



Nomex[®]

THE FIBRE THAT REACTS IN A CRISIS



Nomex.

Nomex[®] - an intelligent fibre which reacts

Nomex[®] is an intelligent material due to the special characteristics of the fibre which thickens when exposed to intense heat such as a flash over.

- increases the protective barrier between the heat source and the skin when fire fighters need it most.
- what's more, this tough barrier stays supple and flexible until it cools, providing extra seconds of protection without impairing mobility.



Optimized fibre composition for safety, durability and comfort from DuPont

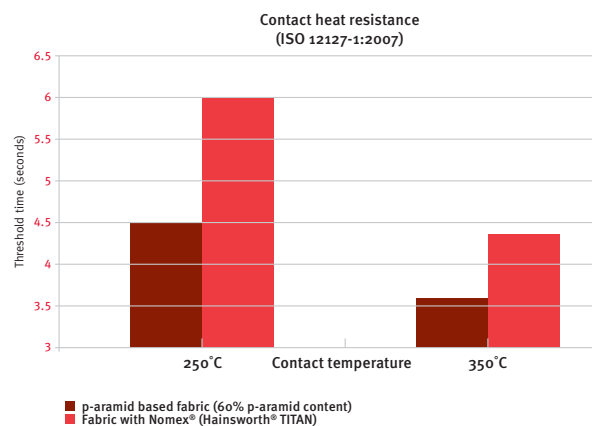
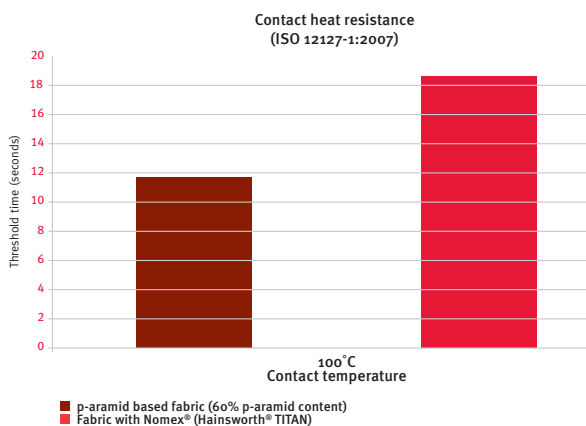
When it comes to turnout gear, Nomex[®] outer-shells are consciously constructed using Nomex[®] - a meta-aramid fibre - combining its excellent protective performance with the right percentage of Kevlar[®], a para-aramid fibre that provides additional tensile strength.

In order to maximize performance, DuPont, along with its Quality Partners, ensures that the percentage mix in the fibre blends is always controlled – with outer-shells made with Nomex[®] never exceeding 40% para-aramid fibres.

It is important to know that where para-aramid content is dominant in a fabric some problems may occur with the garment.

In order to best protect a well trained fire fighter, Nomex[®] fibre reacts in a crisis. Single layer outer-shell fabric Nomex[®] transfers heat slower than fabrics with dominant para-aramid content fibre blends.

This is important when working close to a moderate heat source as the extra seconds are available for finishing the job well. When exposed to higher heat impact, the extra seconds may save lives (see charts below).



Durable and trusted performance over wear-life

Outershell fabrics from Nomex® brand fibre wash well, are extremely hard wearing and resistant to tear over their wearlife. Abrasion resistance correlates with wearlife and durability. Most fabrics with Nomex® branded fibres have high abrasion resistance compared to some fabrics with high para-aramid content fibre blends.

