

# USER INSTRUCTION, SAFETY AND TRAINING GUIDE



## NFPA 1971 Structural Firefighting Protective Particulate Blocking Hood

7200 POE AVE.  
DAYTON, OHIO 45414  
[www.LIONprotects.com](http://www.LIONprotects.com)

March 2024



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### **DANGER**

**You MUST read this Guide and all Safety, Cleaning, and Information labels before wearing.**

Burns are a function of time and temperature. First degree skin burns can occur when skin reaches a temperature of as low as 118° F (47.8° C).

Fire burns at temperatures up to 2000° F (1093.3° C) or higher.

This Hood provides limited protection against heat and flame in compliance with NFPA 1971.

While wearing this Hood, you may be burned without heat sensation or warning in some circumstances, and without any sign of damage to the Hood.

## 1. Garment Safety Label

**⚠ DANGER**

**You must read these warnings and instructions. Failure to follow these warnings and instructions will result in serious injury or death.**

- Wear this hood **ONLY** FOR FIREFIGHTING ACTIVITIES.
- Before wearing this ensemble, you must read and understand the User Instruction, Safety and Training Guide provided with this Hood. The guide explains: 1. Critical safety information and protective clothing limitation. 2. Proper sizing/adjustment. 3. Procedures for putting on and removing protective clothing. 4. How to clean, decontaminate, inspect and store this ensemble. 5. Use consistent with NFPA 1500. 6. Limitations on useful life and retirement procedures.
- You should wear this hood only if you have been properly trained in firefighting techniques, and have knowledge of the proper selection, fit, use, care and limitations of protective clothing and equipment.

**REDZONE™**  
Particulate-  
Blocking Hood

## 2. Cleaning Label

**LION** LION  
1200 POE AVE., SUITE 400  
DAYTON, OH 45414  
1-800-421-2626

**CLEANING AND STORAGE INSTRUCTIONS:**

- USERS MUST CLEAN, INSPECT, MAINTAIN, STORE AND ALTER ONLY IN ACCORDANCE WITH THE USER INSTRUCTION, SAFETY AND TRAINING GUIDE. DOWNLOAD A PDF AT [WWW.LIONPEO.COM](http://WWW.LIONPEO.COM) OR CALL TO REQUEST A COPY.
- MACHINE WASH, WARM WATER, USING ONLY LIQUID DETERGENT AND IF NEEDED, LIQUID NON-CHLORINE BLEACH. NEVER USE CHLORINE BLEACH.
- DOUBLE RINSE IN COOL WATER. NEVER USE FABRIC SOFTENERS.
- NEVER DRY CLEAN.
- DRY BY HANGING IN OPEN AREA. DRY AND STORE OUT OF DIRECT OR INDIRECT SUNLIGHT AND FLUORESCENT LIGHT.

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE HOOD MEETS THE HOOD REQUIREMENTS OF NFPA 1971, 2018 EDITION. THIS HOOD PROVIDES LIMITED PARTICULATE BLOCKING PROTECTION.

**UL** PROTECTIVE HOOD FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-2018.  
MH14987

DO NOT REMOVE OR WRITE ON THIS LABEL

**LION** LION  
1200 POE AVE., SUITE 400  
DAYTON, OH 45414  
1-800-421-2626

**CLEANING AND STORAGE INSTRUCTIONS:**

- USERS MUST CLEAN, INSPECT, MAINTAIN, STORE AND ALTER ONLY IN ACCORDANCE WITH THE USER INSTRUCTION, SAFETY AND TRAINING GUIDE @ [WWW.LIONPEO.COM](http://WWW.LIONPEO.COM) OR CALL TO REQUEST A COPY.
- NEVER DRY CLEAN. MACHINE WASH WARM WATER, USING ONLY LIQUID DETERGENT AND IF NEEDED, LIQUID NON-CHLORINE BLEACH. NEVER USE CHLORINE BLEACH.
- DOUBLE RINSE IN COOL WATER. NEVER USE FABRIC SOFTENERS.
- DRY BY HANGING IN OPEN AREA. DRY AND STORE OUT OF DIRECT OR INDIRECT SUNLIGHT AND FLUORESCENT LIGHT.
- PTFE BARRIER LAYER CONTAINS PFAS

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE HOOD MEETS THE HOOD REQUIREMENTS OF NFPA 1971, 2018 EDITION. THIS HOOD PROVIDES LIMITED PARTICULATE BLOCKING PROTECTION.

**UL** PROTECTIVE HOOD FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-2018.  
MH14987

DO NOT REMOVE OR WRITE ON THIS LABEL

## 3. Date of Manufacturing Label

50% KERMEL/50% VISCOSE  
STEDAIR® PREVENT BARRIER  
PO  
MFG. DATE:  
MODEL: HD395142-10+U SIZE:STD  
MADE IN CANADA CA12304



100000000

20% NOMEX® / 80% LENZING FR®  
DUPONT NANO FLEX BARRIER  
PO  
MFG. DATE:  
MODEL: HD396142-10 SIZE: STD  
MADE IN DOMINICAN REPUBLIC



100000000

## **⚠ WARNING**

This guide provides information on the use and limitations of this product. Do not use your Hood until you have read and understood this User Instruction, Safety and Training Guide and all of the attached labels.

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## 1. INTRODUCTION

Your NFPA 1971 Compliant Hood (referred to throughout this Guide as the “NFPA 1971 Compliant Hood” or “Hood”) is designed to provide limited protection in structural firefighting operations when worn in conjunction with other specified elements of the structural firefighting ensemble. The hood is also certified to the optional Particulate Blocking Hood requirements of NFPA 1971.

This User Instruction, Safety and Training Guide gives important instructions regarding the use, inspection, care, maintenance, storage and retirement of your NFPA 1971 Compliant Hood. No one except you, the firefighter, should remove this Guide. Immediately upon receipt of your NFPA 1971 Compliant Protective Hood, you should carefully read and save this Guide for future reference.

Firefighting is an extremely dangerous profession. The circumstances of each hazardous situation are unique and often impossible to predict. LION Protective Hoods are designed to provide limited protection against injuries to the coat/helmet/SCBA facepiece interface area when properly maintained and worn by trained firefighters during normal structural firefighting activities. This Guide is a training tool to help you understand your NFPA 1971 Compliant Structural Firefighter Hoods and how to use them in the safest possible manner during dangerous firefighting operations. Please take the time to read it.

For your personal safety, be alert for important safety messages in this training guide:

 **DANGER**

**DANGER** Indicates immediate hazards that will result in serious personal injury or death if not avoided, or if instructions, including recommended precautions, are not followed. The signal word “**DANGER**” is highlighted in red, in this training guide to indicate the extreme hazard of the situation.

 **WARNING**

**WARNING** Indicates potentially hazardous situations that could result in serious personal injury or death if not avoided, or if instructions, including recommended precautions, are not followed. The signal word “**WARNING**” is highlighted in black in this training guide.

