

# Protection YOU Deserve



#### Established in 1980, Kıvanç Group continues its activities in 4 divisions; Safety, Engineering, Mining and Technical Textile.

**In Safety Division,** personal protective clothing against heat and flame, static discharges, arc flashes, molten metals, welding spatters is produced.

Our company has established the first heat laboratory for personal protective garments in Turkey. Following the second investment that we have made, our physical test laboratory has commenced to provide services. In our heat and physical test laboratory, raw materials (fabrics, accessories etc.,) and finished products (protective garments) are tested in accordance with EN and ISO standards. In our laboratory, which serves for R&D purposes also, new products are developed and all controls are performed before CE certification. These controls enhance product reliability and expedite required processes.

Thanks to the barcode system which have been integrated to our ERP (Enterprise Resource Planning) software that we have been using since 2009, the traceability has been made available and all product processes can be monitored. Depending upon work order number on the label of garments produced by our company, date of production; materials used in that production; date, lot number and supplier of the raw materials could be traced back.We also offer Product Liability Insurance for protective garments we produce. The cost of damages that may arise from the incidents to be encountered by the people using our garments due to material and faulty workmanship have been guaranteed within this insurance.

**In Engineering Division,** thermal insulation applications to reduce the heat loss are done by using high temperatureresistant glass fiber based materials. We manufacture removable insulation pads for turbines, plastic injection molding machines, textile dying machines, exhaust parts of vehicles, valves etc. Correct materials are used by calculating the heat loss, minimum thickness of insulation, surface temperature etc. Thermal imaging cameras are used to find the heat loss areas.

In Mining Division, Silica (Quartz) Sand and Musselstone are extracted.

• Silica (Quartz) Sand is used in potable and waste water filtration, in construction chemicals, in railroads as a skid preventing sand, in hippodromes, in pitch and sports fields and in many other fie ds.

• Musselstone is a compact stone that consists of limestone, silica and fossil sediment (such as clams and mussels). It is in light beige color, highly or partly porous with fossil according to its formation. Musselstone has been used frequently in artistic works that require aesthetic, elegance and art such as interior spaces, coves, columns, jambs, exedras, wall copings, fire places, landscaping, reliefs, crown gates, portal, altars, minibars, birdhouses, benevolence stones. Nowadays, it is used for restoration of historical buildings, and in new buildings, kiosks, villas waterfront residences, garden walls, walking trails, and in similar places.

**In Technical Textile Division**, we start from fiber and produce our own technical yarns and fabrics.





### Industry

## INDUSTAR Heat & Flame Protection

## ARCSTAR Electric Arc Protection

## METALSTAR Molten Metal Splash Protection

REFSTAR Radiant Heat Protection

## FORESTAR Chainsaw Protection



## NDUSTAR

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## Why INDUSTAR?

Despite the very high health and safety standards prevalent within the oil and gas industry, its workers can still face a vast number of hazards including flash-over situations. Workers are exposed to heat & flames during flash-over.

Traditional fabrics like cotton or polyester continue burning, melt or drip in case of a flash-over situation which takes 3-4 seconds only.

INDUSTAR Protective Clothing provides permanent flame resistance; does not melt, ignite and continue burning; insulates the wearer from heat and decrease/avoid heat burns; provide time to escape; increases the chance of survival.

#### **Application Areas**

- Oil & Gas
- Refineries
- Off-shore
- Petrochemical Companies
- Ammunition Factories
- Fire-works Manufacturers
- Cement Industry
- Glass Industry
- Military & Police
- Railways
- Shipbuilding Industry

#### ISO 11612 Heat & Flame Protection:

The purpose of this standard is to provide minimum performance requirements for clothing to protect against heat and flame. Within many of hazards listed in this standard there are three performance levels (except Radiant Heat where there are 4 Levels). Level 1 indicates exposure to perceived low risk, Level 2 indicates exposure to perceived medium risk and Level 3 indicates exposure to perceived high risk.

