

City of Winter Park Fire-Rescue Standard Operating Guideline

230.09

Title: Selection, Care, Maintenance and Retirement of Protective Ensembles for Structural Fire Fighting

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Purpose: To established a guideline for the care and maintenance of personal protective equipment for structural firefighting.

Scope: This guideline is to be followed by all personnel if the Department. Deviation from this guideline rests with the Assistant Fire Chief / Administration or higher within the organization.

General: The following guideline is established to provide a program for the proper selection of protective ensembles and elements used by this organization for structural firefighting and is the intent to minimize the safety and health risks associated with poorly maintained, contaminated or damaged protective equipment.

230.09.01. Administration and Guidelines

The established guideline shall comply with NFPA 1851, the Standard on Selection, Care and Maintenance of Structural Fire Fighting Protective Ensembles, 2001 edition. The manufacturer requirements of the protective ensembles shall also be reviewed.

230.09.02. Selection Committee:

A committee shall be established to oversee the selection, care and maintenance of the Department's personal protective equipment. The committee shall consist of the Assistant Chief of Administration, a Lieutenant from the Fire Rescue Division assigned to protective equipment, a member from the Collective Bargaining Unit and a Safety Officer designated by the Assistant Chief of Administration.

230.09.03. Contract Resources

If this organization elects to utilize contract resources for specific parts of this program, the contractor shall substantiate to the committee that it has been recognized by the manufacturer to perform:

- Cleaning
- Repair
- Warranty work
- Modifications

The contractor shall also identify to the committee any limitations placed by the manufacturer as a condition of recognition.

230.09.04. Training Requirements

a. Inspections

Routine Inspection

All members of this organization who have been issued a protective ensemble or ensemble elements shall be trained to perform a Routine Inspection as directed in this document.

A member of this organization who has already been trained by the manufacturers representative may perform training.

Advanced Inspection

Selected members of this organization shall be trained to perform Advanced Inspections as directed by this guideline.

The manufacturer or manufacturers representative of each element shall train selected members and training shall be documented.

b. Cleaning

Routine Cleaning

All members of this organization who have been issued a protective ensemble or ensemble elements shall be trained to perform a Routine Cleaning as directed in this guideline.

A member of this organization who has already been trained will perform training.

Advanced Cleaning

Selected members of this organization will be trained to perform Advanced Cleaning as directed by this guideline.
The manufacturer or manufacturers representative of each element shall train selected members and training shall be documented.

Specialized Cleaning

Selected members of this organization shall be trained to perform Specialized Cleaning as directed by this document.
The manufacturer or manufacturers representative of each element shall train selected members and training shall be documented.

c. Repair

The manufacturers representative will perform all repairs or a resource recognized by the manufacturer of the protective ensemble.

230.09.05. After-Market Modifications and Alterations

No after market modifications or alterations of any type to any ensemble or ensemble element unless authorized by the manufacturer. This includes but is not limited to hooks, patches, snaps, belts, paint, decals, etc.

230.09.06. Manufacturer's Instructions

Where the manufacturer's instructions regarding care and maintenance deviate from this guideline, the manufacturer's instructions shall supersede in all cases.

When issuing new ensembles or ensemble elements, this organization shall provide its members with applicable parts of this document and, a copy of the manufacturer's instructions on care, use, maintenance, limitations and, warnings.

230.09.07. Limiting Exposure to Soiled or Contaminated Ensembles or Ensemble Elements

Ensembles or ensemble elements that are determined to be soiled or contaminated shall be removed from service, placed in an airtight container and transported to Fire Station 61 to be cleaned or decontaminated.

At no time shall members of this organization transport or store soiled or contaminated ensembles or ensemble elements in department living areas, department apparatus, personal vehicles, or personal place of residence.

At no time shall members of this organization unnecessarily expose themselves, family, other members of this organization, or the public to ensembles and ensemble elements that have been soiled or contaminated.

The committee shall also become familiar with federal and state OSHA regulations as well as section 2.5 and A.2.5 of NFPA 1851 Standard on Selection, Care, and Maintenance of Structural Fire Fighting Ensemble, and NFPA 1581 Standard on Fire Department Infection Control Program with regards to soiled or contaminated ensembles.

230.09.08. Terminology and Definitions

The following terms with definitions are recognized by NFPA and may be found in this document or others created in support of this document:

Accessories. Those items that are attached to an ensemble or ensemble element but designed in such a manner to be removable from the ensemble or the element and that are not necessary to meet the requirements of the standard. Such accessories include, but are not limited to, utility belts, harnesses, backpacks, tools, tool packs, radios, radio packs, suspenders, lights, and heat sensing devices.

Biological Agents. Biological materials that could be capable of causing a disease or long-term damage to the human body.

