



VIKING FIRE

We're right beside you

Protective Garment for Structural Fire Fighting

This booklet provides the end user with important safety, use, care and maintenance information and should be retained for further reference.

To be removed by the end user only.



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Introduction

Thank you for selecting VIKING LIFE-SAVING EQUIPMENT's Fire Fighters Protective Garments. VIKING fire suits are UL tested and comply with NFPA for Structural Fire Fighting. VIKINGs quality system is ISO 9001 certified.

We at VIKING are dedicated to providing emergency service personnel with reliable, quality protective clothing for structural fire fighting.



These instructions are provided for your safety. Upon receipt, remove and carefully review these instructions. Retain these instructions for future reference, and for training as required by 29 CFR, 1910.132, and NFPA 1500.

WARNING

- **This booklet shall be removed by the end user only; it contains important information for the safe use, care and maintenance of the attached garment.**
- **Always inspect your protective equipment prior to use.**
- **Always follow manufacturer's instructions and recommendations.**
- **This garment is approved for structural fire fighting only.**
- **Make sure that the garment is clean, dry and in good repair prior to use.**
- **If the outer shell or the liner of your garment is detachable, the purpose of this function is e.g. separate cleaning, partial replacement or the like. Never use only a single layer during firefighting. Be sure to wear the entire composite in order to obtain full protection.**
- **Use must be 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.**

PROTECTIVE COAT AND TROUSERS OVERLAP

An ensemble of coat and trousers may be unsafe if the overlap of all protective layers (liners) is not sufficient to prevent caps forming during firefighting operations.

It is the responsibility of the user of this suit to verify that the overlap of the protective layers is a minimum of 5 cm while (page 7) reaching high overhead and bending over forwards.

1. Pre-Use Instructions



WARNING

The user must be fully trained in the care, use, inspection, maintenance, and limitations of the protective clothing.

1.1 SAFETY CONSIDERATIONS

- 1.1.1 Prior to use, you must complete proper training, and obtain documentation of proper training.
- 1.1.2 Inspect the garment to ensure that it is clean, dry, and in good repair before putting it on.

1.2 LIMITATIONS OF USE

- 1.2.1 This garment has been approved, designed and manufactured for Structural Fire Fighting activities.
- 1.2.2 This garment is intended to provide limited protection for arms, torso and legs during the activities of structural fire fighting.
- 1.2.3 This garment will provide limited protection from heat, flame, water and cold weather.
- 1.2.4 The garment is not to be used for protection during Proximity fire fighting or Entry fire fighting and does not provide protection against chemicals, biological, or radiological agents.
- 1.2.5 Do not use this garment for direct contact with flames or molten metal. Do not use this garment if it is damaged or dirty as protection is reduced.
- 1.2.6 Fire fighters should be aware that this protective clothing will not protect them against every hazard (see 1.2.2-1.2.4 above).
- 1.2.7 The moisture barrier has not been evaluated for all chemicals that can be encountered during fire-fighting operations. If in doubt, the effects of chemical exposure on the moisture barrier are to be evaluated per the inspection procedures in NFPA 1851.

1.3 GARMENT MARKING RECOMMENDATIONS AND RESTRICTIONS

- 1.3.1 Each garment element has a product label attached.
- 1.3.2 Read the product labels; together with the user instructions, they provide important information.

- 1.3.3 Each label provides information on the manufacture and date of manufacture, certifications, washing instructions and size.
- 1.3.4 These labels must not be removed and must remain legible.
- 1.3.5 Do not add any marking that will cover or make the product label illegible.
- 1.3.6 Never add markings to the garment fabrics; they might change the performance properties of the fabric.

1.4 PERFORMANCE PROPERTIES OF THE GARMENT

- 1.4.1 Most of the performance properties of this garment should not be tested by the user in the field. These tests require specialized lab equipment and must be conducted in a controlled environment.
- 1.4.2 The user is required to inspect the garment prior to use, to insure that there are no visible, abnormal conditions existing with the garment.
- 1.4.3 If you are unsure of the condition of the garment or have questions about its performance properties, please contact us for assistance.

