

Shanghai C&G Safety Co., Ltd. **C&G**[®]

Personal Protective Clothing



www.cgprotection.com



Company Profile

As a professional personal protective clothing and PPE supplier, Shanghai C&G Safety Co., Ltd. provides arc flash, firefighting, flame resistant, military, aluminized, metal splash clothing, etc.

Cooperating with well-known fiber and fabric suppliers, we spare no effort to meet different kinds of demands and critical needs of our customers. Based on technology of Dupont® Protera®, Nomex®, Aramid, Lenzing FR® and other high-tech materials, we are proficient in fabric development, garment design, marketing and sales.

With diversified array of protective products, we offer one-stop personal protective clothing and equipment with high performance and good quality in the area of Electric Power industry, Fire Rescue, Oil and Gas, Military, Welding, Metallurgy and other industries.



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Arc Flash Protection - Dupont® Protera®

What is electrical arc?

An electric arc is a visible plasma discharge caused by electrical current ionizing gases in the air. Electric arc is explosive, it will last less than 1 second but will emit high radiant energy which can light and even melt daily clothes. The core temperature of electric arc can reach 20,000 °C. Electric arc may induce many secondary hazards such as hot gases, molten metal splash, pressure waves, and even high decibel noise and electric shock.

Even though there is a fraction of a second, the harm may last lifelong. Every day, hundreds of thousands of Electric workers are exposed to electric arc hazards, including electrician, wire maintenance inspectors, power plant workers, substation and transformer operators, maintenance technician, etc.



Hazards related to electric arc

01 Electrocutation

When contacting electric arc directly, it will cause electrocution or severe burns. And even flame retardant garments cannot protect from the hazard of electrocution.

02 Severe burns caused by electric arc

A worker may get injured even without contacting electric arc. Electric arc will generate extreme radiant heat which may melt tools and light daily clothes. And once the clothes are lighted, they will continue to burn and increase the injury.

03 Severe burns caused by burst of clothing

The explosion or impulse caused by electric arc can blast apart daily clothes and expose the body to heat, flame and melted equipment.

04 Severe burns caused by melted underwear made from synthetic fiber

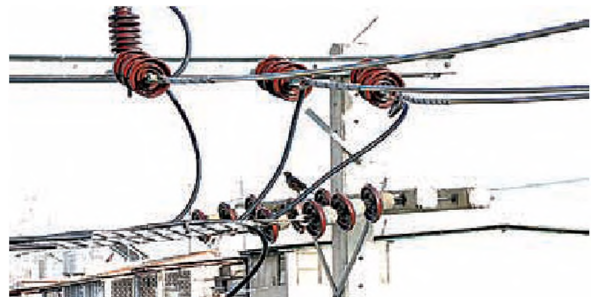
Heat caused by electric arc will melt underwear made from synthetic fiber even the outerwear is not burning.

05 Severe burns caused by the secondary flame

The intense heat of electric arc can cause fire disaster and additional explosions. For example, electric arc can light transformers or explode nearby constructions.

Generally, the incident energy is affected by different fault current, time duration and working environments (opened air or sealed air). It is important to learn that the time duration of electric arc is critical to burn degree. Since the energy caused by electric arc is affected by time duration and current, the burn degree caused by lower fault current and longer time duration will be severer than it caused by higher fault current and short time duration. And even a relatively lower voltage system (480/227V) will form an electric arc of 3 to 4 inches and will last a long time.

There are many variables for electric arc explosion. Therefore, although statistical method could be used to analyze hazards caused by arc current, the real hazard may be different. Due to the unpredictability of arc explosion, electrical workers will definitely need protective clothing in the workplace where electric arc energy can affect.



Arc Flash Protection - Dupont® Protera®

Why daily clothes cannot be used for protection?

Daily clothes like cotton and cotton nylon blends cannot protect people from electric arc injuries. On the contrary, they will increase the hazard.

The protective clothing made from normal material will be melted or burned when exposed to the heat caused by electric arc explosion. These fabrics will continue to burn even after the electric arc incident, and the injuries may be severer than it caused by the electric arc itself. The heavier the fabric is, the more fuel it provides. Electric arc may end instantly, but daily clothes will continue to burn and even will cause a third-degree burn with just seconds lasting. Besides, those clothes will melt and adhere to skin, which must be erased or even removed by surgery.

The burn degree may increase when wearing flammable garments and exposed to the explosion of electric arc. The surviving rate depends on many factors, including survivor's age and total burn area. In all age groups, the greater the total burn area is, the lower the chance of survival is. (See Figure1)

Figure1

Survival Rate for different degrees of burn

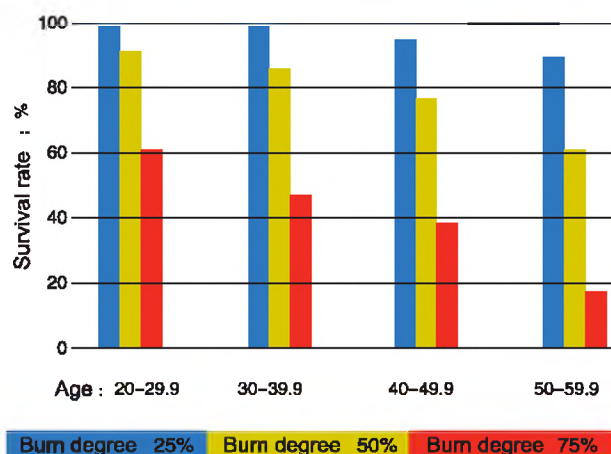


Photo Source: Originate from the test report of American Burn Association from 1991 to 1993

In addition, daily clothes are not designed to be anti-burst. The explosive power of electric arc can tear daily clothes made from cotton, cotton nylon blend, etc., and make the body exposed to electric arc directly.

Burn degree caused by arc incident depends on time duration, current, arc length, and even the distance between body and arc, fabric as well as the layer of clothes.

Why not choose chemical treated garments?

Cotton and cotton nylon blends treated with chemical, though with flame resistant property, the performance can be washed out or worn away. Since the flame resistant performance comes from chemicals on the surface, the property is affected by fiber quality and stability. Therefore, such kind of chemical treated garments cannot ensure people a reliable and stable protective barrier.

Why should we choose C&G® arc flash protective garments?

C&G® arc flash protective garments are made of Dupont® Protera® fabric, which is designed by Dupont® to protect from electric arc.

01 Excellent protection

Thermal protection performance, Crack resistance, Antistatic performance

Inherent flame resistance comes from the molecular structure of fiber

Protera® fiber is inherently flame retardant. Its flame resistance comes from the fiber itself instead of chemical treatment on the surface. Therefore, Protera® arc flash protective garments provide permanent protection, and the performance will not be washed out or worn away.

Protera® arc flash protective garments neither melt nor burn or support combustion. When exposed to fire, the garments will form a protective barrier between heat resource and the body, which provides people more time to escape.

Prevent garments from burst caused by explosion of electric arc

As being blended with Dupont® high-strength fiber (This fiber is also used to make bulletproof vest), Protera® arc flash protective garments provides better anti-burst performance compared with chemical treated cotton garments of same weight.

Prevent fiber from electrostatic accumulation

Static may bring inconvenience or threat to Power Industry, so Protera® is mixed with P-140 (an anti-static fiber with Dupont® patent). Thus, Protera® arc flash protective garments can reduce static coming from the friction between fiber and fiber, or fiber and skin. Meanwhile, it helps to reduce static even in low temperature or low humidity condition, which makes it more comfortable to wear and prevents people from the risk of electrostatic accumulation in explosive environments.

Besides, proper grounding procedures are necessary to remove the static in explosive environments

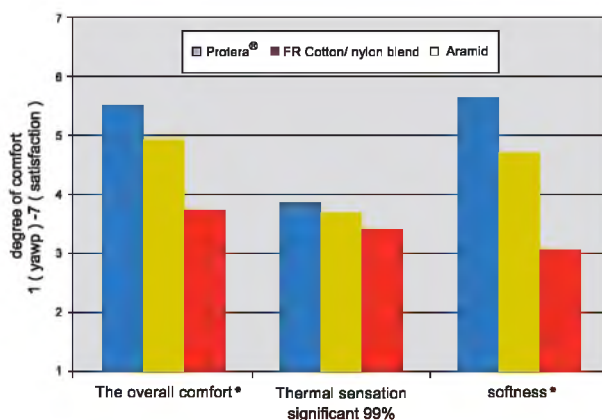
Arc Flash Protection - Dupont® Protera®

02 Extreme comfort

Doing a good job means wearing protective garments that fit and feel good. That's why when Dupont® Protera® was designed, comfort was a priority. And tests prove wearers notice the difference.