 **CAUTION**

**CAUTION** Indicates potentially hazardous situations or unsafe practices that could result in minor or moderate personal injury or product or property damage if instructions, including recommended precautions, are not followed. The signal word “**CAUTION**” is highlighted in gray in this Guide.

## 2. DEFINITIONS

**AFFF** – Aqueous Film-Forming Foam agents. A foaming agent capable of forming water-solution films on the surface of flammable hydrocarbon liquids.

**ASTM** – Acronym for American Society of Testing and Materials

**Aramid Fibers** – Specially manufactured polymer fibers in which the fiber-forming material consists of linked, long chain-like structures of large molecules. Aramid fibers exhibit higher resistance to flammability, higher strength, and higher elasticity than ordinary synthetic or natural fibers. Fabrics made from aramid fibers maintain their integrity at high temperatures and are used in protective clothing and other industrial applications.

**Authority Having Jurisdiction** – The organization, office, or individual responsible for approving equipment, an installation, or a procedure.

**Body Substance Isolation** – A concept practiced by emergency response personnel whereby blood and ALL other body fluids are considered a risk for transmission of bloodborne diseases.

**Biological Agent** – Biological materials that could be capable of causing disease or long-term damage to the human body.

**Biological Terrorism Agents** – Liquid or particulate agents that can consist of a biologically derived toxin or pathogen to inflict lethal or incapacitating casualties.

**Bloodborne Pathogen** – Pathogenic microorganisms that are present in human blood and can cause disease in humans. These include, but are not limited to: Hepatitis B, Hepatitis C, HIV and Syphilis.

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

**Body Fluids-Borne Pathogen** – An infectious bacterium or virus carried in human, animal, or clinical body fluids, organs or tissue.

**CBRN** – An abbreviation for chemicals, biological agents and radiological particulates hazards.

**Chemical Terrorism Agents** – Liquid, solid, gaseous and vapor chemical warfare agents and toxic industrial chemicals used to inflict lethal or incapacitating casualties, generally on a civilian population, as a result of a terrorist attack.

**Component** – Any material, part or subassembly used in the construction of the NFPA 1971 Compliant Hood.

**Composite** – The layer or layers of materials or components.

**Emergency Medical Operations** – Delivery of emergency patient care and transportation prior to arrival at a hospital or other health care facility.

**Entry Firefighting** – EXTRAORDINARILY specialized firefighting operations that can include the activities of rescue, fire suppression, and property conservation at incidents involving fires producing extreme levels of conductive, convective, and radiant heat; such as aircraft fires, bulk flammable gas fires, and bulk flammable liquid fires. Highly specialized thermal protection from exposure to extreme levels of conductive, convective, and radiant heat is necessary for persons involved in such EXTRAORDINARILY specialized operations and because direct entry into the flames is made. Your NFPA 1971 Compliant Hood are NEVER to be used for entry firefighting or any direct contact with flames or molten metals, and do not provide the required level of protection.

**Exposure Incident** – Specific contact of the following with blood or O.P.I.M.: 1) eye; 2) mouth or other mucous membranes; 3) non intact skin; or 4) parenteral contact.

**Facecloth** – Lining fabric that is used to cover inner surfaces.

**Flame Resistance** – 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.

**Flame Retardant** – A chemical compound that can be incorporated into materials or a textile fiber during manufacture or treatment to reduce its flammability.

**Flash Fire** – A fire that rapidly spreads through a diffuse fuel, such as a dust, gas, or the vapors of an ignitable liquid, without the production of damaging pressure.

**Fluorescence** – The process by which radiant flux of certain wavelengths is absorbed and reradiated, nonthermally in other, usually longer, wavelengths.

**Fluorescent Trim** – Trim that absorbs and re-radiates light of certain wavelengths, making a surface highly visible to the human eye in order to provide daytime visibility.

**Guide** – Means this User Instruction, Safety and Training Guide.

**Heat Flux** – The thermal intensity indicated by the amount of power per unit area. The heat flow rate through a surface of unit area perpendicular to the direction of heat flow.

**Hood** – The interface element of the protective Ensemble that provides limited protection to the coat/Helmet/SCBA facepiece interface area.

**ISP (Independent Service Provider)** – An independent third party utilized by an organization (fire department) to perform any one or any combination of advanced inspection, advanced cleaning, or repair services.

**Interface Area** – An area of the body where the protective garments, helmets, Hood, footwear, or SCBA facepiece meet. i.e., The protective coat--Helmet--SCBA facepiece area, the protective coat--protective trouser area, the protective coat--protective Hood area, the protective trouser--protective footwear area.

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

**NFPA** – Acronym for National Fire Protection Association. A private sector, volunteer-based standard-making organization in the United States that develops guidelines related to fire protection and prevention.

**NFPA 1971 Compliant Hood** – Means Hood certified by a private, third-party certification organization (for example, Underwriters' Laboratories) to meet at the time of manufacture the design and performance requirements of the NFPA 1971 standards.

**OPIM** – Acronym for Other Potentially Infectious Materials. Includes semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, amniotic fluid, and peritoneal fluid.

**OSHA** – Acronym for Occupational Safety and Health Administration. A government-based standard-making body that develops public health and safety standards for the workplace.

**Parenteral** – Piercing through the skin barrier, such as a needlestick injury, human bite or a cut or scrape.

**PASS Device** – Acronym for Personal Alert Safety Systems. A device that emits an audible signal to summon aid in the event the firefighter or emergency responder becomes disabled.

***PKP or Purple-K*** – a common name for a dry chemical extinguishing agent based on potassium bicarbonate with a purple dye added.

***Protective Element*** – The parts or items that comprise the protective Ensemble. The protective Ensemble elements are: coats, trousers, coveralls, helmets, Hood, footwear and interface components.

***Protective Ensemble (Structural)*** – Multiple elements of Garments and other equipment designed in accordance with the NFPA 1971 Standards to provide a limited degree of protection for firefighters from adverse exposures to the inherent risks of structural firefighting operations and certain other emergency operations. The elements of the protective Ensemble are coats, trousers, coveralls, Helmets, Hood, footwear, and interface components.

***Retroreflection/Retroflective*** – The reflection of light in which the reflected rays are preferentially returned in the direction close to the opposite of the direction of the incident rays, with this property being maintained over wide variations of the direction of the incident rays.

***Retroreflective Markings*** – A material that reflects and returns a relatively high proportion of light in a direction close to the direction from which it came.

***RPP (Radiant Protective Performance)*** – A test to determine the ability of an outer shell to withstand a measured amount of radiant heat.

***SAFER*** – Acronym for Southern Area Fire Equipment Research. An established body of fire equipment users with expertise in the research and evaluation of firefighting personal protective equipment.

***SCBA*** – Acronym for Self-Contained Breathing Apparatus.

***SDS*** – Acronym for Safety Data Sheets.

***Sewn Seam*** – A series of stitches joining two or more separate pieces of material(s) of planar structure, such as textile fabrics.

***Spunlace*** – A nonwoven fabric formed by entangling the fibers about each other in a repeating pattern.

***Structural Firefighting*** – The activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, vehicles, marine vessels, or like properties that are involved in a fire or emergency situation.