- Code A: Limited Flame Spread (A1, A2)
- Code B: Convective Heat (B1, B2, B3)
- Code C: Radiant Heat (C1, C2, C3, C4)
- Code D: Molten Aluminum (D1, D2, D3)
- Code E: Molten Iron (E1, E2, E3)
- Code F: Contact Heat (F1, F2, F3)

#### EN 1149-5 Electrostatic Properties:

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This European Standard specifies material and design requirements for electrostatic dissipative protective clothing used as part of total earthed system, to avoid incendiary discharges. The requirements may not be sufficient in oxygen enriched flammable atmospheres. This European Standard may not be applicable for protection against main voltages.

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**INDUSTAR** 



## BORIS | Jacket & Trousers

#### Model Details JACKET

- » Jacket is multi-layer
- » Lower welt pockets with zipper 1
- » Cuff adjustment by means of a Velcro tape and a buckle 1
- » Front flap closed by means of a zipper and Velcro tapes 🤌
- » 5 cm wide segmented silver and yellow-silver-yellow reflective tapes
- » Velcro tapes on right sleeve for logo and name tag 😕
- » Hanger on the back of the jacket 😣
- » Chest pockets with zipper
- » Loop above the right chest pocket for radio, flashlight or gas detector
- » Armpit gussets for easy and comfortable arm movement
- » Reinforcement on shoulders and elbows

#### TROUSERS

- » Trousers are single-layer
- Wear resistant knee reinforcement with replaceable padding (4)
- Comfort-enhancing flexible knee system
   for easy and comfortable body movement (4)
- » Belt loops for narrow and wide belts (5)
- » Side bellow cargo pockets with flaps closed by Velcro tapes (5)
- » Slash pockets and back pockets
- 5 cm wide segmented yellow-silver-yellow reflective tapes on both legs
- Reinforcements on the back of the trotters

Outershell Fabric

**380 Fire Blocker** 220 g/m<sup>2</sup> 2/2 Twill 93% Meta-aramid, 5% Para-aramid, 2% Antistatic

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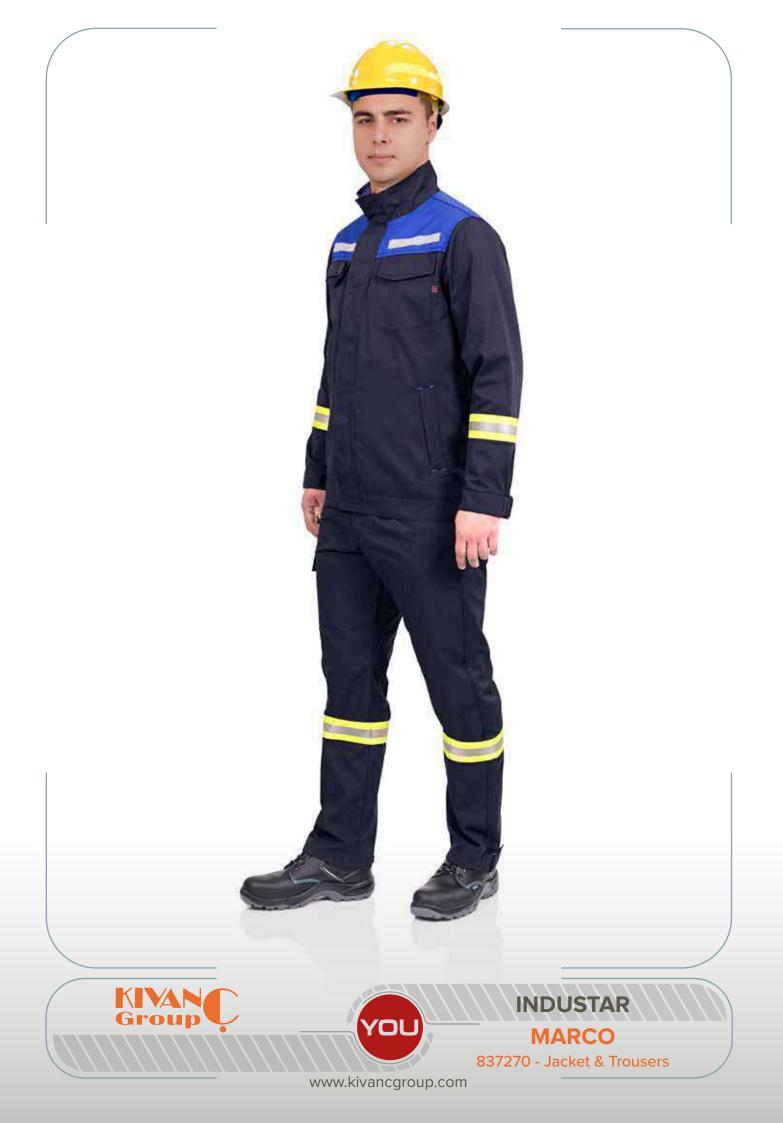
Heat Barrier 5003 Aramid felt quilted to an Aramid/Viscose FR inner lining 250 g/m<sup>2</sup>