In an independent, double-blind comfort study Dupont® Protera® was the clear winner in overall comfort compared to FR cotton nylon blend garments of the same weight. In fact, wearers found Protera® arc flash protective garments to be less prickly, heavy, stretchy, stiff, clingy, clammy, and scratchy than FR cotton nylon blend garments.

Protera® Comfort Study
NCSU College of Textiles Fabric Protection and Comfort Research Center



Based on the individual study from NCSU College of Textiles Fabric Protection and Comfort Research Center on the comfort of Protera®, a group of 37 volunteers (26 males and 11 females) wear coveralls with same style while different fabrics of Protera®, FR cotton nylon blend and Aramid separately, and assess the garments made of different fabrics from 11 aspects related to comfort. The above figure is the summary for the result, Protera® garment performs much better than other garments in softness, thermal sensation and overall comfort.

03 Outstanding durability

With built-in electric arc protection and longer lifecycle. High value, light weight, more comfort, safety comes first. Dupont® Protera® is compliant with NFPA 70E Category 2 requirements. This means when used properly, your customers and their workers are protected against the heat of electric arc exposure. But there's much more to this innovative, patented technology only from Dupont®.

No need to sacrifice protection for comfort

With durability for a longer lifecycle and better value, Dupont® Protera® garments stand up to more washes and are more dura-

ble than FR cotton nylon blend garments of similar weight. They're also designed to retain their appearance throughout extended on-the-job use and repeated laundering. Your customers will see the difference. And you'll get more cycles out of every garment.

Could stand up to tough laundry conditions

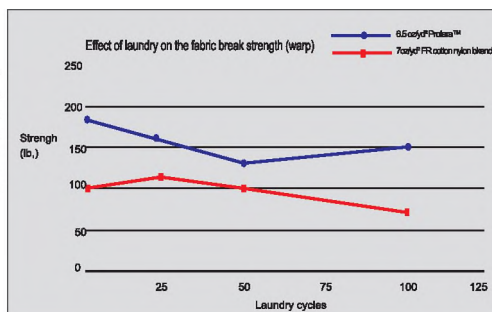
Built-in protection you expect from Dupont®. The protection of Dupont® Protera® cannot be washed out or worn away - a powerful advantage over treated FR garments. It's also good to know, this innovative, new fabric requires no special laundering processing and provides excellent protection wash after wash.

Strength and tear resistance, wash after wash

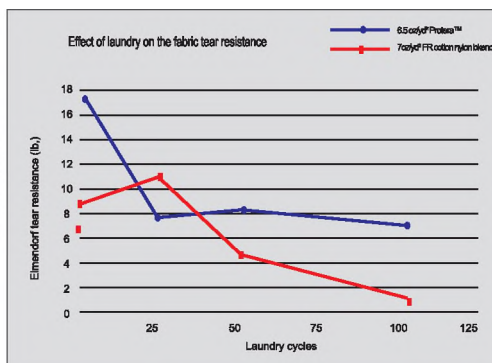
A garment's first job is protecting workers from electric arc incidents - rips and tears aren't an option. In fact, a single rip or tear can mean replacing the entire garment. But Dupont® Protera® helps minimize that risk and the life expectancy of the garment. Because it is twice as strong as FR cotton nylon blends, and it stays twice as strong, even after 100 washing or UV exposure.

Laundering can be as hard on a fabric as wearing it. That's why Dupont® Protera® was created to stand up to repeated washes. It starts off stronger and stays stronger than FR cotton nylon blends after repeated washes. Dupont® Protera® provides better tear resistance than FR cotton nylon blends whether the fabric is tested when new or after it has gone through 100 washes.

Dupont® Protera® offers better fabric break strength than the leading competitor's fabrics right through 100 wash cycles.



Dupont® Protera® outperforms the competition in tear resistance from the start and right through 100 wash cycles.



Category IV 65cal/cm² Arc Flash Protective Suit

Material: Dupont® Protera® fabric

Inherently flame-retardant and its protection cannot be washed out or worn away, multilayer combination is lighter than flame retardant cotton/nylon blend garments, reducing the risk of heat stress.

ATPV Rating: 65cal/cm²

Color: Navy blue, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

And the cooling system can be installed on the hood to keep the user cool



Item No.	Description
ArcPro-CT-65cal	65cal/cm ² arc flash protective jacket
ArcPro-B-65cal	65cal/cm ² arc flash protective bib-overall
ArcPro-Hood-65cal	65cal/cm ² arc flash protective hood
ArcPro-Hood-VS-65cal	65cal/cm ² arc flash protective hood with cooling system
ArcPro-GLV-65cal	65cal/cm ² arc flash protective gloves

Category IV 55cal/cm² Arc Flash Protective Suit



Material: Dupont® Protera® fabric

Inherently flame-retardant and its protection cannot be washed out or worn away, multilayer combination is lighter than flame retardant cotton/nylon blend garments, reducing the risk of heat stress.

ATPV Rating: 55cal/cm²

Color: Navy blue/Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

And the cooling system can be installed on the hood to keep the user cool

Item No.	Description
ArcPro-Robe-55cal	55cal/cm ² arc flash protective robe
ArcPro-Hood-55cal	55cal/cm ² arc flash protective hood
ArcPro-Hood-VS-55cal	55cal/cm ² arc flash protective hood with cooling system
ArcPro-GLV2-55cal	55cal/cm ² arc flash protective gloves
ArcPro-Leg1-55cal	55cal/cm ² arc flash protective leggings

Category IV 40cal/cm² Arc Flash Protective Suit

Material: Dupont® Protera® fabric

Inherently flame retardant and its protection cannot be washed out or worn away, multilayer combination is lighter than flame retardant cotton/nylon blend garments, reducing the risk of heat stress.

ATPV Rating: 40cal/cm²

Color: Dark blue, Medium blue, Grey, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009.

Flame retardant reflective tapes can be added to make it highly visible.

And the cooling system can be installed on the hood to keep the user cool.

Item No.	Description
ArcPro-CT-40cal	40cal/cm ² arc flash protective jacket
ArcPro-B-40cal	40cal/cm ² arc flash protective bib-overall
ArcPro-Hood-40cal	40cal/cm ² arc flash protective hood
ArcPro-Hood-VS-40cal	40cal/cm ² arc flash protective hood with cooling system
ArcPro-GLV-40cal	40cal/cm ² arc flash protective gloves



Category III 33cal/cm² Arc Flash Protective Suit

Material: Dupont® Protera® fabric

Inherently flame retardant and its protection cannot be washed out or worn away, multilayer combination is lighter than flame retardant cotton/nylon blend garments, reducing the risk of heat stress.

ATPV Rating: 33cal/cm²

Color: Dark blue, Medium blue, Grey, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible



Item No.	Description
ArcPro-Robe-33cal	33cal/cm ² arc flash protective robe
ArcPro-Hood-33cal	33cal/cm ² arc flash protective hood
ArcPro-GLV-33cal	33cal/cm ² arc flash protective gloves
ArcPro-Leg1-33cal	33cal/cm ² arc flash protective leggings

Category II 25cal/cm² Arc Flash Protective Suit



Material: Dupont® Protera® fabric

Inherently flame retardant and its protection cannot be washed out or worn away, multilayer combination is lighter than flame retardant cotton/nylon blend garments, reducing the risk of heat stress.