Body Fluids. Fluids produced by the body including, but not limited to, blood, semen, mucus, feces, urine, vaginal secretions, breast milk, amniotic fluids, cerebrospinal fluid, synovial fluid, and pericardial fluid.

Carcinogen/Carcinogenic. A cancer-causing substance which is identified in one of several published lists.

Care. Procedures for cleaning, decontamination, and storage of protective clothing and equipment.

Certification/Certified. A system whereby a certification organization determines that a manufacturer has demonstrated the ability to produce a product that complies with the requirements of a specific standard(s), authorizes the manufacturer to use a label on listed products that comply with the requirements of that standard(s), and establishes a follow-up program conducted by the certification organization as a check on the methods the manufacturer uses to determine compliance with the requirements of that standard(s).

Char. The formation of a brittle residue when material is exposed to thermal energy.

Cleaning. The act of removing soils and contaminants from ensembles and elements by mechanical, chemical, thermal or combined processes.

Advanced Cleaning. The thorough cleaning of ensembles or elements by washing with cleaning agents.

Contract Cleaning. Cleaning conducted by a facility outside the organization that specializes in cleaning protective clothing.

Routine Cleaning. The light cleaning of ensembles or elements performed by the end user without taking the elements out of service.

Specialized Cleaning. Cleaning to remove hazardous materials or biological agents.

Coat. A protective garment; an element of the protective ensemble designed to provide minimum protection to upper torso and arms, excluding the hands and head.

Contamination/Contaminated. The process by which ensembles and ensemble elements are exposed to hazardous materials or biological agents.

Coverall. A protective garment; an element of the protective ensemble configured as a single-piece garment and designed to provide minimum protection to the torso, arms, and legs, excluding the head, hands, and feet.

Craze. The appearance of fine cracks in surface of helmet shell or other smooth surface of an element.

Cross Contamination. The transfer of contamination from one item to another or to the environment.

Crown. The portion of the helmet that covers the head above the reference plane.

Crown Straps. A helmet term for the part of the suspension that passes over the head.

Decontamination. The act of removing contaminants from ensembles and ensemble elements by a physical, chemical, or combined process. *(See also Cleaning, and Specialized Cleaning.)*

Disinfectant. An agent that destroys, neutralizes, or inhibits the growth of harmful biological agents.

Ear Covers. An integral part of the helmet designed to provide limited protection for the ears. Provides no significant thermal protection.

Elasticity. The ability of an ensemble or element, when repeatedly stretched, to return to its original form as applied to wristlets and hoods.

Elements. The parts or items that comprise the protective ensemble. The protective ensemble elements are coats, trousers, coveralls, helmets, gloves, footwear, and interface components.

Embrittlement. The hardening of a textile material that makes the ensemble or element or a textile material susceptible to easy fracture.

Emergency Medical Operations. The delivery of emergency medical care and transportation prior to arrival at a hospital or other health care facility.

Energy Absorbing System. A material, suspension system, or combination thereof incorporated into the design of the helmet to attenuate impact energy.

Ensemble. Multiple elements of clothing and equipment designed to provide a degree of protection for fire fighters from adverse exposures to the inherent risks of structural fire fighting operations and certain other emergency operations. The elements of the protective ensemble are coats, trousers, coveralls, helmets, gloves, footwear, and interface components.

Faceshield. A helmet component intended to help protect a portion of the wearer's face in addition to the eyes, not intended as primary eye protection.

Field test. The non-laboratory evaluation of one or more protective ensemble elements used to determine product performance related to organizational expectations or to compare products in a manner related to their intended use.

Fit. The quality, state or manner in which the length and closeness of clothing, when worn, relates to the human body.

Flame Resistance/Resistant. The property of a material whereby the application of a flaming or non-flaming source of ignition and the subsequent removal of the ignition source results in the termination of combustion. Flame resistance can be an inherent property of the material, or it can be imparted by specific treatment.

Footwear. An element of the protective ensemble designed to provide minimum protection to the foot, ankle, and lower leg.

Functional/Functionality. The ability of an ensemble or element or component to continue to be utilized for its intended purpose.

Garment(s). The coat, trouser, or coverall elements of the protective ensemble designed to provide minimum protection to the upper and lower torso, arms, and legs, excluding the head, hands, and feet.

Gauntlet. The circular, flared, or otherwise expanded part of the glove that extends beyond the opening of the glove body.

Gear Manager. Internet based software program for electronic records management of personal protective equipment. This program is provided by the manufacturer of Securitex.Apparel.

Gloves. An element of the protective ensemble designed to provide minimum protection to the fingers, thumb, hand, and wrist.

Glove Wristlet. The circular, close-fitting part of the glove, usually made of knitted material, that extends beyond the opening of the glove body.

Goggles. A helmet component intended to help protect the wearer's eyes and a portion of the wearer's face, not intended as primary eye protection.

