NAFFCO

PASSION TO PROTECT

AQUILA FIRE 1

EN 469:2005 + A1:2006 | Protective Clothing For Firefighters - Level 2

our mission

To empower customer to secure life, property and business by delivering high quality & innovative fire protection solutions and knowledge using world class manufacturing.

NAFFCO was founded in Dubai, UAE to become the world's leading producer and supplier of life safety solutions. By recognizing the importance and convenience of having easy access to multiple safety services, we became specialized by offering complete solutions under one roof for all types of high quality fire fighting equipment, fire protection systems, fire alarms, addressable emergency systems, security system, custom-made vehicles such as fire trucks, ambulances, mobile hospitals and airport rescue Fire Fighting Vehicles(ARFF).

With the most talented and dedicated employees from around the world, NAFFCO has over 450 passionate engineers and over 3 million sq.ft of manufacturing facilities. We are currently exporting to over 100 countries worldwide. Our products have been consistently certified by UL, FM, BSI, LPCB and Global Mark according to the latest International Quality Standard for their strict adherence to ISO 9001 quality management systems and BS OHSAS 18001 for occupational safety by UL DQS.

Our success is driven by our passion to protect; our vision is to become the world's number one provider of innovative solutions in protecting life, environment and property.

LIGHT WEIGHT

The patterns of the new design has been developed to reduce the extra bulk and enhance the mobility. Alteration of extra bulk resulting in minimizing the fabric usage & reduce weight of the garment.

BETTER DURABILITY

The outer shell is made of Nomex® IIIA, which provides good tensile strength and abrasion resistance. The garment has been reinforced with anti-skidding and abrasion resistant FR material at the elbow, knees, shoulders & ankels. All the stress points has been bar-tacked to increase the durability.

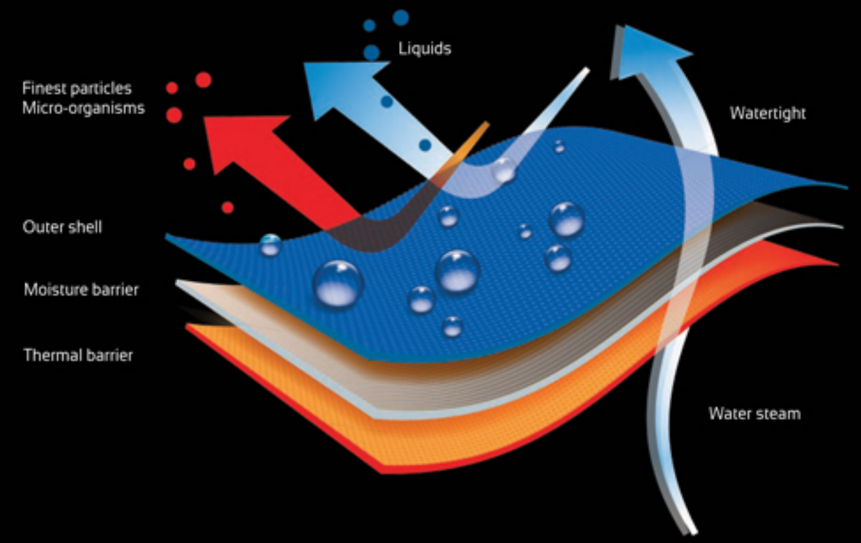
IMPROVED BREATHABLITY

The ePTFE laminated moisture barrier has been used for better moisture management. The microporous breathable fabric membrane performs a dual role: stopping water passing through to the forefighter's personal clothing while allowing perspiration and heat to escape to the outside atmosphere.

HIGH MOBILITY

The ergonomic design gives the ultimate in fit and comfort to maximize the mobility. Gear offers full freedom of movements to all areas of the body. Climbing, crawling, ventilating roof, or pulling hose all entail specific movements can be performed efficiently with less effort.

LAYER STRUCTURE



Outer Shell

Nomex IIIA
93% Nomex - 5% Kevlar - 2% AST

The outer shell consists of a ripstop fabric on the basis of 93% Nomex , 5% Kevlar and 2% antistatic fibres which offers an excellent heat resistance. The Nomex IIIA Ripstop fabric has a specific construction which increases the tear & tensile strength of the fabric. The Nomex IIIA Ripstop has therefore a long life span and a good mechanical resistance: it doesn't break open after a flashover.

