Industrial Heat Protective Clothing and Accessories
Buyers Guide

800-645-9291
www.lakeland.com
Material Selection

Lakeland offers the 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. Aluminized Nomex is only offered in a limited number of styles.

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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Lakeland’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 Lakeland’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.

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
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
- **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

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

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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. 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.
300/305 Series Approach Suits

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  Approach Suit complete.
305AG  Approach Coverall complete.

Suit Components
310-2AGLG  Approach Hood
310-1AGLG  Approach Hood
322 AG  Approach Coverall
320-32AG  Approach Coat
330AG  Approach Pants
355AG  Approach Boots
344-02N  Gauntlet Glove

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. 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.
Personal Air Conditioners (PACs) 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 airflow, 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.

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.
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.

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.

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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.

Model Numbers

320_ _ – Aluminized Approach coat.

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. 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.
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.
700 Series Proximity Mitt
Model Numbers
740 – Insulated Proximity Mitt.

300 Series Approach Mitt
Model Numbers
344-08 – Approach Gauntlet, leather palms.
344-02N – 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 Lakeland® 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.

Lakeland® believes the information herein is the best currently available. It is subject to revision as additional knowledge and experience are gained. Lakeland® 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.

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