material that is being moved.  
\_\_\_\_\_
- \_\_\_\_ 10. Oil and other spills should be wiped up immediately to prevent an accident.  
\_\_\_\_\_
- \_\_\_\_ 11. You should never operate power equipment on a wet floor.  
\_\_\_\_\_



\_\_\_\_\_ 12. You should never operate any power equipment until you have been told how to use it safely.

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\_\_\_\_\_ 13. Everyone is responsible for keeping the laboratory clean and organized.

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\_\_\_\_\_ 14. Chemical soaked rags should disposed of in containers with metal lids and all flammable material should be kept away from any welding area.

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\_\_\_\_\_ 15. You should never point a torch at yourself or someone else.

Directions: Below are two statements. If you agree with them write agree in the space provided; however, if you do not agree with the statement, write disagree.

AGREE

DISAGREE

\_\_\_\_\_ 16. Most injuries occur because people don't follow safety rules.

\_\_\_\_\_ 17. The most important rule you can have is safety first.

\_\_\_\_\_ 18. Valves on all welding gas should be turned off after the job assignment has been done and before equipment is put away.

\_\_\_\_\_ 19. Safety glasses should be worn in every work area.

\_\_\_\_\_ 20. Only a fool thinks he can never get hurt.

- 19. No personal telephone calls are to be made from school telephones. Personal calls can be made from pay telephones at lunch or after school.
- 20. No personal radios or tape players are to be brought into the classroom.
- 21. No relatives or friends are to visit class without prior approval of the instructor or signing in at the front office.
- 22. As explained on grading explanation sheet, disruption of class by talking or unnecessary noise may result in a failing mark for that day's class.
- 23. The instructor reserves the right to amend, delete or provide for additional procedures as the need arises.

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I, the parent or guardian of \_\_\_\_\_, by placing my signature below, state that I have read these procedures and understand them. Furthermore, I have discussed them with the student and have impressed upon him or her the importance of these rules.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

I, \_\_\_\_\_, as a Welding student, by placing my signature below, state that I have read and understand all of the Welding procedures set forth above.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

**\*\*NOTICE TO PARENTS\*\***

If at any time you have questions or if you want to discuss your son or daughter's education, please feel free to call me at \_\_\_\_\_ or visit the lab.

1-937-378-6131 EXT 338 LAB

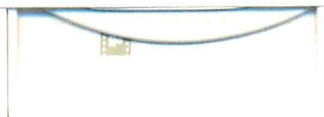
3. To avoid strains, sprains and hernias due to improper lifting; levers, jacks and other moving equipment shall be used to move heavy objects.
4. The proper way to lift: Stand close to the load with feet slightly apart and solidly placed. Keep your back as nearly vertical as possible. Grasp the object and lift by straightening your legs. Do not use your back!
5. When materials are stored, great care will be exercised to see that the material is stacked or piled so that it will not fall.
6. Materials shall be stacked in such a manner that projecting edges or points will not constitute a safety hazard.
7. Material shall be stacked so as to provide safe aisles and passageways.

#### Welding and Flame Cutting:

1. No welding shall be done on containers having had combustible materials in them until the containers have been properly flushed and steamed.
2. Hot metal shall be cooled when practical or conspicuously marked "hot" and the time and date.
3. Hoses and arc welding leads shall not be allowed to clutter walkways so as to make a stumbling hazard.

#### Storage and Handling of Cylinders:

1. Oxygen and acetylene cylinders shall be stored separately in a cool, well-ventilated, fireproof building.
2. Explosion proof electrical equipment shall be used in cylinder storage rooms.
3. No open flames, grinding tools, or spark-emitting devices shall be used within the room.
4. Carrying matches shall not be allowed in the storage rooms.
5. Cylinder shall be secured in an upright position while in storage.
6. Cylinders shall not be stored near combustible material.
7. Cylinder valves shall be closed tightly and protector caps in place.
8. Cylinders shall be handled with more than ordinary caution. Rough handling may cause leaks that may result in explosion.
9. Welders must know the markings for cylinders according to the gas contained.
10. Acetylene gas shall not be transferred from one cylinder to another or mixed with other gases under any circumstances.
11. Neither acetylene nor oxygen shall be used to test for leaks in any container.



oil, gases, or lubricant of any kind shall be used on oxygen cylinders or regulator connections.

13. Cylinders shall not be used as rollers or for the supporting of materials.
14. If cylinder valves must be thawed out, only steam or hot water may be used.

