

# USER INSTRUCTION, SAFETY AND TRAINING GUIDE



HAIX® NFPA Compliant Footwear Models

**FIRE HUNTER® XTREME**  
**FIRE HUNTER® USA**  
**FIRE FLASH® XTREME**  
**FIRE HERO® XTREME**  
**FIRE EAGLE® AIR**  
**SPECIAL FIGHTER® USAR**  
**AIRPOWER® XR1**  
**AIRPOWER® XR2**  
**AIRPOWER® XR2 WINTER**  
**AIRPOWER® R2**  
**BLACK EAGLE® SAFETY 55 MID SIDE ZIP**  
**MISSOULA 2.1**

**NFPA 1971:** Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 edition

**NFPA 1992:** Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies, 2018 Edition

**NFPA 1999:** Standard on Protective Clothing and Ensembles for Emergency Medical Operations, 2018 edition

**NFPA 1951:** Standard on Protective Ensembles for Technical Rescue Incidents, 2013 edition

**NFPA 1977:** Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2016 edition

**NFPA 1851:** Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire fighting and Proximity Fire fighting, 2014 edition

**ASTM F2413-2018:** Standard Specification for Performance Requirements for Protective (safety) Toe Cap Footwear, 2018 edition.

**ASTM F2892-2018:** Standard Specification for Performance Requirements for Soft Toe Protective Footwear (Non-Safety / Non-Protective Toe)

**CSA-Z195-2014:** Standard for Protective Footwear

## **DANGER**

- This Guide should be removed only by the end user!  
In the event this Guide becomes detached from the Footwear, turn this Guide in to the authorities responsible for the care and maintenance of the Footwear.
- **You MUST read this Guide and all Footwear 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 degrees F.
- Fire burns at temperatures up to 2000 degrees F or higher.
- This Footwear provides limited protection against heat and flame. While wearing this Footwear, you may be burned without heat sensation or warning in some circumstances, and without any sign of damage to the Footwear.

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
 **ASTM F2413-11**  
**M I/75/C/75**  
**PR**

PROTECTIVE FOOTWEAR FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1992-18, CSA Z195-14 AND ASTM F2413-11.

**Fire Hunter Xtreme**  
Article: 501605 Production Date:

DO NOT REMOVE THIS LABEL  
**MADE IN CROATIA**

MATERIAL: LEATHER, CROSSTOCH FABRIC/FIRE: RUBBER OUTSOLE  
HMX Schuhe Prod.- u. Vertriebs GmbH  
Auhofstrasse 10  
84048 Mainburg, GERMANY  
CLEANING: HAND WASH WITH WARM WATER

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE FOOTWEAR REQUIREMENTS OF NFPA 1971, 2018 EDITION.  
THIS LIQUID-SPLASH PROTECTIVE FOOTWEAR MEETS THE BASIC REQUIREMENTS OF NFPA 1992, STANDARD ON LIQUID-SPLASH PROTECTIVE ENSEMBLES AND CLOTHING FOR HAZARDOUS MATERIALS EMERGENCIES, 2018 EDITION AND FOR THE ADDITIONAL REQUIREMENT IF INDICATED BELOW.

ADDITIONAL REQUIREMENT	Yes	No
LIMITED CHEMICAL FLASH FIRE PROTECTION FOR ESCAPE ONLY IN THE EVENT OF A CHEMICAL FLASH FIRE.		X

THE TECHNICAL DATA PACKAGE CONTAINS INFORMATION ON CHEMICALS AND SPECIFIC CHEMICAL MIXTURES FOR WHICH THIS FOOTWEAR IS CERTIFIED. CONSULT TECHNICAL DATA PACKAGE AND MANUFACTURERS INSTRUCTIONS BEFORE USE.

DO NOT REMOVE THIS LABEL

Engineered by HMX Germany  

US-Size
9 M

 Made in Croatia  
  
 999990901001  
 Auhofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
 **ASTM F2413-11**  
**M I/75/C/75**  
**PR**

PROTECTIVE FOOTWEAR FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1992-18, CSA Z195-14 AND ASTM F2413-11.

**Fire Hunter USA**  
Article: 502004 Production Date:

DO NOT REMOVE THIS LABEL  
**MADE IN CROATIA**

MATERIAL: LEATHER, CROSSTOCH FABRIC/FIRE: RUBBER OUTSOLE  
HMX Schuhe Prod.- u. Vertriebs GmbH  
Auhofstrasse 10  
84048 Mainburg, GERMANY  
CLEANING: HAND WASH WITH WARM WATER

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE FOOTWEAR REQUIREMENTS OF NFPA 1971, 2018 EDITION.  
THIS LIQUID-SPLASH PROTECTIVE FOOTWEAR MEETS THE BASIC REQUIREMENTS OF NFPA 1992, STANDARD ON LIQUID-SPLASH PROTECTIVE ENSEMBLES AND CLOTHING FOR HAZARDOUS MATERIALS EMERGENCIES, 2018 EDITION AND FOR THE ADDITIONAL REQUIREMENT IF INDICATED BELOW.

ADDITIONAL REQUIREMENT	Yes	No
LIMITED CHEMICAL FLASH FIRE PROTECTION FOR ESCAPE ONLY IN THE EVENT OF A CHEMICAL FLASH FIRE.		X

THE TECHNICAL DATA PACKAGE CONTAINS INFORMATION ON CHEMICALS AND SPECIFIC CHEMICAL MIXTURES FOR WHICH THIS FOOTWEAR IS CERTIFIED. CONSULT TECHNICAL DATA PACKAGE AND MANUFACTURERS INSTRUCTIONS BEFORE USE.


DO NOT REMOVE THIS LABEL

Engineered by HMX Germany  

US-Size
9 M

 Made in Croatia  
  
 999990901001  
 Auhofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
 **ASTM F2413-11**  
**M I/75/C/75**  
**EH PR**

PROTECTIVE FOOTWEAR FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1992-18, CSA Z195-14 AND ASTM F2413-11.

**Fire Eagle AIR**  
Article: 507502 Production Date:

DO NOT REMOVE THIS LABEL  
**MADE IN CROATIA**

MATERIAL: LEATHER, CROSSTOCH FABRIC/FIRE: RUBBER OUTSOLE  
HMX Schuhe Prod.- u. Vertriebs GmbH  
Auhofstrasse 10  
84048 Mainburg, GERMANY  
CLEANING: HAND WASH WITH WARM WATER

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE FOOTWEAR REQUIREMENTS OF NFPA 1971, 2018 EDITION.  
THIS LIQUID-SPLASH PROTECTIVE FOOTWEAR MEETS THE BASIC REQUIREMENTS OF NFPA 1992, STANDARD ON LIQUID-SPLASH PROTECTIVE ENSEMBLES AND CLOTHING FOR HAZARDOUS MATERIALS EMERGENCIES, 2018 EDITION AND FOR THE ADDITIONAL REQUIREMENT IF INDICATED BELOW.


ADDITIONAL REQUIREMENT	Yes	No
LIMITED CHEMICAL FLASH FIRE PROTECTION FOR ESCAPE ONLY IN THE EVENT OF A CHEMICAL FLASH FIRE.		X

THE TECHNICAL DATA PACKAGE CONTAINS INFORMATION ON CHEMICALS AND SPECIFIC CHEMICAL MIXTURES FOR WHICH THIS FOOTWEAR IS CERTIFIED. CONSULT TECHNICAL DATA PACKAGE AND MANUFACTURERS INSTRUCTIONS BEFORE USE.

DO NOT REMOVE THIS LABEL

Engineered by HMX Germany  

US-Size
9 M

 Made in Croatia  
  
 999990901001  
 Auhofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
 **ASTM F2413-11**  
**M I/75/C/75**  
**Mt/75 PR**

PROTECTIVE FOOTWEAR FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1992-18, NFPA 1951-13, NFPA 1977-16, CSA Z195-14 AND ASTM F2413-11.

**Fire Flash Xtreme**  
Article: 506005 Production Date:

DO NOT REMOVE THIS LABEL  
**MADE IN CROATIA**

MATERIAL: LEATHER, CROSSTOCH FABRIC/FIRE: RUBBER OUTSOLE  
HMX Schuhe Prod.- u. Vertriebs GmbH  
Auhofstrasse 10  
84048 Mainburg, GERMANY  
CLEANING: HAND WASH WITH WARM WATER

THIS WILDLAND FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE REQUIREMENTS OF NFPA 1977, STANDARD ON PROTECTIVE CLOTHING AND EQUIPMENT FOR WILDLAND FIRE FIGHTING, 2016 EDITION.  
THIS LIQUID-SPLASH PROTECTIVE FOOTWEAR MEETS THE BASIC REQUIREMENTS OF NFPA 1992, STANDARD ON LIQUID-SPLASH PROTECTIVE ENSEMBLES AND CLOTHING FOR HAZARDOUS MATERIALS EMERGENCIES, 2018 EDITION AND FOR THE ADDITIONAL REQUIREMENT IF INDICATED BELOW.

ADDITIONAL REQUIREMENT	Yes	No
LIMITED CHEMICAL FLASH FIRE PROTECTION FOR ESCAPE ONLY IN THE EVENT OF A CHEMICAL FLASH FIRE.		X

THE TECHNICAL DATA PACKAGE CONTAINS INFORMATION ON CHEMICALS AND SPECIFIC CHEMICAL MIXTURES FOR WHICH THIS FOOTWEAR IS CERTIFIED. CONSULT TECHNICAL DATA PACKAGE AND MANUFACTURERS INSTRUCTIONS BEFORE USE.

DO NOT REMOVE THIS LABEL

Engineered by HMX Germany  

US-Size
9 M

 Made in Croatia  
  
 999990901001  
 Auhofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
 **ASTM F2413-11**  
**M I/75/C/75**  
**EH PR**

PROTECTIVE FOOTWEAR FOR STRUCTURAL FIRE FIGHTING IN ACCORDANCE WITH NFPA 1971-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1992-18, CSA Z195-14 AND ASTM F2413-11.