Hardware. Non-fabric components of the structural fire fighting protective ensemble including, but not limited to, those made of metal or plastic.

Hazardous Materials. Any solid, liquid, gas, or mixture thereof that can potentially cause harm to the human body through respiration, ingestion, skin absorption, injection, or contact.

Hazardous Materials Emergencies. Incidents involving the release or potential release of hazardous chemicals into the environment that can cause loss of life, personnel injury, or damage to property and the environment.

Helmet. An element of the protective ensemble designed to provide minimum protection to the head.

Hood. The interface component element of the protective ensemble designed to provide limited protection to the coat/helmet/SCBA facepiece interface area.

Integrity. The ability of a ensemble or element to remain intact and provide continued minimum performance.

Interface Area. An area of the body where the protective garments, helmet, gloves, footwear, or SCBA facepiece meet (i.e., the protective coat/helmet/SCBA facepiece area, protective coat/protective trouser area, the protective coat/glove area, and the protective trouser/footwear area).

Liner System. The combination of the moisture barrier and thermal barrier as used in a garment.

Maintenance. Procedures for inspection, repair, and retirement of protective clothing and equipment.

Manufacturer. The entity that assumes the liability and provides the warranty for the compliant product.

Melt. A response to heat by a material resulting in evidence of flowing or dripping.

Moisture Barrier. The portion of the composite designed to prevent the transfer of liquids.

Organization. The entity that provides the direct management and supervision for the emergency incident response personnel.

Outer Shell. The outermost layer of the composite with the exception of trim, hardware, reinforcing material and wristlet material.

Protective Ensemble. Multiple elements of clothing and equipment designed to provide a degree of protection for fire fighters from adverse exposures to the inherent risks of structural fire fighting operations and certain other emergency operations. The elements of the protective ensemble are coats, trousers, coveralls, helmets, gloves, footwear, and interface components.

Reinforcement. An additional layer placed in or on an element.

Retirement. The process of permanently removing an element from emergency operations service in the organization.

Seams

Major A Seams. Outermost layer seam assemblies where rupture could reduce the protection of the garment by exposing the inner layers such as the moisture barrier, the thermal barrier, the wearer's station/work uniform, other clothing, or skin.

Major B Seams. Moisture barrier or thermal barrier seam assemblies where rupture could reduce the protection of the garment by exposing the next layer of the garment, the wearer's station/work uniform, other clothing, or skin.

Minor Seams. Seam assemblies that are not classified as Major A or Major B seams.

Selection. The process of determining what protective clothing and equipment is necessary for protection of fire and emergency service responders from an anticipated, specific hazard, or other activity, the procurement of the appropriate protective clothing and equipment, and the choice of the proper protective clothing and equipment for a specific hazard or activity at an emergency scene.

Separate. A material response evidenced by splitting or delaminating.

Service Life. The period for which a ensemble or element is useful before retirement.

Shall. Indicates a mandatory requirement.

Shank. Reinforcement to the area of protective footwear designed to provide additional support to the instep.

Should. Indicates a recommendation or that which is advised but not required.

Soiled/Soiling. The accumulation of materials, that are not considered hazardous materials or biological agents, but which could degrade the performance of the ensemble or element.

Stress Areas. Those areas of the garment that are subjected to more wear, including but not limited to, crotches, knees, elbows, and shoulders.

Suspension. A helmet term for the energy attenuating system made up of the headband and crown strap.

Tensile Strength. The force at which a fiber or a fabric will break.

Thermal Barrier. The portion of protective ensemble or element composite that is designed to provide thermal protection.

Trim. Retro-reflective and fluorescent material attached to the outermost surface of the protective ensemble or element for visibility enhancement.

Trouser. A protective garment. An element of the protective ensemble that is designed to provide minimum protection to the lower torso and legs, excluding the ankles and feet.

Universal Precautions. An approach to infection control in which human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens. Under circumstances in which differentiation between body fluids is difficult or impossible, all body fluids shall be considered potentially infectious materials.

Units. In this standard, values for measurement are followed by an equivalent in parentheses, but only the first stated value shall be regarded as the requirement. Equivalent values in parentheses shall not be considered as the requirement, as these values might be approximate.

Utility Sink. A separate sink used for cleaning ensembles and ensemble elements.

Winter Liner. A garment term for an optional component layer designed to provide added insulation against cold.

Wristlet. An interface component element of the protective ensemble that is the circular, close-fitting extension of the coat sleeve, usually made of knitted material, designed to provide limited protection to the protective coat/glove inter-face area.

230.09.09. Record Keeping

All record keeping will be maintained and stored by the Gear Manager software program provided by the manufacturer of our turnout gear. This record keeping system complies with NFPA 1851.

