|  |  |  |  |
| --- | --- | --- | --- |
|  | Job Safety Analysis | | |
| Portland State University | |  |
|  |  |  |
| 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 | |
|  |  |  |
| **Other Information:** |  | | |
| **Contributors:** | Reviewed JKM | | |
| **Created:** | July 2006 | | |