

	ROFR Section: 1200		TFCA Best Practices: Ch.11	
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1200 -PERSONAL PROTECTIVE EQUIPMENT

PROTECTIVE CLOTHING

Protective clothing includes all of the following:

- Helmet with face shield
- Hood
- Coat with liner
- Pants with liner
- Suspenders
- Boots
- Survivor Light
- SCBA Mask
- Gloves

ALL EQUIPMENT SHALL MEET OR EXCEED NFPA OR TEXAS COMMISSION ON FIRE PROTECTION STANDARDS AND BE OF DEPARTMENT ISSUE.

- a. Helmets will be worn on the fireground at all times. Engine/Truck companies at all incident accidents will wear their helmets at all times except when Command deems it not necessary. Helmets will be taken off during REHAB if weather permits. Shields or Goggles will be worn down during the use of any extrication equipment and people in the area should also have their shields down. Shields should be up during Hazmat incidents or any incident where a contaminated atmosphere exists.
- b. Hoods will be worn on the fire-ground at all times. The coat should come up over the flap of the hood to protect the neck area. The ring of the hood around the face should fit over the rim of the face mask of the SCBA's. The hood may be taken off during REHAB. It is the responsibility of all fire fighters to check one another out before entering a hazardous area.
- c. The bunker coat will be worn at all times during firefighting and rescue activities. Bunker coats should be taken off during REHAB if weather permits. Though some tools are necessary to be carried in the pockets, tools should not be of the weight that would excessively tire the fire fighter. Also pockets should not bulge excessively to restrict the fire fighter's movement. All closures must be secured with collar up to be fully bunkered out. Bunker coats will not be worn during

water rescue. Thumbs should be in their proper place in the sleeves so that exposure between glove and sleeve is nonexistent.

- d. Bunker pants will be worn at all firefighting and rescue activities. Pants can be dropped during REHAB to help cool. Pockets on bunker pants have the same restrictions as do bunker coats. One exception is the Fire Engineer, but it is recommended that pants and boots be put on after arrival. Exception 2, no bunker pants will be worn on water rescues.
- e. Suspenders shall be kept in good repair and adjusted so that pants are kept from dragging the ground. Their elasticity should be kept so there is give during work activities.
- f. Fire boots will be worn on all fire runs and rescues. The exception is the Fire Engineer, who may wear his regular shoes so that proper engine safety can be maintained. But it is recommended that Fire Engineers put their boots and pants on after arrival so that they could replace someone who is tired or to make a quick rescue.
- g. SCBA's will be worn by all personnel inside a deemed hot zone. The air will be tested before any air packs will be allowed to be taken off after a fire or during a Hazmat incident or a confined or trench rescue. Once air qualifications have been met, it will be at the discretion of the Command. There is a two-bottle limit on SCBA's before REHAB.
- h. Gloves will be worn at all times during firefighting activities and rescues. Gloves will be worn during overhaul and salvage activities. They should be taken off during REHAB. The glove should come up over the sleeve of the bunker coat so that no space or gap is exposed. It should be of good repair with no puncture holes found.
- k. Command may use discretion to regulate the use of protective clothing in those situations where exceptions to the above policy appear necessary.

I. ALL EQUIPMENT MUST BE KEPT CLEAN AND OF GOOD REPAIR.

ANY MALFUNCTION, ANY DEBRIS THAT WILL NOT COME OFF THE EQUIPMENT, ANY RIP OR TEAR, ANY SCRATCHED-UP FACE SHIELD, ETC., MUST BE REPORTED IMMEDIATELY SO THAT REPAIRS CAN BE MADE. LOSS OF EQUIPMENT MUST BE REPLACED IMMEDIATELY. ALL REFLECTIVE STRIPPING MUST BE CLEAN AND INTACT. IT IS THE FIRE FIGHTER'S RESPONSIBILITY TO KEEP HIS EQUIPMENT CLEAN AND IT IS THE OFFICER'S RESPONSIBILITY TO CHECK THE EQUIPMENT OF ALL HIS MEMBERS AFTER MAJOR FIRES OR ONCE A MONTH IF NO SUCH FIRES HAVE OCCURRED.

