

7005.02

Preparation, Transport, and Return of Structural Firefighting Ensembles that Require Advanced Cleaning



This procedure is for internal use only and does not enlarge an employee's civil liability in any way. The procedure should not be construed as creating a higher duty of care, in an evidentiary sense, with respect to third party civil claims against employees. A violation of this procedure, if proven, can only form the basis of a complaint by this department for non-judicial administrative action in accordance with the laws governing employee discipline.

Related Procedures: Chief's Memo No. 2015-053, Preparation, Transport, and Return of Structural Firefighting Ensembles that Require Advanced Cleaning, 4.19.24 How to Decontaminate in the Field After a Fire Call

I. PURPOSE

To establish guidelines to reduce health risks associated with exposure to contaminated PPE and Structural Firefighting Ensembles. These procedures apply to PPE and Structural Firefighting Ensembles:

1. After an event that results in contamination.
2. When routine inspection indicates the need.

II. ACRONYMS

OpsBC: Operations Battalion Chief
FASO: Fire Auxiliary Services Officer
HFD: Hawai'i Fire Department
PPE: Personal Protective Equipment
ISP: Independent Service Provider

III. PROCEDURE

1. Preliminary Steps

- a. Personal Safety: Wear the appropriate PPE, including aprons, gloves, and safety glasses before handling soiled gear.
- b. Inspection: Inspect gear for the level of soiling and identify any areas that require spot cleaning.
- c. Separation: Separate the garment ensemble into layers, if possible. Remove the DRD (Drag Rescue Device) and other removable components.

2. Preparation

- a. Labeling: Company Officer shall ensure all personnel under their command has labeled their PPE with the employee's name using a permanent marker pen on the inside portion of all PPE (e.g., inside glove, on labels, collar, etc).
- b. Handling: Any handling of dirty PPE shall be done with gloves to protect from contamination.
- c. Pocket Check: Check all pockets for items to be removed prior to packaging.
- d. Closure Securing: Secure all closures (hooked, looped, fastened, and/or zipped). Tape shut all fasteners that may snag during the wash cycle.
- e. DRD Removal: If the coat is equipped with a DRD, remove it prior to laundering. Wash the DRD according to the utility sink method described later in this procedure.
- f. Spot Cleaning: Spot clean coats and pants by applying a mild liquid laundry detergent directly onto the soiled area. Rub the fabric together gently or scrub lightly with a soft

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brush. Do not use a brush when cleaning any portion of the thermal liner assembly. For stained areas on liner assemblies, scrub gently with gloved fingers only.

- g. Bio-Contaminated Items: Pretreat bio-contaminated items with a bio-cleaner, then prewash using the utility sink method. Recommended decontamination includes using a 0.5-1% concentration of Lysol or a 3-6% concentration of stabilized hydrogen peroxide.

3. Washing Process

For Stations with Extractors

- a. Loading:
 - o Load the PPE into the extractor without overloading the machine.
 - o Ensure the washing machine has a stainless steel tub and is front-loading.
- b. Detergent Addition:
 - o Use the automatic dosing pump or manually pour the correct amount of CitroSqueeze® into the extractor (6 oz. for 35-45 lb loads, 8 oz. for 50-60 lb loads).
- c. Wash Cycle:
 - o Warm water fill (not exceeding 105°F).
 - o 15-minute wash cycle with CitroSqueeze®.
 - o Drain and low spin for 1 minute.
 - o Cold water fill for each rinse cycle.
 - o Three rinse cycles, each 5 minutes long, followed by 1 minute of draining and low spin.
 - o Final rinse cycle of 6 minutes, followed by 1 minute of draining and 4 minutes of low spin.
- d. Inspection:
 - o Remove gear and inspect for cleanliness. Repeat the wash cycle or spot clean and rewash if necessary.

For Stations without Extractors

- a. Pre-Wash: Perform a pre-wash cycle in the washer if gear is heavily soiled to remove excess contaminants.
- b. Soaking: Soak gear in a solution of 1 part CitroSqueeze® to 4 parts water for medium soiling or 1 part CitroSqueeze® to 2 parts water for heavy soiling for at least one hour, extending up to 72 hours if needed.
- c. Manual Washing:
 - o Load the gear into the washer following the machine's recommended capacity.
 - o Use a mild detergent with a pH level between 6.0 and 10.5, such as CitroSqueeze®.
 - o Wash with warm water (not exceeding 105°F) for 15 minutes.
 - o Rinse thoroughly with cold water, repeating the rinse cycle at least three times.

