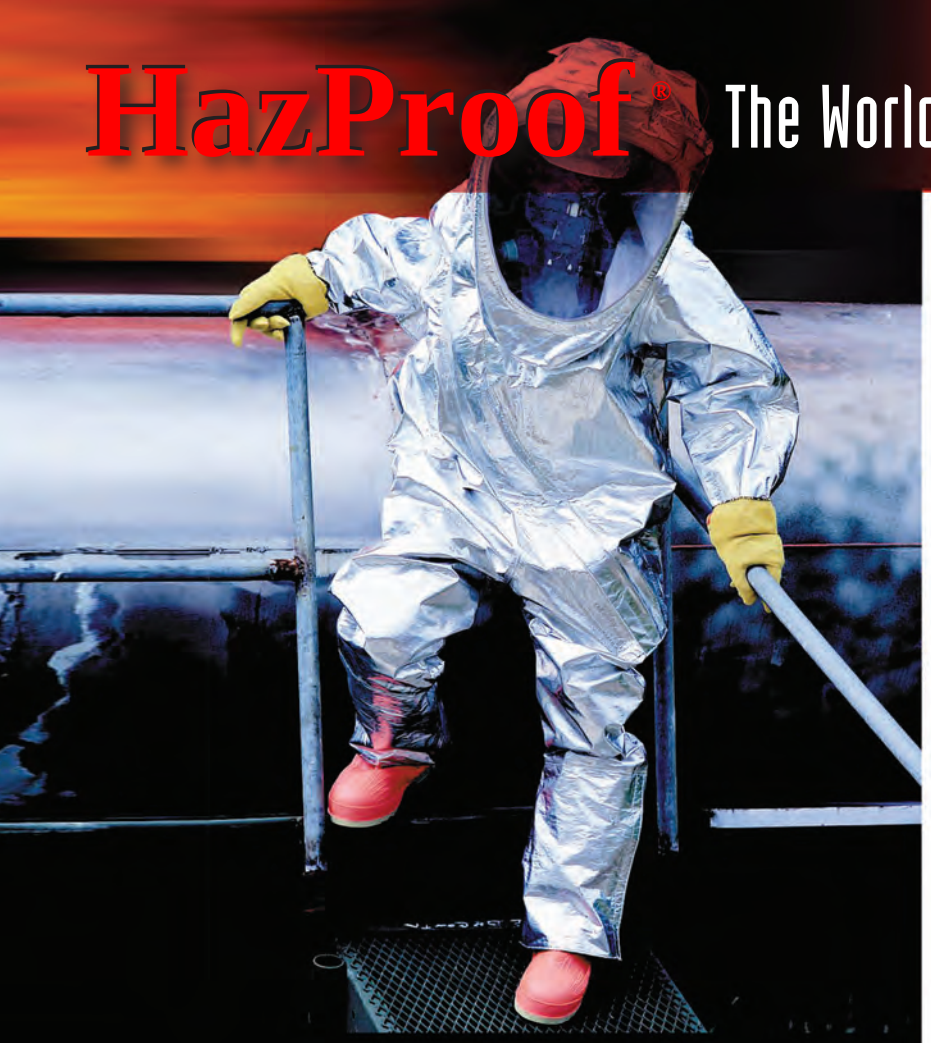
HazProof® The World's Most Advanced Hazmat Boot



The best fitting, most comfortable Hazmat Boot available!

HazProof® Certified To NFPA 1991 For Chemical And Hazmat Cleanup, Emergency Response, And Domestic Preparedness

Made of special polymers, this comfortable boot meets the protective footwear chemical permeation requirements of NFPA 1991 Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies. The HazProof boot has also been tested to Military Standard 282 and will provide protection against certain chemical warfare blister and nerve agents.

- **Injection molded seamless construction for 100% liquid proof protection.**
- **Larger foot area is engineered to accommodate the extra bulk of an encapsulated suit, for comfortable fit.**
- **Smooth exterior surface for easy decontamination.**
- **Replaceable stretch fastener closure system allows for easy on and off while wearing gloves.**
- **Meets ASTM F2413 M I/75 C/75 EH, for Steel Toe Impact and Compression, and Electric Hazard Protection.****
- **Steel midsole meets ASTM F2413 PR.**
- **Steel shank provides firm arch support.**



Sure Grip Outsole: Excellent abrasion and slip resistance.

HazProof Boot meets or exceeds the following:

NFPA 1991 – 2016
Permeation Resistance – **ASTM F739** and **ASTM F1001** – 21 Chemicals
Permeation Resistance – **MIL-STD-282**
Flame Resistant – **ASTM F1358**
Puncture Propagation Upper – **ASTM F1342**
Exceeds Protection Minimum Upper (Height)
Electric Hazard – **ASTM F2413 EH**
Puncture Resistance Sole & Heel – **ASTM F2413 PR**
Abrasion Resistance Sole & Heel – **ISO 4649**
Toe Impact Resistance – **ASTM F2413 M I/75**
Toe Compression Resistance – **ASTM F2413 M C/75**
Slip Resistance – **ASTM F2913**
Cut Resistance Upper – **ASTM F1790**
Ladder Shank Bending Resistance – **NFPA 1991**



- **Closed cell EVA midsole for all day cushion comfort.**
- **Sure grip cleated outsole has excellent abrasion and slip resistance.**
- **Bright orange color for high visibility.**

Ideal Applications: Chemical and Hazmat Cleanup, Ammonia Refrigeration Leaks.