PURPOSE: This procedure describes the Department's protective clothing program that addresses the selection, care, and maintenance of Department structural firefighting protective ensemble elements.

GENERAL: The Department's protective clothing program has the goal of providing structural firefighting protective ensembles and ensemble elements that are suitable and appropriate to adequately protect members as they perform structural firefighting duties. Each member shall be responsible for ensuring that his Department issued protective ensemble is maintained in a safe, usable condition to provide its intended protection to the wearer. This program provides for removing from use defective protective ensembles that could cause or contribute to user injury, illness, or death. It also provides for reconditioning, repairing, or retiring, these defective protective ensembles.

SELECTION: The Department shall issue each member a protective ensemble consisting of a helmet, eye protection, hood, coat, gloves, pants, and boots. Each item shall be compliant with the edition of NFPA 1971 current in the year of purchase.

The Department issued helmet shall be a Bullard FireDome Traditional style. It shall be equipped with a face shield or goggles or both. The helmet shall be color coded as follows.

- White-Chief Officers
- Red- Captains / Lieutenants
- Black-Drives / Firefighters

Department hoods shall be Nomex or PBI material with a large bib and each member

shall be issued 2, primary and Secondary.

Department issued coats and pants shall be Globe Advanced GXtreme

Department issued gloves shall be Firefighter leather skin and no wristlet.

Department boots shall be Cosmas leather knee-length boots

No member shall add any accessories to his Department issued protective ensemble unless the Department has written approval from the manufacturer of the element to which the accessory is attached. TFCA BP 1.12

No member shall wear any protective gear other than the Department issued items without specific written approval of the Fire Chief. TFCA BP 1.12

RECORDS:

The Department Quartermaster shall compile and maintain the following records for each ensemble element:

Person to whom the element is issued

- (1) Date and condition when issued
- (2) Manufacturer and model name or design
- (3) Manufacturer's identification number, lot number, or serial number
- (4) Month and year of manufacture
- (5) Date(s) and findings of advanced cleaning or decontamination
- (6) Date(s) of advanced cleaning or decontamination
- (7) Reason for advanced cleaning or decontamination and whom performed
- (8) Date(s) or repair(s), who performed it, and a brief description of repair(s)
- (9) Date of retirement
- (10) Date and method of disposal

When issuing new structural firefighting ensembles, the Department shall provide members with the instructions provided by the manufacturer on its care, use, and maintenance, including any warnings.

If the manufacturer's instructions regarding the care or maintenance of their protective ensembles or elements differ from a specific requirement of this SOP, the manufacturer's instructions shall be followed for that requirement.

The Department shall retain a reference copy of the manufacturer's instructions regarding the care, use, and maintenance of their protective ensembles or elements.

INSPECTIONS:

ROUTINE INSPECTION

Each individual member shall conduct a routine inspection of their personal ensemble or ensemble elements after each use. This will include each time the element(s) is exposed, or suspected of having been exposed, to damage or contamination.

Coats and trousers shall be inspected for soiling or contamination from hazardous materials or biological agents. They shall also be checked for physical damage such as rips, tears, cuts, damaged/missing reflective trim.

Hoods shall be inspected for soiling or contamination, rips, tears, cuts, charring, burn holes, melting, and loss of face opening adjustment.

Helmets shall be inspected for soiling or contamination; physical damage to the shell such as cracks, crazing, dents, or abrasions; thermal damage to the shell such as bubbling, soft spots, warping, or discoloration; damage to the ear flaps such as rips, tears, cuts, charring, burn holes, or melting; damaged or missing components of the suspension and retention systems; damaged or missing components of the faceshield/goggle system; and damaged or missing reflective trim.

Gloves shall be inspected for soiling or contamination, rips, cuts, tears, charring, burn holes, melting, inverted liner, shrinkage, and loss of elasticity.

Footwear shall be inspected for soiling or contamination, cuts, tears, punctures, charring, burn holes, melting, exposed/deformed steel toe, steel midsole, or shank, loss of water resistance, and closure system component damage and functionality.