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- d. Drying: Air-dry the gear in a well-ventilated area away from direct sunlight and heat sources.

Utility Sink Method

- a. Protective Gear: Wear protective gloves and safety glasses.
- b. Water Temperature: Fill the sink with hot water no hotter than 105°F.
- c. Detergent: Add laundry detergent in the correct amount for the water.
- d. Pretreatment: If necessary, pretreat heavily soiled or stained areas by applying mild liquid laundry detergent directly onto the soiled area.
- e. Agitation: Place items in the sink and agitate using a gloved hand or stir stick.
- f. Rinsing: Drain sink, refill with clean water, and rinse items. Repeat as necessary until items are thoroughly rinsed.
- g. Inspection: Inspect and rewash if necessary.
- h. Sink Rinse: Rinse the sink after cleaning.

Post-Cleaning Steps

- a. Inspection: After washing, inspect the gear for any remaining contaminants or damage. Ensure all closures are fastened, and the gear is properly assembled.
- b. Transporting Gear: For stations without washers/dryers, transport soiled gear to a station with extractors. Place gear in a clear contractor-style garbage bag and seal it before transport.
- c. Documentation: Record the cleaning date, personnel responsible, and any observations regarding the condition of the gear.

IV. TRANSPORT PROCEDURE

1. Packaging: Each firefighter's ensemble and/or elements are to be folded and placed into plastic bags. To avoid cross-contamination of the outer layer with the inner liner, use separate bags for each. Ensembles contaminated with biohazards shall use RED "biohazard" rated bags.
2. Double Bagging: Once bagged, place them both into another plastic bag (double bag).
3. Labeling: Attach HFD PPE Cleaning form to the outer bag using the approved adhesive "packing slip" pouch. Contact FASO for additional bags or packing slip pouches.
4. Transport Arrangement: The Company Officer shall arrange for transportation of ensembles to the applicable extractor location. OpsBC to be notified if on-duty personnel are needed for transportation assistance.
5. Multi-Company Incident: In the event of a multi-company incident, the BC shall coordinate the pickup of all affected personnel's PPE ensembles.
6. Secondary Extractor Location: If the designated extractor(s) are unavailable, the firefighter's officer in charge shall arrange for transport to the secondary extractor location (which may be an ISP). ISP providers need notification prior to any item(s) being dropped off.
7. Delivery and Washing: The designated delivery person shall report to the Company Officer or Supervisor of the HFD Station or facility with the Washer-Extractor and be

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responsible for the washing of all ensembles with the guidance of personnel assigned to the Washer-Extractor station or facility.

8. Cleaned PPE Return: The designated delivery personnel shall be responsible for the delivery of the cleaned PPE back to their respective stations. If prompt delivery or return is not feasible, the affected Operations Battalion Chief shall be contacted and will provide directions for prompt pickup.

V. SAFETY

1. Replacement Articles: The firefighter's officer in charge shall ensure that their personnel have replacement articles for all items turned in for cleaning. Contact FASO immediately should any PPE replacement item be needed.
2. Complete Ensembles: Firefighters with incomplete Structural Firefighting Ensembles shall not engage in any Structural Fire Fighting activities.
3. Home Washing: Soiled or contaminated elements shall not be brought into the home, washed in home laundries, or washed in public laundries unless the public laundry has a dedicated business to handle firefighting protective clothing (ref: NFPA 1851, 5.1.3).
4. Dry Cleaning: Commercial dry cleaning should not be used as a means of cleaning or decontaminating ensembles and ensemble elements (ref: NFPA 1851, 5.1.4).

VI. AUTHORITY

The on-duty Battalion Chief or his identified delegate is responsible for ensuring that contaminated PPE is promptly taken to the available Washer Extractor unit. By following this comprehensive SOG, the Hawaii Fire Department ensures effective cleaning and maintenance of PPE, thereby enhancing the safety and readiness of its personnel.

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