

INDUSTRIAL HEAT PROTECTIVE CLOTHING AND ACCESSORIES



Fyrepel

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Material Selection

Fyrepel offers the 900 and 700 Series in Aluminized Glass only. The 500 and 300 series are offered with a choice of materials. Each fabric has specific properties that help you decide your material selection.

Aluminized Glass

Aluminized Glass combines the reflectivity of an aluminized outer surface with glass fabric. Glass fabric neither burns or supports combustion, and offers a combination of properties from high strength to fire resistance. It is a stable material that will not stretch or shrink, even after exposure to extremely high or low temperatures.

Aluminized Nomex®

This material combines an aluminized outer surface with Nomex®, an inherently flame resistant material of Aramid fiber by DuPont. Though considered expensive, it is very durable, proving to be a cost effective material in the long run.

Caution! Do Not Confuse Ambient, Conductive and Radiant Heat!

The following definitions are given as reference in selecting the proper clothing for heat protection.

Ambient Heat is surrounding atmospheric temperature in a given situation. Examples are: 65°F-70°F (18°C-21°C) in an office; 2000°F (1092°C) in a fire walk.

Conductive Heat is generated by direct contact with a hot surface. Examples are: picking up a burning block at 600°F (315°C); leaning against a furnace wall at 1000°F (537°C).

Radiant Heat is generated by the sun or source of fire, such as a fireplace or furnace, and is absorbed by masses of material struck by the heat's rays. This is why it is cooler in the shade on a sunny, hot day.

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900 Series Kiln Entry Suit



The 900 Series is tailored to be worn with a self-contained breathing apparatus (SCBA).

This Kiln Entry suit is for workers who must function in kiln or other extreme heat situations that do not involve total flame, but require high quality heat protection. Fyrepel's unparalleled insulation capabilities make these 900 Series Suits the top choice for tough jobs, such as furnace repairs at high ambient temperatures in the steel, glass and ceramic industries, or where high pressure steam is a threat in petrochemical and chemical plants.

Fyrepel 900 Series Kiln Entry Suits put multiple layers of glass and an extra layer of aluminized glass between you and dangerous heat or non-ferrous splash. These suits are tailored to be worn with a self-contained breathing apparatus (SCBA) for protection in hostile atmospheres. Faceshield protection is provided

by a multi-layered system of tempered glass and reflective gold on a heat resistant lens. The hoods have excellent lateral and vertical visibility.

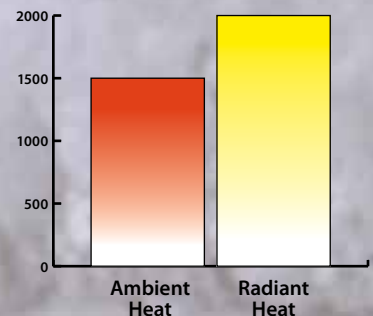
The 900 Series Kiln Entry Suit comes complete with a hood, coat, pants, mitts and boots. The 900 Series Kiln Entry Suit is available in two sizes; the 900/R fits heights from 5'10" up to 6'1", with weights ranging from 170 lbs. up to 210 lbs. The 900/SS fits heights from 5'5" up to 5'9", with weights ranging from 140 lbs. to 165 lbs. Individual replacement components are available. Note: For safety precautions, two personnel should be suited to aid one another and work in relays.

The 900 Series Kiln Entry Suit is not to be used for fire entry.

Applications

The Kiln Entry Suit offers high heat protection where exposure to total flame is unlikely. Kiln maintenance is possible after kiln cools down to 1500°F (833°C). The 900 Series Suit is used to clear dropped ware from enameling furnace, repair chain or muffles, and perform other furnace repairs in steel, glass and ceramic industries where entry into high ambient temperatures is necessary. The 900 Series suit protects against high pressure steam encountered in chemical and petrochemical plants, and may also be used as a fire proximity suit.

Heat Tolerances



The graphs above are provided for relative comparison of radiant and ambient heat performance of Lakeland's Industrial Heat Protective Clothing. The temperatures indicated are extrapolated from laboratory tests and ARE NOT intended to indicate suitability for use at these temperatures. Individual physiology, work conditions, and the work being performed are too variable to make recommendations for use based only on temperature and exposure time.