At a minimum, the following data shall be recorded:

- Person to whom element is issued
- Date and condition when issued
- Manufacturer and model name or design
- Manufacturer's identification number, lot number, or serial number
- Month and year of manufacture
- Date of and findings of Advanced Inspection (required at least every 12 months)
- Date of Advanced Cleaning (required at least every 6 months)
- Date of Specialized cleaning (required when decontamination is necessary)
- Reason for Advanced Cleaning or Specialized Cleaning and who performed the task
- Date of repairs, who performed repairs, and brief description of all repairs
- Date of retirement
- Date and method of disposal

Records shall be maintained until the element is retired and disposition has occurred.

Records shall be kept for at least 12 months past retirement of the employee.

230.09.10. SELECTION

A. Risk Assessment

The Assistant Fire Chief of Administration shall initiate a risk assessment with the goal of establishing the appropriate needs for the personal protective equipment of the organization on an annual basis.

The risk assessment shall consider the following:

- Climate
- Field elevation
- Expected low & high temperature
- Average day and night temperatures
- Average winds
- Average humidity
- Types of incidents responding to
- Frequency of use of ensembles
- Organization's operational strategy and tactics
- Past experiences
- Other issues deemed important

The Assistant Chief of Administration shall have the option to contact manufacturers or vendors to field test other protective ensembles and evaluate their equipment for technology changes and organizational needs.

B. Purchase Specifications

Purchase specifications are intended to translate the findings of the Department that identifies the performance and design requirements of the ensemble or ensemble elements as well as every aspect of this organizations needs and expectations.

The purchase specifications shall incorporate at least the following information:

- The governing regulations each element is to comply with.
- Language required by the purchasing department.
- Any language requiring manufacturers' to substantiate, to the committee's satisfaction, compliance with the purchase specification.
- Language detailing a pre-bid conference, if deemed necessary.
- Language requiring bid samples be submitted, if deemed necessary.
- Language providing for disposition of bid samples at the conclusion of the selection process.
- Language indicating that an inspection of received products will be completed prior to final acceptance of all orders.
- Language detailing the procedures for returning unsatisfactory products.
- Language detailing performance demands such as delivery, sizing, training, etc.

- Language detailing any penalties for failure to comply with the specifications.
- Garment outer shell fabric, weight and, color.
- Garment thermal liner/moisture barrier composite.
- Garment trim type and configuration.
- Garment closure system.
- Garment wristlet system.
- Hood fabric and face opening criteria.
- Glove composite, gauntlet or wristlet (wristlet fabric).
- Helmet material, color, retention system, trim configuration, trim color, ear coverings, and eye protection.
- Boot composite.
- The various options that are being added to each element.
- Language detailing specific construction criteria for each element.
- Intergovernmental cooperative purchasing contracts.

230.09.11. INSPECTION

A. General Information

The purpose of the inspection process is to determine the serviceability of the ensemble and the ensemble elements by identifying damage that, if left unnoticed, could result in a failure of that element.

Prior to initiating an inspection, the ensemble and ensemble elements shall be evaluated for soiling and contamination.

If the ensemble or ensemble elements are found to be soiled or contaminated, the inspection processes shall be suspended until the ensemble and its elements have been clean or decontaminated. .

The inspection criteria shall be in a “GO” or “NO GO” criteria.

Elements that are found to be damaged shall be immediately removed from service and evaluated by the fire officer responsible for protective ensembles, who is specially trained to determine if the element is to be repaired or retired.

Inspections shall be classified as Routine Inspection and Advanced Inspection.

B. Routine Inspection

Routine Inspection is the responsibility of each member of this organization who has been issued a protective ensemble or ensemble elements.

Routine Inspections shall be completed after each use, after exposure to an event that could have resulted in damage to the element or, as warranted.

This organization encourages each member to conduct a routine or brief inspection prior to the start of each duty day.

C. Advanced Inspection

Members of this organization who have been trained by the manufacturer or manufacturers representative shall conduct advanced Inspections.

Contract Resources may also perform advanced Inspections, provided they meet all manufacturers requirements.

Advanced Inspections shall be performed at least every 12 months and the findings documented in the Gear Manager software program utilized by this organization.

An Advanced Inspection shall also be completed when a Routine Inspection identifies a potential problem.

This organization also requires an Advanced Inspection to be completed prior to any element being returned to service from Advanced Cleaning, Specialized Cleaning or Repair.