Chemical Resistance: Hazardous Wastes, Acids, Caustics, and other chemicals.

HAZPROOF BOOT SURE GRIP OUTSOLE		
82330	Orange Upper – Cream Outsole – Ht. 11" – Steel Toe	6 - 13*
RF823	Replacement Stretch Fasteners - 6 pc/bag	

*Size 13 oversized foot bed design will accommodate foot sizes up to 16.

HazProof® is a registered trademark of Tingley Rubber Corp.

****Boot shall withstand 18,000 volts at 60 HZ for 1 minute with no current flow or leakage current in excess of 1.0 milliamperes under dry conditions tested as per lab conditions in Test Method F2412.**

Electrical Hazard soles and heels are intended to reduce the hazards due to accidental contact with live electrical circuits, electrically energized conductors, parts, or apparatus. Electric Hazard soles and heels are not intended for wear in those work environments where volatile chemicals or explosives may be present, where conductive footwear is required.

Warning: *Electric Hazard features of the soles and heels, will deteriorate in wet environments and when worn with excessive wear on the soles and heels.*

#4049 8/16

SIMLU HOLDINGS

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NFPA 1991, 2016 Edition Chemical Permeation Boot Requirement

Chemical Permeation Test Data (ASTM F739)

Tingley HazProof® Boots	Cumulative Permeation (µg/cm2) over Test Period Interval				
Test Period Interval	**0-15 min**	**15-30 min**	**30-45 min**	**45-60 min**	**1-hour total**
Chemical/Requirement	**≤ 2.0**	**≤ 2.0**	**≤ 2.0**	**≤ 2.0**	**≤ 6.0**
Acetone	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Acetonitrile	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Acrolein	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Acrylonitrile	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Anhydrous ammonia (gas)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
1,3, Butadiene (gas)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Carbon disulfide	0.24	0.15	0.28	0.13	< 0.40
Chlorine (gas)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Dichloromethane	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Diethyl amine	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Dimethyl formamide	< 0.20	< 0.20	< 0.20	< 0.20	< 0.80
Dimethyl sulfate	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Ethyl acetate	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Ethylene oxide (gas)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Hexane	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Hydrogen chloride (gas)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Methanol	0.13	0.12	0.13	0.12	0.50
Methyl chloride (gas)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Nitrobenzene	< 0.20	< 0.20	< 0.20	< 0.20	< 0.80
Sodium hydroxide (50%w/w)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Sulfuric Acid (96%w/w)	< 0.10	0.14	< 0.10	< 0.10	0.44
Tetrachloroethylene	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Tetrahydrofuran	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Toluene	< 0.10	< 0.10	< 0.10	< 0.10	< 0.40
Chemical Warefare Agents					
Blister Agent Requirements	**≤ 1.33**	**≤ 1.33**	**≤ 1.33**	**≤ 1.33**	**≤ 4.00**
Distilled Mustard (HD)	<0.2	<0.2	<0.2	<0.2	<0.2
Nerve Agent Requirements	**≤ 0.40**	**≤ 0.40**	**≤ 0.40**	**≤ 0.40**	**≤ 0.40**
Soman (GD)	<0.05	<0.05	<0.05	<0.05	<0.05
Optional Liquefied Gases*	**≤ 6.0**	**--**	**--**	**--**	**≤ 6.0**
Ammonia (liquefied)	<0.10	--	--	--	<0.10
Chlorine (liquefied)	0.23	--	--	--	0.23
Ethylene oxide (liquefied)	<0.10	--	--	--	<0.10

*Liquefied chemical gases are only evaluated over 15-minute exposure period

Additional Permeation Resistance Test, Boot Upper. Testing with Chemical Agents under Military Standard 282 has demonstrated permeation resistance to standard static diffusion tests (duration: 24 hrs.) as follows:

	Breakthrough Time Hours:	
Blister Agents:		
Mustard: HD	> 14 hours	(Method 204.1.2; Static Diffusion method)
Nerve Agents:		
Sarin: GB	> 24 hours	(Method 206.1.3; Static Diffusion method)
Nerve: VX	> 24 hours	(Method 204.1.2; " " " modified for use with VX)
Soman: GD	> 24 hours	(Method 206.1.3; " " " modified for use with GD)
Tabun: GA	> 24 hours	(Method 205.1.3; " " " modified for use with GA)

Designed to Fit

When compared to the competition, HazProof's oversized foot bed provides superior fit and comfort when wearing an encapsulated suit.

Tingley Size 10

Competitor Size 10



Tingley Size 13

Competitor Size 15