**Fire Hero Xtreme**  
Article: 507101 Production Date:

DO NOT REMOVE THIS LABEL  
**MADE IN CROATIA**

MATERIAL: LEATHER, CROSSTOCH FABRIC/FIRE: RUBBER OUTSOLE  
HMX Schuhe Prod.- u. Vertriebs GmbH  
Auhofstrasse 10  
84048 Mainburg, GERMANY  
CLEANING: HAND WASH WITH WARM WATER

THIS STRUCTURAL FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE FOOTWEAR REQUIREMENTS OF NFPA 1971, 2018 EDITION.  
THIS LIQUID-SPLASH PROTECTIVE FOOTWEAR MEETS THE BASIC REQUIREMENTS OF NFPA 1992, STANDARD ON LIQUID-SPLASH PROTECTIVE ENSEMBLES AND CLOTHING FOR HAZARDOUS MATERIALS EMERGENCIES, 2018 EDITION AND FOR THE ADDITIONAL REQUIREMENT IF INDICATED BELOW.

ADDITIONAL REQUIREMENT	Yes	No
LIMITED CHEMICAL FLASH FIRE PROTECTION FOR ESCAPE ONLY IN THE EVENT OF A CHEMICAL FLASH FIRE.		X

THE TECHNICAL DATA PACKAGE CONTAINS INFORMATION ON CHEMICALS AND SPECIFIC CHEMICAL MIXTURES FOR WHICH THIS FOOTWEAR IS CERTIFIED. CONSULT TECHNICAL DATA PACKAGE AND MANUFACTURERS INSTRUCTIONS BEFORE USE.

DO NOT REMOVE THIS LABEL

Engineered by HMX Germany  

US-Size
9 M

 Made in Croatia  
  
 999990901001  
 Auhofstrasse 10, D-84048 Mainburg

Note: Labels for women boots are not shown above.

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2413-11**  
M I/75/C/75  
EH PR

**PROTECTIVE MULTIPLE-USE FOOTWEAR FOR EMERGENCY MEDICAL OPERATIONS IN ACCORDANCE WITH NFPA 1999-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1951-13, NFPA 1992-18, NFPA 1977-16, CSA Z195-14 AND ASTM F2413-11.**

**Special Fighter USAR**  
Article: 505204 Production Date:

**DO NOT REMOVE THIS LABEL**  
**MADE IN CROATIA**

**MATERIAL:** LEATHER, CROSSED-SPIN FABRIC, POLYURETHANE RUBBER OUTSOLE  
**HAIX Schuhe Prod. - u. Vertriebs GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**THIS FOOTWEAR MEETS THE MULTIPLE-USE EMERGENCY MEDICAL FOOTWEAR REQUIREMENTS OF NFPA 1999, STANDARD ON PROTECTIVE CLOTHING AND ENSEMBLES FOR EMERGENCY MEDICAL OPERATIONS, 2018 EDITION.**

**THIS UTILITY AND RESCUE AND RECOVERY PROTECTIVE ENSEMBLE FOOTWEAR ELEMENT MEETS THE REQUIREMENTS OF NFPA 1951, STANDARD ON PROTECTIVE ENSEMBLES FOR TECHNICAL RESCUE INCIDENTS, 2013 EDITION.**

**THIS WILDLAND FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE REQUIREMENTS OF NFPA 1977, STANDARD ON PROTECTIVE CLOTHING AND EQUIPMENT FOR WILDLAND FIRE FIGHTING, 2016 EDITION.**

**THIS LIQUID-SPLASH PROTECTIVE FOOTWEAR MEETS THE BASIC REQUIREMENTS OF NFPA 1992, STANDARD ON LIQUID-SPLASH PROTECTIVE ENSEMBLES AND CLOTHING FOR HAZARDOUS MATERIALS EMERGENCIES, 2018 EDITION AND FOR THE ADDITIONAL REQUIREMENT IF INDICATED BELOW.**

ADDITIONAL REQUIREMENT	Yes	No
LIMITED CHEMICAL FLASH FIRE PROTECTION FOR ESCAPE ONLY IN THE EVENT OF A CHEMICAL FLASH FIRE.		X

**THE TECHNICAL DATA PACKAGE CONTAINS INFORMATION ON CHEMICALS AND SPECIFIC CHEMICAL MIXTURES FOR WHICH THIS FOOTWEAR IS CERTIFIED. CONSULT TECHNICAL DATA PACKAGE AND MANUFACTURERS INSTRUCTIONS BEFORE USE.**

**DO NOT REMOVE THIS LABEL**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2413-11**  
M I/75/C/75  
EH PR

**PROTECTIVE MULTIPLE-USE FOOTWEAR FOR EMERGENCY MEDICAL OPERATIONS IN ACCORDANCE WITH NFPA 1999-18. ALSO CLASSIFIED IN ACCORDANCE WITH NFPA 1977-16, CSA Z195-14 AND ASTM F2413-11.**

**Airpower XR 1**  
Article: 605113 Production Date:

**THIS FOOTWEAR MEETS THE MULTIPLE-USE EMERGENCY MEDICAL FOOTWEAR REQUIREMENTS OF NFPA 1999, STANDARD ON PROTECTIVE CLOTHING AND ENSEMBLES FOR EMERGENCY MEDICAL OPERATIONS, 2018 EDITION.**

**THIS WILDLAND FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE REQUIREMENTS OF NFPA 1977, STANDARD ON PROTECTIVE CLOTHING AND EQUIPMENT FOR WILDLAND FIRE FIGHTING, 2016 EDITION.**

**DO NOT REMOVE THIS LABEL**  
**MADE IN CROATIA**

**MATERIAL:** LEATHER, CROSSED-SPIN FABRIC, PTFE POLYESTER, POLYURETHANE RUBBER OUTSOLE  
**HAIX Schuhe Prod. - u. Vertriebs GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2413-11**  
M I/75/C/75  
EH PR

**PROTECTIVE MULTIPLE-USE FOOTWEAR FOR EMERGENCY MEDICAL OPERATIONS IN ACCORDANCE WITH NFPA 1999-2018. ALSO CLASSIFIED IN ACCORDANCE WITH CSA Z195-2014 AND ASTM F2413-2011.**

**Airpower XR 2**  
Article: 605116 Production Date:

**THIS FOOTWEAR MEETS THE MULTIPLE-USE EMERGENCY MEDICAL FOOTWEAR REQUIREMENTS OF NFPA 1999, STANDARD ON PROTECTIVE CLOTHING AND ENSEMBLES FOR EMERGENCY MEDICAL OPERATIONS, 2018 EDITION.**

**DO NOT REMOVE THIS LABEL**  
**MADE IN CROATIA**

**MATERIAL:** LEATHER, CROSSED-SPIN FABRIC, PTFE POLYESTER, POLYURETHANE RUBBER OUTSOLE  
**HAIX Schuhe Prod. - u. Vertriebs GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2413-11**  
M I/75/C/75  
EH PR

**PROTECTIVE MULTIPLE-USE FOOTWEAR FOR EMERGENCY MEDICAL OPERATIONS IN ACCORDANCE WITH NFPA 1999-2018. ALSO CLASSIFIED IN ACCORDANCE WITH CSA Z195-2014 AND ASTM F2413-2011.**

**BLACK EAGLE Safety 55 mid G2 Mer**  
Article: 620012 Production Date:

**THIS FOOTWEAR MEETS THE MULTIPLE-USE EMERGENCY MEDICAL FOOTWEAR REQUIREMENTS OF NFPA 1999, STANDARD ON PROTECTIVE CLOTHING AND ENSEMBLES FOR EMERGENCY MEDICAL OPERATIONS, 2018 EDITION.**

**DO NOT REMOVE THIS LABEL**  
**MADE IN CROATIA**

**MATERIAL:** LEATHER, CROSSED-SPIN FABRIC, PTFE POLYESTER, POLYURETHANE RUBBER OUTSOLE  
**HAIX Schuhe Prod. - u. Vertriebs GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2892-18**  
EH

**PROTECTIVE FOOTWEAR FOR WILDLAND FIRE FIGHTING IN ACCORDANCE WITH NFPA 1977-2016. ALSO CLASSIFIED IN ACCORDANCE WITH ASTM F2892-2018.**

**MISSOULA 2.1**  
Article: 111011 Production Date:

**DO NOT REMOVE THIS LABEL**

**THIS WILDLAND FIRE FIGHTING PROTECTIVE FOOTWEAR MEETS THE REQUIREMENTS OF NFPA 1977, STANDARD ON PROTECTIVE CLOTHING AND EQUIPMENT FOR WILDLAND FIRE FIGHTING, 2016 EDITION.**

**MADE IN CROATIA**

**MATERIAL:** LEATHER, TEXTILE LINING, RUBBER OUTSOLE  
**HAIX Schuhe GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**DO NOT REMOVE THIS LABEL**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2413-11**  
M I/75/C/75  
PR

**PROTECTIVE MULTIPLE-USE FOOTWEAR FOR EMERGENCY MEDICAL OPERATIONS IN ACCORDANCE WITH NFPA 1999-2018. ALSO CLASSIFIED IN ACCORDANCE WITH CSA Z195-2014 AND ASTM F2413-2011.**

**Airpower R2**  
Article: 605109 Production Date:

**THIS FOOTWEAR MEETS THE MULTIPLE-USE EMERGENCY MEDICAL FOOTWEAR REQUIREMENTS OF NFPA 1999, STANDARD ON PROTECTIVE CLOTHING AND ENSEMBLES FOR EMERGENCY MEDICAL OPERATIONS, 2018 EDITION.**

**DO NOT REMOVE THIS LABEL**  
**MADE IN CROATIA**

**MATERIAL:** LEATHER, CROSSED-SPIN FABRIC, PTFE POLYESTER, POLYURETHANE RUBBER OUTSOLE  
**HAIX Schuhe Prod. - u. Vertriebs GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

**⚠ DANGER ⚠**  
You must read the User Instruction, Safety and Training Guide before wearing the footwear.

**CLASSIFIED**  
c UL US  
16 KR

**ASTM F2413-11**  
M I/75/C/75  
EH PR

**PROTECTIVE MULTIPLE-USE FOOTWEAR FOR EMERGENCY MEDICAL OPERATIONS IN ACCORDANCE WITH NFPA 1999-2018. ALSO CLASSIFIED IN ACCORDANCE WITH CSA Z195-2014 AND ASTM F2413-2011.**