Model Numbers

- 900/R** Kiln Entry Suit, complete, SCBA accommodations.
- 900/SS** Kiln Entry Suit, Complete SCBA accommodations.

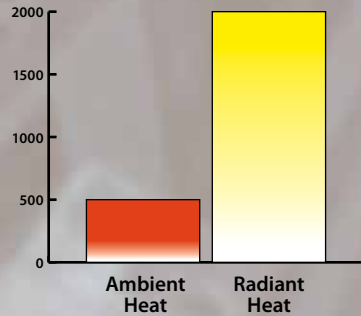
Suit Components

- 910** Kiln Entry Hood
- 920/R** Kiln Entry Coat
- 930/R** Kiln Entry Pants
- 920/SS** Kiln Entry Coat
- 930/SS** Kiln Entry Pants
- 955** Kiln Entry Boots
- 940** Kiln Entry Gauntlet

Applications

700 and 705 Series Proximity Suits are used by industries which bake on finishes, such as auto, office furniture, and appliance manufacturers. The Proximity Suits may also be used in oven and conveyor repair.

Heat Tolerances



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Model Numbers

- 700/BA** Proximity Suit complete, SCBA accommodation.
- 700** Proximity Suit complete.
- 705/BA** Proximity Coverall complete, SCBA accommodation.
- 705** Proximity Coverall complete.

Suit Components

- 710-AGLG/BA** Proximity Hood
- 710-AGLG** Proximity Hood
- 722 AG/BA** Proximity Coverall
- 722 AG** Proximity Coverall
- 720/BA** Proximity Coat
- 720** Proximity Coat
- 730** Proximity Pants
- 755** Proximity Boots
- 740** Proximity Mitts

700/705 Series Proximity Suits



Left, the 700 Series Proximity Suit, featuring a coat and pants. Right the 705 Series Proximity Coverall.

Fyrepel's 700 and 705 Series Proximity Suits are designed for performance of maintenance and repairs in high heat areas. Workers wearing these proximity garments are insulated from harm by Fyrepel's unique, proven multi layer construction, with the outer layer composed of high temperature Aluminized Glass. An additional moisture/steam barrier lining provides protection in areas where exposure to hot liquids, steam, or hot vapor is a possibility. Redesigned for better fit, the 700 and 705 Series Suits are available in coverall or coat and pant styles.

The coverall or the coat and pant styles are available with an SCBA accommodation, if required. The 700 Series Suit comes complete with a hood, gold reflective faceshield, coat, pants, mitts and boots. The 705 Series Coverall comes complete with a hood with gold reflective faceshield, coverall, boots and mitts. Both series are offered in sizes Small, Medium, Large and Extra Large. Individual replacement components are available. Handy duffel/storage bags are also available.

The 700/705 Series Proximity Suits are not to be used for fire entry.

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500/505 Series Approach Suits



At left, the 500 Series Approach Suit, featuring a coat and pant. Right, the 505 Series Approach Coverall.

The 500 and 505 Series Approach Suits are designed for personnel engaged in maintenance, repair and operational tasks in areas of low ambient, high radiant heat. These superior protective approach suits are available with two outer surface material choices: Aluminized Glass or Aluminized Nomex®. An additional moisture/steam barrier lining protects in areas where exposure to hot liquids, steam, or hot vapor is a possibility.

The 500 and 505 Series Suits are available in coverall or coat and pant styles, with or without SCBA accommodations. The 500 Series suit

comes complete with a hood with gold reflective faceshield, coat, pants, gloves and boots. The 505 Series Coverall comes complete with a hood with gold reflective faceshield, coverall, gloves and boots.

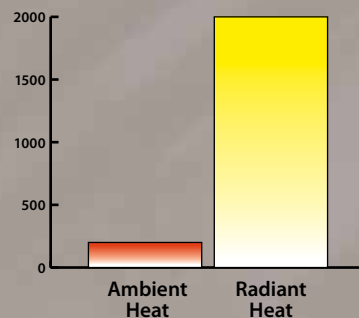
Handy duffel/storage bags are also available. The 500 and 505 Series Approach Suits are available in sizes Small, Medium, Large, and Extra Large. Individual replacement components are available.

