



DUPONT

The miracles of science®

DUPONT

Nomex.

**DUPONT
PROTECTION TECHNOLOGIES**

DuPont™ Nomex® fiber

DUPONT™ NOMEX®

DuPont™ Nomex® fiber is the best in its category in terms of strength and protection against fire (firefighters) and flash fire (industrial areas).

DuPont™ Nomex® is the fabric used to make garments that save millions of lives worldwide.

SECONDS FOR SURVIVAL

In a fire, flash fire and/or electric arc situation, a few seconds can mean the difference between minor burns, and injuries that represent a risk to life.

By far, the most important factor for survival is the percentage of the body receiving 2nd and 3rd degree burns.

The flame resistant garments made with DuPont™ Nomex®, help protect from heat and flames providing valuable seconds to escape and help minimize the potential of body injury.

SOLID BARRIER

DuPont™ Nomex® fiber thickens instantly, creating a barrier while reducing heat transfer. This increases the protective barrier between the heat source and the skin, helping to ensure that less heat is transferred towards the user. This powerful barrier remains flexible until it cools down, providing those extra seconds of protection allowing mobility.

DuPont™ Nomex® Comfort or IIIA have an optimal mixture of fibers as well as meta and para-aramid, offering ideal breathability and protection in a lightweight fabric that has proven over many decades to be perfect for the protection of workers.

It offers excellent thermal performance and inherent flame resistance. And since it does not melt nor drip, it remains flexible until it cools down, helping protect the user as he escapes from danger.

NOMEX®

- It has been tested for over 40 years, not in the laboratory and field testing but in real-world scenarios
- Garments made of Nomex® have been present in the most difficult fires
- Market leader in durability and low life cycle cost
- Rigorous product testing
- Protection above standards (exceeds NFPA 2112)

INHERENTLY RESISTANT FIBERS:

Nomex® fabrics are inherently resistant, which means that the heat and flame resistance is incorporated into the molecular structure of the fiber: the protection can't be washed out or worn away, meaning that the Nomex® fiber is inherent and will last the entire life of the garment regardless of the number of washing cycles.

NOMEX®

COMFORT



FABRIC COMPOSITION

93 % DuPont™ Nomex®
5 % DuPont™ Kevlar®
2 % Antistatic fiber

DuPont™ Nomex® Comfort is an innovative solution developed for the Latin American market. Nomex® Comfort is a heat and flame resistant fabric used in protective apparel.

The heat and flame resistance is incorporated into the molecular structure of the fiber: the protection can't be washed out or worn away, meaning that the Nomex® fiber is inherent and will last the entire life of the garment regardless of the number of washing cycles.

Besides of resisting extreme heat due to its innovative technology, protective garments made from Nomex® Comfort fabric absorb far less moisture than cellulosic fibers such as cotton and viscose, therefore, it can be dried much faster, which makes the user feel more comfortable.

SPECIFICATION SHEET

PROPERTY	Standar	Unity / Description	Typical physical properties	
			Nomex® Comfort 6 oz/yd ²	Nomex® Comfort 4.5 oz/yd ²
Basis Weight	ASTM D 3776	oz/yd ²	6	4.5
Tensile Strength	ASTM D 5034	Warp lbf Weft lbf	264 132	176 130
Elmendorf Tear	ASTM D 1424	Warp lbf Weft lbf	11.8 5.6	8 5
Vertical Flame	ASTM D 6413	Afterflame (secs) Char Length (inches) Melting or Dripping	< 2 < 4 No	< 2 < 4 No
TPP	NFPA 2112 (Section 8.2)	Spaced (cal/cm ²) Contact (cal/cm ²)	13.8 9	10.3 6.75
Dimensional Stability after 5 cycles	AATCC 135	Warp lbf Weft lbf	< 3 < 3	< 3 < 3
Thermal Shrinkage	NFPA 2112 (Section 8.4)	Warp lbf Weft lbf	< 5 < 5	< 5 < 5

NOMEX®

IIIA



FABRIC COMPOSITION

93 % DuPont™ Nomex®
5 % DuPont™ Kevlar®
2 % Antistatic fiber

DuPont™ Nomex® IIIA is a heat and flame resistant fabric used in protective apparel. This heat and flame resistance is incorporated into the molecular structure of the fiber: the protection can't be washed out or worn away, meaning that the Nomex® fiber is inherent and will last the entire life of the garment regardless of the number of washing cycles.

SPECIFICATION SHEET

Typical physical properties

PROPERTY	Standar	Unity / Description	Nomex® IIIA 6 oz/yd ²	Nomex® IIIA 4.5 oz/yd ²
Basis Weight	ASTM D 3776	g/m ² oz/yd ²	203 6	153 4.5
Tensile Strength	ASTM D 5034	Warp lbf Weft lbf	220 132	160 110
Dimensional Stability after 5 cycles	AATCC 135 (1,V,A,i)	Warp (%) Weft (%)	3 3	3 3
Vertical Flame	ASTM D6413	Afterflame (secs) Char Length (inches) Melting or Dripping	2 4 No	2 4 No
Vertical Wicking (inches 15 min)	DuPont Method	Warp X Fill	4 x 4	-
Drop Absorption	AATCC 79	Time (secs)	5	-

NOMEX® MHP



FABRIC COMPOSITION

- 34 %** DuPont™ Nomex® y Kevlar®
- 33 %** Lyocell
- 31 %** Modacrylic
- 2 %** Antistatic fiber

Nomex® MHP protects against multiple hazards, including heat and flame, electric arc and small splashes of molten metal.


Nomex® MHP has integrated fiber strength properties, so they will never be affected by washing cycles. It is an excellent choice for workers who are exposed to multiple risks such as utilities, maintenance, chemical industries and other hazardous industrial jobs.

SPECIFICATION SHEET

Typical physical properties

PROPERTY	Standar	Unity	Nomex® MHP
Basis Weight	ASTM D 3776-96	oz/yd ²	7.0
Cutable Width	ASTM D 3774-96	inches	60
Char Length	ASTM D 6413-99	inches	4.0 x 4.0
Thermal Shrinkage	NFPA 2112	%	< 1%
Arc Thermal Performance Value	ASTM F1959	cal/cm ²	8.4
Shrinkage after 5 cycles	AATCC 135 (3,V,IIA)	%	3.0 x 3.0 max
Tensile Strength	ASTM D5034-95	lbf	150 x 100
Elmendorf Tear	ASTM D1424	lbf	10 x 9
Pilling	ASTM D3512-02	n/a	≥ 3

DuPont™ Nomex® tested in Thermo-Man™



61%
Treated cotton
240 G/m²



16%
Nomex® 240 G/m²



100%
Conventional cotton
250 G/m²

Test parameters of **4 seconds** with cotton shirt underneath, considering that all garments have the same design and model. **16% and 61%** refer to **3rd degree** burns. In terms of total burn, **Nomex®** showed **43% against 73% of treated cotton and 100% of the conventional cotton.**

The use of **Nomex®** material guarantees a survival probability of **90%** among users*, while the treated cotton probability is only **52% (1 in 2 people).**

*Based on a user between 30 and 39 years. The older the person, the less chances they have to survive, since the difficulty of skin regeneration will leave it exposed to infections.



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