**Airpower XR 2 Winter**  
Article: 605122 Production Date:

**THIS FOOTWEAR MEETS THE MULTIPLE-USE EMERGENCY MEDICAL FOOTWEAR REQUIREMENTS OF NFPA 1999, STANDARD ON PROTECTIVE CLOTHING AND ENSEMBLES FOR EMERGENCY MEDICAL OPERATIONS, 2018 EDITION.**

**DO NOT REMOVE THIS LABEL**  
**MADE IN CROATIA**

**MATERIAL:** LEATHER, CROSSED-SPIN FABRIC, PTFE POLYESTER, POLYURETHANE RUBBER OUTSOLE  
**HAIX Schuhe Prod. - u. Vertriebs GmbH**  
Autofstrasse 10  
84048 Mainburg, GERMANY  
**CLEANING: HAND WASH WITH WARM WATER**

**US-Size**  
9 M  
Made in Croatia

Engineered by HAIX Germany  
Autofstrasse 10, D-84048 Mainburg

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NFPA 1971 - 2018 STRUCTURAL FIRE FIGHTING	NFPA 1971 - 2018 PROXIMITY FIRE FIGHTING	NFPA 1977 - 2016 WILDLAND FIRE FIGHTING	NFPA 1951 - 2013 TECHNICAL RESCUE	NFPA 1992 - 2018 LIQUID SPLASH/HAZ-MAT	NFPA 1999 - 2018 EMERGENCY MEDICAL	ASTM F2413 - 2011 PROTECTIVE FOOTWEAR	CSA-Z195-2014 PROTECTIVE FOOTWEAR	ASTM F2892 - 2018 SOFT TOE PROTECTIVE FOOTWEAR	
X	N/A	N/A	N/A	X	N/A	X	X	N/A	<b>FIRE HUNTER® XTREME</b>
X	N/A	N/A	N/A	X	N/A	X	X	N/A	<b>FIRE HUNTER® USA</b>
X	N/A	X	X	X	●	X	X	N/A	<b>FIRE FLASH® XTREME</b>
X	N/A	N/A	N/A	X	N/A	X	X	N/A	<b>FIRE HERO® XTREME</b>
X	N/A	N/A	N/A	X	N/A	X	X	N/A	<b>FIRE EAGLE® AIR</b>
N/A	N/A	X	X	X	X	X	X	N/A	<b>SPECIAL FIGHTER® USAR</b>
N/A	N/A	X	N/A	N/A	X	X	X	N/A	<b>AIRPOWER® XR1</b>
N/A	N/A	N/A	N/A	N/A	X	X	X	N/A	<b>AIRPOWER® XR2</b>
N/A	N/A	N/A	N/A	N/A	X	X	X	N/A	<b>AIRPOWER® XR2 WINTER</b>
N/A	N/A	N/A	N/A	N/A	X	X	X	N/A	<b>AIRPOWER® R2</b>
N/A	N/A	N/A	N/A	N/A	X	X	X	N/A	<b>BLACK EAGLE® SAFETY 55 MID SIDE ZIP</b>
N/A	N/A	X	N/A	N/A	N/A	N/A	N/A	X	<b>MISSOULA 2.1</b>

X = CERTIFIED

N/A = NOT APPLICABLE

● = COMPLIANT, NOT CERTIFIED

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## 1 INTRODUCTION

Congratulations on purchasing your new HAIX® North America product!

Your HAIX® NFPA Compliant Footwear (referred to throughout this Guide as "Footwear" or "Boots") is designed to provide limited protection in various dangerous operations. It and its components are manufactured and certified under the performance requirements of the corresponding NFPA Standards (page 4)

This User Information and Safety Guide gives important instructions regarding the use, inspection, care, maintenance, storage and retirement of your HAIX® NFPA Compliant Footwear. No one except you (the end user) should remove this Guide from your HAIX® NFPA Compliant Footwear. Immediately upon receipt of your Footwear you should remove, carefully read, and save this Guide in a three-ring binder for future reference.

This Guide is a training tool to help you understand your NFPA Compliant hazardous material emergency Footwear and how to use it in the safest possible manner during various dangerous operations. Please take time to read it.

**This Guide will train you to:**

- Put on your Footwear
- Wear your Footwear safely
- Inspect your Footwear
- Repair your Footwear
- Clean and Decontaminate your Footwear
- Store your Footwear
- Retire your Footwear

**For your personal safety be alert for important safety messages in this 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, both in this Guide and on labels affixed to your Footwear, 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 orange on labels attached to your Footwear, and in black in this 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

**Afterflame Time** – The length of time for which a material, component, or chemical protective suit continues to burn after the simulated chemical flash fire has ended.

**Biological Agent** – Biological materials that are capable of causing disease or long-time damage to the human body.

**Compliance/Compliant** – Meeting or exceeding all applicable requirements of this standard.

**Component(s)** – Any material, part or subassembly used in the construction of the compliant product.

**Ensemble Elements** – The compliant products that provide protection to the upper and lower torso, arms, legs, head, hands, and feet.

**Entry Fire Fighting** – EXTRAORDINARILY specialized fire fighting operations that can include the activities of rescue, fire suppression, and property conservation at incidents involving fires producing very high 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. NFPA 1971 Compliant Footwear is NEVER to be used for entry fire fighting or any direct contact with flames or molten metals, and do not provide the required level of protection. Entry fire fighting is not structural fire fighting.

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

**Follow-Up Program** – The sampling, inspections, tests, or other measures conducted by the certification organization on a periodic basis to determine the conducted compliance of labeled or listed products that are being produced by the manufacturer to the requirements of this standard.

**Footwear** – The term Footwear used throughout this Guide refers ONLY to HAIX® NFPA Compliant Footwear. Footwear is an element of the protective ensemble designed to provide limited protection required by the NFPA Standards to the foot, ankle, and lower leg. Footwear is NOT Entry or Proximity Footwear.

**Footwear Upper** – That portion of the footwear above the sole, heel, or insole.

**Hazardous Materials** – A substance (solid, liquid, or gas) that when released is capable of creating harm to people, the environment, and property.

**Hazardous Materials Emergencies** – Incidents involving the release or potential release of hazardous materials.

**Inner Liner** – The liner portion of the NFPA Compliant Footwear consisting of the thermal liner layer and the moisture barrier layer sewn together.

**Interface Area** – An area of the body where the protective garment, helmet, gloves, and footwear, or SCBA facepiece meet. Interface area includes, but is not limited to, ...the trouser/footwear area.

**Liquid Splash-Protective Footwear** – the element of the protective ensemble, or the item of protective clothing that provides liquid chemical protection and physical protection on the feet, ankles, and lower legs.

**Maintenance** – Procedures for inspection, repair, and removal from service of liquid splash-protective ensembles or clothing.

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

**NFPA Compliant Footwear** – (Also referred to in this Guide as NFPA Compliant Footwear). Means Footwear 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 valid NFPA Standards.

**Protective Ensemble** – Multiple elements of personal equipment designed in accordance with the NFPA Standards to provide a limited degree of protection for responders from adverse exposures to the inherent risks of structural fire fighting operations and certain other emergency operations. The elements of the protective ensemble are coats, trousers, coveralls, helmets, gloves, footwear, and interface components.

**Proximity Fire Fighting** – Specialized fire fighting operations that can include the activities of rescue, fire suppression, and property conservation at incidents involving fire producing very high levels of conductive, convective, and radiant heat such as aircraft fires, bulk flammable gas fires, and bulk flammable liquid fires. Specialized thermal protection from exposure to high levels of radiant heat, as necessary for persons involved in such operations due to the scope of these operations and the close distance to the fire at which these operations are conducted, although direct entry into flame is NOT made. These operations usually are exterior operations but might be combined with interior operations. Proximity fire fighting is not structural fire fighting but might be combined with structural fire fighting operations. Proximity fire fighting also is not entry fire fighting.

**Useful Life** – The period of time that Footwear, which has been properly cared for, may provide reasonable limited protection. Useful life of Footwear is discussed in more detail in Section 14 of this Guide. Nothing in this definition shall alter, affect, or extend the warranties set forth in Section 16. EXCEPT AS SET FORTH IN SECTION 16 OF THIS GUIDE, HAIX® NORTH AMERICA MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR USE, OR USEFUL LIFE.

### 3 SAFETY CHECKLIST

Do not use this HAIX® NFPA Compliant Footwear until you have checked “YES” to the following:

1. Have you completed professional training in fire fighting techniques or in hazardous materials emergency incident operations involving liquids, the proper use of NFPA Compliant Footwear?  
 Yes       No
  
2. Have you read and understood all the instructions and warnings throughout this Guide as well as all the label on the Footwear?  
 Yes       No
  
3. Will you regularly inspect your Footwear inside and out for any tears, holes, thin spots, worn areas, color change, dirt, contaminants, leaks, embrittlement, or any other conditions discussed in Section 6 of this Guide?  
 Yes       No
  
4. Have you studied the limitations of your Footwear as described throughout this Guide?  
 Yes       No
  
5. Have you checked to make sure that your Footwear fits you properly in accordance with Section 8 of this Guide?  
 Yes       No
  
6. Have you, your safety officer, or another appropriate person made plans to ensure that your Footwear is used, inspected, maintained, stored, and retired according to instructions in this Guide?  
 Yes       No
  
7. Have you read, do you understand, and do you 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 FOOTWEAR until you have read the appropriate sections of this Guide and have been properly trained by qualified instructors.

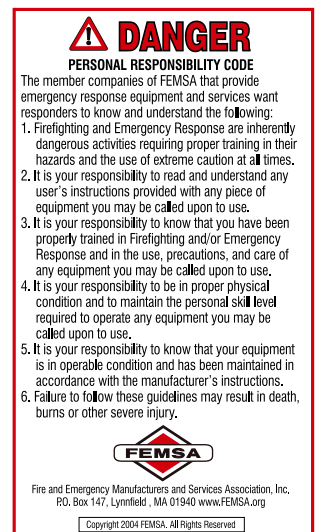


FIG. 1  
Personal Responsibility Code  
Also shown on back cover of  
this Guide.