The 500/505 Series Approach Suits are not to be used for fire entry.

Applications

500 and 505 Series Approach Suits are used by power plants, cement manufacturers, foundries, ceramic, glass and plastic manufacturers, chemical processing. Suits protect employees exposed to extreme radiant heat for relatively prolonged period of time.

Heat Tolerances



The graphs above are provided for relative comparison of radiant and ambient heat performance of Lakeland's Industrial Heat Protective Clothing. The temperatures indicated are extrapolated from laboratory tests and ARE NOT intended to indicate suitability for use at these temperatures. Individual physiology, work conditions, and the work being performed are too variable to make recommendations for use based only on temperature and exposure time.

Model Numbers

- 500AG/BA** Approach Suit complete, SCBA accommodation.
- 500AG** Approach Suit complete.
- 505AG/BA** Approach Coverall complete, SCBA accommodation.
- 505AG** Approach Coverall complete.

Suit Components

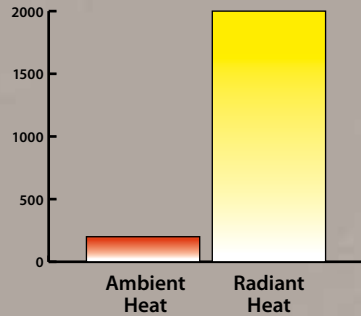
- 510-2AGLG** Approach Hood
- 510-1AGLG** Approach Hood
- 522 AG/BA** Approach Coverall
- 522 AG** Approach Coverall
- 520-32AG/BA** Approach Coat
- 520-32AG** Approach Coat
- 530AG** Approach Pants
- 555AG** Approach Boots
- 344-02A** Gauntlet Glove



Applications

300 and 305 Series Approach Suits are used by power plants, cement manufacturers, foundries, ceramic, glass, and plastic manufacturers, chemical processing. Suits protect employees exposed to extreme radiant heat for relatively prolonged periods of time.

Heat Tolerances



The graphs above are provided for relative comparison of radiant and ambient heat performance of Lakeland's Industrial Heat Protective Clothing. The temperatures indicated are extrapolated from laboratory tests and ARE NOT intended to indicate suitability for use at these temperatures. Individual physiology, work conditions, and the work being performed are too variable to make recommendations for use based only on temperature and exposure time.

Model Numbers

- 300AG/BA** Approach Suit complete, SCBA accommodation.
- 300AG** Approach Suit complete.
- 305AG/BA** Approach Coverall complete, SCBA accommodation.
- 305AG** Approach Coverall complete.

Suit Components

- 310-2AGLG** Approach Hood
- 310-1AGLG** Approach Hood
- 322 AG/BA** Approach Coverall
- 322 AG** Approach Coverall
- 320-32AG/BA** Approach Coat
- 320-32AG** Approach Coat
- 330AG** Approach Pants
- 355AG** Approach Boots
- 344-02A** Gauntlet Glove

300/305 Series Approach Suits



Left, the 300 Series Approach Suit, featuring a coat and pants. Right the 305 Series Approach Coverall.

These heat reflective 300 and 305 Series Approach Suits are designed for personnel engaged in maintenance, repair and operational tasks in areas of low ambient, high radiant heat, much the same as our 500/505 Series. However, the 300 and 305 Series Approach Suits have no moisture/steam barrier, making these garments suitable for situations where exposure to hot liquids, steam or hot vapor is not a possibility.

Like the 500/505 Series, these protective approach suits are available with two outer surface material choices: Aluminized Glass or

Aluminized Nomex®. The 300 and 305 Series Suits are available in coverall or coat and pant styles, with or without SCBA accommodations. The 300 Series suit comes complete with a hood with gold reflective faceshield, coat, pants, gloves and boots. The 305 Series suit comes complete with a hood with gold reflective faceshield, coverall, gloves and boots.

Handy duffel/storage bags are also available. The 300 and 305 Series Approach Suits are available in sizes Small, Medium, Large and Extra Large. Individual components are available.