***TPP*** – Acronym for Thermal Protective Performance. A test in the NFPA 1971 Standards to determine the ability of a Garment composite to protect against a measured amount of thermal and radiant heat.

***Trim*** – Retroreflective and fluorescent materials attached to the outermost surface of the protective Ensemble for visibility enhancement. Retroreflective materials enhance nighttime visibility, and fluorescent materials enhance daytime visibility. “Trim” is also known as “visibility markings”.

***Useful Life*** – Useful life can be as long as 7 to 10 years if Hoods have been subject to relatively lower levels of wear and tear and have been consistently maintained in a regular cleaning and maintenance program and stored properly. Useful life of Hoods can be as little as 3 to 5 years with heavy wear and tear and improper maintenance and/or storage.

In compliance with NFPA 1851, Hood must be retired no more than 10 years from the date of manufacture.

***UV (Light or Radiation)*** – Acronym for Ultraviolet Light. A type of radiated electromagnetic energy commonly found in the sun’s rays.

***Universal Precautions*** – Under universal precautions, blood and certain body fluids of all patients are considered potentially infectious for human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other bloodborne pathogens.

***Verified ISP*** – An Independent Service Provider that has been verified by a certification organization (such as UL or ITS) to perform moisture barrier repairs and major repairs.

### 3. SAFETY CHECKLIST

Do not use this Hood until you have checked “YES” to the following:

1. Have you completed formal training in structural firefighting compliant with the approved standard recognized by the Authority Having Jurisdiction, and on the proper use of all equipment, including Hoods?  
 Yes  No
2. Have you read and understood all the instructions and warnings throughout this Guide, as well as all the safety, cleaning and information labels on the Hood?  
 Yes  No
3. Will you regularly inspect the Hood inside and out for any tears, holes, thin spots, worn areas, dirt, contaminants, embrittlement, or any other conditions as discussed in Section 5 of this Guide?  
 Yes  No
4. Have you studied the limitations of your Hood as described throughout this Guide?  
 Yes  No
5. Have you checked to make sure that your Hood fits you properly?  Yes  No
6. Do you understand that when your skin reaches a temperature as low as 118° F (47.8° C) you will be burned, and that, in some situations, you may not feel a heat sensation or pain while wearing your Hood, or receive damage to your Hood prior to being burned?  Yes  No
7. Have you read, do you understand, and do you agree to assume the risks and responsibilities listed in the Personal Responsibility Code? See FIG. 1 and back cover of this Guide.  Yes  No

If you answered **NO** to any of the questions, **DO NOT WEAR THIS HOOD** until you have read the appropriate sections in this guide and have been properly trained by qualified instructors.

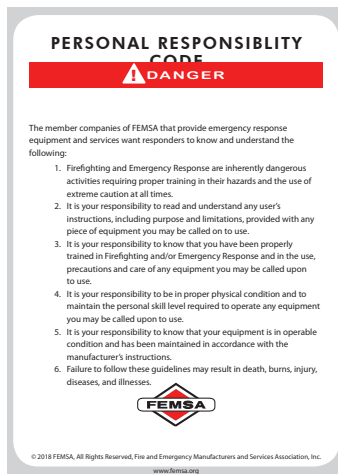


FIG. 1 Personal Responsibility Code. Also shown on back cover of this Guide.

## 4. PURPOSE, LIMITATIONS AND USE

This Hood is designed to provide **LIMITED** protection under the requirements of the NFPA 1971 Standard against hazards arising from STRUCTURAL FIREFIGHTING OPERATIONS AND NON FIRE RELATED RESCUE OPERATIONS, INCLUDING:

- heat and flame;
- cold weather and other environmental conditions;
- physical hazards, including cuts and abrasion.

### **DANGER**

**DO NOT use this Hood for the following:**

- **Proximity or Entry firefighting operations (see definitions)**
- **Activities requiring direct contact with flames or molten metal**
- **Hazardous Materials Emergency Operations**
- **Protection against all hazardous material, chemical, biological, radiological, or nuclear agents, or CBRN terrorism agents (see definitions)**
- **Wildland Firefighting**



Do not use for entry firefighting.



Do not use for direct contact with flames or molten metal.



Do not use for protection against hazardous radiological agents.



Do not use for protection against hazardous biological agents.



Do not use for protection against hazardous chemical agents.

### **DANGER**

Firefighters who are exposed to a flashover, backdraft, or other flame and high heat environments are at **EXTREME** risk for extensive burn injuries and death, even while wearing their PPE, including an NFPA 1971 Compliant Structural Firefighting Hood.

### **WARNING**

Controlled laboratory tests in the NFPA 1971 Standard “shall not be deemed as establishing performance levels for all situations to which personnel can be exposed”. You should always use extreme caution in any firefighting situation to avoid the risk of injuries. See NFPA 1971.

### **WARNING**

Protective properties in a new NFPA 1971 Compliant Hood will diminish as the product is worn and ages. To reduce the risk of injuries, you **MUST** follow the recommendations in this Guide for inspection and retirement of your Hood to ensure that the Hood is not used past its Useful Life.



 **WARNING**

- Do not alter your Hood in any way. Changes to the Hood may increase your risk of injury or death.
- For marking an individual's name, or other identifying mark, an indelible laundry marker may be used in a blank space on a label inside the Hood.

 **DANGER**

Never wear Hoods that fit improperly. If you have a question, or there is a problem with the fit of the Hood, contact your safety officer for assistance. Wearing Hoods that do not fit properly could reduce protection and result in severe burns, cuts, or abrasions, or dangerously restrict your ability to avoid injuries in an emergency situation.

 **DANGER**

Burns are a function of time and temperature. The higher the temperature of the heat source and the longer the exposure time, the greater the severity of burns.

FIRST DEGREE BURNS

begin when skin temperature reaches approximately **118° F (47.8° C)**.

SECOND DEGREE BURNS

occur when skin temperature reaches approximately **131° F (55° C)**.

THIRD DEGREE BURNS

occur when skin temperature reaches approximately **152° F (66.7° C)**.

You may have **very little or no warning** time from feeling heat or pain before skin begins to burn at 118° F (47.8° C). You need to be constantly aware of the buildup of heat in the surrounding environment and in your Hood and be ready to escape to a cool area where you can remove hot Hood quickly to help prevent or reduce the severity of burns.

 **DANGER**

Moisture in Hoods can reduce insulation and lead to scalding burns! Always make sure your Hood is dry before wearing it in any emergency situation. Dry your Hood between runs to reduce the risk of serious burn injuries.

 **DANGER**

Minimize compression of your Hood at all times. Compression of Hood against hot objects can severely reduce insulation and result in scalding and burning without heat sensation or warning in some circumstances. If you feel tingling, immediately move to a cooler location. Failure to react immediately could cause you to be burned.

## 5. INSPECTION

Your Hood should be cleaned, inspected, and repaired in a frequency and manner consistent with your department's protocol, NFPA 1851 and NFPA 1971.

