



ALUMINIZED PERSONAL PROTECTIVE APPAREL

Overview:

Aluminized personal protective apparel is used to protect against molten metal splash and excessive radiant heat. Often called proximity gear, or proximity suits – it is commonly used in foundries, metal processing operations, furnace maintenance jobs, industrial firefighting and a host of other applications and industries.

The best PPE for your environment depends on numerous factors including the exposure times and temperatures, ambient temperatures, the weight of the objects you handle, your need for dexterity, and your durability requirements. It is also important to determine the types of heat that pose the greatest risk -radiant, conductive, and/or convective heat. Radiant heat is transmitted through space by hot objects in the form of infrared radiation, conductive heat is transmitted through direct contact, and convective heat is transmitted through gases, like air.

Aluminized apparel is a good choice when the environment poses threats like extreme radiant heat, molten metal splash, and sparks. Aluminized materials are designed to reflect radiant heat and shed molten metal splash to keep the wearer cool and protected. Aluminized PPE can be purchased with a base fabric of Rayon for cost savings, an O-PAN base for comfort and molten metal protection, an Aramid (Kevlar or Twaron) base for abrasion and puncture resistance, or a fiberglass base for value and added insulation.

When conductive and convective heat sources are present, additional protection is necessary. Most aluminized materials are not designed for direct contact with objects over 350°F (175°C), however, fiberglass, aramids, or another high temperature material can be incorporated into aluminized PPE in areas like the palms of the gloves that may be in direct contact with higher temperatures. A vapor barrier can be added to protect from convective heat like steam, and layers of fiberglass insulation beneath an aluminized shell can protect from conductive and convective heat.

The Newtex PPE Solution:

Since the early 1980's, Newtex has been designing, fabricating, testing, and perfecting high temperature gloves, aprons, proximity and fire entry suits, and related apparel. We first entered the personal protective apparel industry to demonstrate how our high temperature fabrics could be utilized by garment manufacturers. Three decades later, we are still manufacturing the high quality, American-made safety apparel known as Newtex Extreme Protective (NXP). NXP is trusted by customers in over 70 countries around the world.

Most NXP apparel features a Z-Flex® Multilayer Aluminized (MLA) outer shell. Z-Flex® MLA fabrics are strong, durable, and protective. They reflect up to 95% of radiant heat and will not de-laminate under even the most taxing conditions. Z-Flex is available exclusively on Newtex and CarbonX® fabrics, and has independently proven to offer the highest radiant protection in the world. We offer over 20 base fabrics, including some styles that are NFPA 1971:2013 certified for use in the fire service. Most recently, we introduced Z-Flex® Air™, the first breathable aluminized shell. This micro-perforated shell provides the same protection as standard Z-Flex® materials, but it allows heat and perspiration to escape, lowering overall body temperature and keeping first responders and workers safe for a longer period of time.

Our extensive line of NXP apparel includes items like the X Series Proximity and Fire Entry suits which range from the X10 Ultra-Lite jacket and pant combo to the heavily insulated X60 Advanced Fire Entry Suit designed for total flame and engulfment. With a range of constructions and features, the X Series line includes a suit for any radiant, conductive, or convective high temperature environment. In addition to proximity and fire entry suits, we also manufacture more than 40 styles of Zetex®, ZetexPlus®, Z-Flex®, and Core Spun Aramid hand protection and Z-Flex® Aluminized aprons, jackets, pants, and boots designed to protect from extreme environments.

Newtex PPE Fabrics:

In addition to offering already fabricated NXP products, Newtex Performance Materials are also available to garment manufacturers for purchase. Many of the most reputable PPE garment manufacturers utilize Zetex[®], ZetexPlus[®], and Z-Flex[®] fabrics in their gloves, apparel, and proximity suits.

Learn more about available Newtex Extreme Protective Apparel at [Newtex.com/nxp](https://www.newtex.com/nxp)

Learn more about Z-Flex Multilayer Aluminized fabrics at [Newtex.com/z-flex](https://www.newtex.com/z-flex)