

HONEYWELL MORNING PRIDE® GEAR SHIELD

Particulate Protection and Heat Stress Relief Package



Honeywell | First Responder

PROTECTING YOU WHERE YOU'RE MOST VULNERABLE

When you fight a fire, you can see or feel some of the dangers: the flames, the heat, the structural damage. Today there is a growing awareness of the dangers we can't always see – toxic chemicals lurking in the smoke and gases. These exposures are likely a leading cause of long-term health risks that you face as a firefighter, including an increased risk of cancer.

That's why we created our Honeywell Morning Pride® Gear Shield package. Our renowned Morning Pride standard configuration already significantly blocks a substantial portion of dangerous particulates from getting onto your skin. The Honeywell Morning Pride Gear Shield package provides additional protection by further reducing the amount of nano-particles that can enter your gear. Our integrated particulate-shielding design addresses the key interface areas (helmet to hood to air mask, coat to pant, glove to coat sleeve, and boot to pant cuff), while maintaining breathability and encouraging air circulation throughout the gear to combat heat stress.

This design is intended to reduce your exposure to smoke particles with the associated fire gases and functions as one part of your department's overall health initiatives, which should also include proper cleaning and maintenance of your gear, as well as good hygiene following fireground exposures.

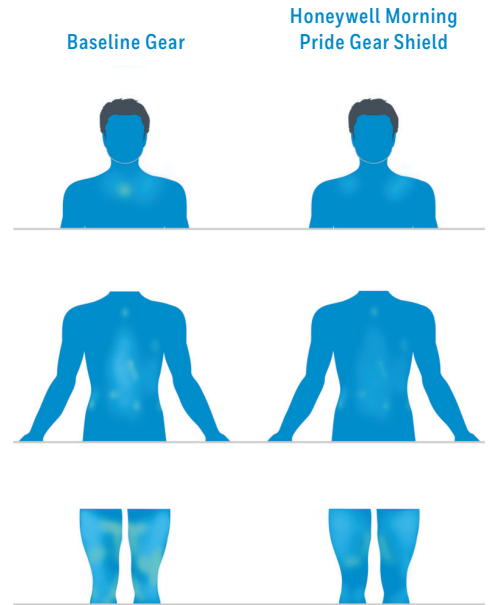
This Fluorescent Aerosol Screening Test (FAST) shows a black-light visual assessment of typical particle penetration in turnout gear. We developed our Morning Pride Gear Shield package to protect the key areas of your body that are most vulnerable to particulate infiltration: wrists, legs, neck, and areas under the front closure of your coat.

Our comprehensive testing further measured how many particulates can get through your gear and onto your skin. The visuals to the right show the head-to-toe sites on the body that highlight the particle-blocking capabilities of the Honeywell Morning Pride Gear Shield package.

The research institute that performs FAST has established the following limit of detection for penetrating particles:

$$\text{PARTICULATE VISUAL THRESHOLD UNDER UV LIGHT} = \frac{90,000 \text{ Nanograms}}{\text{Square Inches}}$$

For reference purposes, a nanogram is one billionth of a gram. For comparison, a grain of table salt is 58,000 nanograms.

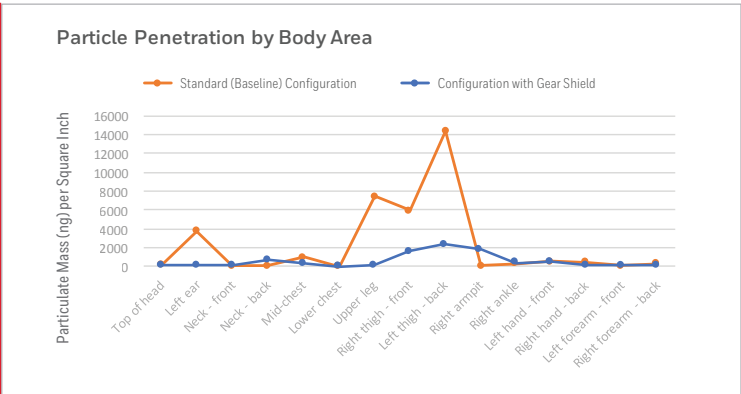


Fluorescence from particles only shown on front of body.

With such a small visual threshold, Honeywell did a chemical sampling analysis of several key body areas. The chart below illustrates the improvements from baseline gear to Honeywell Morning Pride Gear Shield, particularly at the ears, mid-chest, and legs. These measurements are about 1,000x more sensitive than actually seeing particles on the individual's skin in FAST.

COMPARISON OF STANDARD GEAR TO HONEYWELL MORNING PRIDE GEAR SHIELD

Laboratory tests showed a significant reduction in particulate penetration when contrasting the Honeywell Morning Pride standard ensemble configuration with the Honeywell Morning Pride Gear Shield package.



AN INTEGRATED PACKAGE



Head Shield

The MaskMate™ Hood with STEDAIR® PREVENT blocks 99.9% of particulates, protecting the vulnerable areas on the face and neck (compared to 20–40% for conventional, non-barrier hoods). It is also breathable, soft, and flexible while providing high levels of thermal insulation.

