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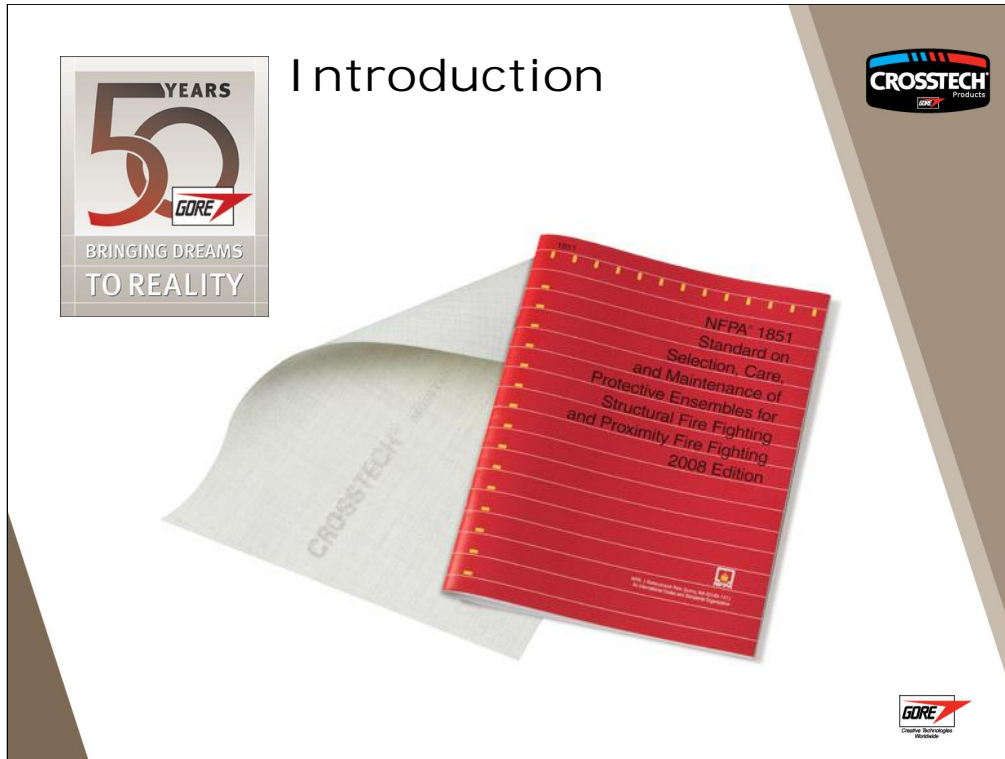


# NFPA 1851 INSTRUCTIONAL PROGRAM

*Abbreviated printable version to electronic program*

## OVERVIEW MODULE





Welcome to W. L. Gore & Associates' instructional program about meeting the requirements of the NFPA 1851–2008 edition standard for Gore's Moisture Barrier products.

As part of W. L. Gore's 50-year heritage, the company has worked closely with the fire protection industry for over 25 years to provide the most breathable and most effective moisture barriers for firefighters.

Throughout this relationship, Gore's barriers – and now, specifically CROSSTECH® Moisture Barriers - have continued to meet and raise the expectations of the firefighting industry with respect to breathability and total heat loss without compromising thermal protection.

# Introduction

## Department Decisions

- Compliance responsibilities
- Internal procedures versus contacted ISP
- Employee training



Recently, the latest edition of the NFPA 1851 standard — the 2008 edition — instituted a new emphasis on the durability of structural and proximity fire fighting ensembles. As with all products, turnout gear, its material components, and other ensemble elements, all wear out with use. The new NFPA 1851 Standard now requires a more rigorous inspection of the overall garment, and specifically for the liner systems, it requires a more intensive evaluation that reveals additional pinhole leaks or other concerns that are in need of repair.

The implementation of NFPA 1851 – 2008 will not be easy and will require a steep learning curve throughout the fire industry. Each department will face new decisions — decisions like how to assign the various compliance responsibilities, how much of the compliance work to do within the department, whether to contract with an Independent Service Provider to provide all or part of the services needed, or how to train all personnel on their individual responsibilities.

In an effort to assist the fire service industry in this transition, W. L. Gore & Associates has developed this program addressing the implications of compliance with this updated NFPA standard. It is specifically designed to educate you regarding the inspection, testing, and repair of our CROSSTECH® and GORE® moisture barriers. Other moisture barriers have different materials of construction and different physical and performance characteristics, which will require different repair protocols.

## In this module, you will learn about...

- Organization of program
- Considerations for selecting the right moisture barrier for your department
- The purpose of the standard
- Information you can find in NFPA 1851–2008 edition and how it relates to moisture barriers
- Definitions of terms used in this program



This module introduces you to the NFPA 1851–2008 edition standard and how it relates to moisture barriers.

## Navigating This Program

- To start a new module, click the name of the module at the top of the screen.
- To start or review a specific section of a module, click on the section name in the menu on the left.
- After reviewing a screen, select 'Click to Continue' at the bottom to continue the module.
- To exit from the program, press Escape.



