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|  | Job Safety Analysis |
| Portland State University |  |
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| Facilities Services |  |  |
| Using an Arc Welder |
| \* A welding area of a minimum 35 feet in diameter must be established. Flammable materials must be removed from the welding area. A fire extinguisher with a minimum rating of 2A20B:C must be readily available to the welder. A fire alarm must be readily available. Ensure that ventilation is sufficient to avoid setting off a smoke detector fire alarm. |
| **Task** | **Hazards** | **Controls** |
| 1. Close off welding area.
 | Flashing | Close welding curtain to shield outsiders from flashing. |
| 2. Prepare for arc welding. | Inhalation of fumes  | Turn on exhaust fan and timer. |
| Flashing | Wear welding hood. |
| Sparks | Wear welding jacket, apron, gloves, work shoes. |
| Slag splatter | Wear welding jacket, apron, gloves, work shoes. |
| 3. Turn on power and unwrap wire. | Tripping  | Take care to keep wire untangled and free from under feet. |
| 4. Insert arc welding rod in handle. | Pinch to fingers | Keep fingers away from pinch points. |
| 5. Strike arc.  | Flashing, sparks, slag splatter | Wear welding hood, welding jacket, apron, gloves, work shoes. |
| 6. Allow material to cool on workbench. | Burn to hands or fingers | Wear glove.Chalk mark welded area “Hot” |
| 7. Remove remainder of arc welding rod (if any) from handle, set aside on workbench to cool. | Burn to hands or fingers | Chalk mark welded area “Hot” |
| 8. Wrap wire. | Tripping | Take care to keep wire untangled and free from under feet. |
| 9. Use chipping hammer to remove excess slag. | Eye damage by flying debris from hammer strikes | Wear safety glasses. |
| Injuring fingers with hammer | Use caution to avoid striking fingers or hands with hammer. |
| **Required Training:**1. Operation of arc welder
2. Operation of a fire extinguisher
3. Location and use of the fire alarm
 | **Required Personal Protective Equipment (PPE)**1. Welding hood
2. Welding jacket and apron
3. Gloves
4. Safety glasses, work shoes
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| **Other Information:** |  |
| **Contributors:** | Reviewed JKM |
| **Created:** | July 2006 |