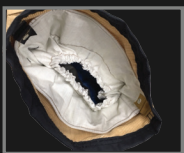
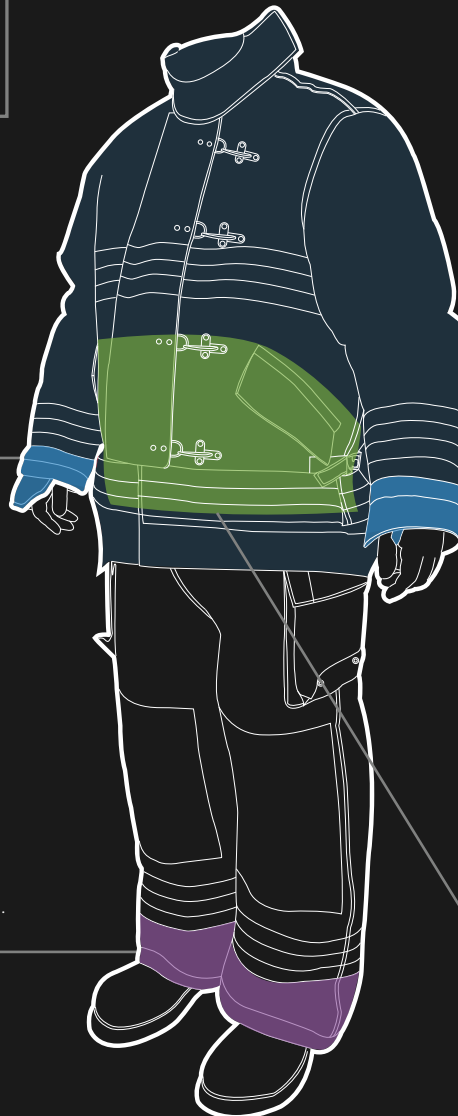


Arm Shield

Dual coverage at the wrist: A contoured 360° shingle cuff prevents particles from getting to the wrist, while still maintaining wrist flexibility. An extension of the moisture barrier from the water well into the glove greatly reduces those particles that do pass the cuff from depositing on the arms.

Heat Release Liner

The centerpiece of our Honeywell Morning Pride Gear Shield package is our Heat Release Liner. While the Arm Shield, Leg Shield, and Core Shield features all provide extra particulate protection, they also trap more body heat compared to current gear. The Heat Release Liner, with its patent-pending installation of multiple vents, allows for heat trapped inside the liner to escape faster upon exiting the fire.



Leg Shield

A patented telescoping water dam at the ankle cinches around the boot and adjusts up and down with your movement to significantly reduce the deposition of particles higher on the legs.



Core Shield

An angled band with elasticized edges comfortably conforms to your midsection when your coat is closed to reduce particle ingress at the coat and pant interface. The front of the Core Shield uses Nomex® versus a thermal liner to lower heat build-up and requires no extra steps when donning and doffing.

FIREFIGHTING AND CANCER

While firefighters have always been exposed to smoke particles and fire gases, the proliferation of modern materials including fire retardants, plasticizers, and other advanced chemicals has increased the risk for exposure to toxins that can both penetrate turnout clothing during the fire event, and remain persistent in clothing materials and components.

Honeywell Morning Pride Gear Shield helps to significantly reduce the amount of dangerous, potentially cancer-causing toxins that can reach your skin.

61%

Cancer caused 61 percent of career firefighter line-of-duty deaths from January 1, 2002 to March 31, 2017, according to data from the International Association of Fire Fighters (IAFF).

+9%

Firefighters have a 9 percent higher risk of being diagnosed with cancer and a 14 percent higher risk of dying from cancer than the general U.S. population, according to research by the CDC/National Institute for Occupational Health and Safety (NIOSH).

3-5x

Researchers have found that highly hazardous polycyclic aromatic hydrocarbons (PAHs), some of which are established human carcinogens, are found at 3 to 5 times greater concentration in firefighter urine following a fire exposure due to skin absorption of these chemicals.

Source: Firefighter Cancer Support Network, <https://firefightercancersupport.org/resources/faqs/>

Part #	Description
LN-HRL	Heat Release Liner
OPCSSB09	Core Shield
WWCW06PS	Arm Shield: Wristlet/Shingle Cuff (Removable)
WWP-TPS	Leg Shield: Telescoping Water Dam
HD-NLPR-SQ HD-NLPR-SQ-B	MaskMate Hood with STEDAIR® PREVENT, Nomex®/Lenzing® (White, Black)
HD-NXPR-SQ	MaskMate Hood with STEDAIR PREVENT, Nomex (White)
HD-PLPR-SQ	MaskMate Hood with STEDAIR PREVENT, PBI®/ Lenzing (Tan)

ORDERING INFORMATION / SKUS

All products available only for Morning Pride TAILS™ turnout gear.

The Core Shield and Heat Release Liner can be retrofitted into Morning Pride TAILS turnout gear manufactured June 2016 or later (requires replacement of the full liner).

Products can be ordered individually or together for maximum protection.

AWARDS AND RECOGNITION

Honeywell Morning Pride® Gear Shield won the OH&S 2019 New Product of the Year Award in the Protective Apparel category.



For more information

www.HoneywellFirstResponder.com
www.HoneywellSafety.com

Honeywell First Responder Products

#1 Innovation Court
 Dayton, Ohio 45414
 800-688-6148

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Gear Shield Particulate Protection Brochure | Rev B | 09/19
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