

Billy's Safety Facts

Inspecting Portable Fire Extinguishers

What types of inspections must be done of Portable Fire Extinguishers (PFE's)?

PFE's must be visually inspected monthly and is required by the state fire marshal. Monthly spot checks do not require any special licensing and can be done by anyone in the workspace to ensure that the fire extinguisher is fully charged and operable by inspecting a few key elements.

Who is responsible for Portable Fire Extinguisher monthly checks and periodic testing?

- The monthly review of PFEs located in general department offices, classrooms, and academic technical workspaces, are to be inspected by the overseeing department.
- In areas that have restricted access (stockrooms, laboratories and other limited-access research and technical areas), the monthly review must be performed by designated laboratory/support personnel. The Principal Investigator, Laboratory Manager, or Supervisor is responsible for assuring that these monthly reviews are performed and documented as required.
- Annual inspections are conducted by a certified/registered technicians which are contracted by Facilities Planning and Management. Check the year and month/date punched on the tag. It should be within the last year. Contact EH&S if the tag is out of compliance by date.

How to perform a monthly inspection on a Portable Fire Extinguisher:

During the monthly inspections, visually inspect the elements emphasized below and report to EH&S any components that fail the visual inspection.

1

Ensure safety pin is intact, seal/tamper indicators not broken/missing.

2

Ensure hose is not damaged.

3

Fire extinguisher should be accessible (no obstructions) and properly mounted or in a cabinet in a designated area.

Should be absent of obvious signs of physical damage: corrosion, leakage, or dents.

4

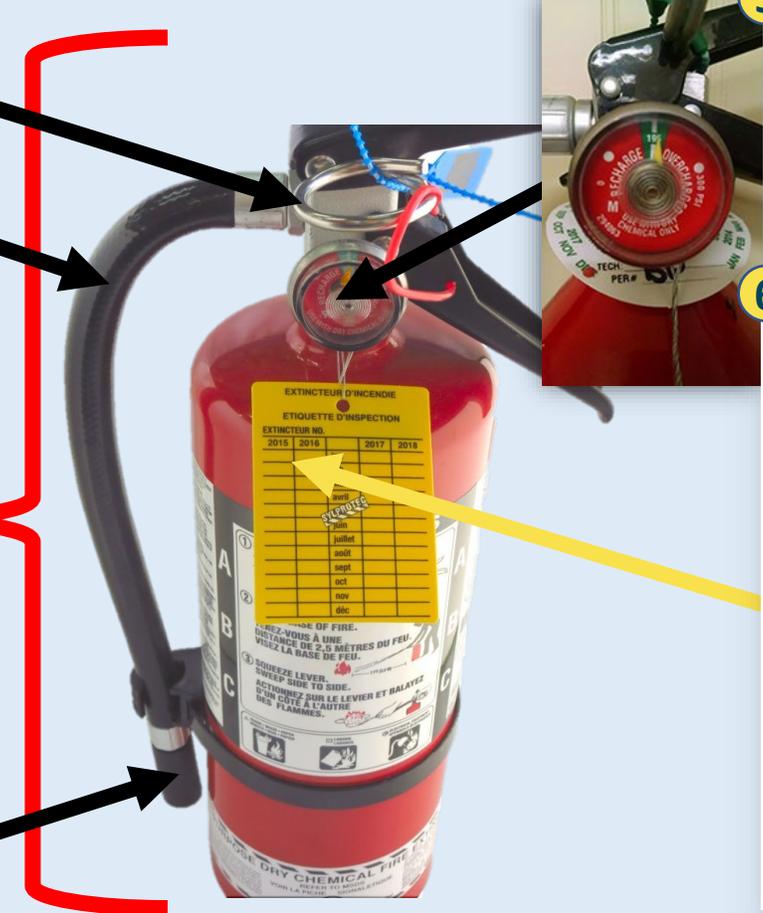
Hose opening is not obstructed.

5

Pressure gauge reads in the "green" indicating operating range.

