



Backgrounder

DuPont™ Nomex® Fiber

DuPont™ Nomex® fiber is an inherently flame-resistant, high-temperature fiber that does not melt and drip, nor does it support combustion in the air. It also delivers outstanding resistance to many chemicals and is offered in paper, felt, fabric and fiber forms. Nomex® protection is permanent; it cannot be washed out or worn away.



Personal Protection Nomex® is best known for its role in protective apparel. Its ability to carbonize and thicken when exposed to intense heat increases the protective barrier between the heat source and the skin to minimize burn injury. Today, more than three million firefighters around the world are protected by turnout gear, stationwear and accessories of Nomex® to meet crucial performance needs such as durability and mobility in addition to flame protection.

DuPont™ Nomex® was first used by the military in 1965, when the U.S. Navy employed flight coveralls made with Nomex® fiber. Now, Nomex® is an integral part of military flight suits, vehicle crewman coveralls, balaclavas, jackets and gloves. In collaboration with the military in a variety of research programs, DuPont continually explores new and innovative ways to enhance the protective applications of Nomex®.

In auto racing, Nomex® brand fiber has been the industry leader for years in providing thermal protection against the ever-present danger of flash fire at the racetrack. More than 95 percent of drivers, pit crew members and track officials wear racing apparel with Nomex® because it plays a pivotal role in providing the valuable seconds needed to escape and survive flash fires that result from on-track and pit accidents.

The newest member of the Nomex® family of fibers is **Nomex® On Demand™**, introduced in 2009. This “smart fiber” adds 20 percent more thermal protection to protective garments under extreme heat conditions. When temperatures reach 250° F, Nomex® On Demand™ expands to trap more air for increased thermal insulation.



Manufacturing and Energy Nomex® has been the standard for electrical insulation for more than 40 years. Its electrical, mechanical and thermal properties help extend the life of transformers, motors, generators and other electrical equipment. It helps reduce premature failures and repairs and safeguard components in unforeseen electrical stress situations in applications such as power generation and distribution, microwave ovens and transportation equipment.



In the changing energy industry, there are new opportunities for Nomex®. For example, in compact windmill transformers, DuPont™ Nomex® helps cool bio-degradable fluid and extends the life of the insulation inside windmills. As wind power use grows, safe, reliable transformers are crucial.

Nomex® is the product of choice in a wide range of high-temperature filtration applications. Manufacturing plants in the asphalt and cement, chemical, and steel industries, as well as chalk, lime and gypsum plants, rely on filters made of Nomex® fibers to meet stringent emission control requirements.

Honeycomb of Nomex® paper is used for lightweight structural support and helps substantially improve the performance of most commercial aircraft. Nomex® can be found in flaps, wing-to-body fairings, doors, floors, ceilings, stow bins and walls, among other uses.

Consumer Nomex® can also be found in such diverse consumer products as lampshades, oven mitts and fire blankets.