The 300/305 Series Approach Suits are not to be used for fire entry.

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Vortex® Personal Air Conditioner

Personal Air Conditioners (PAC's) were created to keep workers who wear protective clothing comfortable in extremely hot working environments. The cooling system is composed of two components; the Vortex Tube and the Diffuse Air Vest. The Vortex Tube uses compressed air at 70-100 PSIG to produce cold air to cool a worker in protective helmets, hoods and suits. Temperature ranges of up to minus 60 F (16 C) cooler than the inlet temperature can be achieved without electricity, explosion hazard, or RF interference. The Vortex Tube has 3/4" garden-hose thread breathing tube connections, and includes a waist belt quick disconnect and an air noise muffler.

The Tube is connected to the second component of the cooling system, a diffuse air vest. The Vortex Diffuse Air Vest makes the most efficient use of the cooling power of a PAC by distributing the tempered air over the upper body, where it's needed the most. The vest allows a full range of motion without restricting air flow, while Velcro closures permit quick and easy on-off procedures. The vest fits workers up to 6'3" (190.5 cm) tall, and up to 210 lbs (95.3 kilos) in weight.

Performance Data

Normal Operating Pressure	70-100 PSIG
Airflow to Helmet/Suit	16-25 SCFM
Total Air Consumption @ 100 PSIG	25 SCFM

Note: Special connections and high-flow tubes are also available. Performance data may vary with compressed air hose length and type of helmet or hood.

How PAC's Deliver Cooled/Heated Air

Fluid (Air) that rotates around an axis (like a tornado) is called a vortex. A Vortex® Tube creates cold air and hot air by forcing compressed air through a generation chamber, which spins the air at a high rate of speed into a vortex. The high-speed air heats up as it spins along the inner walls of the tube toward the control valve. A percentage of the hot air is allowed to exit at the control valve. The remainder of the now slower air stream is forced to counter flow up through the center air stream in a second vortex. The slower vortex gives up energy in the form of heat, and becomes cooled as it spins up the tube. The chilled air exits through the opposite end as extremely cold air. Vortex® Tubes generate temperatures down to 100°F (37.7°C) below the inlet temperature.



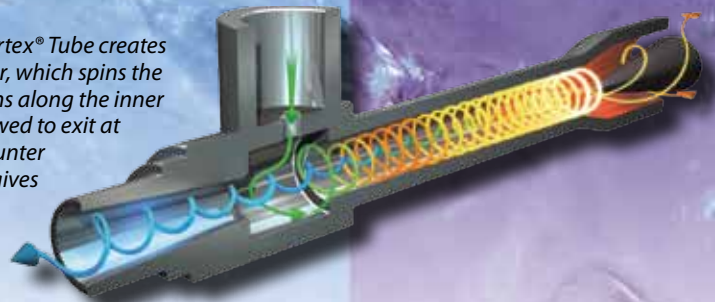
Model Numbers

- 167-1** Vortex® Tube attached to Diffuse-Air Vest.
- 167-2** Vortex® Tube attached to head tube (no Diffuse-Air Vest).
- 167-3** Vortex® Tube attached to head and arm tubes (no Diffuse-Air Vest).
- 167-4** Vortex® Tube attached to Diffuse-Air Vest, head and arm tubes).
- 167-5** Vortex® Tube attached to Diffuse-Air Vest, head, arm and leg tubes).
- 167-6** Vortex® Tube attached to Diffuse-Air Vest and head tube.

Replacement Components

- 129** Diffuse-Air Vest
- 167** Vortex® Tube only with belt

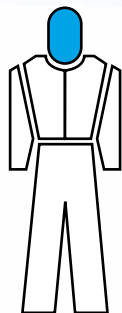
Caution: Vortec's Personal Air Conditioners and Diffuse-Air Vests are intended to provide worker comfort in hot working environments. They are not intended to provide protection from hazardous conditions. A separate source of air must be provided.



The Vortex® Cooling System is available in six styles that allow different combinations of cooling. The Vortex® System can be used with Proximity and Approach Suits.