1.5 WARRANTY INFORMATION

1.5.1 WARRANTY

VIKING LIFE-SAVING EQUIPMENT warrants its fire fighter garments to be free from defects in workmanship and materials for 3 years from date of purchase provided the garment is properly used and maintained in accordance with the user instructions attached to this garment.

Our obligation under this warranty is to repair or replace the garment if defects are determined to be present. The garment must be returned to VIKING (to the address below) at the buyer's expense and the buyer must get advance approval from VIKING to return the garment. When received, the garment will be evaluated by VIKING, who will determine the appropriate action and inform the buyer of the disposition.

We recommend that a garment should be retired when the cost of repair would exceed 50% of the replacement cost.

The term defect refers to defective seams, defective stitching, loose or broken zippers, loose or broken snaps, and materials which have flaws such as holes, weak areas, pilling or irregularities.

This warranty does not cover damage due to exposure to ultraviolet light, chemicals, loss of performance due to normal wear or heat exposure, common fire environment hazards or improper use, storage, care or maintenance.

VIKING makes no other warranty of any kind, whether expressed or implied, with respect to its products, and specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. Except for the obligations specifically set forth in this warranty statement, in no event shall VIKING LIFE-SAVING EQUIPMENT be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort or any other legal theory and whether advised of the possibility of such damages.

If you believe the garment to be defective in accordance with the above criteria, please contact VIKING for prior authorization and return garments to:

VIKING Life-Saving Equipment A/S
Saedding Ringvej 13
6710 Esbjerg V
Denmark
Tel. +45 7611 8100

2. Preparation for use



WARNING

Wearing the proper size is essential to your safety. The garment should fit well, neither too tightly nor too loosely. Pant legs should not drag the ground and the length of the sleeve should match the wearer's arm length.

2.1 SIZING / ADJUSTMENT

- 2.1.1 In reference to sizing, NFPA 1500 A-5-2.1.4 states:
Properly fitting protective clothing is important for the safety of the fire fighter. All protective clothing must be correctly sized to allow for freedom of movement. Protective garments that are too long or too short are safety hazards and should be avoided. Protective coat sleeves should be of sufficient length and design to protect the coat/glove interface area when reaching overhead or to the side. To ensure a proper fit, contact the protective clothing manufacturer for sizing instructions.
- 2.1.2 Interface issues: Each user will require a properly sized garment, and sizes will vary from user to user. You could find that within your organization there are different garments and sizes. It is each user's responsibility to ensure that he/she has selected properly sized and compatible garments prior to participating in structural fire fighting activities, and to ensure that there is sufficient overlap between the coat and pants. The checking of overlap is to be performed in accordance with the NFPA 1500. There must be an overlap of at least 2 inches

(5.08 cm) of all layers of the protective coat and the protective pants so there is no »gaping« of the total thermal protection when the protective garments are worn. The minimum overlap must be determined by measuring the garments on the wearer, without Self-Contained Breathing Apparatus, in both of the following positions:



Position A: Standing, hands together, reaching overhead as high as possible.



Position B: Standing, hands together, reaching overhead with body bent forward, to the side, and to the back as far as possible.

2.1.3 The pants' waists have elastic intakes, and suspenders provide some adjustment in the fit of the pants. Apart from these features, proper adjustment should be made by properly fitting the garment.

2.2 RECOMMENDED STORAGE

- 2.2.1 Proper storage can help ensure that the garment will be in proper condition prior to use and will extend the life of the garment.
- 2.2.2 Always be sure that the garment is clean and dry prior to storage.
- 2.2.3 Store the suit in a plastic bag or on a hanger in a dry room.
- 2.2.4 Make sure that the storage area is free of protruding objects that could damage the garment.
- 2.2.5 Make sure that the storage area has good ventilation.
- 2.2.6 The storage area must not expose the garment to temperature extremes.
- 2.2.7 Do not store in direct sunlight.
- 2.2.8 Do not store in direct fluorescent light.
- 2.2.9 Ultraviolet light will damage the fabric.
- 2.2.10 Do not store in close proximity to people.