ATPV Rating: 25cal/cm²

Color: Medium blue

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

Item No.	Description
ArcPro-CT-25cal	25cal/cm ² arc flash protective jacket
ArcPro-P-25cal	25cal/cm ² arc flash protective pants
ArcPro-Hood-25cal	25cal/cm ² arc flash protective hood

Category II 12cal/cm² Arc Flash Protective Suit – Coverall



Material: 8.0 OZ Dupont® Protera® fabric

ATPV Rating: 12cal/cm²

Color: Navy blue, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

Item No.	Description
ArcPro-Coverall-12cal	12cal/cm ² arc flash protective coverall
Arcpro-Shield-12cal	12cal/cm ² arc flash protective face shield, green

Category II 12cal/cm² Arc Flash Protective Suit - Jacket & Pants

Material: 8.0 OZ Dupont® Protera® fabric

ATPV Rating: 12cal/cm²

Color: Navy blue, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL7T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible



Item No.	Description
Arcpro-CT-12cal	12cal/cm ² arc flash protective jacket
Arcpro-P-12cal	12cal/ cm ² arc flash protective pants

Category II 12cal/cm² Winter Arc Flash Protective Suit - Winter Jacket



Material: 8.0 OZ Dupont® Protera® fabric and 3M FR Thin-sulate

ATPV Rating: 12cal/cm²

Color: Navy blue, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

Item No.	Description
ArcPro-WT1-12cal	12cal/cm ² winter arc flash protective coat

Category II 8cal/cm² Arc Flash Protective Suit – Coverall

Material: 6.5 OZ Dupont® Protera® fabric

ATPV Rating: 8cal/cm²

Color: Dark blue, Medium blue, Grey, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible



Item No.	Description
ArcPro-Coverall-8cal	8cal/cm ² arc flash protective coverall

Category II 8cal/cm² Arc Flash Protective Suit – Jacket & Pants



Material: 6.5 OZ Dupont® Protera® fabric

ATPV Rating: 8cal/cm²

Color: Dark blue, Medium blue, Grey, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DUT 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible



Item No.	Description
Arcpro-CT-8cal	8cal/cm ² arc flash protective jacket
Arcpro-P-8cal	8cal/cm ² arc flash protective pants
Arcpro-Shield-10cal	10cal/cm ² arc flash protective face shield, green
Arcpro-GLV1-8cal	8cal/cm ² arc flash protective gloves

Category II 8cal/cm² Arc Flash Protective Suit - Shirt & Pants

Material: 6.5 OZ Dupont® Protera® fabric

ATPV Rating: 8cal/cm²

Color: Dark blue, Medium blue, Grey, Orange

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible



Item No.	Description
Arcpro-S-8cal	8cal/cm ² arc flash protective shirt
Arcpro-P-8cal	8cal/cm ² arc flash protective pants

Category I 6cal/cm² Arc Flash Protection Suit – Jacket & Pants



Material: 5.3 OZ Dupont® Protera® fabric

ATPV Rating: 6cal/cm²

Color: Medium blue

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL7T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

Item No.	Description
Arcpro-CT-6cal	6cal/cm ² arc flash protective jacket
Arcpro-P-6cal	6cal/cm ² arc flash protective pants

Category I 6cal/cm² Arc Flash Protective Suit – Shirt & Pants

Material: 5.3 OZ Dupont® Protera® fabric

ATPV Rating: 6cal/cm²

Color: Medium blue

Tested to ASTM F1959 and meet the standards of NFPA 70E, DL/T 320-2010, GB 8965.1-2009

Flame retardant reflective tapes can be added to make it highly visible

Item No.	Description
Arcpro-S-6cal	6cal/cm ² arc flash protective shirt
Arcpro-P-6cal	6cal/cm ² arc flash protective pants



Arc and Flame-Resistant Rainwear



Item No.: BP-QT-FDHYY-20CAL

ATPV Rating: 20cal/cm²

Color: Fluorescent lime yellow

Tested to Electric Arc Exposure Test N°2013EP1791

Item No.	Description
Bp-qt-fdhyy-20cal	Highly visible, arc flash protective, flame retardant, anti-static, waterproof, etc. Widely used in Electric Power, Petroleum and Petrochemical, emergency rescue, etc.

Arc Flash Protective Face Shield

ATPV: 10/12cal/cm²

Color: Grey / Light Green

Function: Anti-fog, high visibility, 70% transparency

Style: Popular type

Item No.	Description
Arcpro-Shield-10cal	10cal/cm ² arc flash protective face shield, green
Arcpro-Shield-12cal	12cal/cm ² arc flash protective face shield, green, grey



Insulating Clothing



Material: 10 layers EVA insulating resin

Color: Yellow

Test Voltage: 20KV/3min

Usage Voltage: 17KV

Feature: Highly-insulating and with strongly mechanical strength

Soft, light and easy to maintain

Application: Electrical power, used to protect line workers from electric shock

Multifunctional Kit Bag

Item No.	Description
CG-X502	600D orange nylon oxford, waterproof and wear-resistant With shoulder straps detachable, and bottom antiskid and wear-resistant. Dimension: 42*23*31cm



Insulating Gloves

description	cuff style	colour						length		sizes
								mm	inch	
NOVAX CLASS 00 2,500 Volt Tested 500 Volt Working	Straight Straight	•	•	•	•			280 360	11 14	7•8•9•10•11•12 7•8•9•10•11•12
NOVAX CLASS 0 5,000 Volt Tested 1,000 Volt Working	Straight Straight	•	•	•	•	•	•	280 360	11 14	7•8•9•10•11•12 7•8•9•10•11•12
NOVAX CLASS 1 10,000 Volt Tested 7,500 Volt Working	Straight Contour Bell	•	•	•		•	•	360 460 460	14 18 18	7•8•9•10•11•12 8•9•10•11•12 9•10•11•12
NOVAX CLASS 2 20,000 Volt Tested 17,000 Volt Working	Straight Contour Bell	•	•	•		•	•	360 460 460	14 18 18	7•8•9•10•11•12 8•9•10•11•12 9•10•11•12
NOVAX CLASS 3 30,000 Volt Tested 26,500 Volt Working	Straight Straight Contour Bell	•	•			•	•	410 460 460 460	16 18 18 18	9•10•11•12 9•10•11•12 9•10•11•12 9•10•11•12
NOVAX CLASS 4 40,000 Volt Tested 36,000 Volt Working	Straight Straight Contour Bell	•	•			•	•	410 460 460 460	16 18 18 18	9•10•11•12 9•10•11•12 9•10•11•12 9•10•11•12

The contoured shape & softness reduces hand fatigue. Every single C&G Glove is tested, inspected and packed according to the requirements in ASTM D120 and EN 60903. The gloves are numbered individually for traceability and stamped with the factory manufacturing date by ink stamp.



Contour Cuff



Straight Cuff



Bell Cuff

Insulating Sleeves

Feature: Curved Elbow Sleeves

Standard: ASTM D1051-14a.

Type I, non-resistant to ozone

Application: Protect workers from electrical shock.

These sleeves are intended to use exclusively for electrical purposes.



Insulating Boots

Item No.: CG-DBS4

Voltage grade : Test Voltage: 30KV ESR: 18KV

Feature: Lining Material – Comes with extra comfort and durability

Upper Construction – Waterproof (Electrically verified), Easy for cleaning Sole/Heel – Good abrasion resistant for extra durability

Steel Toe Cap – Epoxy coated toe caps for anti-corrosion

Steel Shank – Doubled ribbed ladder shank to improved midfoot stability and support

Chemical Resistance – Sole & Upper – Resistant towards strong acids and alkalis

Finishing – Lacquer coating for weather protection

Packing – Recyclable Polybag & 6 pairs in a carton

Standard: CE certification

EN ISO 20345: 2011 (SB E FO SRA)

EN 50321: 1999 Class 0

ASTM F1117-03 (min 20,000 VAC)

Application: For working environment with high voltage hazards

Power stations operations

Substation (step-up/step-down/distribution) operations

Electrical hazards with wet condition / water exposure

High current leakage hazards

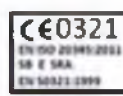
Electrical installations.



/ ASTM



Class 0



ASTM F2413-11

M I/75 C/75 EH

Size:

EURO	36	37	38	40	41	42	43	44	45	46	47	48	49	50
UK	3	4	5	6	7	8	9	10	11	12	13	14	15	16
US	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Arc Flash Protective Kits



65cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-65cal

1. 65cal/cm² arc flash protective jacket
2. 65cal/cm² arc flash protective bib-overall
3. 65cal/cm² arc flash protective hood
4. 65cal/cm² arc flash protective gloves
5. Safety helmet-ABS material
6. Insulating gloves
7. Multifunctional kit bag

55cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-55cal

1. 55cal/cm² arc flash protective robe
2. 55cal/cm² arc flash protective hood
3. 55cal/cm² arc flash protective gloves
4. 55cal/cm² arc flash protective leggings
5. Safety helmet-ABS material
6. Insulating gloves
7. Multifunctional kit bag



40cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-40cal

1. 40cal/cm² arc flash protective Jacket
2. 40cal/cm² arc flash protective bib-overall
3. 40cal/cm² arc flash protective hood
4. 40cal/cm² arc flash protective gloves
5. Safety helmet-ABS material
6. Insulating gloves
7. Multifunctional kit bag

33cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-33cal

1. 33cal/cm² arc flash protective robe
2. 33cal/cm² arc flash protective hood
3. 33cal/cm² arc flash protective gloves
4. 33cal/cm² arc flash protective leggings
5. Safety helmet - ABS material
6. Insulating gloves
7. Multifunctional kit bag



Arc Flash Protective Kits

25cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-25cal

1. 25cal/cm² arc flash protective Jacket
2. 25cal/cm² arc flash protective pants
3. 25cal/cm² arc flash protective face shield
4. 25cal/cm² arc flash protective gloves
5. Safety helmet - ABS material
6. Insulating gloves
7. Multifunctional kit bag



12cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-12cal

1. 12cal/cm² arc flash protective Jacket
2. 12cal/cm² arc flash protective pants
3. 12cal/cm² arc flash protective face shield
4. 12cal/cm² arc flash protective gloves
5. Safety helmet - ABS material
6. Insulating gloves
7. Multifunctional kit bag



8cal/cm² Arc Flash Protective Clothing Kit

Item No.: ArcPro-Kit-8cal

1. 8cal/cm² arc flash protective Jacket
2. 8cal/cm² arc flash protective Pants
3. 8cal/cm² arc flash protective face shield
4. 8cal/cm² arc flash protective gloves
5. Safety helmet - ABS material
6. Insulating gloves
7. Multifunctional kit bag



ElectricPro Conductive Suit

Item: High Voltage Shielding Clothing

Item No.: BP-PBF-500KV

Description: The two-piece conductive suit is made of a blend of metal fiber and aramid fiber. It applies to the protection for live-line work on the electric equipment below high voltage of 500KV. Meet the standard of GB/T6568-2008.

It is born of a need to let the lineman get closer to his work. The clothing is bonded to the conductor, placing the lineman within the field of electricity, not as a conductor himself but insulated, and allows him to work with his hand on the conductor hardware. Thus, transmission line maintenance efficiency and effectiveness are advanced without endangering the lineman and without interrupting customer service.



Conductive Gloves

Item No.: BP-SB-DDST

It should be worn together with 500KV high voltage shielding suit.



Cut-resistant and Conductive Gloves

Item No.: BP-SB-FDDST

It should be worn together with 500KV high voltage shielding suit.



Conductive Socks

Item No.: BP-ZB-DDW

It should be worn together with 500KV high voltage shielding suit.



Conductive Shoes

Item No.: BP-ZB-DDX

It should be worn together with 500KV high voltage shielding suit.

FR Silk Underwear



Material: 100% silk

Color: White, Grey

Feature: Flame retardant, light, breathable and UV-protective

Application: Used together with Conductive Suit

ElectricPro Conductive Suit

Item: AC High Voltage Electrostatic Shielding Clothing

Item No.: BP-QT-500K

Description: The two-piece conductive suit is made of a blend of conductive material and textile fiber. It applies to protect substations inspectors and line workers from 500KV AC high voltage electric field, meet the standards of GB/T18136-2008.

It is born of a need to let the lineman get closer to his work. The clothing is bonded to the conductor, placing the lineman within the field of electricity, not as a conductor himself but insulated, and allows him to work with his hand on the conductor hardware. Thus, transmission line maintenance efficiency and effectiveness are advanced without endangering the lineman and without interrupting customer service.



Conductive Gloves

Item No.: BP-SB-DDST

It should be worn together with 500KV AC high voltage electrostatic shielding suit.

Cut-resistant and Conductive Gloves

Item No.: BP-SB-FDDST

It should be worn together with 500KV AC high voltage electrostatic shielding suit.

Conductive Socks

Item No.: BP-ZB-DDW

It should be worn together with 500KV AC high voltage electrostatic shielding suit.

Conductive Shoes

Item No.: BP-ZB-DDX

It should be worn together with 500KV AC high voltage electrostatic shielding suit.

Winter AC High Voltage Electrostatic Shielding Clothing

Item No.: BP-QT-500KVB

Description: With conductive material and textile fiber blended, it applies to protect line workers, substations inspectors and earth potential workers from 500KV AC high voltage electric field.

Adopt 3M Thinsulate padding to keep warm in winter.

Meet the standard of GB/T18136-2008.



Firefighting Suit



Firefighting Jacket & Pants



Material: Outer shell: Nomex® IIIA

Moisture barrier: Kevlar®/Nomex®

Felt with PTFE membrane

Thermal barrier: Kevlar®/Nomex®Felt

Comfortable layer: Nomex®/FR viscose woven fabric

Color: Navy Blue

Feature: Front closed by heavy duty FR zipper

High collar fully lined with throat closure tab

Elasticated braces with quick release buckles

Inset sleeves design

Knee and elbow reinforcement

Radio pocket on the left breast

Knitted cuffs with thumb loop

Two hand warm pockets

Two side hip pockets

Velcro tab wrist closure

Anti- wicking storm cuffs

DRD (Drag Rescue Device) Strap

Application: Fire Rescue and Evacuation

Standard: EN469:2005

Optional Accessories: Firefighting helmet/boots/gloves

Firefighting Jacket & Pants



Firefighting Covering



Material: 3 layers laminated aluminized fabric

Feature: Soft and comfortable

Light weight to carry, only 0.6KG and easy to don and doff

Special mirror reflective technic, suitable for proximity

fire rescue under industrial radiant heat up to 900 °C for 15 minutes.

Application: Proximity fire rescue

Searching after fire accident and do cutting operation

Fire extinguishing in narrow space like tunnel, underground tunnel, etc.

Rescue in high temperature

Fabric Property	Value	Testing Method
Breaking Force(warp)	≥1050N	ISO 1421-1
Breaking Force(weft)	≥800N	ISO 1421-1
Tearing Force(warp)	≥20N	ISO 4674-2

Fabric Property	Value	Testing Method
Tearing Force(weft)	≥30N	ISO 4674-2
Flame retardation	Afterglow≤2s	ISO 15025
Flame retardation	Afterflame≤2s	ISO 15025

Proximity Firefighting Garment

Material: Outer shell: FR woven fabric substrate with aluminum membrane

Thermal lining: Meta/para-aramid felt quilted to 50% meta-aramid / 50% FR viscose woven fabric

Feature: Withstand high-heat up to 1600 °C

Superior protective performance on high pressure and moisture vapor, superheated vapor and high temperature liquid

The aluminized material is not easy to peel from the base material

Application: Proximity fire rescue

Emergency rescue

Not suitable for entering or passing through fire ground

Standard: EN ISO 11612-2008, NF EN 407

Accessory: Self-contained breathing apparatus (SCBA) CG60415210

Fabric Property	Value	Testing Method
Breaking Force(warp)	≥1300N	ISO 1421-1
Breaking Force(weft)	≥900N	ISO 1421-1
Tearing Force(warp)	≥60N	ISO 4674-2
Tearing Force(weft)	≥60N	ISO 4674-2
Scratch Resistance/1KG(warp)	≥500 times	ISO 5981
Scratch Resistance/1KG(weft)	≥500 times	ISO 5981
Flame Retardation	Afterglow≤2s	ISO 15025
Flame Retardation	Afterflame≤2s	ISO 15025
Heat Transfer Index HTI (temperature rise 24 °C)	B1 (4-10s)	ISO 9151
Radiant Heat Index (temperature rise 24 °C)	C3 (50-95s)	ISO 6942



Proximity Firefighting Face Shield

Material: Polycarbonate gold plating

Feature: Resist 120m/s high speed impact

Reflect 1000℃ or above high temperature radiant heat and 95% of Heat

Application: Proximity fire rescue

Searching after fire accident and do cutting operation

Fire extinguishing in narrow space like tunnel, underground tunnel, etc.

Rescue in high temperature



Thermal Insulation Clothing



Material: 7 layers patented high technology fabrics, composited by Pre-oxidation and para-aramid materials

Feature: Withstand high-heat up to 1600℃

Two layers thermal barriers provide superior heat-insulating property

The aluminized material is not easily peeled from the base material

Application: Proximity fire rescue

Fast furnace repair operation

Standard: EN 1486, NF EN 407

Accessory: Self-contained breathing apparatus (SCBA) CG60415210

Flight Suit (CWU-27/P)



Material: 150/200g/m² (4.5/6oz) Dupont® Nomex® IIIA / Aramid IIIA fabric

Color: Sage green, Navy blue, Royal blue, Orange, Black, etc.

Description: Inherently and permanently flame retardant

Do not melt, burn, drip or support combustion in air.