Moisture Barrier

ePTFE coated on non-woven Nomex/Kevlar carrier

The expanded PTFE membrane is 100% waterproof, light weight and breathable. It is hydrophilic but allows water vapor to pass through. The water vapour molecules of the transpiration are transported through the membrane to the outside, Its breathability doesn't change with time and able to withstand extremely high temperatures.

Thermal Barrier

Non-woven Nomex/Kevlar with aramid/viscose fabric

The Thermal Barrier consists of two layers quilted with together. Where one layer is aramid based felt fabric prevents the heat transfer through the garment and the other layer close to skin is aramid viscose based provides comfort.

GARMENT FEATURES

FRONT

BACK

SALIENT FEATURES

JACKET

Action Sleeve
provides extra length when you reach

Action Elbow
provides extra ease in movement during different activities

Action Back
provides extra ease in movement during different activities

Napolean Pocket
under the front placket

Lamp Holder
can be adjusted according to lamp size

Telescopic Cuffs
keep debris and water out. In addition Modacrylic cuffs with thumb hole

Collar Reinforcement
provides extra protection and strength

Double Closure
with FR zipper & velcro

Chin Strap
provides comfort under the chin

TROUSER

Action Knee
adds length over the knee so you can step up, sit down, kneel, or crawl freely

Action Seat
adds length in the seat to allow you to bend at waist and knees freely

Inspection Opening
with zipper to check status of membrane

Diamond Crotch Gusset
distributes stress in both shell and liner for durability

Knee Pad
with double stitch for more durability

Ankle Guard
to protect exposed areas against abrasion

H-Back Suspenders
with padding at shoulder area

Slant Fly Closure
with FR zipper & velcro

Velcro Fasteners
for rapid release and attachment of the braces

DATA SHEET

	Performance Property	Test Methods	EN 469:2004 (LEVEL 2)	AQUILA FIRE 1
Flame and Thermal Resistance	Flame resistance (applied to both sides of component assembly also wristlet)	EN 532 ISO 15025 NFPA 1971	1971Procedure A(face exposure) after flame ≤ 2s, afterglow ≤ 2s no flaming to top or side edge or molten debris, no hole formation	PASS
	Heat transfer, flame heat transmission index HTI_{24} and HTI_{12}	EN 367 ISO 9151	HTI_{24} ≥ 13s HTI_{24} - HTI12 ≥ 4s	HTI_{24} ≥ 19.1 s HTI_{24} - HTI_{12} ≥ 5.4s
	Heat transfer radiation	EN 366 Method B ISO 6942, Method B at 40 kW/m	t_2 ≥ 18s t_2 - t_1 ≥ 4s	t2 ≥ 21.4s t2 - t1 ≥ 5.6s
	Residual strength material when exposed to radiant heat, 10kW/h	Residual strength material when exposed to radiant heat, 10kW/h	≥ 450N	Warp: 1350N Weft: 960N
	Heat Resistance and thermal shrinkage (each material used in garment, including wristlet)	EN 469, Annex A ISO 17493 NFPA 1971	5 min 180° c, not melting, dripping or ignition and shrinkage ≤ 5%	Max Shrinkage Outer Shell: 0.4% Moisture Barrier: 0.4% Thermal Lining: 1.1%
Strength Performence	Tensile Strength (outer material)	ISO 5081 ISO 13934-1	≥ 450N	Warp: 1350N Weft: 960N
	Tear Strength (outer material)	ISO 4674 Method A2 NFPA 1971	≥ 25N	Across Warp: 82.3N Across Weft: 77.0N
	Seam Strength (Major A seams)	ISO 13934-2 ASTM D 1683	≥ 225N	1000 N
	Dimensional change (All Layers)	ISO 5077 ISO 6330	≤ 3%	PASS (all layers)
Water and liquid resistance performence	Surface wetting (outer shell)	ISO 4920 or ISO 24920	≥ class 4	Class 5
	Penetration by liquid chemicals (layer combination)	EN 368 at 20°C NaOH-40% HCL-36% H2SO4-30% o-xylene-100%	Runoff ≥ 80% no penetration to innermost surface	Nil penetration & Repellency NaOH-99.5% HCL-98.1% H2So1-99.5% o-xylene -92.5%
	Water penetration resistance (layer combination)	ISO EN 20811 FTMS 191A, 5512	10mbar/min rate no water droplets at 20 kPa	Hydrostatic Head = > 20kPa
	Water vapor resistance (layer combination, testing from inside out)	ISO 11092 (EN 31092)	≥ 30m^2 Pa/W	R_{et}=10.8 D12m^2 Pa/W