## **4 PROPER USE OF YOUR HAIX® NFPA COMPLIANT FOOTWEAR – PROTECTING HEALTH CARE WORKERS FROM OCCUPATIONAL EXPOSURE TO BLOOD-BORNE PATHOGENS**

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor places the responsibility for selection, approval, maintenance, inspection and training in the proper use and limitations of safety gear on your department, team, or employer. (Code of Federal Regulations Volume 29, Section 1910.132, General Requirements of Subpart I, Personal Protective Equipment). By doing this, OSHA is recognizing a simple truth: how you use your protective clothing is beyond the manufacturer's control. Your department or employer controls the circumstances under which the protective ensemble will be used and is in the better position to assess the hazards at the emergency scene and to direct the appropriate selection and use of safety equipment including protective ensembles. Consistent with the OSHA regulations, your protective ensemble is offered for your department (paid or volunteer), team, or employer to evaluate and decide for itself whether or not the protective ensemble will provide an acceptable level of protection for any particular emergency operation. It is recommended that your department or employer conduct its own testing, evaluation and training in conjunction with qualified safety experts before issuing protective ensemble elements for use by its members. Whether to use protective ensemble in a particular incident, whether to enter a particular situation, whether to remain in a particular situation, and similar decisions are a matter to be decided by your department or employer at the scene on a case by case basis. Since, obviously, the manufacturer of your protective ensemble element cannot know in advance all of the many conditions existing at each scene, the appropriate use of your protective ensemble and its suitability for that use must be decided by your department or employer at each and every scene. The manufacturer makes no guarantees or warranties, express or implied, that your protective ensemble is fit for a particular purpose. (See Warranty Information on inside back cover.) Your protective ensemble must be used only under the direct supervision of your department or employer in a manner consistent with NFPA 1581 (Standard on Fire Department Infection Control Program), NFPA 1500 (Standard on Fire Department Occupational Safety Health Program), 29 CFR 1910.132 referenced earlier, and 29 CFR 1910.1030 (Protecting Health Care Workers from Occupational Exposure to Blood-borne Pathogens.)

This Footwear is designed to provide **LIMITED** protection under the requirements of the NFPA Standards to the foot, ankle and lower leg against hazards in STRUCTURAL FIRE FIGHTING OPERATIONS, WILDLAND OPERATIONS, AND NON-FIRE RELATED RESCUE OPERATIONS, EMERGENCY MEDICAL OPERATIONS, AND VICTIM EXTRICATION, INCLUDING:

- heat and flame,
- liquid splash of 10 common fire ground chemicals (See Section 10 of this Guide for more information),
- penetration of blood and other body fluids,
- environmental, including moisture and cold weather,
- physical hazards, including puncture, crushing, cuts and abrasion,
- rain and hose steam water



Do not use for ANY proximity or entry fire fighting.



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



Do not use for protection against hazardous chemical agents.



Do not use for protection against hazardous radiological agents.



Do not use for protection against hazardous biological agents.

## ⚠ WARNING

If wearing a zippered style, you must fasten all closures during all times the Footwear is worn or there will be gaps in your protection, and wear will occur in the heel area, greatly decreasing the useful life of the Footwear and voiding the warranty.

## ⚠ DANGER

DO NOT use this Footwear for the following:

- Proximity or entry fire fighting operations (See Definitions)
- Activities requiring direct contact with flames or molten metal
- Protection against all hazardous material, biological, or radiological agents.

## ⚠ DANGER

Fire fighting personnel 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 complete NFPA 1971 Structural Fire Fighter Protective Ensemble!

Emergency response personnel can encounter many common liquids during normal performance of their duties. The reference to limited protection from liquid splash from 5 common fire ground chemicals should not be interpreted to mean that the Footwear is suitable or is permitted to be used for protection to the wearer during any hazardous materials situation.

## ⚠ WARNING

Controlled lab tests in the NFPA Standard “cannot be deemed as establishing performance levels for all situations to which personnel can be exposed.” You should always use extreme caution in all situations to avoid the risk of injuries.

## ⚠ WARNING

Protective properties in new NFPA Compliant Footwear 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 Footwear to ensure that the Footwear is not used past its Useful Life.

## **5 KNOW YOUR HAIX® NFPA COMPLIANT FOOTWEAR: CONSTRUCTION, FEATURES AND FUNCTION**

In order to understand the limits of protection provided by your HAIX® NFPA Compliant Footwear, you should study its construction, features, and function.

### **5.1 OVERVIEW**

HAIX® NFPA Footwear provides a limited barrier against penetration from sharp objects and liquids contacted on the fire grounds. Because it is made of special heat and flame resistant materials, hydrophobic leather, and rubber soles, it provides limited resistance to heat and flame for brief periods of time, without the boot combusting and burning.

### **5.2 LAYERED STRUCTURE**

Your HAIX® NFPA Compliant Footwear is made with three primary layers: a leather outer layer, a moisture barrier, and an inner lining. The CAMBRELLE® inner lining and CROSSTECH® moisture barrier are secure inside the boot and are designed not to come out of the boot while doffing.

### **5.3 LEATHER OUTER LAYER**

The outer layer consists of a hydrophobic, breathable leather that provides initial limited protection against, heat, flame, abrasions, and punctures.

### **5.4 INNER LAYER**

The inner lining and moisture barrier are sewn together to make up the inner layer.

#### **Moisture Barrier**

The moisture barrier is a film or a coating on a substrate which reduces the amount of water from the environment that might penetrate to the inside of the Footwear. The moisture barrier is bonded to a woven or nonwoven substrate to give it strength and durability. All breathable moisture barriers have the ability to prevent liquid moisture from passing through, while allowing the passage of moisture vapor. This allows some body heat to escape the inner layers and move outside the footwear. This promotes the evaporative cooling of the fire fighter's feet, ankles, and lower legs

#### **Inner Lining**

The inner lining attached to the moisture barrier is a breathable fabric that protects the moisture barrier and absorbs perspiration, allowing it to pass through the moisture barrier and be pumped out of the holes in the top of the footwear by the natural pumping action of movement and walking.

## OTHER IMPORTANT SAFETY FEATURES:

**Sole:** The nitrile rubber lug sole with self-cleaning tread is resistant to oil, fuel, heat, and acid.

**Toe Protection System:** The Footwear has stainless steel toes and a rubber toe cap to provide limited protection from puncture, crushing and abrasions.

**Closure Systems:** Zip/lacing systems are included on some models. When properly fastened, they reduce the amount of water that can enter the Footwear and prevent the Footwear from coming open during fire fighting or hazardous material operations.

**Removable Insole:** The anatomically formed absorbent insole can be removed to help promote drying. It is also washable and/or replaceable.

**Puncture Resistant Bottom Plate:** The Footwear has a flexible high-grade stainless steel plate (Steel Midsole) to resist puncture and penetration.

**Leather Back Straps/Pull-on Loops:** Provides a grasping mechanism to allow the user to more easily pull the Footwear on.

**Label:** Located on the inside of the lining, the label contains a statement indicating that the Footwear was manufactured in compliance with the applicable NFPA Standards and contains information regarding the date of manufacture, the serial number, and the name of the manufacturer.

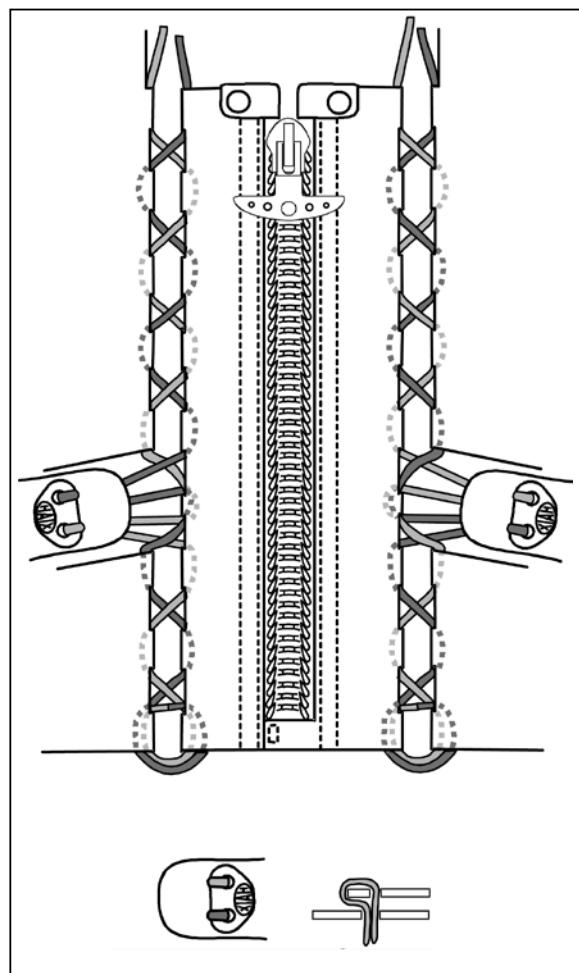


Feed laces from the starter lace holes downward to the bottom of the lacing system, then feed laces upward through the opposite holes to begin the upward lacing process.

Criss cross the laces upward to the TRE Fast Fix system. The left lace will feed into the lower part of the TRE Fast Fix system, the right lace should be laced to the location directly across from the upper part of the TRE Fast Fix system, and fed into the upper TRE Fast Fix unit.

Thread each lace from the rear of the leather attachment and through the TRE Fast Fix unit, then back through the same hole of the leather attachment. Each lace should be fed directly into the upper lace hole of the section it exited for the TRE Fast Fix System. Continue lacing in a criss cross pattern to the top of the boot.

Lastly, knot the laces on the inside.



## FIRE FLASH® XTREME

Leather attachment



TRE Fast Fix Unit

### Recommended Maintenance for the HAIX® patented Lacing System

Please use a hard nylon brush to clean the zipper teeth

Do not use a wire brush

If the zipper grip gets stuck, it can be released easily using a few drops of silicone or sewing machine oil

Please note: Zippers that have been forcibly damaged are not covered by our guarantee.

Thread the shoelace through the "start" eyelets from the rear. Continue to lace upwards, following the numbered arrows, to the top of the zipper system and tie a knot at the back of the uppermost eyelets.