Front opening with two-way FR metal zipper

Gusseted back for convenient action

Adjustable cuffs and waist belt with Velcro fastener

Ankle opening by zipper to adjust width of leg

5*10cm Velcro on left chest used to fasten name tag

8 FR zippered pockets: 2 slant chest pockets, 1 pen pocket (3 compartments) on left sleeve, 2 pockets on upper legs, 1 knife pocket on left leg, 2 pockets on lower legs

Application: Air force and aviation (to protect aircrew from any flash fires and its anti-static fiber is used to minimize electrostatic accumulation).



Flight Jacket & Pants

Material: 150/200g/m² (4.5/6oz) Dupont® Nomex® IIIA / Aramid IIIA fabric

Color: Sage green, Navy blue, Royal blue, Orange, Black, etc.

Description: Front opening with FR metal zipper on jacket and pants

Gusseted back for convenient action

Double layers on elbows

Adjustable cuffs with Velcro fastener

Ankle opening by zipper to adjust width of legs

2 slant insert pockets on pants and 1 back pocket with flap

7 FR zippered pockets: 2 slant chest pockets, 1 pen pocket (3 compartments) on left sleeve, 2 pockets on upper legs, 2 pockets on lower legs

Application: Air force and aviation (to protect aircrew from any flash fires and its anti-static fiber is used to minimize electrostatic accumulation).



MA-1 Flight Jacket

Material: Outershell: 100% Nylon, sage green

Lining: 100% Polyester, orange

Innershell: Polyester Fiberfill, 150g

Color: Sage green, Black, Navy blue, etc.

Description: Fully reversible with rescue orange color innershell

Nylon knitted collar, waist band and cuffs

#8 heavy duty metal zipper with reversible puller on front opening

Two slant insert pockets on hem and one pen pocket on left arm

Application: Aviation in cold weather, reversible with highly visible orange color for emergency.



Tanker Suit



Material: 150/200g/m² (4.5/6oz) Dupont® Nomex® IIIA / Aramid IIIA fabric

Color: Sage green

Feature: Two way full front FR metal zipper with puller

Two slash chest pockets fastened by Velcro

One pen pocket fastened by Velcro on left sleeve

Two pockets on upper legs

Adjustable cuffs, waist belt and leg opening with Velcro fastener

DRD (Drag rescue strap) strap concealed by Velcro fastener on the back

Two side zippers and Velcro closure across back for easy access in emergency

Ranker holder on shoulders

Self-fabric reinforced elbows and rump

Application: Used as protective clothing during tank driving.

Fire Protection-Dupont®Nomex® IIIA

What is Nomex® IIIA?

DuPont®Nomex® IIIA is composed of 93% 1.7 decitexDuPont®Nomex® meta-aramid, 5% DuPont® Kevlar®para-aramid and 2% antistatic fiber. This innovative solution expands to form a stable and inert barrier between the fire and skin, which gives wearers the valuable seconds they need to help them escape from the hazard.

It is one of the best products for flame retardant and heat resistant protection. It is widely used all over the world, especially for Petroleum, Oil & Gas, Chemical industry, Paint and other environments where flash fire may occur. Many of firefighters, racing drivers, U.S. military personnel and even astronauts wear protective garments made of Nomex® IIIA fabric.

Why do we choose C&G®Nomex® IIIA flame retardant garments?

Nomex® is inherently flame retardant. The fiber cannot be burned itself, so the protection is permanent. Since the protection comes from the fiber itself, it will not get weak after times of washing and usage. When exposed to fire, Nomex® fiber will get swelled and thicker to form a protective barrier between heat source and body. The protective barrier will last until the garment cools down so that people will have valuable seconds to escape.

For the flame retardant fabric treated by chemicals, its FR performance comes from the chemicals on the surface of the fabric. When exposed to flash explosion, the chemicals will react to extinguish fire. The reaction depends on the fire energy and the time of the fabric exposed to the fire.

With the increasing of time and energy, the flame retardant chemical will be induced to react, and the burned degree will be obviously increased. The chemicals and fabric will cause vigorous slash fire, hot gas, smoke and tar, which will hazard the body seriously.

01 Unique protective barrier to high temperature and flame

When exposed to high temperature continuously, Dupont®Nomex® IIIA fiber will carbonize and get thicker to prevent heat conduction between heat source and body to increase protection and reduce burn injury (See Pic.1). The strong protective barrier will keep soft and tough until the garment cools down. It will provide time for the user to escape.

Pic1 It shows that Dupont®Nomex® IIIA garment will carbonize and get thicker when exposed to high temperature and flame.

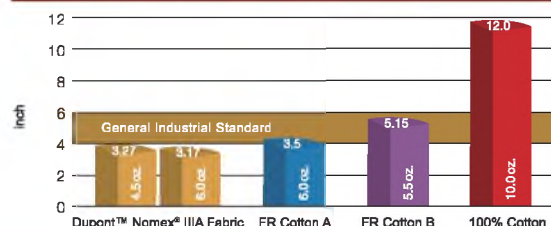


The picture shows theoretical thickness
According to the assembling procedure of single fabric suggested by ASTM D-4108
Thermal protective performance tests (TPP)

02 Excellent performances in Vertical Burning Test

Dupont®Nomex® IIIA flame retardant fabric can easily pass Vertical Burning Test (A basic flame retardant test which tests if the fabric will be lighted and burned after being exposed to fire for 12 seconds). Most protective fabric can pass Vertical Burning Test, but 100% Cotton, CVC and TC fabric will be lighted and cannot pass the test (See Pic.2).

Pic2 Results of Vertical Burning Test



FTMS 191 A; 5903.1. All fabrics were washed one time

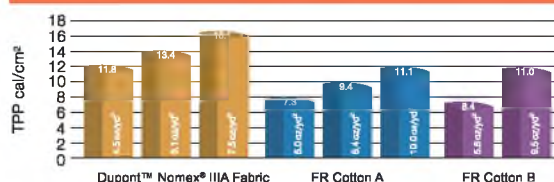
03 Outstanding performances in Thermal Protective Performances (TPP) Test

TPP tests the protective performance of the fabric in deflagration. The higher the TPP value is, the better the protective performance is.

TPP test shows that Dupont®Nomex® IIIA fabric performs much better than chemical-treated FR fabric, and even lighter Dupont®Nomex® IIIA fabric performs better than heavier chemical-treated FR fabric (See Pic.3).

Pic3 TPP Test Results of Single Fabric

The higher the TPP value is, the better the protective performance is.



All tested fabric is washed with domestic washing method
Use NFPA heat source according to the method suggested by ASTM D-4108

Fire Protection-Dupont®Nomex® IIIA

04 Excellent wear-resistant, tear-resistant and chemical-resistant performance

Nomex® IIIA fabric performs much better than 100% Cotton, CVC and TC fabric in wear-resistance and tear-resistance, and it will make the garments with a longer life.

Besides, Nomex® IIIA fabric is chemical-resistant, it resists most of inorganic chemicals and organic solvent, thus it is anti-corrosion and aging-resistant. In different industrial area, the chemical-resistant performance enhances the durability of the garments, and the garments could be washed by organic solvent to remove the flammable contaminants without affecting the life span of the garments.

1. The chemical-resistant performance refers that the fiber can resist the degradation instead of the penetration of chemicals. The fabric of Dupont®Nomex® IIIA which is covered or coated by certain materials could be used to prevent the penetration of chemicals.

2. Originated from STP1133 of ASTM.

05 Unique economy and durability

Generally, the durability of Dupont®Nomex® IIIA fabric is 3 to 5 times better than other protective fabrics (including 100% Cotton, CVC, TC and FR Cotton fabric). Besides, the flame resistance of Dupont®Nomex® IIIA fabric is permanent and will not get weak after times of washing and usage.

Chart1 lists the durability of different FR garments.

Chart1 Durability Parameters of FR Protective Garments				
The higher the value is, the better the durability is.				
Fabric	Strength of Extension (LB) ASTM D-5034	TRAP Tear Strength (LB) FTMS 191B-5136	ELEMENDORF Tear Strength (LB) ASEM D-1424	TABER Friction ASEM D-3884
150g/m² NOMEX® IIIA fabric	143	30	6	688
200g/m² NOMEX® IIIA fabric	212	38	10	1213
200g/m² certain brand FR Cotton	88	5	4	595
300g/m² certain brand FR Cotton	124	8	7	688
186g/m² certain brand FR Cotton	58	8	5	330
300g/m² certain brand FR Cotton	107	14	7	610

06 The fabric is light and comfortable

As per trying experiment, the weight of garments affects the degree of comfort. Dupont®Nomex® IIIA garments are with high strength, good durability and fine breathability. And light fabric could be used to make more comfortable garments.