6

Upon completion of the visual inspection, date and initial the attached service tag.



(Model No.) _____ (Mfr.) _____

Upon completion of the visual inspection, date and initial the attached service tag.

MONTHLY INSPECTION RECORD			
DATE	BY	DATE	BY
01/2021	K.T.V		

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IMMEDIATELY CONTACT EH&S IF ANY COMPONENTS FAIL THE VISUAL INSPECTION

FUME HOOD INSPECTION FORM

This form is to be utilized to document the initial and/or annual inspection of a fume hood.

Inspector: _____ Date: _____

Building: _____ Room #: _____

Fume Hood ID#: _____

Are there any chemicals in the hood? Yes ___ No ___

If yes, how full was it and when will chemicals be removed? _____

Quantitative Airflow Monitor Present and Functional: Yes ___ No ___

Sash Position (Fully e.g., fully open, partially open, etc...): _____

FUME HOOD FACE VELOCITIES

MEASURED IN LINEAR FEET/MINUTE (LFM)

Mean Face Velocity: _____

Pass or Fail: _____

Comments: _____

Inspector Signature: _____

FUME HOOD INSPECTION PROCEDURES

Purpose:

- The fume hood is an important safety equipment as it controls exposure of volatile chemicals and minimize risks to those in a laboratory. Fume hoods are a ventilated area that provide a constant flow of air to remove any chemical vapors that could potentially harm. Without proper ventilation, gases, fumes, and vapors can be exposed to the environment.
- Fume hoods must undergo annual inspection and certification that pass with a mean face velocity of 100 feet per minute or higher.

Regulations: CCR Title 8, §5154.1. Ventilation Requirements for Laboratory-Type Hood Operations (www.dir.ca.gov/Title8/5154_1.html)

PPE/Materials:

- Bring appropriate equipment and PPE.
 - Wear PPE during the inspection
 - Lab coat, safety goggles, closed toed shoes, glove, and long pants.
 - Remove PPE whenever exiting the building.
- Fume hood certification document and stickers
- TSI VelociCalc 9535-A Anemometer or Velometer Jr.

Procedure

1. Completely open the fume hood by positioning the sash to its maximum height. If the sash is separated into three separate panels create the largest opening possible according to the fume hood dimensions.
2. Visually divide the opening into nine squares (three rows by three columns).
3. Check that air in the hood is flowing inward by looking at the direction of the vent ribbon (some fume hoods have digital display that accomplishes this).
4. Measure the velocity of the air at the center of each of the nine squares with the TSI VelociCalc 9535-A Anemometer or Velometer Jr.
 - Using the **TSI VelociCalc 9535-A Anemometer**: Remove red sensor protection cap. Press the “Power Key” to turn on the meter. To shut down the meter press and hold the “Power Key”. Once the meter powers up it will display the velocity in “ft/min”. This meter will log your readings under a separate Test Number for each fume hood. Before testing each fume hood, you should press the “NEXT TEST” Key, the upper left key.
 - To test a fume hood, hold the probe in the airstream and press the “Enter Key” when you want to store a sample (reading). The meter will beep when you first press the “Enter Key” and then again in about 4 seconds later when it has stored the sample. Repeat for all nine squares. Remember to press the “NEXT TEST” Key before testing the next fume hood.
 - To retrieve your measurements (logged data), press the “MENU” Key and use the up/down arrow keys to highlight “Data Logging” and press the “Enter Key”. Use the up/down arrow keys to highlight “View Data” and press the “Enter Key”. Use the left/right on-screen arrow keys to choose the test number want to view and then use the up/down arrow keys to highlight “View Samples: and press the “Enter Key”. Use the up/down arrow keys to view the velocity for each sample. Pressing the “ESC” key will take you back to the previous screen or all the way to the main screen if you press it multiple times.
 - To clear (delete) the test and sample data, press the “MENU” Key and use the up/down arrow keys to highlight “Data Logging” and press the “Enter Key”. Use the up/down arrow keys to highlight “Delete Data” and press the “Enter Key”. Use the up/down arrow keys to highlight “Delete All” and press the “Enter Key” then press “Yes” to confirm.
 - Using the **Velometer Jr**: Turn the left knob to fully clockwise until it stops. This is the low velocity scale, which is 0-200 linear feet. Hold the velometer in the opening of fume hood with the left side pointing out of the hood. When the meter stabilizes take the reading. Repeat for all nine squares.
5. If any of the nine squares do not pass minimum velocity requirement of 70 linear feet per minute, move the sash down or left/right to reduce the size of the opening. Divide the fume hood opening into nine new squares and repeat Step 4. If the first attempt at moving the sash down to meet minimum velocity requirements fails, continue to lower the sash