Operation and maintenance of stationary and portable oxyacetylene welding outfits:

1. Regulators are to be used only for the gases for which they are intended.
2. Welders must know the identifying characteristics of both oxygen and acetylene regulators.
3. The regulator adjusting screw must be fully released before opening cylinder valves preparatory to using torch.
4. Cylinder valves shall be opened slowly; oxygen opened fully, acetylene not more than one and one-half turns.
5. The acetylene cylinder valve wrench shall be left in place on the acetylene cylinder valve so that they acetylene can be shut off quickly in case of an emergency.
6. Before the gases are ignited, all regulator, hose and torch connections should be checked for leaks.
7. Only flint ignitors shall be used for lighting torches.
8. The welder shall always keep the flame within his field of vision.
9. Surplus hose shall be coiled and out of the way of sparks and the flame.
10. Approved welding goggles must be worn while welding or cutting with oxyacetylene equipment.
11. When a flashback (burning within the torch) occurs, both torch valves shall be shut off immediately -- first acetylene and then the oxygen. The torch shall then be cooled and inspected before relighting.
12. When backfire (torch popping with the spattering of molten metal) occurs, the tip size shall be decreased or the pressure and volume of gases increased to overcome the burning back into the tip chamber.
13. A pilot flame shall never be allowed to burn at the tip of the torch.
14. When a job is completed, the cylinder valves shall be closed; the regulator, hose and torch shall be bled to release the gas pressures; the regulator adjusting screw shall be fully released and the torch valve closed.
15. A torch shall never be left in the open end of a pipe, in a tank or other vessels as a leaking hose or torch may cause the accumulation of explosive mixture of gas.
16. When any part of the equipment requires maintenance work, the cylinder valve shall first be closed.



17. Leaking hoses shall never be repaired with ordinary tape.
18. Copper tubing shall not be used to splice acetylene hoses as an explosive gas (copper acetylide) may be generated.
19. Only commercial bronze, brass or steel fittings shall be used in setting up or repairing oxyacetylene welding equipment.
20. Spare parts and regulators shall be stored in a clean, dry place free from contact with oil or grease.
21. Only soapy water shall be used in testing for leaks on oxyacetylene welding equipment.
22. Faulty regulators shall not be used.
23. Flashback arrestors, bursting discs and reverse flow valves shall be part of stationary welding outfits as added safety features.
24. The acetylene operating pressure shall never exceed 15 pounds per square inch on any oxyacetylene equipment.

#### Electric Welding:

1. Ragged clothes, open pockets, missing buttons and rolled cuffs are to be strictly avoided by the welder.
2. Low-cut shoes are not permissible for the welder.
3. Approved helmet lenses, gloves and long sleeved shirt are necessary in general welding for protection against harmful infrared and ultraviolet rays emitted from the arc.
4. Everyone in the proximity of electric welding shall be warned by verbal instructions not to look at the arc.
5. Ground attachments for machines must be solidly made to a direct low-resistance ground.
6. Shocks may be sustained in changing electrodes. This can be prevented by avoiding contact with the circuit when changing electrodes.
7. Ground cables shall be kept out of the water and coiled when not in use.
8. Electric safeguards such as circuit breakers, fuses, enclosed switches and insulated couplings shall be used for the protection of the welder and the machinery.
9. Chipping goggles must be worn as protection against flying hot slag when cleaning welds.
10. Hot metal not marked shall not be left lying around to create hazards to the welder and others.
11. Motor-driven cutting torches shall not be used for preparing welds without the

12. Hot welds shall not be held with pliers, rags or gloves for buffing or grinding.
13. All welds must be cooled prior to buffing, grinding, inspecting, grading or picking up for discard.

#### THE SAFETY PROGRAM

Safety in all laboratory situations will play an important part in the education process of the student. The following is a format that will be followed in this laboratory to meet our educational goals and maintain a standard of professionalism among students and instructors.

There will be two types of testing devices utilized. The first being an oral examination immediately following the demonstration to the student on a one to one basis. Testing will continue in the form of objective questions with the entire class participating.

A program will be set up by the instructor whereby all students will be tested out on an individual basis for certification of safety technique for each piece of equipment or machinery. The test will be administered immediately following the demonstration on a one to one basis (student-instructor) and will take the form of an oral examination plus a written contract.

This particular program is designed to place special emphasis on craftsmanship and a sense of professionalism in everyone. Therefore, all people involved will have the responsibility of good safety practices for themselves as well as others. Written safety tests will also be utilized.