### 5.1 PREPARATION

Read all Safety, Cleaning, and Information Labels. If any labels are missing, return the Hood to the manufacturer immediately.

### 5.2 FREQUENCY

#### Routine Inspection:

Inspect your Hood:

- upon receipt of your new Hood;
- after each use or at least monthly during the useful life of the Hood;
- after exposure to heat, flames, chemicals, or firefighting agents (including AFFF foam and water);
- after exposure to body fluids (including blood); and
- after washing, repair or decontamination.

#### Advanced Inspection:

Your Hood should undergo a regular advanced inspection by an expert in the Fire Department who has been trained by LION, LION TotalCare® or a verified Independent Service Provider (ISP) at least annually, or whenever you have a question about whether the Hood is fit for use.

### 5.3 INSPECTION PROCESS AND CRITERIA

#### 1. Preparation for Inspection

- A. Ensure the Hood is clean. If any have been contaminated by hazardous materials or biological agents, make sure they have been decontaminated. This is important for your safety, and for assurance that potential problems are not masked by incidental residue.
- B. Place Hood on a clean surface in a brightly lighted area.

#### 2. Inspection (Routine and Advanced Procedure)

- When inspecting your Hood, check thoroughly for:
  - ◇ Cuts or worn areas
  - ◇ Torn seams or cut threads which may allow seams to separate
  - ◇ Chemical contamination which has not been removed
  - ◇ Brittleness, discoloration or other evidence of damage from heat or light
  - ◇ Damage of the particulate blocking layer (inner layer)
- If your Hood is excessively worn, damaged, contaminated, or otherwise does not pass inspection, do not use it. Turn in the damaged Hood and obtain a replacement LION Protective Hood from your fire department. Do not attempt to repair the Hood yourself.



### **WARNING**

Most performance properties of the Hood and its components cannot be tested by the user in the field.

## 5.4 RECORDKEEPING

LION TotalCare® Centers offer recordkeeping services. For manual records, record all inspections and your results on the Inspection, Cleaning, Repair, Retirement, and Disposal Record located in the back of this Guide. Maintain this form unless your organization has provided you with a comparable recordkeeping method for this purpose.

# 6. DONNING AND DOFFING

## 6.1 DONNING

- Put on the facepiece of the SCBA and adjust for a secure fit.
- Pull Hood over your head and align the Hood's elasticized opening around the facepiece.
- Assure that SCBA facepiece and Hood overlap, so that no gaps occur in protection in any body position encountered during use. Also, assure that the Hood does NOT interfere with the SCBA facepiece seal to the wearer's face.
- After Hood is on, put on turnout coat. Ensure your Hood is under your coat.
- Put on and adjust Helmet.

## 6.2 DOFFING

- First, never remove your Ensemble until you are certain that you are safely removed from the hazard area. Always wear your full protective Ensemble during all phases of fire suppression, including overhaul activities.
- If the Ensemble has been exposed to hazardous chemicals, exercise appropriate decontamination procedures before removing the Ensemble.
- Remove your Helmet and Gloves.
- Disengage the coat closure system. Remove the coat and Hood.
- Disengage the fly closure on the trousers and remove suspenders. Remove trousers and boots.
- If your Ensemble is contaminated with hazardous chemicals, you should remove them carefully avoiding any contact with contaminated parts. If applicable, have the Ensemble fully decontaminated, washed and visually inspected. If decontamination procedures are not applicable, the Ensemble should be disposed of in a safe manner. See Washing, Decontamination and Disinfecting Procedures in Section 8 of this Guide and Inspection Procedures, Section 5 of this Guide.
- During and after doffing, always look for signs of chemicals, body fluids or other contamination, and for signs of wear or damage.

## 7. USING YOUR HOOD SAFELY: HOW TO MINIMIZE THE RISK OF INJURY

### 7.1 PREPARATION

Before beginning any emergency operation where there is fire or a threat of fire, your Hood should be donned according to the procedures in Section 6 of this Guide.

#### **DANGER**

Always wear clean and thoroughly dry Hoods in any structural firefighting operation. Soiled or contaminated Hoods may be combustible, causing serious burns to the wearer.

### 7.2 FIRE CHARACTERISTICS

Fires are inherently dangerous, unpredictable environments. **Temperatures can range upwards to more than 2000° F (1093° C) in a matter of seconds.** It is important to understand these conditions in order to maximize your protection and to understand the limited ability of your Hood to protect you from all hazards that may be present in a fire.

### 7.3 BURN HAZARDS: TYPES OF HEAT TRANSFER

There are three types of heat transfer in a fire that could cause burns: conduction, convection, and radiation. **Conduction** is the direct transfer of heat through contact with a hot object. **Convection** is the transfer of heat through a medium; for example, air. **Thermal radiation** is the transfer of heat in the form of light energy. Firefighters experience all three types of heat in a fire, and must understand their effects on NFPA 1971 Compliant Hood.

**Conduction:** The danger of being burned by conductive heat while wearing NFPA 1971 Compliant Hoods are frequently underestimated. This very real hazard is significantly increased if your Hood is wet or compressed. Water can provide a conductive bond between surfaces that might not otherwise touch, increasing the chances of heat conduction by displacing insulating air between and within the layers of the Hood. Water is a very poor insulator; it conducts heat with dangerous and totally unpredictable efficiency.

**Always use your NFPA 1971 Compliant Hood properly and in a manner that is consistent with NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program and Title 29, Code of Federal Regulations, Part 1910.132, General Requirements of Subpart I, Personal Protective Equipment.***

#### **DANGER**

Moisture in Hoods can reduce insulation and lead to scalding burns! Always make sure your Hood is dry before wearing it in any emergency situation. Dry your Hood between runs to reduce the risk of serious burn injuries. Inspect your Hood for holes and other damage, and always secure all the closures to prevent the penetration of moisture from the fire environment.



Radiant heat from hot surfaces and flames can cause burns

**Convection:** Convective heat travels through the air, even if there is no immediate appearance of fire. Convective heat can elevate the temperature of your Hood to a point at which conductive heat burns can easily occur. Convective air can also travel into your Hood interior by entering into gaps at interface areas.

**Thermal Radiation:** Thermal Radiation is the transfer of heat in the form of light energy into a material, directly from flames or reflected from hot objects. Factors that affect the speed of radiant heat transfer include the temperature difference between two surfaces, their distance from each other, and the reflectivity of each surface.

**! DANGER**

Convective or Radiant heat can penetrate quickly to your face, head and neck. Dangerous levels of heat may be present inside or outside a structure despite the lack of flames, and burns can occur at relatively low temperatures. If you feel thermal radiation burns developing, cool down your surrounding environment with water or move to another location. Your face, head and neck may be burned without any warning signals.

7.4 **BURNS**

Burns are a function of time and temperature. The higher the temperature of the heat source and the longer the exposure time, the greater the severity of burns.