Style 167-1
Vest Cooling



Style 167-2
Head Cooling



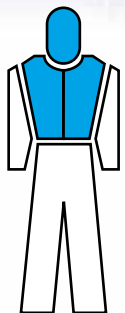
Style 167-3
Head and Arm Cooling



Style 167-4
Vest, Head and Arm Cooling



Style 167-5
Vest, Head, Arm and Leg Cooling



Style 167-6
Vest and Head Cooling

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Accessories

Accessory and Replacement Gear



Lift Front Hood

This 300 series heat reflective hood is useful in areas of low ambient high radiant heat. With the lift up faceshield, this hood is perfect for many industrial applications. This style hood is available in a choice of two aluminized materials; Aluminized Glass, and Aluminized Nomex®.

Model Numbers

311__L – Aluminized Approach hood with movable 8" x 13" (20.32 cm x 33.02 cm) polycarbonate faceshield with neoprene-coated aramid felt liner, clear faceshield.

311__LG – Aluminized Approach hood with movable 8" x 13" (20.32 cm x 33.02 cm) polycarbonate faceshield with neoprene-coated aramid felt liner, gold faceshield.

In the above style numbers, specify fabric choice by inserting AG for aluminized glass or AN for aluminized Nomex® in the blank spaces provided. If no fabric is specified when ordering, aluminized glass will be used.



Approach Hood

Perfect as replacement items for our 500 and 300 series suits or coveralls, these hoods are designed for maintenance, repair and operational tasks in areas of low ambient, high radiant heat. Winglocks on faceshield make for quick and easy replacement.

Model Numbers

310-1__L – Approach hood with hardcap, 6" x 10" (15.24 x 30.48 cm) clear faceshield, wing lock.

310-1__LG – Approach hood with hardcap, 6" x 10" (15.24 x 30.48 cm) gold faceshield, wing lock.

310-2__L – Approach hood with hardcap, 6" x 10" (15.24 x 30.48 cm) clear faceshield, SCBA accommodation.

310-2__LG – Approach hood with hardcap, 6" x 10" (15.24 x 30.48 cm) gold faceshield, SCBA accommodation.

In the above style numbers, specify fabric choice by inserting AG for aluminized glass or AN for aluminized Nomex® in the blank spaces provided. If no fabric is specified when ordering, aluminized glass will be used.

Faceshield available bolted to frame instead of winglocks; to order bolted style, add T to end of model number.



Heat Protective Hood

Many fire fighters use this style hood as an additional heat protective barrier to their standard turnout gear. Permanently flame retardant, it stretches to fit all sizes under a hard hat or fire helmet. It can be used with any style of SCBA.

Model Numbers

119-NM – Lightweight Nomex® heat protective hood.



320-50 AG Approach Coat.



320-32 AG/BA Approach Coat with optional SCBA accommodation.



330AG Approach Pants.



522AG Approach Coveralls

Approach Coats

Non-insulated approach coats are offered in both the 300 and 500 Series styles. The 500 series has the added benefit of a moisture/steam barrier lining. These coats are ideal as replacements for lost or worn suits, or as the primary protector in situations where only a coat is required. Both the 300 and 500 series are available in aluminized glass or aluminized Nomex®.

Replacements coats for 300 and 500 Series suits are offered in 32" (76 cm) lengths. Additional coats are available in 36", 40", 46" and 50" (81 cm, 102 cm, 127 cm) lengths. Coats are offered in sizes Small, Medium, Large, and Extra Large. Also available with SCBA accommodation.

Model Numbers

320__ – Aluminized Approach coat.

320-__/BA – Aluminized Approach Coat with optional SCBA accommodation.

In the above style numbers, specify fabric choice by inserting AG for aluminized glass or AN for aluminized Nomex® in the blank spaces provided. If no fabric is specified when ordering, aluminized glass will be used.

Approach Pants and Coveralls

Fyrepel non-insulated approach pants and overalls are available in either the 500 or 300 series. The 500 series added moisture/steam barrier provides protection from environments where exposure to hot liquids, steam or hot vapor is a possibility. The pants are offered in either a big or waist style, and are a compliment to the approach coats. The approach coveralls are offered with the option of SCBA accommodations. Both the 300 and 500 series are available in aluminized glass or aluminized Nomex® materials. Pants are offered in sizes Small, Medium, Large, and Extra Large.