D. Routine Inspection Procedures

The Routine Inspection shall include the following, minimum criteria:

Jacket and Trouser

- Soiling, contamination or physical damage such as rips, tears, and cuts
- Damaged/missing hardware and closure systems
- Thermal damage such as charring, burn holes, and melting
- Damaged or missing reflective trim

Hood

- Soiling or contamination
- Physical damage such as rips, tears, and cuts
- Thermal damage such as charring, burn holes, and melting
- Loss of face opening adjustment

Helmet

- Soiling or contamination
- Physical damage to the shell, such as cracks, crazing, dents, soft spots, and abrasions
- Thermal damage to the shell such as bubbling, soft spots, warping, or discoloration
- Physical damage to the ear flaps such as rips, tears, and cuts
- Thermal damage such as charring, burn holes, and melting
- Damaged or missing components of the suspension and retention systems
- Damaged or missing components of the faceshield/goggle system, including discoloration, crazing, and scratches to the faceshield/goggle lens limiting visibility
- Damaged or missing reflective trim

Gloves

- Soiling or contamination
- Physical damage such as rips, tears, and cuts
- Thermal damage such as charring, burn holes and melting
- Inverted liner
- Shrinkage
- Loss of elasticity/flexibility

Footwear

- Soiling or contamination
- Physical damage such as cuts, tears, and punctures
- Thermal damage such as charring, burn holes, and melting
- Exposed/deformed steel toe, steel midsole, and shank
- Loss of water resistance
- Closure system component damage and functionality

JACKET - ADVANCED INSPECTION RECORD

Advanced or Specialized Cleaning must be completed prior to initiating Advanced Inspection.

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|----------------------|
| Issued To: |
| Inspected By: |

| | | |
|----------------------|-----------|---------------------------------|
| Manufacturer | | DOM (mm/yy) |
| Model/Style | | S/N or ID # |
| Final Results | GO | NO GO – (RETIRED mm/yy) |

| JACKET | GO | NO GO | Concern | Corrected Date |
|--------------------------|----|-------|---------|----------------|
| Proper Fit | | | | |
| Proper Overlap w/Trouser | | | | |

| JACKET SHELL | GO | NO GO | Concern & Location | Corrected Date |
|---|----|-------|--------------------|----------------|
| Rips, Tears, Cuts, Etc. | | | | |
| Hardware Integrity | | | | |
| Hardware Functionality | | | | |
| Flame /Heat Damage | | | | |
| Stitching/Seam Integrity | | | | |
| Fabric Integrity | | | | |
| Wristlet Integrity. | | | | |
| Reflective Trim for Function | | | | |
| Reflective Trim Integrity | | | | |
| Label Integrity | | | | |
| Label Legibility | | | | |
| Hook & Loop Cleanliness | | | | |
| Hook & Loop Integrity | | | | |
| Liner Attachment Functionality | | | | |
| Closure System Functionality | | | | |
| Accessory Integrity | | | | |
| After Market Accessories Compliant and Authorized | | | | |

| JACKET LINER SYS. | GO | NO GO | Concern & Location | Corrected Date |
|---|----|-------|--------------------|----------------|
| Rips, Tears, Cuts, Etc. | | | | |
| Flame /Heat Damage | | | | |
| Stitching/Seam Integrity | | | | |
| Quilt Stitching Integrity | | | | |
| Fabric Integrity | | | | |
| Shifting of Liner Fabric | | | | |
| Moisture Barrier Sean Sealing Tape | | | | |
| Moisture Barrier Leak Test (Puddle Test) | | | | |
| Label Integrity | | | | |
| Label Legibility | | | | |
| Hook & Loop Cleanliness | | | | |
| Hook & Loop Integrity | | | | |
| Liner Attachment Functionality | | | | |
| Accessory Integrity | | | | |
| After Market Accessories Compliant and Authorized | | | | |

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TROUSER - ADVANCED INSPECTION RECORD

Advanced or Specialized Cleaning must be completed prior to initiating Advanced Inspection.

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| Issued To: |
| Inspected By: |

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|---------------|----|-------------------------|
| Manufacturer | | DOM (mm/yy) |
| Model/Style | | S/N or ID # |
| Final Results | GO | NO GO - (RETIRED mm/yy) |

| TROUSER | GO | NO GO | Concern | Corrected Date |
|------------|----|-------|---------|----------------|
| Proper Fit | | | | |

| TROUSER SHELL | GO | NO GO | Concern & Location | Corrected Date |
|---|----|-------|--------------------|----------------|
| Rips, Tears, Cuts, Etc. | | | | |
| Hardware Integrity | | | | |
| Hardware Functionality | | | | |
| Flame /Heat Damage | | | | |
| Stitching/Seam Integrity | | | | |
| Fabric Integrity | | | | |
| Wristlet Integrity. | | | | |
| Reflective Trim for Function | | | | |
| Reflective Trim Integrity | | | | |
| Label Integrity | | | | |
| Label Legibility | | | | |
| Hook & Loop Cleanliness | | | | |
| Hook & Loop Integrity | | | | |
| Liner Attachment Functionality | | | | |
| Closure System Functionality | | | | |
| Accessory Integrity | | | | |
| After Market Accessories Compliant and Authorized | | | | |