FIRST DEGREE BURNS begin when the temperature of skin reaches **118° F (47.8° C).**

SECOND DEGREE BURNS occur when the skin reaches approximately **131° F (55° C).**

THIRD DEGREE BURNS occur when skin temperature reaches approximately **152° F (66.7° C).**

**In terms of heat flux, unprotected skin will receive a second-degree burn after only a 30-second exposure at .45 watts per square centimeter.** Studies have shown that flame temperatures of low intensity wastebasket fires can reach almost 1300° F (704.4° C), with a heat flux in excess of over four watts per square centimeter, and with air temperatures ranging up to 750° F (398.9° C). Thus, even small fires can generate several times the level of heat to cause severe burns to firefighters who do not wear ALL their protective Ensemble in a secure manner.

**! DANGER**

Prolonged or repeated exposures to heat will increase Hood temperatures and can cause burns even after the firefighter is no longer exposed to high temperatures. Minimize exposure to heat by using water to cool the environment, or by escaping quickly after a short period of time. Failure to follow these instructions will result in burns beneath your Hood.

**! DANGER**

The buildup of heat in NFPA 1971 Compliant Hoods can lead to burns without any sign of damage to the Hood. Never wait for signs of Hood damage to warn of imminent burns. Always be aware of your surrounding environment and be ready to escape if you begin to feel tingling or burning sensations.

 **DANGER**

Firefighters who are exposed to a flashover, backdraft, or other flame and high heat environments are at **EXTREME** risk for extensive burn injuries and death even while wearing NFPA 1971 Compliant Firefighter PPE, including a Hood!

 **WARNING**

Do not confuse the component testing requirements that are part of NFPA Standards with the conditions in which firefighters work. For example, the requirement that certain components must not melt, drip, or separate when exposed to convected heat temperatures of 500° F (262° C) for 5 minutes is in no way intended to indicate that firefighters face that condition in their work, or could be expected to withstand that condition **EVEN WHILE WEARING AN NFPA 1971 COMPLIANT HOOD CORRECTLY** without suffering serious injury or death.

**7.5 HEAT STRESS: A SIGNIFICANT CAUSE OF FIREFIGHTER INJURIES**

Physical work in a warm or hot environment causes a rise in the temperature inside the body. To protect the body against heat, the heart begins to beat faster so more blood can be moved to the skin surface. Blood vessels near the skin dilate so they can carry more blood. In this way, blood in the interior of the body can be brought out near the body's surface and cooled. Most importantly, the body produces sweat that evaporates off the skin to provide cooling. Those natural responses do not work very well for any or all of the following conditions: the ambient air temperature is at least 75° F (23.9° C) or higher, the Hood insulation blocks the transfer of heat away from the body, the Hood blocks the evaporation of sweat, or the exertion of the muscles produces more heat than the system can remove. When the body temperature gets elevated too high, the results can be heat strain, heat exhaustion, or heat stroke.

 **WARNING**

**Overexertion in hot conditions while wearing NFPA 1971 Compliant PPE, including a Hood, can lead to heat exhaustion or heat stroke.** Symptoms of heat exhaustion are a general feeling of weakness, dizziness, rapid pulse, low blood pressure while standing or sitting, and/or a headache. The skin may feel moist or clammy. If you feel symptoms, get to a cool place, remove your Hood, other PPE and drink fluids. Failure to seek attention could lead to coma or death.

 **WARNING**

Symptoms of heat stroke are hot, dry skin with no sweating, very high body temperatures, weakness, dizziness, rapid breathing, nausea, unconsciousness, and sometimes mental confusion. If you feel any of the above symptoms at any time, get to a cool area immediately, remove your Ensemble, drink fluids and seek medical attention. Failure to seek attention could lead to coma or death. Immediate cooling is essential for survival in heat stroke cases.

## 7.6 HEART ATTACKS: A RESULT OF OVEREXERTION

During firefighting operations, the heart beats faster because of the need to move more blood to the working muscles. This blood carries more oxygen to the muscles so that they can handle the increased workload.

Another factor in increasing the rate of the heart is the presence of adrenaline, the “fight or flight” hormone, in the firefighter’s body during an emergency.

The adrenaline present in your system causes the heart to pump even faster than during normal activity.

All of these stress factors could place too much strain on the heart, leading to a heart attack. The heart simply cannot handle the load placed on it.

### **WARNING**

You must be physically fit to safely perform strenuous work under stressful conditions. Regular cardiovascular exercise, abstaining from cigarette smoking, proper training, a healthy diet, and avoidance of obesity, can help to reduce the risk of heart attack.

## 7.7 LIQUID PENETRATION AND HAZARDOUS MATERIALS

### **Hoods Provide No Protection Against Liquid Penetration**

Your NFPA 1971 compliant hood contains no moisture barrier and provides no protection from common fireground chemicals.

### **No Protection Against Hazardous Materials Exposure**

In addition, firefighters face potential exposure to an almost unlimited number of other potentially hazardous chemicals in their operations.

**Your NFPA 1971 Compliant Hood is NOT designed to protect against exposures to hazardous material operations. You MUST use appropriate protective equipment in situations involving liquid or vapor hazardous materials.**

### **WARNING**

Exposure to smoke particulates produced by combustion may affect cardiovascular health. You must secure all interfaces properly to minimize entry of hazardous fireground contaminants.

### **WARNING**

If you experience accidental or incidental exposure to a hazardous material, you need to follow the precautions in Section 8 of this Guide regarding Washing and Decontamination, in order to limit exposure to yourself and others.

## **WARNING**

Exposure to smoke particulates produced by combustion may affect cardiovascular health and may increase your risk of cancer. You must secure all interfaces properly to minimize entry of hazardous fireground contaminants. Even small fires produce extremely large amounts of these hazardous products of combustion and firefighters must take care to minimize direct skin contact with products of combustion that are known to penetrate skin, such as Polycyclic Aromatic Hydrocarbons (PAHs) denoted by asterisks(\*). **See Products of Combustion table below.**

## Products of Combustion\*\*

### Substances

Acetaldehyde	Isoprene
Arsenic	Lead compounds, inorganic
Asbestos	Lead compounds, organic
Benz[a]anthracene*	Naphthalene*
Benzene	2-Nitroanisole
Benzo[b]fluoranthene*	Polychlorinated biphenyls
Benzo[k]fluoranthene*	Polychlorinated dibenzodioxins
Benzofuran*	Polychlorophenols
Benzo[a]pyrene*	Radioactivity
1,3-Butadiene	Silica (amorphous)
Cadmium	Silica (crystalline)
Carbon black (total)	Styrene
Chrysene*	Sulfuric acid (concentrated mists)
Dibenz[a,h]anthracene*	Tetrachloroethylene
Dichloromethane	Toluene diisocyanates
Ethylbenzene	Trichloroethylene
Formaldehyde	Trichloromethane
Furan	Triphenylene
Indeno-1,2,3-[cd]pyrene*	

## **WARNING**

If you experience accidental or incidental exposure to a hazardous material, you need to follow the precautions in Section 11 of this Guide regarding Washing and Decontamination, in order to limit exposure to yourself and others.

