Emergency response

DUPONT
Kevlar | Nomex

Protective solutions for emergency response

Because everyone has someone depending on them to get home safely

DuPont is more focused than ever on providing innovative protection solutions and expert technical support tailored to meet the specific needs of emergency responders around the world.

Because their safety is our business, emergency responders can rely on the world-class people, products and innovation that have made DuPont a trusted partner in personal protection.

With a wide range of industry-leading personal protective equipment (PPE) solutions and a global network of PPE specialists, technical experts and manufacturing, DuPont is uniquely suited to provide the protection and comfort every worker deserves to face a range of workplace hazards with confidence.

Our brands

Nomex®

DuPont™ Nomex® features inherent flame resistance, lightweight strength and unmatched durability. Nomex® protective solutions meet or exceed global standards for heat, flame and arc flash protection while also protecting against harmful particulates.

Kevlar®

DuPont™ Kevlar® helps enhance the overall strength and durability of emergency response gear, yet is lightweight, comfortable and thermally protective. Kevlar® helps strengthen fabrics to new levels of performance.

Tychem®

DuPont™ Tychem® garments, gloves and accessories provide superior protection against a broad range of toxic liquids, vapors and chemical hazards. DuPont provides permeation data for Tychem® fabrics.

Protection that every hero deserves

Every time the alarm sounds, emergency responders put their lives on the line to protect others. It's always been a dangerous job and the hazards continue to intensify.

54% of on-duty firefighter deaths

related to heat stress[1]

Heat stress—a major hazard

Gear should prevent heat penetration to allow firefighters enough time to safely escape from an emergency while also managing the risks from heat stress, which is a major cause of firefighter deaths. With its higher air permeability, Nomex® helps reduce heat stress.

[1]R.F. Fahy, J.T. Petrillo and J.L. Molis, "Firefighter Fatalities in the US—2019," National Fire Protection Association: Quincy, MA, 2020.

Protection + comfort

= fewer injuries and deaths

Balancing protection and comfort—a critical concern

Firefighter gear must stand up to all the thermal hazards firefighters face while also helping them to get the job done with the least amount of heat stress and without getting in the way of mobility or situational awareness. With its inherent heat and flame resistance and lightweight strength, Nomex® fiber provides low weight and high thermal protection.

61% of career firefighter line-of-duty deaths from cancer[2]

due to chronic chemical and smoke exposures

Harmful particulates—an unseen threat

A room filled with modern furnishings reaches flashover in just 3 minutes and 40 seconds compared to 29 minutes and 25 seconds for a "legacy" room. These modern rooms not only reach flashover much faster; they release a multitude of toxic substances that are carried by the smoke.[3]
Over time, exposure to these harmful particulates can lead to coronary heart disease, stroke, cancer and respiratory diseases.[4]
With its superior particle barrier performance, Nomex® Nano Flex helps make products like firefighter hoods more protective against harmful particulates.

[2]Data from the International Association of Fire Fighters (IAFF) for time period of January 1, 2002, to March 31, 2017, cited at https://firefightercancersupport.org/resources/faq

[3]https://ulfirefightersafety.org/research-projects/comparison-of-modern-and-legacy-home-furnishings.html

[4]International Agency for Research on Cancer, (2019) List of Classifications, Volumes 1-123, World Health Organization.

Emergency response

Recommended PPE

From the first alarm to the all-clear signal, DuPont provides emergency responders solutions for industry-leading PPE that meet or exceed global standards—providing those who put their lives on the line with the protection they deserve.

Hoods made with Nomex® Nano Flex

Thin, lightweight and durable, hoods made with Nomex® Nano Flex help prevent many harmful particulates from being absorbed through the skin on the neckline and upper jaw, which are areas that historically are known to be the most vulnerable and least protected. When added to a firefighter hood composite structure, hoods made with Nomex® Nano Flex result in higher than 99% particulate, bacterial and viral filtration efficiency.

This game-changing barrier protection is achieved without compromising thermal resistance, breathability, comfort or situational awareness.

Turnout gear made with Nomex® and Kevlar®

Nomex® and Kevlar® fibers can be found in each layer of most firefighter turnout gear. Together, these innovative fibers help provide proven protection, durability and comfort from the inside out.

Nomex® and Kevlar® fibers help manufacturers create fire-resistant liners, outer shells and accessories that not only stand up to the thermal hazards that firefighters may face, but also help them to get the job done without getting in the way of mobility.

Thermal liners made with Nomex® Nano

Developed to address the growing problem of heat stress, Nomex® Nano represents the next generation of firefighter protection. It is specifically engineered to be thinner than other advanced flame-resistant (FR) materials used for thermal liners and features equivalent durability. In fact, Nomex® Nano for thermal liners can provide up to a 40% reduction in thermal liner thickness without compromising thermal protection.

Thermal liners made with Nomex® Nano can help reduce the weight and bulk of turnout gear, increasing mobility and reducing fatigue, disorientation and heat exhaustion. These thermal liners also feature enhanced moisture management, further contributing to a reduction in heat stress by rapidly removing sweat to keep skin dry, storing less water and drying quickly.

Stationwear made with Nomex®

Only stationwear made with Nomex® has built-in heat and flame protection that won't melt, drip or stick to your skin when worn under turnout gear. Lightweight and breathable for a comfortable fit, stationwear made with Nomex® features excellent color fastness for a long-lasting professional look.