Your options for moving around in this program are similar to those used in any computer-based program. For a complete list of navigating options, review the printable pdf file on this CD.

## Program Sequence

- Cleaning
- Inspection
- Testing
- Repair
- Verification

This program does not address

- Glove moisture barriers
- Footwear moisture barriers
- CBRN garments



This program explains the impact of the new NFPA 1851–2008 edition on the care and maintenance you must provide for your CROSSTECH® moisture barrier used in protective garments worn for structural firefighting. To gain the most benefit from this program, you should progress through all of the modules in the following order: The Cleaning module, which covers the considerations and impact of cleaning and decontamination on CROSSTECH® moisture barriers. The Inspection module, which provides procedures for inspecting the moisture barrier for compliance with NFPA 1851-2008 edition. The Testing module, which gives detailed instructions for performing all tests on the CROSSTECH® moisture barrier to ensure compliance with the standard. The Repair module, which details the procedures for repairing different damaged areas of CROSSTECH® moisture barriers. The Verification module, which covers the process for becoming verified to repair moisture barriers.

## Preparation

- Become familiar with NFPA 1851–2008 edition and the NFPA 1971–2007 edition
- Cleaning all garment elements
- Read the operators' manuals for all equipment

## Selection Guidelines

- Review standards and federal and state requirements
- Perform risk assessment
- Develop protocols for any field testing
- Develop a product specification
- Review Section 5.1.3 of this standard



Before performing any of the activities described in this program, consider the following:

Make sure you are familiar with both the NFPA 1851–2008 edition and the NFPA 1971–2007 edition standards.

Clean and decontaminate any garment component that you will be handling.

Read the operators' manuals thoroughly for any of the equipment you will be handling. Several of the tests described in this program require that you use electrical equipment and water at the same time. If you are not familiar with the safety measures you should be following, you could be seriously injured.

Selection guidelines for new protective gear include the following steps: review NFPA standards, OSHA standards, and any applicable federal and state requirements to identify those requirements with which you must comply; perform a comprehensive risk assessment to determine which criteria are most important for your department's safety; determine if field testing is necessary, and if so, develop the protocols for the tests; develop a product specification, ensuring that each component has received third-party certification. For specific information on selecting a moisture barrier, see section 5.1.3 of NFPA 1851–2008 edition.

## Gore's Moisture Barrier Products



CROSSTECH® 2-Layer  
Moisture Barrier



CROSSTECH® 3-Layer  
Moisture Barrier



GORE™ RT7100  
Moisture Barrier

*Unless otherwise noted, references to CROSSTECH® moisture barrier in the remaining part of this module refer to all types of products in Gore's moisture barrier product family.*



Gore provides these three different moisture barrier products because the environment in which departments work are not all the same. For example, some departments may respond to multiple high-rise fires in a large urban setting, while other departments respond more frequently to automobile accidents and an occasional house fire.

GORE™ Moisture Barrier products include:

CROSSTECH® 2-Layer moisture barrier, which provides the highest total heat loss and thermal protection combinations available;

CROSSTECH® 3-Layer moisture barrier, which provides the best durability and THL TPP combinations possible; this moisture barrier is ideal for those firefighters who want the highest durability in the most rigorous situations; and

GORE™ RT7100 moisture barrier, which is a reliable combination of breathability, thermal stability, and liquid penetration resistance unmatched in its price range.

## Related Standards

- NFPA 1851–2008 Edition
- NFPA 1971–2007 edition — product standard
- NFPA 1851–2008 edition — user

### Purpose of NFPA 1851–2008 edition

- Identify process for selecting gear
- Reduce risks from poorly maintained PPE
- Establish criteria for retiring PPE



As a companion to NFPA 1971–2007 edition standard, NFPA 1851–2008 edition standard specifies compliance criteria for selection, care, and maintenance of protective gear. While NFPA 1971 is a product standard, NFPA 1851 is a user standard, which means that the user is responsible for compliance, not the manufacturer. The purpose of the NFPA 1851–2008 edition standard is three-fold: first, to delineate considerations for selecting gear; second, to reduce the safety and health risks that result from poorly maintained and contaminated protective gear; and third, to establish criteria for retiring protective gear.

## NFPA 1851–2008 Edition Moisture Barrier-Specific Content Covered in This Program

- Inspection
- Cleaning and Decontamination
- Repair
- Verification
- Test Procedures



This instructional program covers the moisture barrier aspects contained in the following chapters: inspection, cleaning, repair, verification, and test procedures.

## Terms Used

- Element — the products that make up the complete protective ensemble, including coat, pants, gloves, footwear, helmet, hood, etc.
- Component — the different parts of each element of the protective ensemble. For instance, a coat contains an outer shell, a moisture barrier, a thermal liner, and protective trim
- Liner system — the thermal barrier and moisture barrier components as used in a garment
- Seam-taped side of moisture barrier — the side of the moisture barrier where the seam tape is applied
- Independent Service Provider (ISP) — a third-party organization that provides any combination of advanced cleaning, advanced inspection, and repair services