\*\* Sources and for more information please see: Hwang, Xu, Agnew, Clifton, Malone, Health Risks of Structural Firefighters from Exposure to Polycyclic Aromatic Hydrocarbons: A Systemic Review and Meta-Analysis. 2021, 18 4209 <https://doi.org/10.3390>; Fent, K.W.; Eisenberg, J.; Snawder, J.; Sammons, D.; Pleil, J.D.; Stiegel, M.A.; Mueller, C.; Horn, G.P.; Dalton, J. Systemic exposure to pahs and benzene in firefighters suppressing controlled structure fires. *Ann. Occup. Hyg.* 2014, 58, 830-845. *International Journal of Environmental Research and Public Health.* Fent, K.W.; Eisenberg, J.; Evans, D.; Striley, C.; Snawder, J.; Mueller, C.; Pleil, J.; Stiegel, M.; Horn, G.P. Evaluation of Dermal Exposure to Polycyclic Aromatic Hydrocarbons in Fire Fighters: Report No. 2010-0156-3196, NIOSH Health Hazard Evaluation Program. 2013. Available online: <https://www.cdc.gov/niosh/hhe/reports/pdfs/2010-0156-3196.pdf>. Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 98, Painting, Firefighting, and Shiftwork; IARC: Lyon, France, 2010.



 **WARNING**

Your Hood is NOT designed to protect you against electrocution. When entering a building, you should NEVER touch live wiring, especially if your Hood is wet. Never allow hoses, nozzles, or other fire equipment you are operating to contact live wiring.

7.9 **BLOODBORNE PATHOGENS**

Your Hood does not protect your body from the hazards of exposure to bloodborne pathogens present in body fluids. Exposure incidents are specific contact of the following with blood or OPIM (Other Potentially Infectious Materials): eye; mouth or other mucous membranes; non-intact skin; or parenteral contact. Make sure face, mouth, eyes, nose, and non-intact skin are covered. Avoid contact with hypodermic needles and other sharp objects. Use Body Substance Isolation Procedures when handling Hoods exposed to body fluids. Washing the Hood according to the Procedures in Section 8 of this Guide will generally eliminate hazards of exposure to body fluids arising from incidental contact. For heavier levels of exposure, disinfecting the Hood will substantially reduce hazards arising from exposure of the Hood to potentially hazardous body fluids. See Section 8 of this Guide for more information.

7.10 **ADDITIONAL FACTORS AFFECTING SAFETY**

The following additional factors may affect the limited protection provided by the Hood:

- conditions on the fireground or other site of emergency operations that are beyond the scope of the limited purposes of this Hood;
- unauthorized modifications, repairs or replacement of components of the Hood not otherwise in compliance with LION's specifications; and
- the addition of accessories that are not approved by LION as compatible with NFPA 1971 Compliant Hood. If you have questions about whether accessories will degrade the performance of your Hood below the NFPA 1971 Standards, contact LION, a LION TotalCare® Center or a verified ISP.

## 8. WASHING, DECONTAMINATION AND STORAGE

### 8.1 HAZARDS OF DIRTY PPE: WHY WASHING AND DECONTAMINATING IS IMPORTANT

You can be exposed to many hazardous substances on the job. These substances can contaminate your Hood, and cause harm to you after your body contacts your Hood. This section tells you how to wash and decontaminate your Hood to reduce these hazards.

**Routine Fireground Contaminants:** Many fire combustion products — including hydrocarbons, polynuclear aromatic compounds, metals such as cadmium and chromium, acids and soot — are hazardous to the firefighter. These substances can become embedded in the materials of your Hood, penetrate inner layers, and enter the body through ingestion, absorption, inhalation, and parenteral contact. In addition, particulates and other products of combustion can reduce the flame resistance of your Hood and increase your ability to conduct electricity. To reduce the risk of long-term harm from hazardous substances present in the products of fire combustion, or hazardous chemicals, you **MUST** wash your Hood.

**Hazardous Chemicals:** If you experience accidental or incidental exposure to a hazardous chemical, follow all precautions in this Section to limit exposure and risk of harm to yourself and others.

You should hose down the contaminated Hood at the scene to limit further exposure to hazardous chemicals, to reduce exposure to others, and to reduce the likelihood of chemicals from settling into your Hood.

#### **WARNING**

Decontamination of protective clothing and equipment is a complicated process for which there is no guarantee that protective elements are free from contamination. While the purpose of decontamination is to remove all contaminant(s) from the element, decontamination procedures or cleaning processes are not always 100% effective in removing all contamination. See NFPA 1851.

**Bloodborne Pathogens:** Your Hood may be exposed to body fluids that may contain bloodborne pathogens. The washing procedures described later in this section will reduce your risk of infection from these hazards.

### 8.2 FREQUENCY

Clean the Hood as soon as possible after exposure to products of combustion, as well as contamination or exposure to smoke, blood or body fluids, or hazardous substances, or at least every 6 months.

#### **WARNING**

Always wash your Hood separately from other items. Never wash your Hood at home or at public laundry facilities to avoid the spread of chemical contamination or hazardous combustion products to other laundry.

#### **WARNING**

Never use high velocity power washers or pressure hoses for washing the Hood. These tools can severely damage the raw materials and seams.

### 8.3 CLEANING PRODUCTS

#### Routine Washing:

- A. Commercially available detergents. Use commercially available detergents with a pH greater than 6.0 and less than 10.5. Many household detergents fall within this range.
- B. Specialty Cleaners. StationCare 1851 from LION TotalCare® is designed for NFPA 1971 Hoods. Always read MSDS sheets before use.
- C. Spot cleaning and pre-treating. Use commercially available detergents with a pH greater than 6.0 and less than 10.5. Always check MSDS and product's instructions before use.



### **WARNING**

Never use chlorine bleach or chlorinated products to clean your Hood. Even small amounts of chlorine will seriously reduce your Hood's protective qualities. Non-chlorinated bleaches are acceptable.

### 8.4 SPOT CLEANING

- A. Use a cleaning product that is safe for use on protective clothing fabrics to clean light spots and stains on Hoods.
- B. Apply the cleaner one or two times on soiled areas according to the cleaning product's instructions on dilution and application. See Section 8.3 for guidelines on cleaning products.
- C. Gently rub the fabrics together.
- D. Thoroughly and carefully rinse the Hood with cool water.

### **WARNING**

Do not use petroleum-based solvents to spot clean. These products may reduce the limited protective qualities of the Hood.

### 8.5 PRETREATING

- A. Apply pretreating product onto the soiled areas according to the pretreating product's instructions on dilution and application.
- B. Thoroughly and carefully rinse the Hood with cool water.
- C. Place the Hood into washing machine and follow the wash procedures in this section.

## 8.6 HEAVILY SOILED AREAS

- A. Air dry the Hood before applying cleaning product.
- B. Saturate the heavily soiled and surrounding area according to the cleaning product's instructions on dilution and application. Follow the cleaning product instructions for duration of soaking.
- C. Gently rub the fabrics together.
- D. Thoroughly and carefully rinse the Hood with cool water.
- E. Repeat steps B-D if necessary.
- F. Place the Hood into the washing machine as instructed in the wash procedures in this Section.