## MARCO | Jacket & Trousers

#### **Model Details**

#### JACKET

- » Comfort-enhancing back bellows 1
- » 5 cm wide yellow-silver-yellow reflective tapes on sleeves 1
- » Cuff adjustment by means of a Velcro tape and buckle 2a 2b 2c
- » 5 cm wide yellow-silver-yellow reflective tapes on sleeves
- » Silver segmented reflective tape on the back of jacket
- » Hem adjustment by means of a Velcro tape and buckle
- » Chest pockets with flaps closed by means of Velcro tapes
- » Lower welt pockets with flaps (3)
- » Front flap closed by means of a zipper and Velcro tapes
- » Interior design with red lines

#### **TROUSERS**

- » Semi bellow cargo pockets with flaps closed by 4 Velcro tape
- » Ergonomic cut of trousers waist 5
- » 5 cm wide yellow-silver-yellow reflective tapes 6
- » Elastic belt system 6
- » Slash pockets
- » Semi bellow cargo pockets on the back with flaps closed by Velcro tape 6

100

» Trotter adjustment by means of Velcro tapes and buckle 🍞



















Fire-Blocker 200g/m<sup>2</sup> 2/1 Twill 93% Meta-aramid, 5% Para-aramid, 2% Antistatic

EN ISO 11612 EN 1149-3 A1 A2 B1 C1 F1 EN 1149-5 EN 61482-1-2 EN 61482-1-1ATPV Class1(4kA) 7,5 cal/cm2

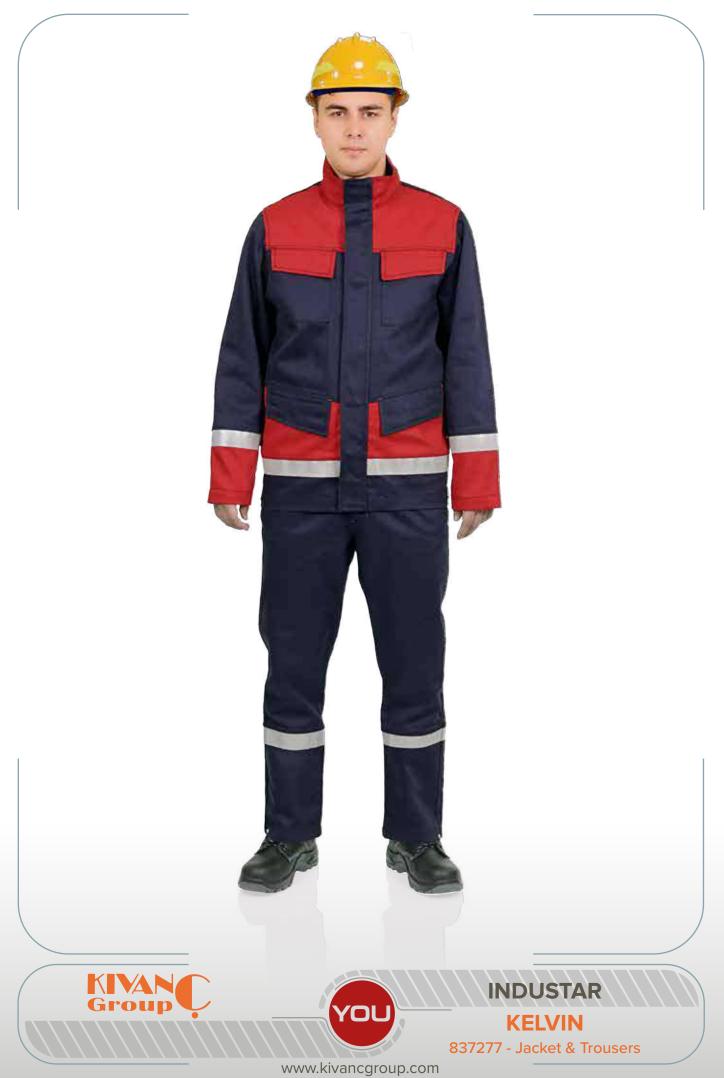
DARK ROYAL GRE'