3. Inspection

3.1 INSPECTION SCHEDULE AND REQUIREMENTS

- 3.1.1 Inspect the garment upon arrival.
- 3.1.2 Inspect the garment prior to each use.
- 3.1.3 The fire department should inspect each garment at least annually to ensure that:
 - 3.1.3.1 All materials are free from tears, embrittlement, and fraying.
 - 3.1.3.2 Seams are intact and show no sign of excessive wear.
 - 3.1.3.3 Reflective trim is intact and shows no sign of abrasion or loss of reflectivity due to heat exposure.
 - 3.1.3.4 All pockets, knee pads, and other accessory items are firmly attached to the garment and show no sign of excessive wear.
 - 3.1.3.5 Sleeve and pant cuffs show no sign of fraying.
 - 3.1.3.6 The entire garment is free from excessive dirt and stains.
 - 3.1.3.7 Where a fabric color change is noted, (a condition that may result from high heat exposure, ultraviolet exposure, frosting, chemical contamination, etc.) the entire area must be checked for loss of tear strength.
- 3.1.4 Inspect the garment after each use.
- 3.1.5 Inspect the garment after cleaning and drying.
- 3.1.6 Inspect the garment after performing any repairs.
- 3.1.7 Inspection steps:
 - 3.1.7.1 Work in an area with good lighting and adequate room to spread out the garment.
 - 3.1.7.2 Disassemble the garment, remove the knee pads.
 - 3.1.7.3 Examine all labels. Make sure that they are securely in place and legible.
 - 3.1.7.4 Examine the shell, moisture barrier and thermal barrier fabric, to make sure they are free from dirt, grease or other foreign substances on the fabrics. Check for holes, rips, embrittlement, burns or discoloration. Check thread and seam integrity. Make sure the thermal barrier material and the knee pads have not lost their thickness.
 - 3.1.7.5 Check the zipper operation. Check to make sure that all hook and loop fasteners hold properly.

- 3.1.7.6 Check wristlets to make sure they have retained their shape and elasticity.
- 3.1.7.7 Check the retro-reflective trim with a flashlight to make sure that it has maintained its retro-reflective properties.
- 3.1.7.8 Correct any deficiencies and record your findings on the inspection report.
- 3.1.7.9 In addition to the above general inspection items, check these specific areas:

Outer shell

- damage to pockets
- hardware
- seam integrity
- closure system
- DRD

Moisture barrier and thermal liner

- delamination of seam seals
- seam integrity
- attachment system to outer shell

Protective wristlets (coat only)

- shrinkage
- loss of elasticity
- seam integrity

Suspenders (pant only)

- shrinkage
- loss of elasticity
- seam integrity
- proper installation
- hardware

- 3.1.7.10 Document all inspections, your findings, and any action taken. If you have questions about a garment's suitability for continued use, check with your supervisor, or contact your VIKING distributor.

4. Putting on and taking off the garments

4.1 PROCEDURES FOR PUTTING ON AND TAKING OFF THE GARMENTS

4.1.1 Putting on the garments:

- 4.1.1.1 Inspect the complete garment.
- 4.1.1.2 Put pants on first, open the suspender and hook and loop fastener on the fly, open the zipper.
- 4.1.1.3 Step into the pants.
- 4.1.1.4 Close the zipper and fasten the hook and loop on the fly and, if any, snap the reverse hook into the dee ring.
- 4.1.1.5 Attach the suspenders and adjust them until the pants crotch is comfortable and snug. The pants leg hem should hang between 2 and 5 inches from the floor.
- 4.1.1.6 Put on your boots.
- 4.1.1.7 Put on your coat.
- 4.1.1.8 Close the zipper on the coat, fasten the hook and loop closure over the zipper and, if any, close all hooks and dees.
- 4.1.1.9 Adjust the throat strap and fasten the hook and loop closure.
- 4.1.1.10 Have someone check to ensure that your garments are properly fitted.