until minimum velocity requirements are met. Note: If the sash is too low (typically 6” opening or less) for normal and safe laboratory procedures, then the fume hood is unsafe and should not be used until modifications or repairs are completed. Fume hoods that do not pass are to be labeled or marked “**OUT OF SERVICE**” and if possible, locked out until they pass. You may contact Facilities Management at extension x3030 for repairs. There may be a cost for Facilities Management to make the repairs.

6. Once the sash is at a height or position that satisfies the minimum velocity requirements, fill out the hood survey information on the certification sticker and stick it on the side of the sash to indicate this height for optimal ventilation. Dating the certification sticker is important because a new tag will override any older existing tags.
7. Fill out the Fume Hood Inspection Form and return all completed forms to Environmental Health & Safety (EH&S) in building 98 room B1-102.

Determining Whether to Pass a Hood

The following conditions must all be met for the hood to pass:

1. The average face velocity must be a minimum of 100 feet per minute (fpm).
2. A minimum velocity of 70 fpm at any point.
3. Air is not flowing out of the hood at any point.
4. There is an operational airflow indicator for the fume hood. Example, a vent ribbon or digital display.

SOP

Testing Safety Showers

PURPOSE

The purpose of this guide is to ensure that safety eyewashes and showers supply clean, potable water and are in proper working order. This procedure applies to all emergency eyewash and shower units in university buildings.

SCOPE

This program applies to all emergency eyewash and shower units in university buildings. Annual flow rate testing of the emergency equipment will be documented.

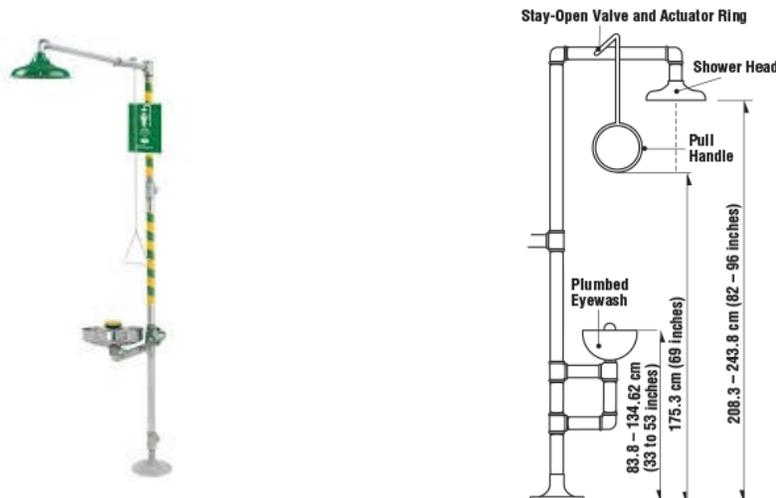
MATERIAL/EQUIPMENT

1. "Green Gobbler"
2. Spreadsheet
3. Pens and marker
4. Plastic sleeves
5. Zip ties
6. Barcoded zip ties
7. Blank safety shower inspection tags

PROCEDURE

Visual Inspection

1. Look for corrosion, leaks or pipe damage prior to activating shower to avoid damaging the unit and potentially creating a flood.
2. Check that the path of travel to the unit is free of obstructions. If obstructions are present, document the issue, take photograph if possible, and notify department to have path cleared.
3. Check that shower is identified with a highly visible sign that is positioned so that it is visible within the area served by the shower.
4. Document if any of the above conditions are not met. When possible, take photographs of any concerns or if there are deficiencies with the shower unit or signage.