ADVANCED INSPECTION:

Advanced inspections of all protective ensembles and ensemble elements shall be conducted a minimum of every 12 months, or whenever routine inspections indicated that a problem may exist. The advanced inspections shall be conducted by members of the Department who have received training in the inspection of structural firefighting protective clothing and equipment or by an outside agency certified in the same. The NFPA 1851 compliant documents and routine inspections will be maintained in digital format on www.Firecheckoffs.com.

Universal precautions shall be observed, as appropriate, when handling

elements.

The advanced inspection shall include at least the inspections previously specified.

All layers of the garment elements shall be inspected for the following:

- (1) Soiling
- (2) Contamination from hazardous materials or biological agents
- (3) Physical damage to all layers, such as
 - a. Rips, tears, cuts, and abrasions
 - b. Damaged/ missing hardware
 - c. Thermal damage such as charring, burn holes, melting, or discoloration of any layer
- (4) Loss of moisture barrier integrity as indicated by
 - a. Rips, tears, cuts, and abrasions
 - b. Discoloration
 - c. Thermal damage
- (5) Evaluation of system fit and coat/ trouser overlap
- (6) Loss of seam integrity; broken or missing stitches
- (7) Material integrity: UV or chemical degradation, loss of liner material, shifting of liner material
- (8) Wristlets: loss of elasticity, stretching, runs, cuts, burn holes
- (9) Reflective trim integrity, attachment to garment, reflectivity, damage
- (10) Label integrity and legibility
- (11) Hook and loop functionality
- (12) Liner attachment systems
- (13) Closure system functionality

- (14) Use on non-approved accessories

Hoods should be inspected for the following:

- (1) Soiling
- (2) Contamination from hazardous materials or biological agents
- (3) Physical damage, such as
 - a. Rips, tears, and cuts
 - b. Thermal damage such as charring, burn holes, and melting
- (4) Shrinkage
- (5) Loss of material elasticity; stretching out of shape
- (6) Loss of seam integrity; broken or missing stitches
- (7) Loss of face opening adjustment

Helmets should be inspected for the following:

- (1) Soiling
- (2) Contamination from hazardous materials or biological agents
- (3) Physical damage to shell such as
 - a. Cracks, dents, and abrasions
 - b. Thermal damage to the shell such as bubbling, soft spots, warping, or discoloration
- (4) Physical damage to the ear flaps
 - a. Rips, tears, and cuts
 - b. Thermal damage such as charring, burn holes, or melting
- (5) Damaged or missing components of the suspension and retention systems
- (6) Suspension and retention system functionality
- (7) Damaged or missing components of the face shield/goggle system, including discoloration or scratches to the face shield/goggle lens limiting visibility

- (8) Face shield/goggle system functionality
- (9) Damage to the impact cap
- (10) Damaged or missing reflective trim
- (11) Use of non-approved accessories

Gloves should be inspected for the following:

- (1) Soiling
- (2) Contamination from hazardous materials or biological agents
- (3) Physical damage, such as the following
 - a. Rips, tears, and cuts
 - b. Thermal damage such as charring, burn holes, and melting
 - c. Inverted liner
 - d. Loss of seam integrity; broken or missing stitches
- (4) Shrinkage
- (5) Loss of flexibility
- (6) Loss of elasticity and shape in wristlets
- (7) Use of non-approved accessories

Footwear should be inspected for the following:

- (1) Soiling
- (2) Contamination from hazardous materials or biological agents
- (3) Physical damage such as
 - a. Cuts, tears, punctures, cracking, or splitting
 - b. Thermal damage such as charring, burn holes, and melting
 - c. Exposed/ deformed steel toe, steel midsole, and shank

- d. Loss of steam integrity; delaminating, broken or missing stitches
- (4) Loss of water resistance
- (5) Closure system component damage and functionality
- (6) Excessive tread wear
- (7) Condition of lining, such as tears, excessive wear, or separation from outer layer
- (8) Heel counter failure

CLEANING AND DECONTAMINATION

GENERAL:

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.