4.1.2 Taking off the garments

- 4.1.2.1 Make sure you are in a safe area.
- 4.1.2.2 After removing all other components, carefully remove your coat and pants by reversing the above instructions.
- 4.1.2.3 Contamination of the garments is the major consideration at this point. Avoid any contact with any type of contamination. If contamination has occurred, put the garments into a plastic bag and mark the bag with any information you have about the nature and date of contamination, and sign. You must promptly have any contaminated garments decontaminated and cleaned.

5. Use

5.1 PROPER USE 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 1, "PERSONAL PROTECTION EQUIPMENT"

- 5.1.1 Refer to NFPA 1500 for details of Protective Clothing Standard.
- 5.1.2 Refer to 29 Code of Federal Regulation part 1910, 132 General Requirements Subpart I, Personal Protective Equipment for details on the regulation.
- 5.1.3 All garment closures must be fastened when in use.



CAUTION

Fire suits are tested and approved as a unit (coat & pants) and should always be used as such. Liner must be properly attached to the garment to provide protection.



WARNING

No protective clothing provides complete protection from all conditions. Employ the greatest care in all emergency situations. Failure to comply with these warnings and instructions may result in injury or death.

5.2 DRAG RESCUE DEVICE

- 5.2.1 This fire-fighting jacket is equipped with a Drag Rescue Device (DRD). This device is attached and is an integral part of the jacket assembly. It is not to be removed from the jacket for any reason other than for replacement.
Replacement may only be carried out by a VIKING authorized repair facility using only genuine VIKING replacement parts.

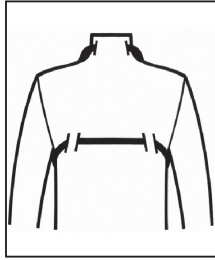
INSTALLATION

Ensure the DRD is mounted correctly before use.

Reverse side of
outer shell
"Front"



Reverse side of
outer shell
"Back"



5.2.1.1

Ensure the DRD is mounted through the straps on the reverse side of the outer shell and around the sleeves. Ensure the DRD seam is intact and that the webbing is not torn.

Mount the inner liner in the outer shell.

5.2.1.3

Pull the DRD webbing into the suit.

5.2.1.4

Close the protection flap.

USER INSTRUCTION

The DRD is manufactured from high strength Kevlar. It is designed to help other crew members drag a fire-fighter to a place of relative safety in an emergency. This device should not be used for drill purposes. Continuous use of the device may cause damage to other components of the assembly, such as the moisture barrier.



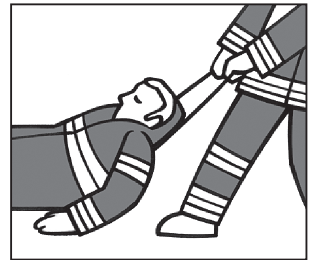
5.2.1.5

Open the flap in the neck and pull out the DRD in its full length.



5.2.1.6

Place the injured person in a face up position.



5.2.1.7

Pull the injured person backwards.

6. Maintenance and cleaning

6.1 CLEANING INSTRUCTIONS, PRECAUTIONS, AND WARNING AGAINST USING GARMENTS THAT ARE NOT THOROUGHLY CLEANED AND DRIED

6.1.1 Under normal conditions, garments should be cleaned and dried no less than every six months, and must always be cleaned immediately after contamination. Under extreme conditions, garments should be cleaned and dried as appropriate to such conditions. Garments should not be taken home, to a laundromat, to a dry cleaner or be washed in home laundries.

6.1.2 Machine Washing Garments:

6.1.2.1 Remove items such as knee pads, snap hook, DRD etc., before washing.



CAUTION

Use front-loading machines only and avoid using an agitator. Top-loaded, agitating machines have the potential to reduce the longevity of the garment due to mechanical damage to the shell and/or the attachments.

6.1.2.2 Pre-treat any heavily soiled places.

6.1.2.3 Close all zippers, hook and loop fasteners, and snaps.

If the outershell is washed without the lining, it's important to prevent damage to the fabric caused by "open" velcro (hook). Cover "open" velcro (hook) with the soft velcro (loop) that was delivered with this User Instruction. Be sure to cover "open" velcro both on the inside of the collar and on the inside of the front.