Dupont®Nomex® IIIA garments are with good breathability. It will promote air flow so that the energy of body could scatter fast.

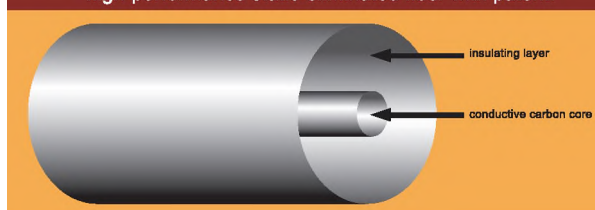
There is a special moisture-absorbing component which is widely used in sportswear used by top tennis sportsmen. This kind of component will absorb the moisture on the surface of

skin and transfer it to larger surface areas by fiber to make it evaporate fast, which helps users feel dry and comfortable.

07 Professional static control

Dupont®Nomex® IIIA fabric integrates P-140 - a kind of static-eliminated fiber with patent, which could reduce the static caused by the friction between two garments or garments and the surface of other objects (See Pic. 4). P-140 is used to reduce harmful static and make garments more comfortable to wear. Meanwhile, it also can reduce the accumulation of the static on the surface of body.

Pic.4 Dupont™ Nomex® IIIA fabric includes P-140 – a kind of high-performance static-eliminated fiber with patent.



08 Good protection under the condition of low temperature

Water can eliminate static by conducting electricity, so many of natural or synthetic fiber are anti-static by absorbing moist gas. But the natural fiber like wool, cotton and synthetic fiber will lose anti-static performance under low temperature.

However, Dupont®Nomex® IIIA fabric will keep fine anti-static performance even under the condition of low temperature. It is mainly because of P-140 fiber in Dupont®Nomex® IIIA fabric, which keeps the fabric anti-static even under the humidity of 20%. The excellent anti-static performance has been proved in Electric Charge Decay Test and in the process of wearing.

Chart2 The results of anti-static decay test

Fabric	#Washing Times	KV Acceptable Voltage	Time to achieve 10% initial acceptable voltage/seconds
150g/m² NOMEX® IIIA	0	3.95	0.01
	25	3.75	0.02
	50	3.45	0.01
	75	3.15	0.02
	100	3.10	0.01
	150	3.10	0.02
100% FR Cotton	0	3.25	>10
	25	2.00	>10
	50	1.60	>10
100% Cotton	0	4.31	2.2
	25	2.50	>10
	50	2.33	>10
65% Cotton	0	4.90	4.3
	25	2.20	>10
	50	2.25	>10

According to US Test Standard 191A (Method 5931), to put the fiber between two paralleled electrodes. When 5KV charge passes, the fiber can hold at least 3KV. And the fiber needs to discharge until to achieve only 10% initial charge within 0.5 seconds when it touches the ground. The test is under TOF (21°C) and 20% RH.

The real case shows that it will produce enough static energy on the surface of body when taking off the outer wear. The spark produced in the process of static release is strong enough to light flammable steam or air mixture.

Nomex® IIIA Flame Retardant Clothing



Nomex® IIIA Coverall

Item No.: NM-C150-1

Material: 150g/m² (4.5oz) Dupont Nomex IIIA
(93% Nomex®, 5% Kevlar® and 2% anti-static fiber)

ATPV Rating: 5.0cal/cm²

Color: Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

Nomex® IIIA Shirt and Pants

Item No.: NM-S/P150-1

Material: 150g/m² (4.5oz) Dupont Nomex IIIA

ATPV Rating: 5.0cal/cm²

Color: Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



Nomex® IIIA Coverall

Item No.: NM-C200-3

Material: 200g/m² (6oz) Dupont Nomex IIIA

ATPV Rating: 6.0cal/cm²

Color: Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

Nomex® IIIA Flame Retardant Clothing

Nomex® IIIA Coverall

Item No.: NM-C150-3

Material: 150g/m² (4.5oz) Dupont Nomex IIIA
(93% Nomex®, 5% Kevlar® and 2% anti-static fiber)

ATPV Rating: 5.0cal/cm²

Color: Royal blue, Orange, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



Nomex® IIIA Jacket and Pants

Item No.: NM-CT/P200-1

Material: 200g/m² (6oz) Dupont Nomex IIIA

ATPV Rating: 6.0cal/cm²

Color: Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



Nomex® IIIA Coverall

Item No.: NM-C150-2

Material: 150g/m² (4.5oz) Dupont Nomex IIIA
(93% Nomex®, 5% Kevlar® and 2% anti-static fiber)

ATPV Rating: 5.0cal/cm²

Color: Navy blue, Orange, Royal blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

Nomex® IIIA Flame Retardant Clothing



Extra Soft Nomex® IIIA Coverall

Item No.: NM-C230-1

Material: 230g/m², made of Dupont Nomex IIIA fabric.

Color: Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

Nomex® IIIA Winter Coat

Item No.: NM-WC200-1

Material: 200g/m² (6oz) Dupont Nomex IIIA for outshell and
3M Thinsulate for Innershell

ATPV Rating: 6.0cal/cm²

Color: Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



Nomex® BalACLava

Item No.: NM-Hood-1

Material: 200g/m² 100% Nomex

Color: White, Black

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint
Military, Police, Rescue, etc.

Remark: Single layer or double layers

Nomex® IIIA Flame Retardant Clothing

Nomex® Safety Vest

Item No.: NV-Hood-1

Material: 200g/m² Nomex and TV120P

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Military, Police, Emergency Rescue, etc.

Remark: Double layers



Nomex® Flame Retardant Raincoat

Item No.: NM-RC-02

Material: Nomex and other FR fabrics laminated

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Innovative technique

Waterproof, windproof and keeping warm

Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: 3M 2" width yellow/silver/yellow FR reflective tapes,
YKK or FR metal zipper

Nomex® & Lenzing FR® Blended Clothing

Nomex® & Lenzing FR® Shirt and Pants

Item No.: FRNV-S/P150-1

Material: 150g/m² Nomex & Lenzing FR blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant

With high strength and wear-resistance

Soft, comfortable and moisture-absorbing

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes



Nomex® & Lenzing FR® Blended Clothing



Nomex® & Lenzing FR® Coverall

Item No.: FRNV-C180-1

Material: 180g/m² Nomex&Lenzing FR blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant

With high strength and wear-resistance

Soft, comfortable and moisture-absorbing

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

FirePro Flame Retardant Clothing

FirePro Coverall

Item No.: FRFL-C150-2

Material: 150g/m² Aramid IIIA

(93% meta-aramid, 5% para-aramid and 2% anti-static fiber)

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



FirePro Coverall

Item No.: FRFL-C200-2

Material: 200g/m² Aramid IIIA

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

FirePro Flame Retardant Clothing

FirePro Coverall

Item No.: FRFL-C200-3

Material: 200g/m² Aramid IIIA

Color: Khaki, Orange, Royal blue, Navy blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



FirePro Coverall

Item No.: FRFL-C210-1

Material: 210g/m² Aramid IIIA

Color: Navy blue, Orange, Royal blue, Red, Yellow, etc.

Feature: Inherently and permanently flame retardant

Anti-static, neither melts nor drips

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

FirePro Comfort Flame Retardant Clothing

FirePro Comfort Coverall

Item No.: FRFLV-C200-1

Material: 200g/m² 50% Meta-aramid and 50% Lenzing FR blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant

With high strength and wear-resistance

Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



FirePro Comfort Flame Retardant Clothing



FirePro Comfort Shirt and Pants

Item No.: FRFLV-S/P150-1

Material: 150g/m² 50% Meta-aramid and 50% Lenzing FR blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Inherently and permanently flame retardant
With high strength and wear-resistance
Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

PC Comfort Flame Retardant Clothing

PC Comfort Hi-Visibility Flame Retardant Safety Vest

Item No.: FRPC-V250-1

Material: 250g/m² 100% FR highly visible Protex

Color: Fluorescent lime yellow

Feature: Inherently and permanently flame retardant
With high strength and wear-resistance
Soft, comfort and easy to maintain

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper



PC Comfort Coverall

Item No.: FRPC-C250-2

Material: 250g/m² FR Protex & Cotton blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: The FR property of Protex is combined with the comfort of cotton perfectly to make the garments inherently flame retardant and comfortable.

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without FR reflective tapes, YKK or FR metal zipper

FR Soft Flame Retardant Clothing

FR Soft garments are the best choice for the environment where the clothes easily get dirty or torn, or for the fact that the budget is limited.