| TROUSER LINER SYS. | GO | NO GO | Concern & Location | Corrected Date |
|---|----|-------|--------------------|----------------|
| Rips, Tears, Cuts, Etc. | | | | |
| Flame /Heat Damage | | | | |
| Stitching/Seam Integrity | | | | |
| Quilt Stitching Integrity | | | | |
| Fabric Integrity | | | | |
| Shifting of Liner Fabric | | | | |
| Moisture Barrier Sean Sealing Tape | | | | |
| Moisture Barrier Leak Test (Puddle Test) | | | | |
| Label Integrity | | | | |
| Label Legibility | | | | |
| Hook & Loop Cleanliness | | | | |
| Hook & Loop Integrity | | | | |
| Liner Attachment Functionality | | | | |
| Accessory Integrity | | | | |
| After Market Accessories Compliant and Authorized | | | | |

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| NOTES: |
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HOOD - ADVANCED INSPECTION RECORD

Advanced or Specialized Cleaning must be completed prior to initiating Advanced Inspection.

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| Issued To: |
| Inspected By: |

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|---------------|----|-------------------------|
| Manufacturer | | DOM (mm/yy) |
| Model/Style | | S/N or ID # |
| Final Results | GO | NO GO – (RETIRED mm/yy) |

| HOOD | GO | NO GO | Concern | Corrected Date |
|------------|----|-------|---------|----------------|
| Proper Fit | | | | |

| HOOD | GO | NO GO | Concern & Location | Corrected Date |
|------------------------------------|----|-------|--------------------|----------------|
| Rips, Tears, Cuts, Etc. | | | | |
| Flame /Heat Damage | | | | |
| Stitching/Seam Integrity | | | | |
| Fabric Integrity | | | | |
| Fabric for Excessive Stretch | | | | |
| Excessive Wear | | | | |
| Face Opening for Excessive Stretch | | | | |
| Label Integrity | | | | |
| Label Legibility | | | | |

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| NOTES: |
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230.09.12. HELMET - ADVANCED INSPECTION

A. General Information

This organization shall provide a means of having soiled and contaminated ensemble and ensemble elements cleaned and decontaminated.

UNIVERSAL PRECAUTIONS shall always be utilized when handling soiled and contaminated elements.

The manufacturer of the element shall be contacted anytime there is a question regarding cleaning or decontaminating.

Cleaning shall be classified as Routine Cleaning, Advanced Cleaning and Specialized Cleaning.

B. Routine Cleaning

Routine Cleaning is the responsibility of each member of this organization who has been issued a protective ensemble or ensemble elements.

Routine Cleaning shall be completed following an event that results in soiling or contamination to the element or, as warranted.

C. Advanced Cleaning

Members of this organization who have been trained as per Chapter 1, Section 4, Training Requirements, of this document, shall conduct advanced Cleaning.

Contract Resources may also perform advanced Cleaning, provided they adhere to all manufacturer requirements.

Advanced Cleaning shall be performed at least ~~every 6 months~~ annually and the findings documented as per Chapter 2.

An Advanced Cleaning shall also be completed when a Routine Cleaning fails to render the elements sufficiently clean.

This organization also requires Advanced Cleaning to be completed prior to any element being submitted for Advanced Inspection.

D. Specialized Cleaning (Hazardous Material Exposure)

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

Ensembles or ensemble elements that are known or suspected to be contaminated shall be isolated, tagged, bagged and removed from service under the supervision of the senior fire ground commander or his designate.

Contract Resources may also perform specialized Cleaning, provided they adhere to all manufacturer requirements.

If a Contract Resource is utilized, contaminated elements shall be shipped in accordance with federal, state, and local regulations.

Upon completion of Specialized Cleaning, the elements shall be inspected for effectiveness of cleaning and, if necessary, cleaning process is to be repeated.

E. General Cleaning Guidelines

Universal precautions shall be used.

Water temperature shall not exceed 105 degrees Fahrenheit.

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

Chlorine bleach or chlorinated solvents shall never be used to clean or decontaminate ensembles or ensemble elements.

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

To prevent structural damage to the ensemble or ensemble element, heavy scrubbing or spraying with high velocity water jets, such as a power washer, shall not be used.

Protective ensembles and ensemble elements shall be cleaned separately from non-protective items.

To prevent damage to components and cross contamination, the shells and liners of protective garment elements shall be separated

and cleaned with like items (shells with shells and liners with liners, etc.).

F. Routine Cleaning Procedures

Universal precautions shall be used.

In establishing a Routine Cleaning guideline, the fire officer responsible for the care and maintenance of protective ensembles shall examine the manufacturer's label and user information provided by the manufacturer, for the instructions on cleaning the ensemble or ensemble element.