## 8.7 MACHINE WASHING

### Preparation

Before washing, make sure you comply with all federal, state, and local guidelines for handling effluents from utility sinks. ALWAYS wash separately to avoid redepositing soil from one element to the other.

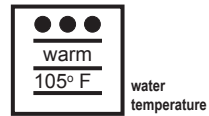
- A. Pretreat heavily soiled Hood following steps in the Spot cleaning and Pretreating procedures, in Sections 8.4-8.6 of this Guide.

### **Machine Settings**

Use a front loading extractor or front loading washing machine with a tumbling action for washing. Do not use a top-loading machine, because it will not wash your Hood as thoroughly, and the agitator may damage the Hood and reduce its durability and protective value.

Use the following machine settings:

- A. Wash temperature should not exceed 105° F (40° C).
- B. Normal Cycle.
- C. Use low extractor speeds less than 100 g's.
- D. Double Rinse Double rinsing removes residual dirt and insures detergent removal. If your machine will not automatically double rinse, a complete second rinse cycle should be run without adding detergent.



### **Wash Procedures**

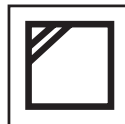
- A. Load machine with Hoods to be washed. Follow machine manufacturer's instructions for proper load size. Overloading the machine can lead to incomplete cleaning and other poor cleaning results.
- B. Add cleaning product per manufacturer's instructions. Never use Chlorine bleach; non-chlorine bleach may be used. Ensure accurate measuring tools are used for correct amount of cleaning product. See Section 8.3 for guidelines on cleaning products.
- C. Set washing machine on normal cycle and start the wash cycle.

## 8.8 DRYING

- A. Remove the Hood from washing machine, and if they are not already inside out from washing, turn them inside out to expose the inner surfaces. Dry by hanging in a shaded area that receives good cross ventilation or use a fan to circulate the air.
- B. Do not use automatic dryers because the mechanical action and excessive heat may damage or shrink your Hood.



line dry/  
hang to dry



in the shade



never  
tumble dry

### **WARNING**

Do not hang the Hood to dry in direct or indirect sunlight, or in fluorescent light. Light will severely reduce the strength of the seams, and will discolor and greatly reduce the strength and protective qualities of the components of the Hood.

## 8.9 DO NOT DRY CLEAN

Never dry-clean your Hood. Dry-cleaning will damage the Hood and reduce its protective qualities.



never  
dry-clean

### **WARNING**

Never Dry-Clean your Hood. Many components will not function if dry-cleaned.

## 8.10 CONTRACT CLEANING

LION recommends that only a LION TotalCare® Center or verified ISP be used for contract cleaning.

## 8.11 HAND WASHING IN A UTILITY SINK

LION does **NOT RECOMMEND** this method for washing your Hood. However, if no other options are available, hand washing is preferable to no washing.

**Preparation:** Before washing, make sure you comply with all federal, state, and local guidelines for handling effluents from utility sinks. Wear rubber Gloves to protect against exposure to contaminants.

**Cleaning Products:** Use same cleaning products as used for machine washing.

**Procedures:** Make sure water temperature does not exceed 105° F (40° C). Using a hand brush, gently scrub surfaces. Overscrubbing may damage your Hood's materials or reduce its useful life.

**Drying:** See Section 8.8 for drying procedure.

8.12 DO NOT BRUSH WASH ON FLOOR OF STATION

LION does **NOT RECOMMEND** brush washing your Hood on the floor of the station because this method is not effective and may damage it.

8.13 DECONTAMINATION AND DISINFECTION

Applicable Standard. You must read and have facilities and procedures in compliance with NFPA 1581 Standard for Fire Department Infection Control Program.

 **WARNING**

Only a trained expert in decontamination should attempt to decontaminate the Hood. Contact a LION TotalCare® Center or verified ISP to seek assistance in determining whether decontamination is possible, and the name of the appropriate organization to perform decontamination.

 **WARNING**

To reduce risk of harm from hazardous substances present in products of fire combustion, hazardous chemicals, and body fluids, you **MUST** wash, decontaminate and/or disinfect your Hood after each exposure to such hazardous substances.

**Preparation:** Remove the contaminated and infected Hood from wearer and from service before beginning. The Hood should remain out of service until decontaminated and disinfected. Wear protective Gloves and appropriate protective clothing and equipment while decontaminating and disinfecting.

**A. Hazardous Substances Present in the Products of Fire Combustion (Soot, Smoke and Debris).**

To reduce the risks associated with exposure to the hazardous substances found in the products of fire combustion, you **MUST** wash, dry and store your Hoods according to the procedures in this section.

**B. Hazardous Chemicals**

1. Hose down the contaminated Hood at the scene to limit further exposure to hazardous chemicals, to limit exposure to others and to limit chemicals from settling into your Hood.
2. **KNOWN MATERIALS:** Contact the source of the materials, your local HAZMAT Team, or the Health Department to determine whether the contaminants are hazardous materials. If the contaminant is known, contact a LION TotalCare® Center or verified ISP to determine the feasibility of decontamination.
3. **UNKNOWN MATERIALS:** If the contaminant is not known, the Hood should remain out of service until the materials are identified. Always demand SDS information and be prepared to share your findings with the LION TotalCare® Center or verified ISP to

decontaminate the Hood. **If your Hood cannot be decontaminated, it must be retired and disposed of in accordance with federal, state and local regulations.**

**C. Blood and Body Fluids**

Place Hoods in bags to limit exposure to others. Contact Lion TotalCare® or a Verified ISP to arrange for disinfection.

**8.14 LAUNDRY SAFETY**

Laundry and Housekeeping Personnel are considered to be among those at risk to not only hazardous materials, but also to bloodborne pathogens primarily by exposure to sharp objects. Your Fire Department should have a Bloodborne Pathogens Written Exposure Control Plan. Part of this plan is decontamination, disinfection, and washing of the Hood, and it should include LAUNDRY ROOM SAFETY PROCEDURES and HOUSEKEEPING SAFETY PROCEDURES. You should follow all appropriate federal, state and local regulations.

**! CAUTION**

Personnel involved in the handling, sorting, bagging, transporting and laundering of the contaminated Hood must wear utility Gloves and appropriate protective clothing to prevent occupational exposure during these activities.

If you have questions concerning the use of a particular disinfectant, contact LION, a LION TotalCare® Center, or verified ISP.

**9. STORAGE**

Store your Hood safely away from:

- Direct or indirect sunlight or fluorescent light that could weaken or damage the materials and components
- Extreme temperatures that could dry or weaken the Hood
- Excessive moisture that could promote rot or mildew. Failure to dry your Hood will result in the growth of mildew and bacteria which could lead to skin irritation, rashes, or may affect the protective qualities of the materials.
- Always clean and dry your Hood in accordance with the Washing Section of this Guide and before long-term storage

**! WARNING**

Avoid storing your Hood in temperature extremes. Repeated cycles of heating and cooling can reduce the protective qualities and useful life of the Hood.