FR Soft treatment technique will not affect the feature of cotton fabric. Thus, FR Soft garments are soft and moisture-wicking and also keep anti-static in most of working environments. Its FR protective performance will last as long as the lifespan of common garments, that is, 50 times of washing and within 12 to 18 months. Meanwhile, since being flame retardant, they also can be used as welding clothes.

FR Cotton/Nylon - Coverall

Item No.: FRCN-C250-1

Material: 250g/m² FR cotton and nylon blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable

The cotton blended with nylon is with higher strength and wear-resistance

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes



FR Cotton/Nylon-Heavy Coverall

Item No.: FRCN-C305-1

Material: 305g/m² FR cotton and nylon blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable

The cotton blended with nylon is with higher strength and wear-resistance

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes



FR Cotton/Nylon-Jacket and Pants

Item No.: FRCN-J/P260-1

Material: 260g/m² 88% Cotton 12% Nylon

ATPV: 8cal/cm²

Color: Grey, Navy blue, Orange, Royal blue, Red, Yellow, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes

FR Soft Flame Retardant Clothing



FR Cotton/Polyester-Coverall

Item No.: FRCVC-C220-1

Material: The cotton blended with polyester

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable
The cotton blended with nylon is with higher strength and wear-resistance

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes

Flame Retardant Cotton/Polyester - Jacket and Pants

Item No.: FRCN-CT/P310-1

Material: 310g/m² FR cotton and polyester blended

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable

The cotton blended with polyester is with higher strength and wear-resistance

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes



100% FR Cotton - Short Sleeves

Item No.: FRC-SC235-1

Material: 235g/m² FR Cotton

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes

100% FR Cotton – coverall

Item No.: FRC-C350-1

Material: 350g/m² 100% FR cotton

Color: Orange, Royal blue, Navy blue, Red, etc.

Feature: Moisture-absorbing, breathable, comfortable and durable

Application: Oil and Gas, Petroleum, Chemical, Paint, etc.

Remark: With or without reflective tapes





Mirror Suit 3H

Item No.: CG-BE4591

Material: 500g/m² aluminized glass fiber base material

Feature: Can stand up to more than 95 seconds radiant heat as per EN ISO6942 test

Can resist radiant well

The aluminized material is not easily peeled from the basematerial

Application: The industrial environment where workers contact heat indirectly

Standard: ISO 11612:2008 - NF EN 407



Mirror Suit 5H

Item No.: CG-5451

Material: 580g/m² aluminized Viscose base material

Feature: Can withstand the degree of 1600 °C

Can resist thermal contact and hot melt metal splash

The aluminized material is not easily peeled from the base Material.

Application: Steel and aluminum factory or other heat dangerous industrial environment

Standard: ISO 11612:2008



Mirror Suit 10H

Material: Outer shell: FR woven fabric substrate with aluminum membrane

Thermal lining: Meta/para-aramid felt quilted to 50% meta-aramid / 50% FR viscose woven fabric

Feature: Withstand high-heat up to 1600°C

Superior protective performance on high pressure and moisture vapor, superheated vapor and high temperature liquid

The aluminized material is not easily peeled from the base material

Application: Proximity fire rescue

Emergency rescue

Not suitable for Entering or passing through fire ground.

Standard: EN ISO 11612-2008

NFEN 407

Accessory: Self-contained breathing apparatus (SCBA) CG60415210

Mirror Suit 16H

Material: 7 layers patented high technology fabrics, composited by Pre-oxidation and para-aramid materials

Feature: Withstand high-heat up to 1600°C

Two layers thermal barriers provide superior heat-insulating property

The aluminized material is not easily peeled from the base material

Application: Proximity fire rescue

Fast furnace repair operation

Standard: EN 1486, NF EN 407

Accessory: Self-contained breathing apparatus (SCBA) CG60415210



Emergency Evacuation Clothing

Material: 3 layers laminated aluminized fabric

Feature: Soft and comfortable

Light weight to carry, only 0.6KG and easy to don and doff

Special mirror reflective technic, suitable for proximity fire rescue under industrial radiant heat up to 900 °C for 15 minutes.

Application: Proximity fire rescue

Searching after fire accident and do cutting operation

Fire extinguishing in narrow space like tunnel, underground tunnel, etc.

Rescue in high temperature



Fabric Property	Value	Testing Method
Breaking Force(warp)	≥1050N	ISO 1421-1
Breaking Force(weft)	≥800N	ISO 1421-1
Tearing Force(warp)	≥20N	ISO 4674-2

Fabric Property	Value	Testing Method
Tearing Force(weft)	≥30N	ISO 4674-2
Flame retardation	Afterglow≤2s	ISO 15025
Flame retardation	Afterflame≤2s	ISO 15025



Mirror Apron

Item No.: MF-Apron

Material: Aluminized fabric

Feature: High protection to heat and radiant heat Effectively prevents molten metal splash

Application: Furnace operation, metallurgy and foundry



Mirror Sleeves

Item No.: MF-Sleeve

Material: Aluminized fabric

Feature: High protection to heat and radiant heat
Effectively prevents molten metal splash
The two sleeves are connected around the neck with elastic
Band for easier operation.

Application: Furnace operation, metallurgy and foundry

Mirror Leggings

Item No.: MF-Legging

Material: Aluminized fabric

Feature: High protection to heat and radiant heat
Effectively prevents molten metal splash
Adjustable Velcro closure on the back helps to wear easier
Extended over-the-knee is also available.

Application: Furnace operation, metallurgy and foundry



Mirror Hood

Item No.: MF-Hood-1

Material: Aluminized fabric and professional Metallurgical face shield.

Feature: High protection to heat and radiant heat
Effectively prevents molten metal splash

Application: Furnace operation, metallurgy and foundry

Mirror Anti-skid Metal Splash Gloves

Item No.: BP-SB-FHGRST

Material: Aluminized fabric on the back and Silicone composite materials on the palm

Feature: Aluminized side can withstand 1600°C
Anti-skid palm can withstand 200-300°C

Application: Furnace operation, metallurgy and foundry





Metaltech garment is an innovative product to prevent injuries from the molten metal splash. It is inherently flame-retardant and the protection cannot be washed out or worn away.

Metaltech, with its natural blend of fibers and innovative construction techniques, has the ability to wick moisture away from the skin facilitating the cooling process. Metaltech garments apply in welding, smelting, casting and molten metal splash or radiant heat industrial condition.

Metaltech-1 Welding clothing

Item No.: MT-J/P240-2

Material: 240g/m², Lenzing FR, Kevlar and Comfort fiber blended.

Feature: With good heat-insulation performance

Protect from the molten metal splash

Application: Welding and metallurgy casting industry.



Metaltech-2 Metallurgical Clothing

Item No.: MT-J/P310-1

Material: 310g/m², Wool, Viscose FR and Functional Fiber.

Feature: With good heat-insulation performance

Application: Aluminum, furnace operation and metallurgy and foundry.

Chemical Protective Suit



Item No.: ChemPro 6045

Material: SMS non-woven fabric

Color: Blue

Feature: Breathable and comfortable

Hood design for optimum fit with full face respirators

Elasticated hood, wrist and ankles

Bound seams

Application: Against particulates such as asbestos, brick dust and cement dust; Suitable for sultry working environment.