In the absence of the manufacturer's instructions or manufacturer's approval of alternative procedures, the following cleaning procedure shall be used:

- When possible, initiate cleaning at the incident scene.
 - Brush off any dry debris.
 - Gently rinse off debris with a water hose.
 - If necessary, scrub gently with a soft bristle brush and rinse off again.
- If necessary, spot clean utilizing procedures for Utility Sink.
- Inspect for soiling and contamination, and repeat process or submit for Advanced Cleaning.

G. Advanced Cleaning Procedures

Universal precautions shall be used.

In establishing an Advanced Cleaning guideline, the committee shall examine the manufacturer's label and user information provided by the manufacturer, for the instructions on cleaning the ensemble or ensemble element.

In the absence of the manufacturer's instructions or manufacturer's approval of alternative procedures, the following cleaning procedure shall be used:

- Brush off any dry debris.
- Clean utilizing procedures for:
 - Utility Sink Cleaning
 - Machine Cleaning.
 - Contract Resources
- Inspect for soiling and contamination, and repeat process or submit for Specialized Cleaning.

H. Specialized Cleaning Procedures

Universal precautions shall be used.

Where elements are known or suspected of being contaminated with a hazardous material or biological agent, an attempt shall be made to identify the contaminant or suspected contaminant.

When the contaminant has been identified, this organization shall consult the manufacturer of the contaminant for an appropriate decontamination agent and process.

In addition, the manufacturer of each element shall also be contacted for approval of the recommended agent and process.

If the contaminate can not be identified or a cleaning solution found, the ensemble or ensemble elements shall be disposed of following federal, state, and local guidelines.

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

- Contact the manufacturer or follow the provided manufacturer's instructions to determine appropriate disinfectant to use.
- Clean following
 - Utility Sink Cleaning
 - Machine Cleaning
 - Contract Resource
- Inspect for effectiveness of cleaning, and repeat process and repeat process if necessary.

I. Cleaning Procedures for Garment Element using Utility Sink

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

- Wear protective gloves and eye/face splash protection
- Fill the sink with water not to exceed 40° C (105° F).
- Add cleaning solution or detergent (liquid is recommended)
- If necessary, pre-treat heavily soiled or spotted areas.
- Do not overload the sink.
- Scrub gently using a soft bristle brush.
- Use extra care with moisture barrier assemblies.
- Drain the water from the sink.
- Refill the sink; agitate gently using gloved hand or stir stick.
- Gently wring out garments and drain the water from the sink.

- Repeat the rinse steps until garment is thoroughly rinsed.
- Dry the elements.
- Rinse out the sink.

J. Cleaning Procedures for Garment Element using Machine Washer

The following procedures shall be used for machine cleaning:

- Load machine with no more than three jackets and pants and select “Program 30”. Select “Program 29” for liners. Maximum of ten liners may be washed at any given time.
- Press “start”. Machine is preset for automatic operation by manufacturer of extractor.
- Detergent is automatically dispensed.
- If biohazard contamination is suspected, manually add eight ounces of disinfectant as machine fills.
- Do not overload the machine.
- If necessary, pre-treat heavily soiled or spotted areas.
- Fasten all closures, including pocket closures, hook and loop, snaps, zippers, and hooks, etc.
- Remove items upon completion of all cycles and air-dry the elements.
- Inspect and rewash if necessary.

K. Drying Procedures for Garments

In establishing a Drying guideline, the committee shall examine the manufacturer’s label and user information provided by the manufacturer, for the instructions on drying the ensemble or ensemble element.

In the absence of the manufacturer’s instructions or manufacturer’s approval of alternative procedures, the following cleaning procedure shall be used:

- For air drying:
 - Place elements in a clean, dry, well ventilated area.
 - Do not dry in direct sunlight.
- For machine drying:
- Machine drying will not be permitted.

L. Helmet Cleaning Procedures

Wear protective gloves and eye/face splash protection

The committee shall examine the manufacturer's label and user information provided by the manufacturer, for the instructions on cleaning the helmet element.

In the absence of the manufacturer's instructions or manufacturer's approval of alternative procedures, the following cleaning procedure shall be used:

- Helmets shall not be machine cleaned or dried.
- Helmet shells, headbands, crown straps, ear covers, suspension systems, and all other components shall be hand washed using an Utility Sink.
- The manufacturer shall be consulted if stronger cleaning agents are required.
- No solvents shall be used to clean the faceshield or goggle.
- The manufacturer shall be consulted when more thorough cleaning of the faceshield or goggle is necessary.

M. Hood Cleaning Procedures

Wear protective gloves and eye/face splash protection

The committee shall examine the manufacturer's label and user information provided by the manufacturer, for the instructions on cleaning the hood element.