**AIRPOWER® XR1**



**AIRPOWER® XR2**



**AIRPOWER® R2**

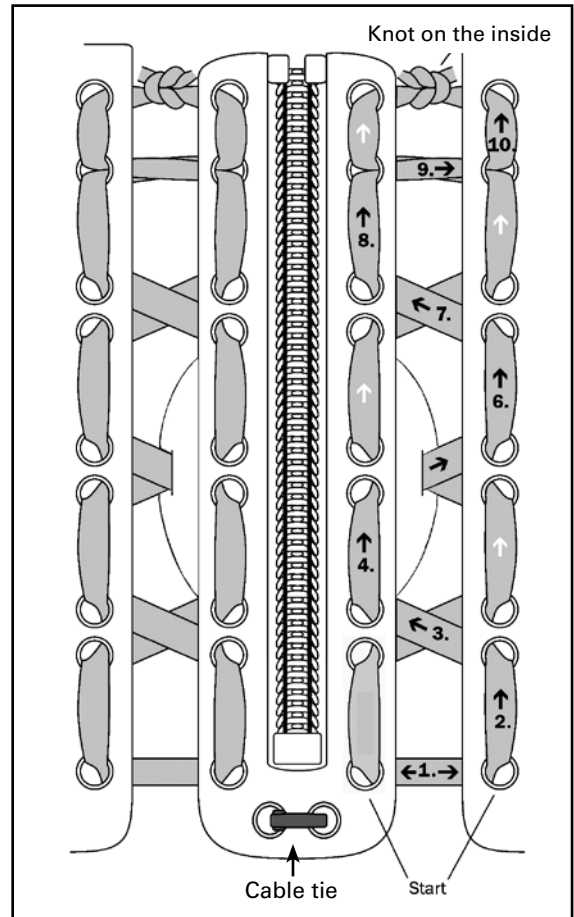


FIG. 2  
Zipper Assembly

## 6 INSPECTING YOUR HAIX® NFPA COMPLIANT FOOTWEAR

### 6.1 PREPARATION

Read the Information Label (See Section 5 of this Guide for location).

### 6.2 FREQUENCY

You should inspect your Footwear at the following times: 1.) Upon receipt of your new Footwear or replacement component; 2.) At least monthly thereafter during the useful life of the Footwear; 3.) After exposure to heat, flames, chemicals, or fire fighting agents (including AFFF foam and water); 4.) After exposure to body fluids (including blood); and 5.) After washing, repair or decontamination. You must inspect your Footwear, at a minimum, at the above frequency intervals to detect more obvious damage and deterioration. In addition, you might sense deficiencies in thermal protection by feeling heat more quickly or more easily than before, or get wet from rain or hose streams leaking through the moisture barrier materials or seams. Whenever you detect a potential problem through your own inspection, or suspect that the protective qualities might be degraded, your Footwear should be inspected by trained personnel at the Fire Department or EMS Station or at a HAIX® North America Authorized Clean and Repair Center.

### 6.3 INSPECTION PROCESS AND CRITERIA

#### 1. Criteria

Inspection of NFPA Footwear should be done in compliance with NFPA 1851 Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, Section 6.2.2.5 and 6.3.5.5

#### 2. Preparation

- A. Wear appropriate protective gloves during inspection.
- B. Place Footwear on a clean surface in a brightly lighted area.

#### 3. Outer Layers

- A. **Leather Layer, Rubber Toe Cap, and Sole:** Examine for dirt, thin spots, holes, tears, embrittlement, burns, abrasions, melted areas, and worn spots.
  - a. Discoloration could be a sign of overexposure to light or heat.
  - b. Embrittlement, cracking, or burns are a sign that other layers may be worn out or damaged and may need to be replaced.
  - c. If leather is punctured or cracked, the Footwear must be repaired by an HAIX® North America Authorized Clean and Repair Center, or retired and disposed of in accordance with Disposal Procedures in this Guide.

### WARNING

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

- d. Soles: If one or more lugs on the sole is worn away, the Footwear needs to be resoled. All repairs must be done by HAIX® North America Authorized Clean and Repair Centers.

**B. Closure on zipper-closure Footwear:**

- a. Check for functionality and corrosion.
- b. Check that the zipper anchor and zipper loop are securely attached to the Footwear.
- c. Check that laces are securely tied, and all extra lace is behind the attachment to avoid snagging
- d. Check for signs of burns, melting, dirt, or other damage to the laces.

**C. Retroreflective Trim:**

- a. Inspect Footwear for missing, burned, melted, or torn retroreflective trim.
- b. Damaged trim should be replaced by a HAIX® North America Authorized Clean and Repair Center.

**D. Pull-on Boot Straps:** Examine all components to make sure they are securely attached to the Footwear.

**E. Stitching and Seams:** Examine all seams for loose threads, breaks, skipped stitches, or weakness.

**4. Inner Layer:**

**A. Fabric:** Examine for dirt, thin spots, holes, tears, embrittlement, burns, abrasions, and worn spots.

- a. Inspect by running your hands across the inner liner and feel for thin areas or ridges that indicate breakdown. Special attention should be given to the heel area.
- b. Discoloration could be a sign of overexposure to light or heat.

**B. Stitching and Seams:** Examine all seams for loose threads, breaks, skipped stitches, or weaknesses.

**C. Label:** Locate and inspect the label on the inside of the Footwear. Check for legibility, abrasions or tears.

**D. Removable insole:** check that it is thoroughly dry and not worn or compressed.

HAIX® North America recommends using a HAIX® North America Authorized Clean and Repair Center for Footwear repair or inspection. For a list of centers, contact HAIX® North America at: Toll free 866-344-HAIX (4249).

## 6.4 RECORDKEEPING

HAIX® North America Authorized Clean and Repair Centers offer record keeping services in compliance with NFPA 1851. 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 record keeping method for this purpose.

# 7 DONNING & DOFFING: PUTTING ON AND REMOVING YOUR HAIX® NFPA COMPLIANT FOOTWEAR

## PREPARATION

Before donning, check to make sure that the Footwear, including the inner layer and inner sole, is thoroughly dry, and that the inner sole is placed in the bottom of the Footwear. If there are laces, the laces must be tied securely. Before the first use of the zipper Footwear, adjust the fit by loosening the laces, pulling the Footwear onto foot, closing the zipper, then tightening the laces for a secure and comfortable fit. Tuck ends of laces between the lace system and tongue area.

## DONNING (PUTTING ON YOUR FOOTWEAR)

For the pull-on style, use the pull-on straps and pull the Footwear securely onto your foot.

When using the zippered style, check to be sure the Footwear is unzipped, then pull the Footwear securely onto your foot and pull the zipper closed.

Check and adjust for comfortable, secure fit.

Before entering a hazard area, you must have a partner inspect the area where the Footwear interfaces with your trousers in order to assure proper overlap of all components of your NFPA Protective Ensemble, including Trousers and Footwear.

## DOFFING (REMOVING YOUR FOOTWEAR)

- A. First, never remove Protective Ensemble until you are certain that you are safely removed from the hazard area. Always wear full NFPA Compliant Protective Ensemble during all phases of emergency operations.
- B. When you are ready to remove your NFPA Compliant Protective Ensemble, you should first remove your gloves and helmet.

## WARNING

If wearing a zippered style, you must fasten all closures during all times the Footwear is worn or there will be gaps in your protection, and wear will occur in the heel area, greatly decreasing the useful life of the Footwear and voiding the warranty.

- C. Next, you should remove your SCBA cylinder and begin to remove your garments. Remove the coat first, then remove footwear by gently pulling off your Footwear. Pull the zipper completely downward and then remove the Footwear.
- D. If your Footwear is contaminated with hazardous chemicals, you should remove them using protective gloves and carefully avoiding any contact with contaminated parts of the Footwear. Be sure to place the Footwear in a plastic bag to allow safe handling. Bring this to the immediate attention of your fire department or employer.
- E. During and after doffing, always look for signs of chemicals, body fluids, or other contamination, and for signs of wear or damage. See Cleaning, Decontamination, and disinfecting Procedures, Section 11, and Inspection Procedures, Section 6 of this Guide.

## 8 CHECKING YOUR HAIX® NFPA COMPLIANT FOOTWEAR FOR COMPATIBILITY AND PROPER FIT

### SIZE AND FIT

There are different styles of NFPA Compliant Footwear available from HAIX® North America. Make sure that you are wearing Footwear that fits securely and comfortably.

In order to determine the proper size, you must ensure that your foot size is measured either with the use of a Brannock device or by trying on sizing samples of the model you or your department are purchasing.

Footwear should have adequate room for toes to lay flat in the boot, and there should not be too much movement in the heel area. Failure to ensure the proper fit of your NFPA Compliant Footwear could result in serious injury. Footwear that does not properly fit will have a shortened useful life. If the Footwear does not seem to fit properly, you should check the size in the label to make sure it is your size, and to make sure it is your Footwear.

Make sure that the lower edges of your NFPA Compliant Trousers overlap the tops of your Footwear by 4-6 inches when standing. In addition, check to see if all layers of the Trousers overlap Footwear in any body position during use, including when crawling on the ground. Check NFPA Positions A and B.

For the first use of the zipper Footwear, adjust the fit by loosening the laces, pulling on Footwear, closing zipper, then tightening the laces for a secure and comfortable fit. Tuck ends of laces between the lace system and tongue area.

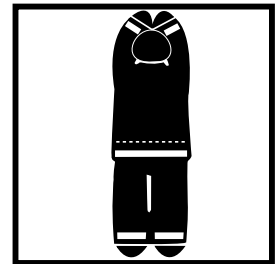


FIG. 3  
NFPA Position A

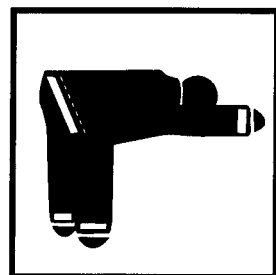


FIG. 4  
NFPA Position B

## **⚠ DANGER**

Never wear NFPA Compliant Footwear that fits improperly. If you have a question, or there is a problem with the fit of the Footwear, contact your safety officer for assistance. Wearing Footwear that does 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.

## **9 HAIX® NFPA COMPLIANT FOOTWEAR MARKING CONSIDERATIONS**

- 9.1** The Footwear Information Label indicates the date of manufacture and the serial number of your HAIX® NFPA Compliant Footwear.
- 9.2** Do not apply letters, emblems, trim, and/or other types of identification that may penetrate the moisture barrier. Do not write on the inner lining, which is attached to the moisture barrier. Indelible inks could damage the film or coating.