335



## KELVIN | Jacket & Trousers

## Model Details

#### JACKET

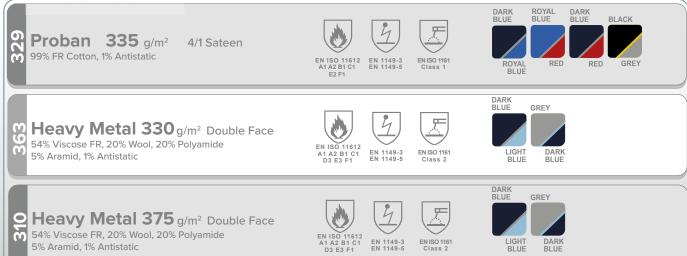
- » Overlapped seam to allow the molten metal splash to flow from the fabric surface
- » Comfort-enhancing back bellows 1
- Additional piece of fabric on armpit for comfortable movement
- » Inclined chest pockets with flaps closed by means of Velcro tape
- » Jacket closed by means of a front zipper and Velcro tapes
- » Additional flap under zipper 😢
- » Cuff adjustment by means of snap buttons 🕄
- » Interior design with grey lines 4
- » Silver reflective tapes on sleeves and jacket hem

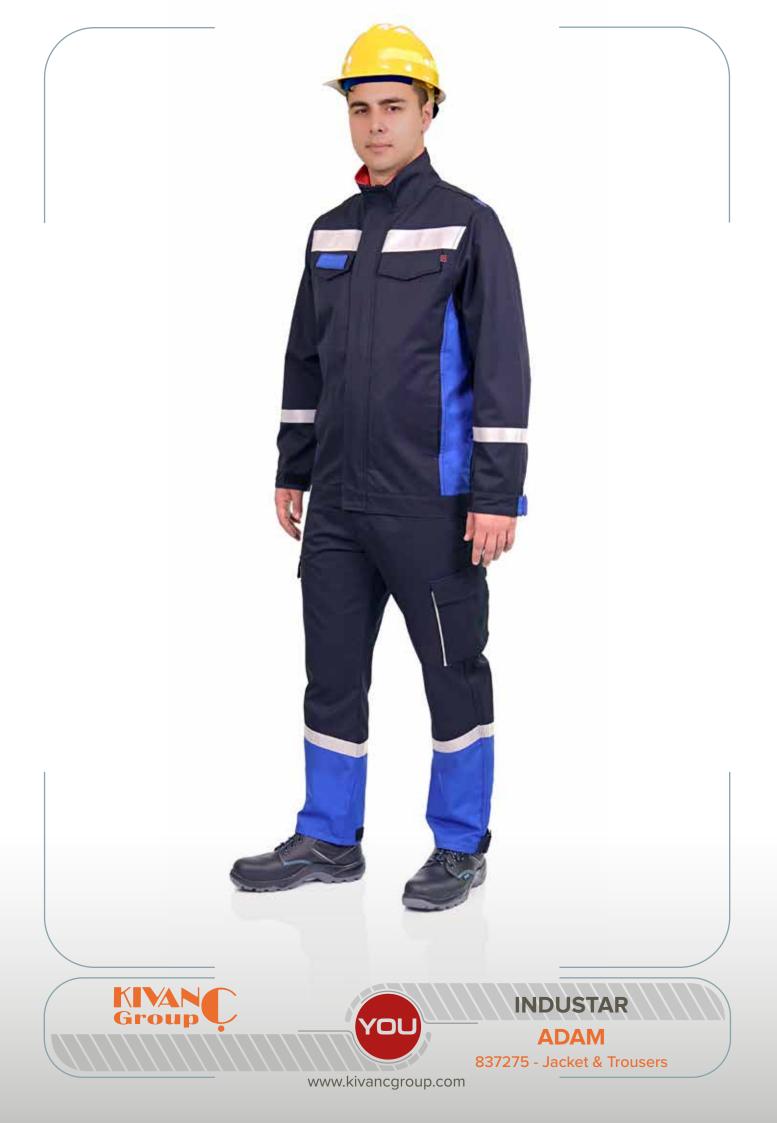
#### TROUSERS

- » Slash pockets
- » Elastic belt system 6
- » Trotter adjustment by means of snap buttons 6
- » Front closure with a zipper and button
- » Silver reflective tapes on both legs









#### **Jacket & Trousers**

#### **Model Details** JACKET

- » Comfort-enhancing J-type back bellows 1a
- » Elastic tape and tunnel for J-type bellow **(**)b
- » Additional piece of fabric on armpit for comfortable movement
- » Cuff adjustment by means of a Velcro tape and buckle 2
- » 5 cm wide silver reflective tapes on chest and back 3 cm wide silver reflective tapes on sleeves.
- » Lower welt pockets
- » Hem adjustment by means of a Velcro tape and buckle
- » Front flap closed by means of a zipper and Velcro tapes
- Interior design with orange lines >>

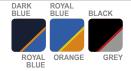