Standards: Type 5 EN ISO13982-1 Solid particulates

Type 6 EN13034 Limited protection against liquid chemicals

Item No.: ChemPro 5050

Material: PE laminated fabric

Color: White

Feature: Breathable and comfortable

Two-layer microporous design

Withstand spraying of liquid chemicals

Hood design for optimum fit with full face respirators

Elasticated hood, wrist and ankles

Bound seams

Standards: Type 5 EN ISO13982 Solid particulates

Type 6 EN13034

EN14126

EN1073-2

Limited protection against liquid chemicals

Infective agents

Radioactive contamination



Item No.: CG60523002

Material: PE laminated fabric with SMS back panel

Color: White

Feature: Breathable and comfortable

Hood design for optimum fit with full face respirators

Optimized body fit for improved comfort for the wearer

Two-way zipper, easy to use

Elasticated hood, wrist and ankles

Bound seams

Standard: Type 4 EN14605:2005+A1:2009 Chemical liquid spray tight

Type 5 EN ISO13982-1 Solid particulates

Type 6 EN13034:2005+A1:2009 Limited protection against liquid chemicals

EN1073-2 Radioactive contamination

EN1049-5:2008 Anti-static

Item No.: CG MICROCHEM 3000

Material: Soft and flexible 3 layer fabric

Color: Yellow

Feature: One of the lightest and most comfortable chemical protective garments

Double zip system helps to ensure a liquid tight seal

Double cuff design to enable a liquid tight connection with chemical protective gauntlets

Hood design for optimum fit with full face respirators

Ultrasonically welded seams

Standard: Type 3 EN 14605 Chemical liquid tight

Type 4 EN 14605 Chemical liquid spray tight

Type 5 EN ISO 13982-1(&2) Solid particulates

EN14126 Infective agents

EN1073-2 Radioactive contamination

EN1149-1 Anti-static



Item No.: CG MICROCHEM 4000

Material: Unique 5-layer light fabric

Color: Green

Feature: Comfortable and exceptional barrier to organic and inorganic chemicals

Double zip system helps to ensure a liquid tight seal

Double cuff design to enable a liquid tight connection with chemical protective gauntlets

Internal cuff features knitted wrist for more comfort

Hood design for optimum fit with full face respirators

Ultrasonically welded and taped seams

Standard: Type 3 EN 14605 Chemical liquid tight

Type 4 EN 14605 Chemical liquid spray tight

Type 5 EN ISO 13982-1(&2) Solid particulates

EN14126 Infective agents

EN1073-2 Radioactive contamination

EN1149-1 Anti-static

Chemical Protective Suit



Item No.: CG60500413

Material: PVC

Color: Green

Feature: Single elasticated wrists

Good resistance to common used chemical

Press-studs zip flap cover the zip to provide good resistance against chemical

Taped inner and outer seams

Standard:

Type 3 EN 14605

Chemical liquid tight

Type 4 EN 14605

Chemical liquid spray tight

Item No.: CG60500404

Material: RXL159, the latest Respirax material, high-performance, multi-layer, nonwoven

Color: Yellow

Feature: Heavy duty 122cm (48") long gas tight zipper at right side

Adjustable internal support belt and bat-wing sleeves for optimal comfort

Flexible, multi-laminated and anti-mist visor for clear and undistorted vision

Exhalation valves ensure the pressure change within the suit does not exceed one millibar in one minute

Seams welded and taped for maximum performance

Chemically protective laminated gloves welded to the suit material with an elasticated oversleeve to prevent splash entering outer gloves

Integral socks with outer splash guards

Standard: Type 1 EN 943-2:2002 Liquid and gaseous chemicals, aerosols and solid particulates

EN 146:1991 Respiratory protective devices; powered particle filtering devices incorporating helmets or hoods; requirements, testing, marking

EN464:1994 liquid and gaseous chemicals, including liquid, aerosols and solid particles



Hi-Visibility Shirt and Pants

Material: 100% Cotton fabric

Color: Orange/Navy blue, Yellow/Navy blue

Feature: UPF50+

3M reflective tapes

Standard: AS/NZS 1906.4:2010 UPF50+
AS/NZS 40602.1:2011 Australian
standards Day or Night Use



Hi-Visibility Vest

Material: 100% cotton fabric

Color: Orange, Yellow, Blue, etc.

Feature: Highly visible, comfortable and moisture-absorbing

Application: Road workers, police, emergency rescue, etc.

Hi-Visibility Jeans

Material: 97% cotton, 3% Spandex jean fabric

Color: Blue

Feature: Flexible, comfortable and antiwear

3M reflective tape



Hi-Visibility Clothing



Hi-Visibility Rainwear

Material: 100% Polyester Oxford waterproof PU coated fabric

Feature: 5cm reflective tape

All seam taped to prevent heavy rain

Detachable hood

Stormwalker® Outdoor Workwear

Item No.: CG-CFF806

Material: Ventair laminated fabric

Feature: Windproof, Waterproof breathable index 3000 or above

Two piece designs, can wear separately

All seamed taped to prevent heavy rain

Double front opening, cuffs fastened by Velcro

Application: Suitable for outdoor operation, mountaineering, hiking, etc.



Item No.: CG-0309

Material: Ventair laminated fabric

Feature: Windproof, Waterproof breathable index 8000 or above

Two piece designs, can wear separately

All seamed taped to prevent heavy rain

Double front opening, cuffs fastened by Velcro

Application: Suitable for outdoor operation, mountaineering, hiking, etc.

Stormwalker® Outdoor Workwear

Item No.: CG-5230

Material: Gore Tex fabric

Feature: Windproof, Waterproof breathable index 10000 or above

Two piece designs, can wear sperately

All seamed taped to prevent heavy rain

Double front opening, cuffs fastened by Velcro

Application: Suitable for outdoor operation, mountaineering, hiking, etc.



Cooling Vest



Item No.: TemPro-CV-02

Material: Outer shell: Functional fiber fabric

Inner layer: Waterproof breathable material

Color: Navy blue

Feature: Light weight, only 0.8KG

High-tech COOL 3 LAYER structure, better locking water

Physical water absorption water locking mechanism

Keep cooling no less than 4 hours

Easy to use, only need a bottle of water

Application: Hot weather or heated environment



Item No.: TemPro-CV-01

Material: Polyester/cotton fabric

Color: Grey

Feature: Adjustable sizes with side buckle design

With 8 recyclable hard gel packs, which are made of new energy storage material, total weight is 1.5kg

Use after refrigerating and keep cooling no less than 3 hours

Application: Hot weather or heated environment

Other Protective Clothing



Item No.: TemPro-CV-00

Material: Polyester/Cotton fabric

Color: Blue

Feature: Adjustable sizes with side buckle design

With 4recyclable ice packs, total weight is 1.5kg

Use afterrefrigerating and keep cooling no less than 2 hours

Application: Hot weather or heated environment

Acid and Alkali Protective Clothing

Item No.: BP-QT-NSJF

Color: Navy blue, Medium blue, etc.

Feature: Acid and Alkali resistant

Application: Workplace where dangerous chemicals or corrosive materials exist



Bee Protective Clothing

Item No.: BP-QT-FFF01

Material: Flame retardant PVC artificial leather

Feature: Cut-resistant, anti-puncture and protect users from bee biting

Application: Used by firefighters when they remove wasp's nest

Microwave Electromagnetic Radiation Protective Clothing

Item No.: BP-QT-FFS

Material: Metal fiber and textile fiber blended

Color: Medium blue

Feature: Effectively protect body from the harm of microwave electromagnetic radiation.

Meet the standard of GJB5313-2009.

Application: Operators of different sizes of computer, workers near the launch station of radio television, communication, navigation, radar, etc. and workers in transformer substation.



Antistatic Clothing

Item No.: BP-QT-FJDF

Material: Antistatic fabric

Color: Blue

Feature: To eliminate electrostatic and avoid any electrostatic spark.

Application: Inflammable and explosive industries like Petroleum, Chemical, Coal, Gas station, LPG station and Oil tanker.



Antistatic Knitted Clothing

Material: Conductive materials

Color: Black

Feature: Anti-static property $< 0.6\mu C/pc$, to eliminate electrostatic and avoid any electrostatic spark

Grade A washing resistance

Application: Workplace where static is easily accumulated.

Help to eliminate the static on the clothing and body to prevent the danger of fire and exposure.



Cooling Clothing with Cooling System

Material: 100% cotton twill fabric

Color: Orange, Blue, etc.

Feature: Bring air into clothes and form a comfortable microclimate
Promote air flow and heat dispersion Adjustable wind control

Application: Hot weather or heated environment

Raincoat

Material: Waterproof complex coating fabric

Color: Navy blue, Yellow, etc

Feature: Waterproof

Application: Rainy weather



Rescue Garments

Material: 100% cotton twill fabric

Color: Orange, Yellow, Blue, etc.

Feature: Highly visible, comfortable and moisture-absorbing

Application: Emergency rescue, etc.

Winter Jacket

Material: 100% polyester waterproof outshell, anti-static lining and 3M Thinsulate innershell

Color: Navy blue, Black, etc.

Feature: Two detachable liners, one is long-sleeve and another is a vest to adjust to different weathers

Application: Cold weather



Summer Clothing

Item: Short-sleeve Shirt & Pants

Material: Cotton/Polyester

Color: Blue, Khaki, Grey, Navy blue, etc.

Feature: Durable and washing-resistant

Application: Working environment



Spring/Autumn Clothing

Item: Long-sleeve Shirt & Pants

Material: Cotton/Polyester

Color: Blue, Khaki, Grey, Navy blue, etc.

Feature: Durable and washing-resistant

Application: Working environment



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