Model Numbers

330__ – Aluminized Approach pants.

522__ – Aluminized Approach Coveralls.

In the above style numbers, specify fabric choice by inserting AG for aluminized glass or AN for aluminized Nomex® in the blank spaces provided. If no fabric is specified when ordering, aluminized glass will be used.

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300 Series Approach Boots

The 300 series approach boots are non-insulated and are useful for maintenance and operational tasks in areas of low ambient, high radiant heat. The 355AG boots offer a texturized anti-skid neoprene sole with a substrate of high temperature glass.

Model Numbers

355AG – Aluminized Approach boot.



755 Insulated Proximity Boot

The 755 Insulated Proximity Boot is useful in areas of high heat, and features an added moisture/steam barrier.

Model Numbers

755 – Insulated Proximity Boot.



Rubber Fireman's Boot

Model Numbers

155N – Rubber Fireman's Boot.



300 Series Sleeves

Indispensable where workers may make accidental contact with hot metal, glass, or high heat surfaces. Sleeves are offered in non-insulated approach styles, in 12", 18" and 24" (30 cm, 46 cm, 61 cm) lengths.

Model Numbers

336-18AG – Aluminized Sleeves.



300 Series Approach Apron

These versatile approach aprons offer superior protection against radiant heat. Non-insulated aprons are available in surgeon styles and in various lengths. The non-insulated styles are offered in aluminized glass.

Model Numbers

325-48AG – Approach Apron.

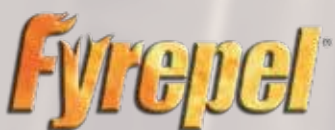


Aluminized Curtain and Blankets

Available insulated or non-insulated, these curtains and blankets provide protection from high heat work environments. Their heat-reflective surfaces are available in aluminized glass. Non-aluminized plain glass curtains and blankets are also offered. All blankets are constructed to your dimensions and are priced per square foot.

Model Numbers

182AG – Aluminized Curtain.





900 Series Kiln Entry Mitt

Model Numbers

940 – Kiln Entry Mitt.



700 Series Proximity Mitt

Model Numbers

740 – Insulated Proximity Mitt.



300 Series Approach Mitt

Model Numbers

344-08 – Approach Gauntlet, leather palms.

344-02A – Approach Gauntlet, leather palms.



Storage Bag

Fyrepel offers these rugged duffel bags for storing and carrying our heat protective garments. Constructed of Red Cordura material, these bags are large enough to stow gear, yet easy to carry. Features heavy duty handles and a self-healing zipper.

Model Numbers

PGKC15 – Storage Bag.



WARNING!

Improper use of these suits may result in personal injury or death. Improper use includes, but is not limited to improper selection, use without adequate training, disregard of the warnings and instructions supplied with the suits and failure to inspect and maintain the suits.

This catalog contains general descriptions of certain Fyrepel® products. While some uses and performance capabilities are described, under no circumstances should the product be used except by qualified personnel, and not until the instructions, labels or other literature that may accompany the products have been carefully read and understood and the precautions therein set forth followed. Only they contain the complete and detailed information concerning these products.

There are many factors that must be taken into consideration when determining the appropriate level of protection. Consequently, selection of protective clothing must be done by an industrial hygienist or other NFPA or OSHA trained and qualified individual.

Fyrepel® believes the information herein is the best currently available. It is subject to revision as additional knowledge and experience are gained. Fyrepel® makes no guarantees of results and assumes no obligation or liability in connection with this information.

There are uses and environments for which this garment is unsuitable. It is the user's sole responsibility to determine that this garment is appropriate for the intended use and complies with all health and safety laws and regulations.

Accordingly, the manufacturer makes no guarantees, representations, or warranties in respect of these products, including, but not limited to, warranties of merchantability, and or warranties of fitness for any purpose. The manufacturer shall not be liable for any loss, injury or death or any direct or indirect damages arising out of the use of this product.

Fyrepel® is a division of Lakeland Industries, Inc.

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