In addition, stationwear made with Nomex® can be washed and worn at least 125 times without sacrificing performance, giving it an average wear life of five years compared to only one year for flame-retardant-treated (FRT) cotton fabrics. It is available in button-down shirts, t-shirts and pants.

Where to find industry-leading PPE

Whether fighting fires or performing hazmat cleanup, emergency responders around the globe rely on the proven protection of DuPont PPE solutions. From stationwear and turnout gear to chemical suits, gloves and so much more, DuPont science-based innovations help improve safety and protect the lives of emergency responders.

As a global leader in PPE solutions, DuPont is proud to partner with the manufacturers listed here to bring the latest technological breakthroughs to emergency responders.

Hoods made with Nomex® Nano Flex

Fire-Dex
PGI
Veridian
Viking

Turnout gear made with Nomex® and Kevlar® or stationwear made with Nomex®

Crewboss
Lion
PGI
Topps
Workrite

Thermal liners made with Nomex® Nano

Fire-Dex
Globe
Honeywell
Innotex
Lakeland
Lion
Norfab Corporation
Quaker
Safety Components
TenCate
Veridian
Viking

Tychem® hazmat/chemical protection solutions

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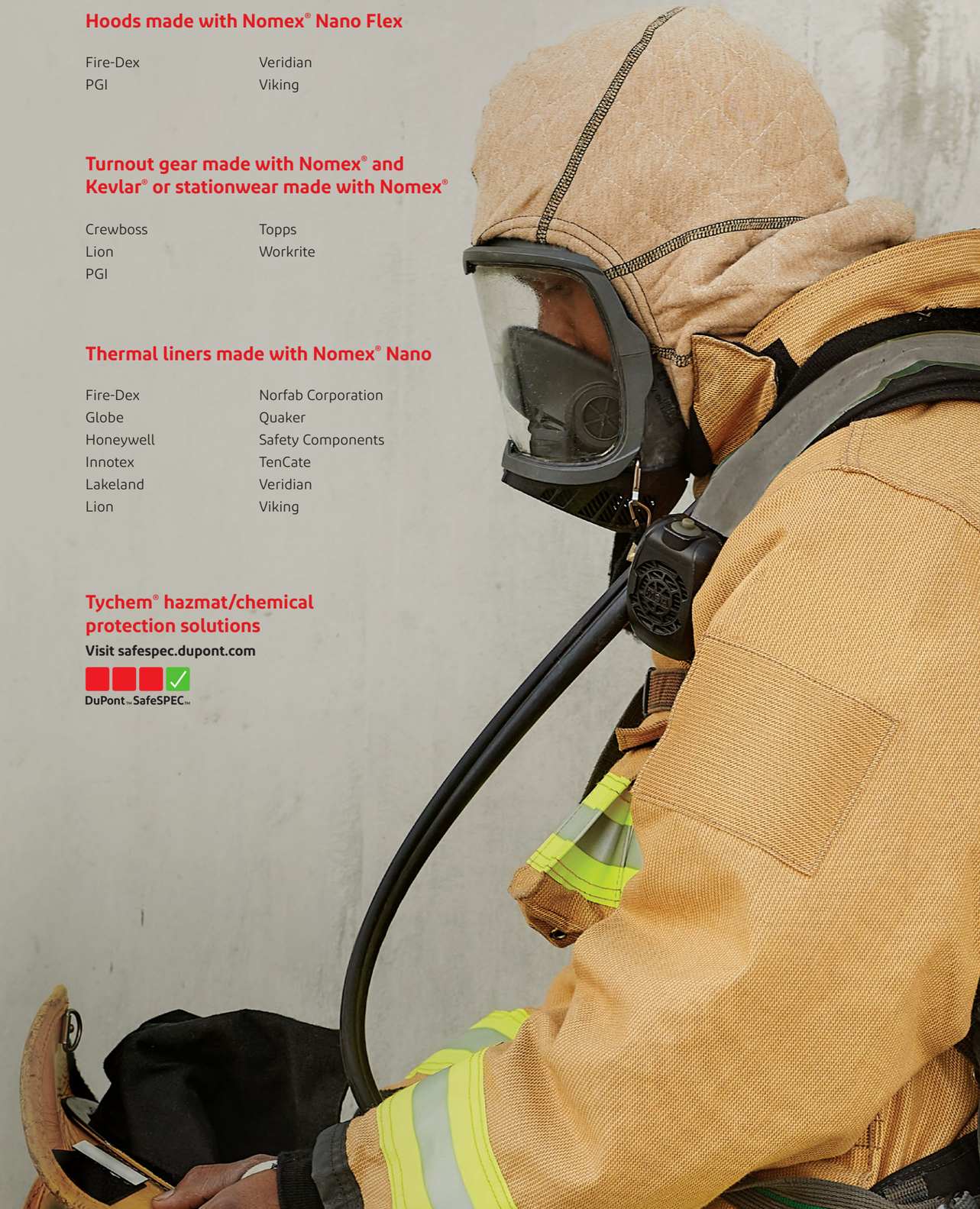

DUPONT™

Kevlar® | Nomex®

There's no give up, there's only give more

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