Water Flow Test

1. Set up the “green gobbler” (funnel) to prevent splashing the surrounding area. If possible, direct water to a floor drain or sink for initial flushing of the system. If that is not an option, direct the water to the device chosen to collect the water. Ensure that the outlet spigot, located at the bottom of the cart is CLOSED. Leaving the valve open will allow water to flow through the cart and onto the floor.
2. Activate shower. Valve actuator must activate water flow in one second or less and must stay on unless manually turned off. Document if condition is not met.
3. Sanitize water supply through flushing. Activate or flush the unit until the water runs clear to discharge rust, bacteria, or other contaminants.
4. Shut off shower and direct water to the collection device. (EHS uses a 30-gallon drum.)
5. Activate shower and let the water run for one minute. If an excessive amount of water is being delivered, you may need to stop the shower sooner to prevent the collection device from overflowing. Observe the water flow and evaluate if the flow is continuous and if it appears that the unit can maintain flow for 15 minutes.
6. Document the length of time the unit was activated, and the amount of water collected to determine the flow rate. The minimum required flow rate for emergency showers is 20 gallons per minute (gpm). (i.e. If the unit was activated for one minute and resulted in 20 gallons of water, then the unit is delivering water at the rate of 20 gpm.)
7. Document observation of water flow and determine if unit can maintain flow for 15 minutes.
8. Ensure that the safety shower has an inspection tag.
 - a. If the tag needs to be replaced, or is missing, secure a new tag on to the station using the plastic sleeves and zip ties.
9. Document test on the inspection tag and spreadsheet with dates and initials on unit tag.
10. If there is no **barcoded** zip tie on the unit, secure a new **barcoded** zip tie on to the station. If the unit is an Eyewash/Safety Shower combo, only one barcoded zip tie is required.
 - a. Note this barcode on your spreadsheet and mark it as complete.

Draining the “Green Gobbler”

1. To check whether the Green Gobbler is full, check the clear pipe on the side where the handle is located. If water has reached past the highest marking, the cart is full and needs to be drained.
2. In any laboratory sink or safety shower drain, carefully position the drainage hose to avoid any splash back.
3. Plug the power cord of the located on the back of the cart into the appropriate power outlet. Make sure the outlet is at a safe distance from where the water is being drained.
4. Make sure to fixate the wheels of the cart in LOCKED position to prevent any movement of the cart.
5. Locate the drainage pump switch on the back of the cart and switch it on.
6. With the water now draining out of the hose, ensure that no overflowing is occurring. If the sink begins to overflow, switch the pump off and wait for the water level to diminish.
7. Once there is no more water flowing from the hose, switch off the pump and neatly pack everything back into the cart.
8. The pump does not have the functionality to remove the remaining 2-3 inches of water located at the bottom of the tank. To drain this, go outside on a flat surface or drain, and loosed the outlet spigot located at the bottom of the cart. You may need to tilt the cart to drain the remaining water. Once all of the water is drained, the cart is ready for storage.

SAFETY CONCERN

- Ensure that any individual under the supervisor's purview understand their responsibilities and comply with this standard.
- Ensure that all employees, students and volunteers have received instruction in the proper use and operation of the emergency unit/equipment provided for the area.
- Ensure that procedures, equipment and materials appropriate for the specific work locations are provided to protect the health and safety of all employees, students and volunteers.
- Prior to assigning work involving the potential for hazardous materials to splash onto the skin or into the eyes, please verify that the following PPE are worn:
 - Safety Glasses
 - Lab Coats
 - Gloves