



### Burning, Welding, Soldering, and Brazing Policy

#### Scope

This policy applies to all College employees.

#### Purpose

To provide protection to the campus community and property in areas where hot work may be performed.

#### Process

##### ***Burning & Welding***

##### College Welding Shops (Garage & Steinman)

1. A burning and welding permit will be executed annually for the welding shops in the Garage (Brown Building), and Steinman (Fine and Performing Arts).
2. These two welding shops must verify the following for the annual permit:
  - a. Proper operation of the hoods and point of welding exhaust
  - b. Proper air flow confirmed using air velocity testing equipment
  - c. Proper installation and condition of welding screens
  - d. No combustible material within the area defined by the welding screens
  - e. Condition of the welding equipment is good
  - f. Pressure tanks are secured correctly
  - g. Proper PPE is available, in good condition, and stored appropriately (welding mask, respirator if the material being used necessitates)
  - h. A fire extinguisher is nearby and charged
  - i. Housekeeping in the welding area is appropriate
  - j. Egress paths to the exits are not blocked or impeded
  - k. Inspection reports from the latest fire alarm and detector inspections are checked
3. Welding cables and oxy-acetylene hoses shall be located so they don't present a tripping hazard or where they may become damaged.
4. Appropriate personal protective equipment (PPE) shall be used to include, but not limited to helmets, eye protection, skin protection, heat protection, etc.
5. Local exhaust shall be used to ensure that the concentration of fumes does not exceed the permissible exposure limits (PEL) specified in OSHA 1910:1000.
6. Precautionary labels should be used for fluxes, coatings, coverings, and filler materials that contain any of the following materials: fluorine compounds, zinc, lead, cadmium, beryllium, mercury, cleaning compounds, or stainless steel.
7. Respirators shall be required when a significant exposure is expected that may exceed the action level and where no sampling is planned.
8. The College will maintain an inventory of the metals used on campus.
9. The College will test face velocities on the ventilation systems in the garage and FAPA annually and change the filters when indicated.

##### All Other Locations (not in Garage or Steinman welding area)

1. Burning and Welding Flame Permits will be executed for all burning and welding work not done in the locations mentioned in above.
2. The College Project Manager will be responsible for issuing burning and welding permits.
3. In the case of building renovations and construction, the College Project Manager and the contractor's superintendent will execute a written burning and welding permit for the duration of the project specifying the conditions that will be met prior to burning and welding taking place.
4. In cases where the work cannot be moved from areas containing combustible materials or where the combustibles cannot be moved, the following precautions shall be taken as appropriate: a fire watcher and charged water hose or



fire extinguisher must be available, the fire watcher must be aware of the pull station in the area, holes in walls and/or floors shall be covered, combustible materials shall be covered, screens shall be used to contain the hot spalls and block the UV light. Consideration shall be given to having the fire watch remain in the area for an appropriate period of time after the work is complete.

5. Welding cables and oxy-acetylene hoses shall be located so they don't present a tripping hazard or where they may become damaged.
6. Appropriate personal protective equipment (PPE) shall be used to include, but not limited to helmets, eye protection, skin protection, heat protection, etc.
7. Local exhaust shall be used to ensure that the concentration of fumes does not exceed the permissible exposure limits (PEL) specified in OSHA 1910:1000.
8. Precautionary labels should be used for fluxes, coatings, coverings, and filler materials that contain any of the following materials: fluorine compounds, zinc, lead, cadmium, beryllium, mercury, cleaning compounds, or stainless steel.
9. Respirators shall be required when a significant exposure is expected that may exceed the action level and where no sampling is planned.

### **Soldering and Brazing**

1. Written permits are not required for soldering and brazing. In place of a written permit the worker and his/her supervisor will be properly trained and agree on the conditions that need to be met before the work begins.
2. In cases where the work cannot be moved from areas containing combustible/flammable materials or where the combustibles/flammables cannot be moved, the following precautions shall be taken as appropriate: a fire watcher and charged water hose or fire extinguisher must be available, the fire watcher must be aware of the pull station in the area, holes in walls and/or floors shall be covered, combustible materials shall be covered, combustible material near the soldering or brazing operations shall be sprayed with water, fire resistive protective cloths shall be used. Consideration shall be given to having the fire watch remain in the area for an appropriate period of time after the work is complete.
3. In areas where there is little air movement and the area is confined, ventilation shall be provided in the form of a fan or other air mover.
4. The individual performing the soldering/brazing work on campus must inform Campus Security before beginning work.