Commercial dry cleaning shall not be used as a means of cleaning or decontaminating ensembles and ensemble elements unless approved by the ensemble or element manufacturer.

When contract cleaning or decontamination is used, the contract cleaner shall demonstrate to the Department's satisfaction, procedures for cleaning and decontamination that do not compromise the performance of ensembles and ensemble elements.

ROUTINE CLEANING:

The following process shall be used:

- (1) When possible, initiate cleaning at the incident scene
- (2) Brush off any debris
- (3) Gently rinse off debris with a water hose
- (4) If necessary, scrub gently with a soft bristle brush and rinse off again
- (5) If necessary, spot clean utilizing a utility sink
- (6) Inspect for soiling and contamination, and repeat process if necessary\

Should routine cleaning fail to render the element(s) sufficiently clean for

service, the element(s) shall receive advanced cleaning.

ADVANCED CLEANING:

At least every twelve (12) months, elements that have been issued, used, and are soiled, shall receive advanced cleaning.

The Department Quartermaster, who has received training in the cleaning of structural firefighting protective clothing and equipment, shall be responsible for performing or managing advanced cleaning.

The following process shall be used:

- (1) Brush off any dry debris
- (2) Clean following utility sink cleaning procedures or machine cleaning procedures, or utilize a qualified contract cleaner for inspections and appropriate decontamination proceeds.
- (3) Inspect for soiling and contamination, and repeat process if necessary
- (4) After every fire or working in conditions that are considered to be IDLH the PPE should receive and in-house cleaning via extractor.

SPECIALIZED CLEANING:

Elements that are contaminated with hazardous materials or biological agents shall receive specialized cleaning as necessary to remove the specific contaminants(s).

Elements that are known or suspected to be contaminated shall be isolated, tagged, and bagged. The contaminated elements shall be removed from service until they can receive specialized cleaning necessary to remove the specific contaminant(s).

The Department Quartermaster shall be responsible for performing or managing specialized cleaning.

Universal precautions shall be observed when handling elements known or suspected to be contaminated with hazardous materials or biological agents.

For elements that have been soiled with body fluids; the following process shall be used:

- (5) Follow manufacturer's instructions to determine the appropriate disinfectant to use.
- (6) Clean following utility sink procedures, or machine cleaning procedures, or utilize a qualified contract cleaner.
- (7) Inspect for effectiveness of cleaning and repeat process if necessary.

In all cases of known or suspected contamination, the contaminant shall be identified is possible, and the manufacturer shall be consulted for the appropriate decontamination agent and process.

In the absence of detailed manufacturer's instructions, the following process should be used:

- (1) Utilize a qualified contract cleaner
- (2) Inspect for contamination, and repeat process if necessary

CLEANING AND DECONTAMINATION PROCEDURES:

The Quartermaster shall be guided by the manufacturer's label and user information that the manufacturer provided with the ensemble or element. Where the information is not available, the Quartermaster shall use the procedures in this section.

Chlorine bleach or chlorinated solvents shall not be used to clean or decontaminate garments.

Cleaning and decontamination solutions shall have a pH range of not less than 6.0 pH and not greater than 10.5 pH.

Heavy scrubbing or spraying with high velocity water jets, such as a power washer, shall not be used.

Protective ensembles and elements shall be cleaned and decontaminated separately from non-protective items. Where shells and liners are separable, those items shall only be cleaned and decontaminated with like items, including but not limited to, shells with shells and liners with liners.