#### **TROUSERS**

- » Semi bellow side cargo pockets with silver reflective piping
- » Back pocket on the right with flaps and silver reflective
- piping 4
- » Slash pockets
- » Elastic belt system 6
- » Trotter adjustment by means of Velcro tape and buckle
- » Trousers front closed by means of a zipper and button
- » 3 cm wide silver reflective tapes
- Bi-coloured trotters 6 >>















Body Guard 250 g/m<sup>2</sup> 55% Viscose FR, 44% Meta-aramid, 1% Antistatic

342

2/1 Twill

EN ISO 11612 EN 1149-3 A1A2 B1 C1 F1 EN 1149-5 EN ISO 11611 Class 1

EN 61482-1-1 8,7 cal/cm<sup>2</sup>



## LUCAS | Waterproof Jacket

#### **Model Details**

- » Water and windproof hood with drawcord, detachable by means of a zipper 1
- Jacket has a moisture barrier, all seams are >> seam-sealed to prevent water leakage
- » Front flap closure by means of a zipper and Velcro tapes
- Chest patch pockets with flaps closed by means of Velcro tapes 😕 >>
- Velcro tapes to fix name and blood type tags 2 >>
- Radio, flashlight and gas detector loops above the chest pockets 😕 >>
- Lower patch pockets with flaps >>
- 2.5 cm wide segmented silver reflective tapes on chest 2 >>
- Cuff adjustment by means of Velcro tape 6 >>
- Pen pockets on both sleeves 4 >>
- Velcro tape on right sleeve for logo 4 >>
- Comfort-enhancing back bellows >>
- Inner pocket >>

- 5 cm wide yellow-silver-yellow reflective tapes on sleeves, >> chest and hem (5)
- » Adjustable jacket hem by means of Velcro tapes