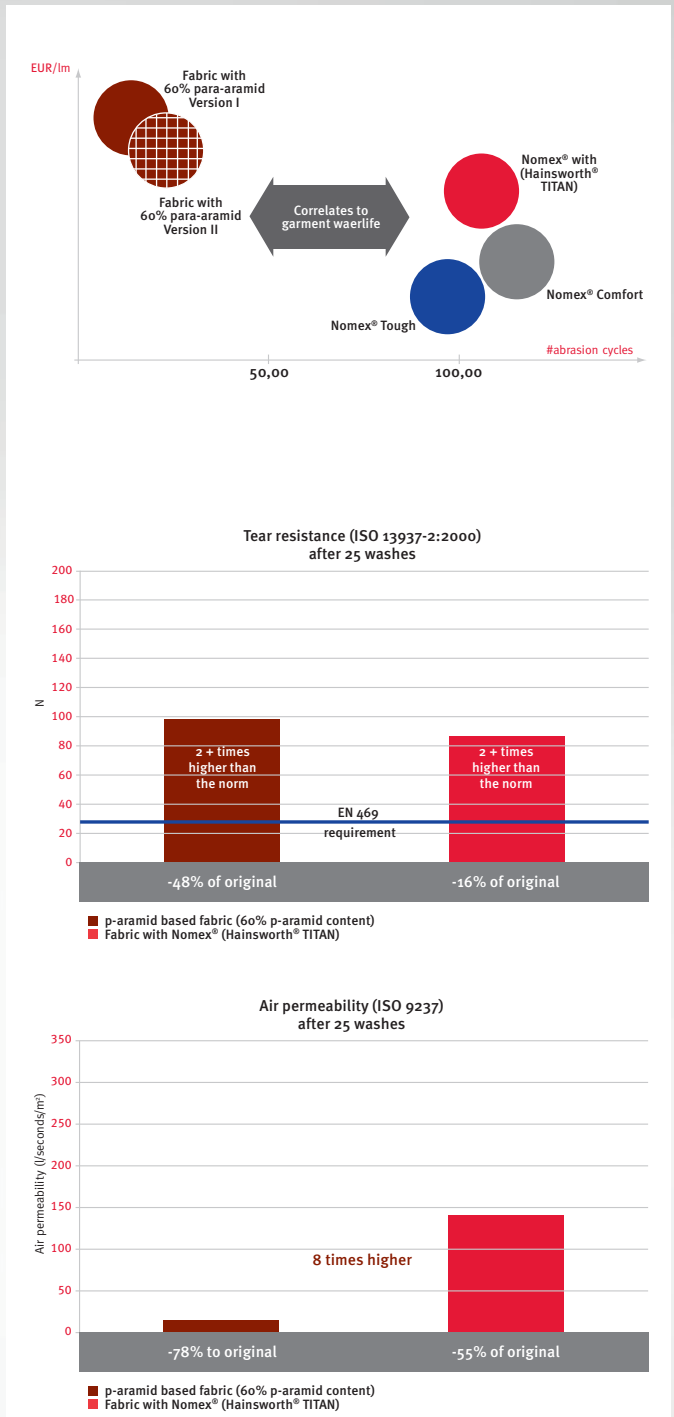
Although high para-aramid content provides high mechanical strength, outershell fabrics containing 60% para-aramid show a significant drop in tear strength after washing in comparison with outershell fabrics that contain a higher percentage of Nomex®.

Comfortable garments in order to reduce heat stress

Statistics from the United States of America (Fire-fighter Fatalities and Injuries: The Role of Heat Stress and PPE, July 2008) show that the principal reason for injuries and fatalities among firefighters is due to heat stress caused by a rise in the body's core temperature through exposure to heat combined with physical exertion.

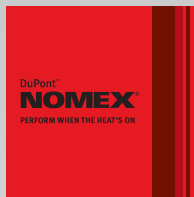
At DuPont, we understand that the same garment that protects fire-fighters must allow for the release of metabolic heat that can contribute to heat stress. For this reason, Nomex® fibers are blended with an optimized percentage of para-aramid fibres. A fabric's air permeability, or breathability, is maximized in its construction, and together with the lightweight Nomex® it helps reduce heat stress.

As shown in the diagram, fabric with Nomex® (Hainsworth® TITAN) has three times more air permeability when new and greater air permeability retention after washing.



Quality assurance - Look for the Nomex® label!

When you see the NOMEX® labels and tags, it's an immediate assurance that the performance of the outershell fabric and the multilayer garment constructions surpasses all regional and country specific norms for heat and flame protection.



DuPont, together with its Quality Partners, work to continuously improve the protective performance of fire-fighter garments.



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