### **Responsibilities**

1. College Project Manager
  - a. Issue burning and welding permits when necessary (Director of Facilities Management will issue annual permit for Garage welding shop; insurance agent will issue annual permit for Art welding shop; Manager of HR & Safety will issue permits for Theatre; Facilities Management project manager will issue permits for outside contractors)
  - b. Supervise outside contractors to whom a burning and welding permit has been issued; ensure they are following the approved and discussed process
  - c. Maintain copies of all burning and welding permits issued
2. Supervisors
  - a. Ensure employees are following proper procedures
3. Facilities Management
  - a. Conduct annual air flow tests on ventilation systems

### **Evaluation**

The Safety Committee shall be responsible for evaluating this policy annually.

### **Document History**

Created: 2/2012; Revised: 5/2012



**BURNING and WELDING PERMIT**

College Welding Shops – Annual Permit

*This permit is good for one year from the date of issue.*

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

Time: \_\_\_\_\_

Building/Location: \_\_\_\_\_

Signature: \_\_\_\_\_

*(Individual responsible for Authorization)*

**CHECKLIST**

The individual responsible for this authorization should review the area where hot work will occur and verify/specify the conditions that must be met when hot work is performed (by checking off the applicable items; make notes as needed). The welder and supervisor will be responsible for ensuring the specified conditions are met at the time of hot work being performed.

\_\_\_\_\_ Proper operation of the hoods and point of welding exhaust

\_\_\_\_\_ Proper air flow confirmed using air velocity testing equipment

\_\_\_\_\_ Proper installation and condition of welding screens

\_\_\_\_\_ No combustible material within the area defined by the welding screens

\_\_\_\_\_ Condition of the welding equipment is good

\_\_\_\_\_ Pressure tanks are secured correctly

\_\_\_\_\_ Proper PPE is available, in good condition, and stored appropriately (welding mask, respirator if the material being used necessitates)

\_\_\_\_\_ A fire extinguisher is nearby and charged

\_\_\_\_\_ Housekeeping in the welding area is appropriate

\_\_\_\_\_ Egress paths to the exits are not blocked or impeded

\_\_\_\_\_ Inspection reports from the latest fire alarm and detector inspections are checked

\_\_\_\_\_ Other precautions necessary: \_\_\_\_\_

Signature of Welder: \_\_\_\_\_

Printed Name of Welder: \_\_\_\_\_



### BURNING and WELDING PERMIT

On-Campus Welding (not performed in College Welding Shops)

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

Time: \_\_\_\_\_

Building/Location: \_\_\_\_\_

Work to be Done: \_\_\_\_\_

Signature: \_\_\_\_\_

*(Individual responsible for Authorization)*

#### CHECKLIST

The individual responsible for this authorization should review the area where hot work will occur and verify/specify the conditions that must be met when hot work is performed (by checking off the applicable items; make notes as needed). The welder and supervisor will be responsible for ensuring the specified conditions are met at the time of hot work being performed.

\_\_\_\_\_ Condition of the welding equipment is good

\_\_\_\_\_ Proper PPE is available, in good condition, and stored appropriately (welding mask, respirator if the material being used necessitates)

\_\_\_\_\_ A fire extinguisher is nearby and charged

\_\_\_\_\_ Location of nearest pull station (for fire alarm) identified

\_\_\_\_\_ Inspection reports from the latest fire alarm and detector inspections are checked

\_\_\_\_\_ Housekeeping in the welding area is appropriate (floor/ground wet down when necessary)

\_\_\_\_\_ Combustibles at least 35 feet away from welding area

\_\_\_\_\_ Flammable liquids and other hazards removed from area

\_\_\_\_\_ Floor and wall openings within 35 feet covered

\_\_\_\_\_ Non-combustible covers used to protect nearby combustibles

\_\_\_\_\_ Containers, tanks, ducts, and other enclosures cleaned and purged of flammable vapors, liquids, dusts, and other hazardous materials

\_\_\_\_\_ All hazardous operations discontinued in area

\_\_\_\_\_ Fire watch should be present during and at least one-half hour after welding or burning has ceased

\_\_\_\_\_ Egress paths to the exits are not blocked or impeded

\_\_\_\_\_ Other precautions necessary: \_\_\_\_\_

Signature of Welder: \_\_\_\_\_

Printed Name of Welder: \_\_\_\_\_