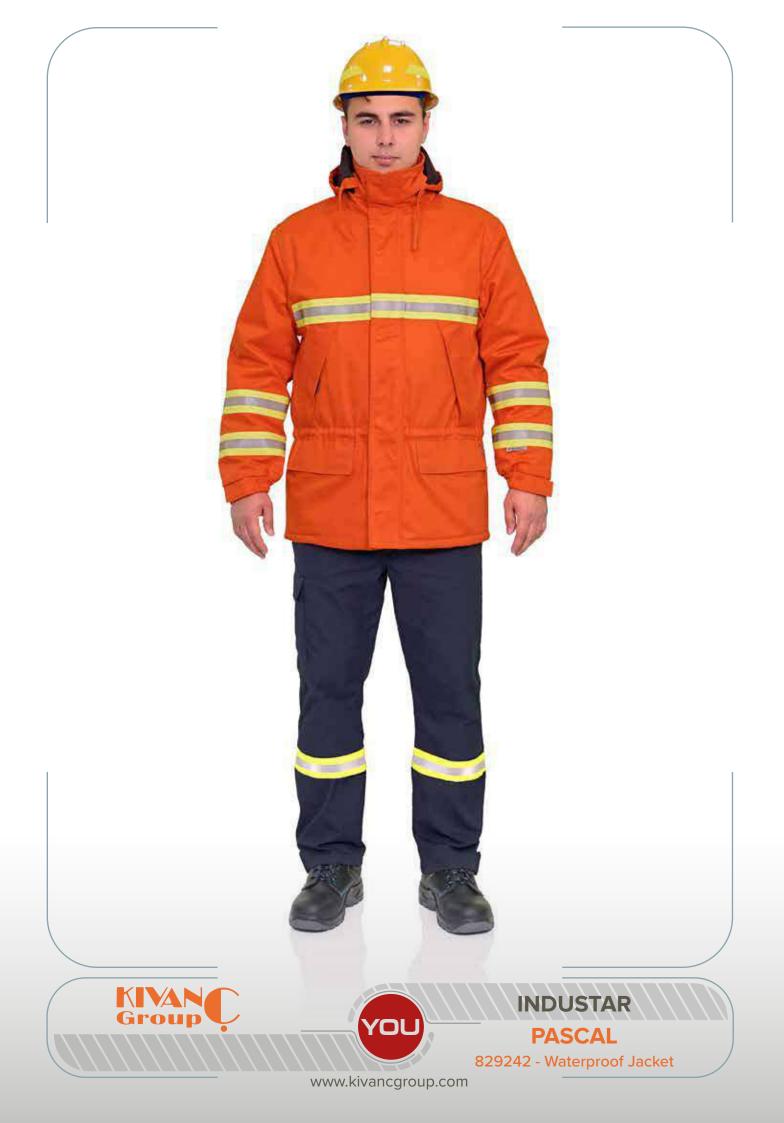






RED

#### Outershell Fabric 380 Fire Blocker 220 g/m<sup>2</sup> 2/2 Twill 93% Meta-aramid, 5% Para-aramid, 2% Antistatic EN ISO 11612 EN 1149-3 EN 61482-1-2 Class2(7kA) **Moisture Barrier** 4000 Heat resistant **Heat Barrier** nonwoven laminated 5003 Aramid felt to a PU Membrane quilted to an 90g/m<sup>2</sup> DARK ROYAL BLUE GREY Aramid/Viscose FR inner lining 250 g/m<sup>2</sup>



## PASCAL | Waterproof Jacket

#### **Model Details**

- » Water and windproof hidden hood with drawcord 1
- Jacket has a moisture barrier, all seams are seam-sealed to prevent water leakage
- » Front flap closed by means of a zipper and Velcro tapes 🤌
- » Lower welt pockets with flaps closed by Velcro tapes 3
- » Chest pockets with flaps closed by Velcro tapes 4
- » Armpit gussets for easy and comfortable movement
- » Elastic cuff with additional adjustment through Velcro tape 6
- » Drawcord on jacket hem 6
- » 5 cm wide yellow-silver-yellow reflectives tape on sleeves and chest











**Outershell Fabric H** 329 FR Cotton Antistatic 335 g/m<sup>2</sup> 4/1 Sateen 99% FR Cotton, 1% Antistatic

853

Moisture Barrier 4004 Knitted polyester fabrid – laminated to a PU Membrane 85g/m<sup>2</sup> Heat Barrier 5004 Double layer Aramid felt quilted to an Aramid/Viscose FR lining 380g/m<sup>2</sup>







## ALEX I Coverall

- » Front flap closed by means of a zipper and Velcro tapes
- 5 cm wide yellow-silver-yellow reflective tapes on sleeves, back and legs
- » 2,5 cm wide segmented reflective tapes on chest and back
- » 2 Chest pockets with flaps closed by means of Velcro tapes
- » Radio, flashlight and gas detector loops on the chest pockets
- » Pen pocket on right sleeve and velcro tape on left sleeve for logo
- » Comfort-enhancing flexible waist system for easy and comfortable body movement 1
- » Comfort-enhancing J-type back bellows 😕
- » Elastic tape and tunnel for J-type bellow 3
- » Cuff adjustment by means of snap buttons 4
- » Slash pockets
- » Semi bellow cargo pocket on right side with flap closed by means of Velcro tape
- » Semi bellow pockets on the back with flaps closed by means of Velcro tapes