The following procedures shall be used when cleaning in a **utility sink**:

- (1) Do not overload the sink

- (2) If necessary, pre-treat heavily soiled or spotted areas
- (3) Fill the sink with water not to exceed 105 deg. F.
- (4) Add cleaning solution or detergent
- (5) Wear protective gloves and eye/face splash protection
- (6) Scrub gently using a soft bristle brush. Use extra care with moisture barrier assemblies
- (7) Drain the water from the sink
- (8) Refill the sink; agitate gently using gloved hand or stir stick
- (9) Gently wring out garments and drain the water from the sink
- (10) Repeat steps 7 and 8 until garment is thoroughly rinsed.
- (11) Dry the elements
- (12) Inspect and rewash if necessary
- (13) Rinse out the sink

The following procedures shall be used for **machine cleaning**:

- (1) Do not overload the machine
- (2) If necessary, pre-treat heavily soiled or spotted areas
- (3) Fasten all closures, including pocket closures, hook and loop, snaps, zippers, hooks and dees, and so forth.
- (4) Turn garment inside out and place in mesh laundry bag.
- (5) Set and start the machine cycle; use a water temperature setting not to exceed 105 deg. F.
- (6) Add detergent (preferably liquid)
- (7) Run one complete cycle, rinsing at least twice
- (8) Dry the elements
- (9) Inspect and rewash if necessary

- (10) If the machine is also used to wash items other than protective ensemble elements, rinse out the machine by running it while empty through a complete cycle with 120 deg. F. water and detergent.
- (11) The Quartermaster shall be guided by the manufacturer's label and user information that the manufacturer provided with the ensemble or element. Where the information is not available, the Quartermaster shall use the procedures in this section.

The following procedures shall be used for **air-drying**:

- (1) Place the elements in the area with good ventilation
- (2) Do not dry in direct sunlight**

The following procedures shall be used for **machine drying**:

- (1) Machine drying should only be used when the gear must be immediately reused.**
- (2) Do not overload the machine
- (3) Fasten all closures, including pocket closures, hook and loop, snaps, zippers, hooks and dees, and so forth.
- (4) Turn garment inside out and place in mesh laundry bag.
- (5) If the dryer has a heat no heat option, use it.
- (6) If heat must be used, basket temperature shall not exceed 105 deg. F.
- (7) If heat is used, remove garments before they are completely dry.

Additional Procedures for Helmets:

The Quartermaster shall be guided by the manufacturer's label and user information that the manufacturer provided with the ensemble or element. Where the information is not available, the Quartermaster shall use the procedures in this section.

Helmets shall not be machine cleaned or dried

Helmet shells, headbands, crown straps, ear covers, and suspension systems shall be cleaned in a utility sink using mild detergent and water.

The manufacturer shall be consulted if stronger cleaning agents are

required.

No solvents shall be used to clean or decontaminate faceshields or goggles. The manufacturer shall be consulted when more thorough cleaning is necessary.

Additional Procedures for Gloves:

The Quartermaster shall be guided by the manufacturer's label and user information that the manufacturer provided with the ensemble or element. Where the information is not available, the Quartermaster shall use the procedures in this section.

Gloves shall be cleaned in a utility sink using mild detergent and water.

Gloves shall not be machine dried with heat.

Additional Procedures for Footwear:

The Quartermaster shall be guided by the manufacturer's label and user information that the manufacturer provided with the ensemble or element. Where the information is not available, the Quartermaster shall use the procedures in this section.

Footwear shall not be machine cleaned or dried.

Footwear shall be cleaned in a utility sink using mild detergent, water, and a soft bristle brush.

The manufacturer shall be consulted if stronger cleaning agents are required.

Footwear shall be air dried in a well-ventilated area, away from direct sunlight.

Additional Procedures for Hoods:

The Quartermaster shall be guided by the manufacturer's label and user information that the manufacturer provided with the ensemble or element. Where the information is not available, the Quartermaster shall use the procedures in this section.

Hoods shall be cleaned in accordance with the general provisions stated earlier.

Hoods shall be dried in accordance with the provisions stated earlier.

REPAIR:

GARMENT AND HOOD REPAIR:

Since our department has no facilities or expertise for repair of protective garments, the Quartermaster shall determine, after consultation with the manufacturer, whether an item can be economically repaired and where to send the item for the necessary repair.

Garments and hoods shall be subjected to advanced cleaning, or specialized cleaning when necessary, prior to shipping them to anyone for repair.

If the garment or hood is damaged or contaminated to an extent that repair or restoration is not economically feasible, the Quartermaster shall retire the item and issue a new one in its place.