## **WARNING**

NEVER STORE YOUR HOOD IN DIRECT SUNLIGHT, INDIRECT SUNLIGHT OR IN FLUORESCENT LIGHT. Exposure to light (particularly light in the sun's rays and fluorescent light) will severely weaken and damage the components in your Hood after only A FEW DAYS. Install UV filters on fluorescent lights. Damage caused by exposure to light cannot be repaired, nor will the manufacturer cover such damage in its warranty. See the Warranty Section of this Guide for more information.

## **CAUTION**

Do not store your Hood in contact with contaminants such as oils, solvents, acids or alkalis as these can damage the Hood.

## **CAUTION**

Do not store Hoods in air tight containers unless the Hood is new and has not been issued.

## **CAUTION**

Never store your Hood in living quarters with personal belongings, or within the passenger compartment of a vehicle. Prolonged exposure to contaminants remaining in the Hood may increase the risk of cancer or other diseases.

## 10. REPAIR

To inquire on whether a damaged Hood may be repairable, contact a LION TotalCare® Center or verified ISP. REPAIRS SHOULD ONLY BE MADE BY LION TOTALCARE® OR BY A VERIFIED ISP. In some cases the cost of repair may be impractical versus the cost of replacement.

## **WARNING**

Before any repairs are made to your NFPA 1971 Compliant Structural Firefighter Hood, it must be washed, decontaminated, and disinfected in accordance with this Guide to protect workers who alter or repair Hoods from exposure to soils and contaminants.

All major repairs to Hoods should be done by LION TotalCare® or a verified ISP. Major repairs made by any other entity invalidates all warranties and may expose the wearer to hazardous or life threatening conditions.

For a list of LION TotalCare® Centers, visit [www.lionprotects.com/totalcarelocations](http://www.lionprotects.com/totalcarelocations). Call LION at (800) 421-2926 for an updated list of verified ISPs.



## **11. RETIREMENT**

NFPA 1971 performance requirements are based on new, unworn Hoods and composites. Useful life is the period of time that the Hood that has been properly cared for can be expected to provide reasonable limited protection. Useful life of Hoods can be as little as little as 1 year with heavy wear and tear and improper maintenance and/or storage. Useful life can be as long as 2 to 3 years if Hoods have been subject to relatively lower levels of wear and tear and have been consistently maintained in a regular cleaning and maintenance program and stored properly. In compliance with NFPA 1851, structural firefighting Hoods must be retired no more than 10 years from the date of manufacture. You must retire Hoods that have been exposed to hazardous materials or that fail to pass the inspection procedures defined by NFPA 1851, your fire department and that, in the judgment of your fire department, cannot economically be repaired. Hoods should be retired when the costs of repair would exceed 50% of the replacement cost.

## **12. DISPOSAL**

Retired uncontaminated Hoods must be destroyed to prevent their unauthorized or mistaken use. Cut them into several pieces and dispose of properly. One suggested method of disposal is a landfill.

Retired Hoods that are contaminated with blood or body fluids or hazardous chemicals should be placed in a plastic bag and properly disposed of. Follow federal, state, and local regulations governing disposal of contaminated materials.

### 13. LIMITED LIFETIME PRODUCT WARRANTY

LION warrants that its firefighter and emergency responder products meet all applicable NFPA standards in effect at the time of their manufacture and further warrants that such products are free from any defect in workmanship or any material defect.

Conditions of use are outside the control of LION. It is the responsibility of the user to inspect and maintain the products to assure they remain fit for its intended purpose. In order to maintain the warranty, the products are to be used only by appropriately trained personnel following proper firefighting or emergency response techniques and in accordance with the product's warning, inspection, maintenance, care storage and retirement instructions. Failure to do so will void the warranty.

EXCEPT AS SET FORTH ABOVE, LION MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE.

Under the above warranties, LION will repair or replace, at its option, any protective product which does not meet the above warranties. Such repair or replacement will be purchaser's sole remedy, and LION will not be responsible for any incidental, consequential or other damages based upon or arising in any way from any breach of the warranties contained herein, or purchaser's use of such product.

These warranty obligations apply only to any product, part, or component which is returned to LION or a LION TotalCare Center with prior authorization and proof of purchase, and which LION agrees to be defective as covered by this warranty.

The word "product" includes the product itself and any parts or labor furnished by LION with the sales, delivery, or servicing of the product.

DEFECTS IN WORKMANSHIP AND MATERIALS: Poorly manufactured items, including seams, stitching or other irregularities in their manufacture.

#### EXCEPTIONS TO LIMITED WARRANTY

This limited warranty does not cover the following items after receipt of products by end user:

- A. Claims made after 60 days from the date of shipment for damage caused by shipment;
- B. Damage or color change from exposure of materials to direct or indirect sunlight or fluorescent light;
- C. Shade variations among textiles used, or shade changes caused by wear-and-tear or washing;
- D. Color loss due to abrasion ;
- E. Damage caused by improper washing, decontamination, disinfection or maintenance (for example, use of chlorine or petrochemicals to clean);
- F. Damage caused by repair work not performed to factory specification;
- G. Damage from routine exposure to common hazards which may cause rips, tears, burn damage, or abrasion, including accelerated wear and tear caused by exposure to frequent, repeated training exercises;
- H. Loss of retroreflectivity of reflective trim due to normal wear or heat exposure;
- I. Detachment of reflective trim due to heat exposure or adhesive failure;
- J. Replacement of fasteners damaged by normal wear and tear;
- K. Loss of hardware caused by normal wear and tear.

# 14. INSPECTION, CLEANING, REPAIR, RETIREMENT AND DISPOSAL RECORD

Hood ID \_\_\_\_\_ Model \_\_\_\_\_ Date of Hood Manufacture \_\_\_\_\_

In the spaces below, note the activities performed on your Hood during its wear life.  
 Types of activities can include: Routine or Advanced Inspection; Cleaning; Decontamination; Repair; Alteration; Removal from Service; Retirement; Disposal, etc.

Date of Activity	Type of Activity	Reason for Activity	Description of Repair, Inspection Findings, etc.	Location on Hood	Inspection/Cleaning/Repair Site	Activity Performed By	Date Returned to Service

Date of Retirement \_\_\_\_\_ Date and Method of Disposal \_\_\_\_\_

**NOTES:**

Earn your LION  
NFA 1500 PPE Safety  
and Use Certificate



## PERSONAL RESPONSIBILITY CODE



The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. Firefighting and Emergency Response are inherently dangerous activities requiring proper training in their hazards and the use of extreme caution at all times.
2. It is your responsibility to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called on to use.
3. It is your responsibility to know that you have been properly trained in Firefighting and/or Emergency Response and in the use, precautions and care of any equipment you may be called upon to use.
4. It is your responsibility to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.
5. It is your responsibility to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.
6. Failure to follow these guidelines may result in death, burns, injury, diseases, and illnesses.



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