**NEVER MARK ON THE LABEL ON YOUR FOOTWEAR!**

## **⚠ WARNING**

Do not apply letters, emblems, trim and/or other types of identification that may penetrate the moisture barrier. Do not write on the inner lining. Damage to the moisture barrier could result in the penetration of water into your Footwear, reducing protection and resulting in scalding or burns.

## **10 USING YOUR HAIX® NFPA COMPLIANT FOOTWEAR SAFELY: HOW TO MINIMIZE THE RISK OF INJURY**

The Footwear is designed in compliance with NFPA Standards to protect the user against specific hazards associated with operations and non-fire related rescue operations, emergency medical operations, and victim extrication. This section indicates the hazards associated with these activities, and specific warnings concerning the proper safe usage of your Footwear.

### **10.1 PREPARATION**

Before beginning any emergency operation where there is fire or a threat of fire, your Footwear should be donned according to the procedures in Section 7 of this Guide, and checked by another person for proper overlap at the interface areas.

Always use your NFPA Compliant Footwear consistent with NFPA 1500, Standard on Fire Department Occupational Safety and Health Program and Title 29, Code of Federal Regulations, Part 1910.132.

## **⚠ DANGER**

Always wear clean and thoroughly dry Footwear in any fire fighting operation. Soiled or contaminated Footwear may be combustible, causing serious burns to the wearer if exposed to high heat or flame.

## FIRE CHARACTERISTICS

### 10.2 FIRES ARE INHERENTLY DANGEROUS, UNPREDICTABLE ENVIRONMENTS

Temperatures can range upwards of more than 2000° F 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 Footwear to protect you from all hazards that may be present in a fire.

### 10.3 BURN HAZARDS: TYPES OF HEAT TRANSFER

There are three types of heat transfer: 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, directly from flames or reflected from hot surfaces. Fire fighters experience all three types of heat in a fire, and must understand their effects on NFPA Compliant Footwear.

**Conduction:** The danger of being burned by conductive heat while wearing NFPA Compliant Footwear is frequently underestimated. You can be burned by conductive heat when you contact heated surfaces or objects. This very real hazard is significantly increased if your Footwear is wet, either from damage to the moisture barrier, or from outside water entering from the top opening. Water can provide a conductive bond between surfaces that might not otherwise touch, increasing the chances of heat conduction. Water is a very poor insulator; it conducts heat with dangerous and totally unpredictable efficiency!

## DANGER

Moisture in protective footwear can reduce insulation and lead to scalding burns! Always make sure your footwear is dry before wearing it in any emergency situation. Dry your footwear and the inner sole between runs to reduce the risk of serious burn injuries. Inspect your footwear for holes, and always secure the closures to prevent the penetration of moisture from the fire environment. Follow Inspection, Maintenance, Storage, Repair, Retirement, and Disposal Instructions in this Guide to make sure that the Footwear is not worn out or in an unsafe condition.

**Convection:** Convected heat travels through the air, even if there is no immediate appearance of fire. Convected heat can elevate the temperature of your Footwear to a point at which conductive heat burns can easily occur, particularly if your Footwear is wet or damp.

**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.



FIG. 5  
Radiant heat from hot surfaces and flames can cause burns

## **DANGER**

Contact with 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.

## **DANGER**

Convected or Radiant heat can penetrate quickly into your Footwear. 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, escape to a cool, safe place immediately and remove Footwear. You may be burned without any warning signals or sustaining any damage to your Footwear.

## **DANGER**

- You may have very little or no warning time from feeling heat or pain before skin begins to burn at 118° F.
- You need to be constantly aware of the buildup of heat in the surrounding environment and in your Garments and be ready to escape to a cool area where you can remove hot Garments quickly to avoid burns.

### **10.4 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.  
SECOND DEGREE BURNS occur when the skin reaches approximately 131° F.  
THIRD DEGREE BURNS occur when skin temperature reaches approx. 152° F.

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, like wastebasket fires, can reach almost 1300° F, with a heat flux in excess of over four watts per square centimeter and with air temperatures ranging up to 750° F. (For more information, see the study by J. Randall Lawson, listed in Reference Section). Thus, even small fires can generate several times the level of heat to cause severe burns to emergency responders who do not wear their protective clothing and footwear in a secure manner.

## **DANGER**

Prolonged or repeated exposures to heat will increase Footwear temperatures and can cause burns even after the emergency responder 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 to your feet, ankles, or lower legs.

## **DANGER**

The buildup of heat in NFPA Compliant Footwear can lead to burns without any sign of damage to the footwear. Never wait for signs of footwear 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**

Fire fighters 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 NFPA Compliant Structural Fire Fighting Footwear.

## **⚠ WARNING**

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

## **⚠ WARNING**

Your NFPA Footwear is made of different types of materials that may absorb heat at different rates. Some parts may be much hotter than other parts. Avoid contact of skin with outer Footwear surfaces during and after fire fighting operations, until you are certain that the Footwear is a safe temperature.

### **10.5 HEAT STRESS: A SIGNIFICANT CAUSE OF RESPONDER 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 that more blood can be moved to the skin surface. Blood vessels near the skin dilate so that 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 degrees or higher, the garment's insulation blocks the transfer of heat away from the body, the garment 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 stress, heat exhaustion, or heat stroke.

## **⚠ WARNING**

Overexertion in hot conditions while wearing an NFPA Compliant Protective Ensemble, including Footwear, 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 complete protective ensemble, and drink fluids. Failure to seek attention could lead to severe 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 complete NFPA Protective Ensemble, including Footwear, 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.

### 10.6 HEART ATTACKS: A RESULT OF OVEREXERTION

During Structural fire fighting 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 responder’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 factors could place too much stress 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.

### 10.7 LIQUID PENETRATION AND HAZARDOUS MATERIALS

#### LIMITED Protection against liquid penetration from common chemicals

The NFPA 1992 Compliant Footwear’s moisture barrier is tested for resistance against penetration from liquid splash by only 10 common hazardous liquid chemicals after 1 hour exposures. These chemicals are Sodium hydroxide, Sodium hypochlorite, Dimethylformamide, Tetrachloroethylene, Fuel H, Isopropyl alcohol, Butyl acetate, Methyl isobutyl ketone, Nitrobenzene, Sulfuric acid.

The NFPA 1971 Compliant Footwear’s moisture barrier is tested for resistance against penetration from liquid splash by only 6 common fire ground chemicals after 1 hour exposures. These chemicals are 1. AFFF Foam (3 % concentrate); 2. battery acid (37 % by weight sulfuric acid to water); 3. Fire resistant hydraulic fluid, phosate ester base, containing 50 % – 80 % tributyl phosphate (CAS No. 126-73-8); 4. Surrogate gasoline – Fuel H as defined by ASTM D471 Standard test method for rubber property-effect of liquids consisting of 42.5 % toluene, 42.5 % iso-octane, and 15 % ethanol by volume respectively; 5. Swimming pool chlorinating chemical containing at least 65 percent-free chlorine (saturated solution) and 6. Automobile antifreeze fluid (ethylene glycol, 90 % by weight or higher concentration)

These liquids are tested because they are considered to be the most common chemicals encountered in structural fire fighting and hazardous materials emergency incident operations. Footwear provides limited protection against incidental contact with these materials encountered during routine operations.

**The moisture barrier has not been evaluated for all chemicals that can be encountered during fire fighting/technical rescue operations and the effects of chemical exposure on the moisture barrier are to be evaluated per the inspection procedures in NFPA 1851/1855.**

## ⚠ WARNING

Over time, as the Footwear is worn and ages, the moisture barrier's protection against penetration of the 5 common fire ground chemicals and 7 common hazardous liquid chemicals listed in this section will become more limited. See Section 14 of this Guide on Useful life.

### No Protection Against Hazardous Materials Exposure

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

## ⚠ WARNING

Your HAIX® NFPA Compliant Footwear is NOT designed to protect against exposures to hazardous materials operations. You MUST use appropriate protective equipment in situations involving liquid or vapor hazardous materials.

## ⚠ 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 Cleaning and Decontamination in order to limit exposure to yourself and others.

## 10.8 ELECTROCUTION

### ⚠ DANGER

Your Footwear provides NO PROTECTION AGAINST ELECTROCUTION. When entering a rescue site, you should NEVER touch live wiring, especially if your Footwear is wet. Never allow equipment you are operating to contact live wiring. Any of these hazards could result in serious injuries or death.

## 10.9 BLOODBORNE PATHOGENS

Your Footwear is designed to protect your feet, ankles, and lower legs 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 Infection 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 sharps. Use Body Substance Isolation Procedures when handling Footwear exposed to body fluids. Washing Footwear according to the Procedures in Section 11 of this Guide will generally eliminate hazards of exposure to body fluids arising from incidental contact. For heavier levels of exposure, disinfecting Footwear will substantially reduce hazards arising from exposure of Footwear to potentially hazardous body fluids. See Section 11 of this Guide for more information.

## 10.10 ADDITIONAL FACTORS AFFECTING SAFETY

The following additional factors may affect the limited protection provided by the NFPA Compliant Footwear:

- Conditions at an incident beyond the scope of the limited purposes of this Footwear
- Unauthorized modifications, repairs or replacement of components of the Footwear not otherwise in compliance with HAIX® North America specifications

- The addition of accessories that are not third party certified to the NFPA Standard, or not approved by HAIX® North America as compatible with NFPA Compliant Footwear. If you have questions about whether accessories will degrade the performance of your Footwear below the NFPA Standard, contact HAIX® North America or a HAIX® North America Authorized Clean and Repair Center.

## **11 CLEANING, DECONTAMINATING, AND DISINFECTING YOUR HAIX® NFPA COMPLIANT FOOTWEAR**

### **11.1 HAZARDS OF DIRTY FOOTWEAR: WHY CLEANING AND DECONTAMINATING ARE IMPORTANT**

You can be exposed to many hazardous substances while involved in hazardous materials emergency operations. These substances can contaminate your Footwear, and cause harm to you after your body contacts your Footwear. This section tells you how to wash and decontaminate your Footwear to reduce these hazards.