In the absence of the manufacturer's instructions or manufacturer's approval of alternative procedures, the following cleaning procedure shall be used:

- The Hood shall be cleaned following
 - Utility Sink Cleaning
 - Machine Cleaning
 - Contract Resource
- Hoods shall be dried in accordance with the provisions identified in Drying Procedures

N. Glove Cleaning Procedures

Wear protective gloves and eye/face splash protection

The committee shall examine the manufacturer's label and user information provided by the manufacturer, for the instructions on cleaning the glove element.

In the absence of the manufacturer's instructions or manufacturer's approval of alternative procedures, the following cleaning procedure shall be used:

- Gloves shall be cleaned following
 - Utility Sink Cleaning
 - Machine Cleaning
 - Contract Resource
- Gloves shall be dried in accordance with the provisions identified in Drying Procedures with the exception of no heat setting shall ever be used.

O. Footwear Cleaning Procedures

Wear protective gloves and eye/face splash protection

The committee shall examine the manufacturer's label and user information provided by the manufacturer, for the instructions on cleaning the glove element.

In the absence of the manufacturer's instructions or manufacturer's approval of alternative procedures, the following cleaning procedure shall be used:

- Footwear shall not be machined washed
- Footwear shall be cleaned following
 - Utility Sink Cleaning
 - Contract Resource
- Footwear shall be air dried in a clean, dry, well-ventilated area.
- Footwear shall not be machine dried.

230.09.13. Repairs

Due to the complex nature of repairs and the liability associated with making them, this organization shall use Contract Resources to facilitate all repair work as well as alterations and modifications.

230.09.14. Issuing and Storage

A. Issuing

The ensemble or ensemble elements that are to be issued shall be inspected to confirm they are in a serviceable condition.

The ensemble or ensemble element shall be properly fitted to the member receiving the equipment.

Member shall receive adequate training for the donning, doffing, limitations, care and, maintenance of each element.

The member shall receive a copy of the manufacturer's instructions, if available, for each element and, a copy of this standard operating guideline.

All training shall be documented upon completion of the care and maintenance, limitations and the proper donning of each element.

B. Short Term Storage

Ensembles or ensemble elements that are issued but not in use shall be stored or transported as follows:

- Not exposed to direct sunlight
- Not exposed to long term UV producing lights
- Not kept in airtight containers
- Ensemble elements shall not be stored or transported where they can be contaminated with fluids, solvents, fuels, fuel vapors or other contaminants
- Ensemble elements shall not be stored or transported in compartments or trunks where they can be damaged by other tools or equipment
- Soiled or contaminated elements shall be handled properly as outlined in this guideline.

C. Long Term Storage

Ensembles or ensemble elements that are not issued shall be stored as follows:

- Not exposed to direct sunlight
- Not exposed to long term UV producing lights
- Not kept in airtight containers except when new and never issued
- Ensemble elements shall not be stored where they can be contaminated with fluids, solvents, fuels, fuel vapors or other contaminants
- Ensemble elements shall not be stored in compartments or trunks where they can be damaged by other tools or equipment
- Ensemble elements shall not be stored at temperatures below – 40c or above 82c.
- Storage area shall be clean, dry and, well ventilated
- Ensemble elements shall be clean and dry before being placed into storage

230.09.15. RETIREMENT and DISPOSITION

A. Retirement

Ensembles or ensemble elements shall be retired and removed from service when they are worn or damaged to the extent that they can no longer be repaired, decontamination is not possible or cost prohibited.

A member of this organization who has received specialized training in the inspection and repair of ensembles and ensemble elements shall determine retirement.

A Contract Resource can also make recommendations for retirement however; final determination shall be made by fire officer responsible for our protective ensembles, which has received specialized training in the inspection and repair of ensembles and ensemble elements.

B. Disposition

Ensembles or ensemble elements that have been retired shall be destroyed or disposed of in such a manner that prevents their use in fire fighting or other emergencies.

Ensembles or ensemble elements that have been retired, but are still serviceable may be used for training provided that the training does not involve live fire fighting.

Retired ensembles or ensemble elements that are used for training shall be marked in such a way that would prevent their being used for live fire fighting.

C. Procedures for Events Involving Injury or Death

Upon the removal of the ensemble or ensemble elements from the employee, the incident commander, who is on scene shall take custody of each element.

- Universal precautions shall be utilized before handling any element involved in the event.
- The incident commander shall act to preserve each element from unnecessary handling and further damage
- The incident commander shall document the time and circumstances as soon as possible.
- The incident commander shall secure each element and maintain custody until turned over to a police officer and held as evidence.
- Each element shall be secured in a paper bag or cardboard box and sealed with tamper proof tape by a police officer.
- At no time shall elements be placed in an airtight container, except when contaminated with a hazardous material.
- Custody of each element shall be maintained until the investigation or litigation is concluded.