HELMET REPAIR:

The Department Quartermaster, after receiving training in the repair of helmet elements, shall be responsible for performing or managing specialized repairs.

Helmets shall be subjected to advanced cleaning, and specialized cleaning when necessary, before any repair work is undertaken.

All repairs and alterations to helmets shall be done in a manner and using materials that are approved by the manufacturer.

Where replacement of a helmet component is performed, the replacement component(s) shall be obtained from the helmet manufacturer or the manufacturer's approved source.

If there is indication of a crack, dent, abrasion, bubbling, soft spot, discoloration or warping in the helmet shell, the manufacturer shall be contacted to determine serviceability.

The helmet manufacturer shall be contacted if the Quartermaster is unsure of the complexity of the repair, or whether a field repair can be accomplished without adversely affecting the integrity of the helmet.

Small scratches on the helmet shell shall be permitted to be removed by using mildly abrasive compounds recommended by the manufacturer.

Helmet faceshield/goggle components that become cracked or badly scratched shall be replaced.

GLOVE AND FOOTWEAR REPAIR:

If the Quartermaster determines that gloves or footwear can be economically repaired, he may arrange for the repair to be done at a repair facility approved by the manufacturer. Otherwise, the item shall be retired and a new one issued in its place.

STORAGE:

Ensembles or ensemble elements shall not be stored in direct sunlight or exposed to direct sunlight while being worn.

Ensembles and ensemble elements shall be clean and dry before storage.

Ensemble and ensemble elements shall not be stored in airtight containers unless they are new and unissued.

Ensembles and ensemble elements shall not be stored at temperatures below -40 deg. F. or above 180 deg. F.

Ensembles and ensemble elements shall not be stored or transported in compartments or trunks with sharp objects, tools, or other equipment that could damage the ensembles or ensemble elements. If they must be transported or stored in these environments, the ensemble or elements shall be placed in a protective case or bag to prevent damage.

Soiled ensembles and ensemble elements shall not be stored inside living quarters or with personal belongings, or taken or transported within the passenger compartment of personal vehicles unless the ensembles or ensemble elements are placed in a protective case or bag to prevent cross-contamination.

Ensembles and ensemble elements shall not be stored in contact with hydraulic fluids, solvents, hydrocarbons, hydrocarbon vapors, or other contaminants.

RETIREMENT, DISPOSITION, SPECIAL INCIDENT PROCEDURE:

RETIREMENT:

Structural fire fighting ensembles and ensemble elements that are worn or

damaged to the extent that the Quartermaster deems it not possible or cost effective to repair them shall be retired

Structural fire fighting ensembles and ensemble elements that are contaminated to the extent that the Quartermaster deems it not possible or cost effective to decontaminate them shall be retired

Structural fire fighting ensembles and ensemble elements that are no longer of use to the Department for emergency operations service but are not contaminated, defective, or damaged shall be retired

DISPOSITION:

Retired structural fire fighting ensembles and ensemble elements shall be destroyed or disposed of in a manner assuring that they will not be used in any fire fighting or emergency activities, including training.

Retired structural fire fighting ensembles and ensemble elements as determined shall be permitted to be:

- (1) Used for training that does not involve live fire provided that they are appropriately marked as such, or
- (2) Utilize as determined by the Department.

SPECIAL INCIDENT PROCEDURE:

In the absence of directions from State or Federal agencies having jurisdiction to investigate firefighter injuries or fatalities, the following procedures shall apply to the handling and custody of ensembles and ensemble elements that are directly related to serious firefighter injuries and firefighter fatalities:

- (a) All personal protective clothing and equipment utilized by the injured or deceased firefighter shall be immediately removed from service and preserved by the Quartermaster in a secure location at the Station. Access to the clothing and equipment shall be controlled and documented.
- (b) All such clothing and equipment shall be non-destructively tagged and stored only in paper or cardboard containers to prevent further degradation or damage. Plastic or airtight containers shall not be used.

With the specific approval of the Fire Chief, the clothing and equipment may be available to qualified Department members or outside experts to determine the condition thereof.