Routine Fire Ground Contaminants: Many fire combustion products — including hydrocarbons, polynuclear aromatic compounds, metals such as cadmium and chromium, acids and soot — are hazardous to the fire fighter. These substances can become embedded in your Footwear, penetrate the inner layer, and enter the body through ingestion, absorption, inhalation, and parenterally. In addition, particulates and other products of combustion can reduce the flame resistance of your Footwear and increase your Footwear’s 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 Footwear.

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

#### **⚠ WARNING**

To reduce the risk of harm from hazardous substances present at a building collapse, damaged vehicle, or hazardous chemicals, you **MUST** wash your Footwear.

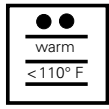
Bloodborne Pathogens: You are also at risk of exposing your Footwear to body fluids that may contain bloodborne pathogens. Following proper washing procedures described later in this section will reduce the risk of infection from these hazards.

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

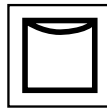
### **11.2 FREQUENCY**

NFPA Compliant Footwear should be cleaned

- 1) at least every six months or;
- 2) as soon as possible after contamination or exposure to smoke, blood or body fluids, hazardous substances or hazardous liquid chemicals .



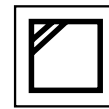
water temperature



air dry



do not machine wash



in the shade



no chlorine bleach



never tumble dry



never dry-clean

## ⚠ WARNING

Always clean your HAIX® NFPA Compliant Footwear separately from other items. Never clean your Footwear at home, or at public laundry facilities to avoid the spread of chemical contamination or hazardous combustion products to other laundry.

## ⚠ WARNING

Never use chlorine bleach or chlorinated detergents to wash your Footwear. Even small amounts of chlorine will seriously reduce your Footwear's protective qualities and could lead to serious injury or death.

## ⚠ WARNING

Never use high velocity power washers or pressure hoses for washing Footwear. These tools can severely damage the raw materials and seams, compromising the protection of the Footwear.

### 11.3 CLEANING

Before cleaning, make sure you comply with all state, federal, and local guidelines for handling effluents from utility sinks. Appropriate protective gloves should be worn.

Hand Scrub NFPA Footwear in a utility sink with warm water and a wet shoe brush or another soft brush such as a small nailbrush or a soft-bristle toothbrush. The brush should be soaked with water to remove dirt and other soils. Do not use heavy abrasion and/or scrubbing.

Do not use saddle soaps or soaps that contain fats.

Do not use chlorine bleach. Do not use detergent. Use water temperatures less than 110° F. The removable insole can also be washed as necessary. Machine wash the insoles in cold water on delicate cycle. Air dry the insoles before returning to the Boots.

### 11.4 DRYING

Air dry NFPA Footwear, removing the insole. Drying racks for hanging NFPA Footwear provide maximum air exposure and reduce drying time.

Do not dry Footwear in direct/indirect sunlight or fluorescent light. Do not machine dry. Do not dry NFPA Footwear in front of open windows, hot ovens, or radiators. The Footwear's form will change, and the leather might become brittle. Allow the boots to dry slowly.

## 11.5 POLISHING

To prolong the wearlife and maintain the leather exterior of your NFPA Footwear, apply a professional grade silicone-based shoe polish. Those that contain petroleum-based products may be flammable; these products will significantly reduce the flame and/or heat resistance of your NFPA Footwear and therefore are not suitable.

### ⚠ WARNING

Never use petroleum-based shoe polish, because it will significantly reduce the flame and/or heat resistance of your HAIX® Footwear. Use of petroleum-based products may result in serious injuries.

### ⚠ WARNING

Do not dry your leather NFPA Compliant Footwear near heaters or radiators. Treat Footwear with the same care as other fine quality leather products. Force drying will cause the foot form to change and the leather to crack. It will also cause damage to the moisture barrier, possibly exposing you to significant amounts of water and hazardous contaminants, which may result in serious injuries.

### ⚠ WARNING

Do not dry Footwear in direct/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 Footwear.

## 11.6 CONTRACT CLEANING

HAIX® North America has made available a network of professional clean and repair centers that are factory approved to provide cleaning for HAIX® North America NFPA Compliant Footwear. HAIX® North America recommends that only a HAIX® North America Authorized Clean and Repair Center be used for contract cleaning. For contract cleaning please call HAIX® North America toll free at (866) 344-HAIX (4249).

## 11.7 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 - 2005 Edition.

### ⚠ CAUTION

Personnel involved in the handling, sorting, bagging, transporting, and laundering of contaminated NFPA Compliant Footwear must wear utility gloves and appropriate protective clothing and equipment to prevent occupational exposure during these activities.

Preparation: Remove contaminated and infected NFPA Compliant Footwear from wearer and from service before beginning. Footwear should remain out of service until decontaminated and disinfected. Wear protective gloves and appropriate protective clothing and equipment while decontaminating and disinfecting.

## **⚠ WARNING**

To reduce the risk of harm from hazardous substances present in the products of fire combustion, hazardous chemicals, and blood or body fluids, you **MUST** clean, and if necessary, decontaminate or disinfect your NFPA Compliant Footwear after each exposure to such hazardous substances.

- 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** clean, dry, and store your Footwear according to the procedures in this User Guide.
- B.** Hazardous Chemicals:
1. Footwear at the scene should be handled to limit further exposure to hazardous chemicals, and exposure to others. Contaminated Footwear should be handled in accordance with federal, state and local regulations.
  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 HAIX® North America Authorized Clean and Repair Center to determine the feasibility of decontamination.
  3. **UNKNOWN MATERIALS:** If the contaminant is not known, any NFPA Compliant Footwear should remain out of service until the materials are identified. Always demand MSDS information and be prepared to share your findings with the HAIX® North America Authorized Clean and Repair Center to decontaminate the Footwear.
  4. If your Footwear cannot be decontaminated, it must be retired and disposed of in accordance with federal, state, and local regulations.

## **⚠ WARNING**

Only a trained expert in decontamination should attempt to decontaminate NFPA Compliant Footwear. Contact a HAIX® North America Authorized Clean and Repair Center to seek assistance in determining whether decontamination is possible, and the name of the appropriate organization to perform decontamination.

## 11.8 LAUNDRY SAFETY

In the health care field, Laundry and House Keeping Personnel are considered to be among those at risk to not only hazardous materials, but also to bloodborne pathogens primarily by exposure to sharps. Your fire department should have a Bloodborne Pathogens Written Exposure Control Plan. Part of this plan is decontamination, disinfection, and cleaning of Footwear, and it should include cleaning procedures and housekeeping safety procedures. You should follow all appropriate federal, state, and local regulations. See NFPA 1851-2014, Chapter 7.

Universal Precautions should always be observed, when handling soiled or contaminated Footwear.

### A. Blood and Body Fluids

1. **Disinfecting Products.** You must use disinfectants approved by and registered with the U.S. Environmental Protection Agency and shall also be registered as tuberculocidal. You must use disinfectants that are compatible with NFPA Compliant Footwear. If you have questions concerning the use of a particular disinfectant, contact a HAIX® North America Authorized Clean and Repair Center.

### 2. **Disinfecting Procedure for Blood and Body Fluids.**

Small incidental areas: Use an appropriate disinfectant available for Footwear. Always follow the instructions of the disinfectant manufacturer regarding product usage.

Large areas: If Footwear has large areas of coverage of blood or body fluids, place and transport Footwear in bags to prevent leakage. Contact a HAIX® North America Authorized Clean and Repair Center to arrange for disinfection.

B. Transporting of Footwear contaminated with blood or body fluids must be done in accordance with federal, state and local regulations.

## 12 REPAIR METHODS FOR HAIX® NFPA COMPLIANT FOOTWEAR

### **WARNING**

Before any repairs are made to your NFPA Compliant Footwear, it must be cleaned, decontaminated, and disinfected in accordance with this Guide. It is a violation of OSHA guidelines to expect workers to alter or repair soiled and possibly contaminated or infected Footwear.

All repairs to Footwear should be done at HAIX® North America Authorized Clean and Repair Centers, or by an expert trained by HAIX® North America. Unauthorized repairs made to Footwear invalidates all warranties and may expose wearer to hazardous or life threatening conditions. For a list of HAIX® North America Authorized Clean and Repair Centers, call HAIX® North America at: Toll free (866) 344-HAIX (4249).

## 13 STORING YOUR HAIX® NFPA COMPLIANT FOOTWEAR

Between incidents, and for longer-term storage, store your Footwear out of direct and indirect sunlight and fluorescent light and away from sharp objects.

Use fans to provide good ventilation to dry Footwear that may have absorbed water or sweat after a run and to assist in the removal of fire ground combustion products that may not have been removed by washing.

Moisture in your Footwear reduces your insulation, comfort, and overall protection during Structural fire fighting operations.

Failure to dry your Footwear will result in the growth of mildew and bacteria which could lead to skin irritation, rashes, or may affect the protective qualities of the Footwear.

Always clean and dry your Footwear in accordance with Section 11 of this Guide and before placing in long-term storage.

### ▲ WARNING

Avoid storing your Footwear in temperature extremes. Repeated cycles of heating and cooling can reduce the protective qualities and useful life of the Footwear. See Section 14 of this Guide for limitations on useful life.

### ▲ WARNING

NEVER STORE YOUR FOOTWEAR IN DIRECT SUNLIGHT, INDIRECT SUNLIGHT, OR IN FLUORESCENT LIGHT (FIG. 6). Exposure to light (particularly light in the sun's rays and fluorescent light) will severely weaken and damage components such as the moisture barriers, NOMEX® laces and thread in your Footwear after only A FEW DAYS. Damage caused by exposure to light cannot be repaired, nor will the manufacturer cover such damage in its warranty. (See Warranty Information, Section 16 of this Guide.)



### ▲ CAUTION

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

# 14 RETIRING YOUR HAIX® NFPA COMPLIANT FOOTWEAR

## 14.1 USEFUL LIFE

Generally, useful life is the period of time that Footwear, which has been properly used and cared for, may provide reasonable limited protection. Useful life is highly unlikely to be more than 5 years and, in fact, could be much shorter, based on the factors set forth below.

NFPA performance requirements are based on new, unworn Footwear. Thus, even if Footwear is not used, it should be retired as discussed in Section 14.2, pursuant to NFPA standards.