6.1.2.4 Put garments into a laundry bag for washing.

6.1.2.5 Do not overload the washer.



6.1.2.6 Washing in temperatures of 40°C / 100°F, using the "permanent press" setting.

6.1.2.7 Rinse at least twice.



6.1.2.8 DO NOT USE CHLORINE BLEACH.

6.1.2.9 Off-the-shelf cleaning detergents may be used (liquid Tide, Cheer, Fab, or granulated detergents).

6.1.2.10 Pre-treatment can be done with common off-the-shelf items (Shout, Spray and Wash) or soaking in liquid detergents. Using a soft bristle brush will aid in removing hard-to-clean contamination. Be especially careful with liner and moisture barrier.

6.1.2.11 Mild detergents with a pH range of not less than 6.0 pH and not greater than 10.5 pH as indicated on the product MSDS or original product container shall be used. Protective gloves and eye/face splash protection should be worn.

6.1.2.12 If washed without the outer shell, remember to remove the soft velcro (loop) from the inside of the collar and on the inside of the front after washing and save it for the next machine wash. Attach the inner lining before use.

6.1.3 Drying garments

6.1.3.1 To dry the garment turn inside out.

6.1.3.2 Hang the garment in a well ventilated, shaded area. You can speed dry by using mechanical ventilation.

6.1.3.3 Do not dry the garment in direct sunlight, under fluorescent light or UV light.



6.1.3.4 Tumble dry at low heat (not exceeding 55°C / 130°F)



6.1.3.5 Do not steam at permanent press setting.

6.1.3.6 Always inspect garments before returning them to service; see inspection steps under section 3.1.7

6.1.4 Dry cleaning:



6.1.4.1 Do not dry clean.

6.2 MAINTENANCE CRITERIA AND METHODS OF REPAIR, WHERE APPLICABLE

6.2.1 Before maintenance or repairs, the garment must be cleaned and dried.

6.2.2 Use only authorized VIKING service centers to make repairs or alter the garment.

6.2.3 Contact VIKING for the nearest authorized service center for repairs and modifications.

6.2.4 Any modification or repair by anyone other than authorized service centers will void all warranties, expressed or implied.

6.3 DECONTAMINATION PROCEDURES FOR CHEMICAL AND BIOLOGICAL CONTAMINATION

6.3.1 The safety of the cleaning personnel is paramount. All persons will wear appropriate personal protective equipment during decontamination of garments.

6.3.2 The garment should be delivered to the cleaning area in a plastic bag, marked with information showing the type and date of contamination, and signed by sender.

- 6.3.3 Remove the contaminated garment, using appropriate personal protective equipment.
- 6.3.4 Use appropriate disinfectant for the decontamination, use registered disinfectants only and always read the material safety data sheet prior to use.
- 6.3.5 To disinfect blood and body fluids, use the spot cleaning instructions above, but use the proper disinfectant. Then follow the washing instructions.
- 6.3.6 If a hazardous chemical is present, research the approved method for decontamination of that chemical and follow those instructions. If it is an unknown substance, have the garment tested and follow the recommendations for decontamination of the found substance.

7. Retirement and disposal

7.1 RETIREMENT AND DISPOSAL CRITERIA AND CONSIDERATIONS

- 7.1.1 We recommend that a garment be removed from service when it is determined to be unsafe or the repair cost exceeds 50% of the replacement cost.
- 7.1.2 Inspection for compliance with these retirement criteria should be part of your normal inspection process. Inspection of the garment should be conducted on a frequent basis to assure the garment's continued suitability for use.
 - 7.1.2.1 All material should be free from tears, embrittlement, and fraying.
 - 7.1.2.2 Seams should be intact and show no sign of excessive wear.
 - 7.1.2.3 Reflective trim should show no sign of abrasion or loss of reflectivity due to heat exposure.
 - 7.1.2.4 All pockets, knee pads, and other accessory items should be firmly attached to the garment and show no sign of excessive wear.
 - 7.1.2.5 Sleeve and pant cuffs should show no sign of fraying.



WARNING

Always follow State and Federal regulations when disposing of garments.



DISCOVER THE VIKING ADVANTAGE

visit www.viking-FIRE.com

MEET US HERE



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