The following factors affect the useful life of your Footwear:

- A. Age and frequency of use - Footwear used at the busiest stations will not last as long as at less busy stations.
- B. Number and type of previous repairs - Footwear repaired many times in the same places will generally wear out sooner than less frequently damaged or repaired Footwear.
- C. Type of work the wearer performed - For example, toe areas of the Footwear that are used in crawling operations generally will wear out more quickly than other areas.
- D. The length of exposure to extreme heat and the intensity of the heat - Exposure to extreme heat can cause the leather outer layer and the inner lining to become brittle. Repeated cycles of low level, long-term exposure to heat can also damage moisture barrier materials.
- E. The length of exposure to hazardous chemicals – If there is exposure to hazardous chemicals, and decontamination is not fully effective, the Footwear may not be safe for further use.
- F. The length of exposure to direct or indirect sunlight, or other light sources such as fluorescent light - Tests and fire department surveys show that exposure to direct/indirect sunlight or fluorescent light causes the moisture barrier, and any Footwear component made with aramid fibers such as thread and laces, to become brittle, weak or degraded.
- G. Footwear more than 5 years old are highly likely to have exceeded their useful life and should be retired. In fact, as noted above, useful life could be much less than 5 years.
- H. Damage caused by use of non-authorized replacement parts such as insoles, zipper inserts, laces.
- I. Replacement of zippers worn improperly, incompletely zipped or damaged.
- J. Damage or wear to inner or outer heel area by zipper-style Footwear worn without proper sealing of zippers.
- K. Damage to inner liner by donning or doffing zipper Footwear without first properly unzipping.
- L. Footwear not properly cleaned and polished.

• NFPA performance requirements are based on new, unworn Footwear and Composites. Useful life varies depending on conditions of wear, maintenance, and storage.

• As a result, useful life is highly unlikely to be more than 5 years and, in fact, could be much shorter based on conditions of wear, maintenance, storage, and other factors.

If you have questions about whether to retire your Footwear, contact a HAIX® North America Authorized Clean and Repair Center.

Trained professionals with in-depth knowledge of Footwear and their limitations should handle the details of a retirement program. If you have any questions about the useful life and retirement of your HAIX® Footwear, get assistance before wearing your Footwear into any emergency situation!

Nothing in this section shall alter, affect, or extend the warranties set forth in Section 16. EXCEPT AS SET FORTH IN SECTION 16 OF THIS GUIDE, HAIX® NORTH AMERICA MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR USE, OR USEFUL LIFE.

## **14.2 RETIREMENT**

According to NFPA 1851 Standard on Selection, Care and Maintenance of Personal Protective Equipment (2014) (“NFPA Standard”), Footwear should be retired in one of several cases: (1) not more than ten years from the date of manufacture, (2) if Footwear is too damaged to be repaired, or (3) if parts have been replaced, when the oldest component reaches ten years old. For more detailed information, please consult the NFPA Standard in effect on the date of manufacture. Please keep in mind that this does not mean the useful life of Footwear will be close to ten (10) years. Please see the discussion in Section 14.1. Prior to the time for retirement as stated in the NFPA Standard, Footwear may have exceeded its useful life. As discussed in Section 14.1, we recommend that such Footwear be retired. Your Footwear should be assessed at each regular inspection described in Section 6 of this Guide to determine whether it has exceeded its useful life and should be retired, either pursuant to the NFPA Standard or because the Footwear’s useful life has expired, as discussed in Section 14.1.

# **15 DISPOSING OF RETIRED HAIX® NFPA COMPLIANT FOOTWEAR**

## **15.1 DISPOSAL**

Retired uncontaminated Footwear must be destroyed to prevent its unauthorized or mistaken use. Cut the uncontaminated, retired Footwear into pieces and dispose of properly. One suggested method of disposal is a landfill.

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

### **⚠ WARNING**

Never use retired Footwear for training purposes. Use of retired Footwear in hazardous situations could result in serious injury.

## 16 Harmful substances: PFAS and HAIX Footwear - Statement

Subject: Washington Bill (6413)

In response to the state of Washington Bill 6413, HAIX is providing this notice regarding PFAS in the firefighting boots produced by HAIX Schuhe.

With regard to the CROSSTECH inner liner, provided by W.L. Gore, the materials categorized as PFAS are a broad group of materials with very different properties and applications. Gore uses one type of PFAS in the technical footwear fabric: fluoropolymer PTFE. PTFE is extremely stable and not biodegradable. It is a large, stable molecule that is too large to be bioavailable. PTFE is non-toxic and safe for the enduser. PTFE is the raw material used to make the CROSSTECH membrane. No other PFAS are used in the production of Gore CROSSTECH fabric.

Although not intentionally used by Gore, some low molecular weight PFAS may be found as trace residuals in the raw material they use to make their products. Although the majority are eliminated during the manufacture of the inner liner, some small trace amounts may remain in the finished product. These residuals do not affect the safety or performance of the CROSSTECH inner liner.

With regard to the leather used in HAIX boots, HAIX sources its leather from two European leather producers. Heinen leather factory confirms that it abstains from the use of per- and polyfluorinated chemicals (PFAS) completely in their production process. The PSUNJ leather factory also does not use PFAS in their leather production as well. Both companies caution that since these substances are present all over the world and are very persistent, a full PFA-free product cannot be guaranteed.

In conclusion, HAIX confirms that no PFAS are used in the manufacture and production of HAIX boots. While no PFAS are used, we cannot guarantee that HAIX boots do not

## 17 LIMITED WARRANTY INFORMATION

Except for the limited warranties expressly stated in this Section, the Footwear is sold AS IS and WITH ALL FAULTS and Seller makes NO REPRESENTATION OR WARRANTY in connection with this sale, either express or implied, AS TO MERCHANTABILITY AND/OR FITNESS FOR ANY PURPOSE.

HAIX® North America warrants that its Footwear meets or exceeds all applicable NFPA standards with respect to performance and design in effect at the time of their manufacture and further warrants that such products are free from any defect in workmanship or any patent material defect. The limited warranties in the preceding sentence and remedies in connection with such warranties are limited as set forth in this Section.

Conditions of use, including, but not limited to, the useful life of Footwear, are outside the control of HAIX® North America and HAIX® North America makes no warranty, either express or implied, with respect thereto.

It is the responsibility of the user to inspect and maintain the products to assure they remain fit for their intended purpose. In order to maximize the useful life of these products and maintain the warranty, the products are to be used only by appropriately trained personnel following proper procedures and in accordance with the product's warning, use, inspection, maintenance, care, storage, and retirement instructions.

HAIX® North America shall honor limited warranty claims on HAIX® North America NFPA boots for a period of one (1) year. The limited warranty time period begins on the date that the equipment was delivered to the original retail purchaser, or three months after the product is sent to a North American HAIX® North America Dealer.

EXCEPT AND TO THE EXTENT OTHERWISE EXPRESSLY PROVIDED FOR ABOVE, HAIX® NORTH AMERICA MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE. IN SO FAR AS IT IS PERMITTED UNDER APPLICABLE LAW, ALL OTHER WARRANTIES ARE SPECIFICALLY EXCLUDED, INCLUDING WARRANTIES ARISING BY STATUTE, COURSE OF DEALING, OR USAGE OF TRADE.

### **17.1 EXCEPTIONS TO LIMITED WARRANTY**

The following are excluded from the provisions of this limited warranty: (Note that this list is not all inclusive)

- A. Damage caused by improper cleaning or maintenance (for example, use of bleach or petrochemicals to clean);
- B. Any repairs not made by a HAIX® North America authorized repair center;
- C. Damage caused by the use of non-authorized replacement parts or accessories such as insoles, zippers, inserts, laces or lace replacements;
- D. Damage from routine exposure to common fire scene hazards;
- E. Loss of trim reflectivity due to normal wear;
- F. Detachment of reflective trim due to thread abrasion or heat exposure;
- G. Replacement of zippers which have been damaged by improper use;
- H. Damage or excessive wear due to zipper equipped footwear being worn with the zipper fully or partially unzipped;
- I. Damage which results from putting on or taking off footwear before unzipping the zipper where applicable;
- J. Any damage which results from the zipper being used without a zipper anchor;
- K. Re-soling by other than a HAIX® North America authorized repair center.

## 18 SOURCES AND FOR FURTHER INFORMATION

- International Fire Service Training Association, (IFSTA). 1998. Essentials of Fire Fighting. 4th Edition, (1998 Edition)
- Lawson, James R. "Thermal Performance and Limitations of Bunker Gear." Fire Engineering, August, 1998, 37-56
- National Fire Protection Association 1971: Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 Edition
- National Fire Protection Association 1992: Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies 2018 Edition
- National Fire Protection Association 1999: Standard on Protective Clothing for Emergency Medical Operations, 2018 Edition
- National Fire Protection Association 1951: Standard on Protective Ensembles for Technical Rescue Incidents, 2013 Edition
- National Fire Protection Association 1977: Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2016 Edition
- National Fire Protection Association 1851: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire fighting and Proximity Fire fighting, 2014 Edition
- National Institute for Occupational Safety and Health. 1989. Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public-Safety Workers.
- Occupational Safety and Health Administration. 1991. Occupational Exposure to Bloodborne Pathogens: Final Rule. 29 CFR Part 1910.1030, Federal Register.
- Occupational Safety and Health Administration. Occupational Safety and Health Standards, Subpart I: Personal Protective Equipment", 29 CFR 1910.132
- Southern Area Fire Equipment Research (SAFER). 1994. PPE Care and Use Guidelines.
- TRI/Environmental. 1994. Decontamination of Structural Fire Fighting Protective Clothing and Equipment, Draft Final Report.
- Veghte, James H, Ph.D. 1988. Fire Fighters' Protective Clothing: Design Criteria. 2nd Edition.
- West KH:, 1992. Infectious Disease Handbook for Emergency Care Personnel, 2nd Edition. Cincinnati: ACGIH, Cincinnati, Ohio.
- Canadian Standards Association: Standard for Protective Footwear Z195, 2014 Edition
- ASTM F2892-2018: Standard Specification for Performance Requirements for Soft Toe Protective Footwear (Non-Safety / Non-Protective Toe)
- For Further Information, contact

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### **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 provided with any piece of equipment you may be called upon 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 or other severe injury.



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