## **ROGER** | Coverall

#### **Model Details**

- 5 cm silver reflective tapes on shoulders, sleeves and legs >>
- Front flap closed by means of a zipper and Velcro tape 1 >>
- Chest patch pockets with flap closed by zippers >>
- Cuf adjustment by means of snap buttons 2 >>
- Elastic belt 3 >>
- Slash pockets >>

342

Body-Guard 250 g/m<sup>2</sup> 2/1 Twill 55% Viscose FR, 44% Meta-aramid, 1% Antistatic

- Left-back patch pocket with flap and right-back patch pocket >> with flap and zipper
- » Tool pocket with flap on the right side



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EN ISO 1161 Class 1

EN 61482-1-2 ATPV 8,7cal/cm<sup>2</sup>

EN ISO 11612 EN 1149-3 A1 A2 B1 C1 F1 EN 1149-5

ORANGE

DARK

RED

ROYAL

DARK BLUE



## ALBERT I Antistatic Flame Retardant Rain Coat

- » Adjustable hood with drawcord 1
- » Chest patch pockets with flaps 😢
- » Front flap closed by means of a zipper and Velcro tapes
- » High-Visible yellow color
- » 5 cm wide yellow-silver-yellow reflective tapes on sleeves and coat hem
- » Throat tab for full protection (3)
- » All seams are seam-sealed to prevent water leakage
- » Flame retardant, antistatic, high-visible (Hi-Vis), waterproof and breathable fabric





## ALBERTO I Antistatic Flame Retardant Suit

#### Model Details JACKET

- » Hidden hood 🌖
- » Lower pockets with flap closed by Velcro tapes
- » Double front flap closed by means of a zipper and Velcro tapes
- » High-Visible yellow color
- » 5 cm wide reflective tapes on sleeves, chest, back and shoulders *Q*
- » Elastic cuff adjusted by means of Velcro tapes 🕄
- » Inner lined jacket

#### TROUSERS

- » Adjustable suspenders
- » Elastic belt
- Front flap closed by means of snap button and Velcro tape
- » 5 cm wide silver reflective tapes on legs
- » All seams are seam-sealed to prevent water leakage
- » Flame retardant, antistatic, high-visible (Hi-Vis), waterproof and breathable fabric
- » Inner lined trousers

4







High-Vis Polyester FR 250 g/m<sup>2</sup> 98% FR Polyester, 2% Antistatic with PU Coating EN ISO 20471

EN 1149-3 EN 1149-5 EN 343 Class 3

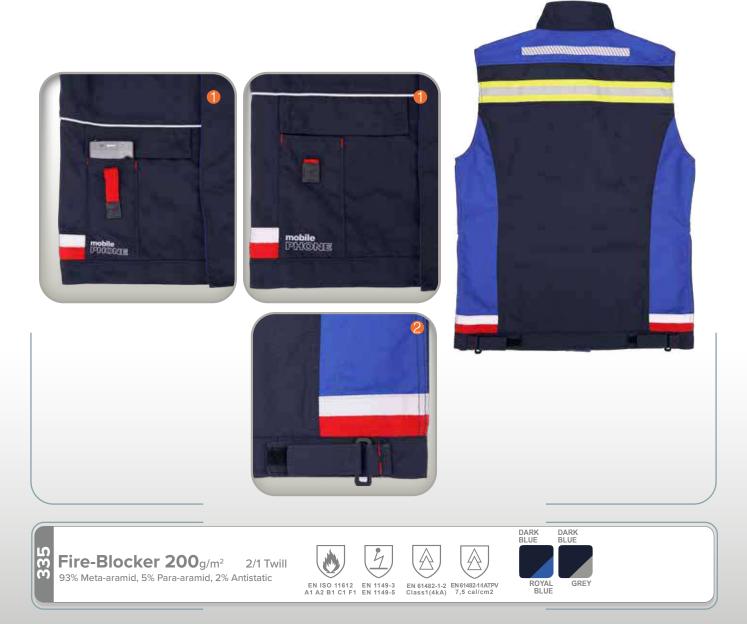


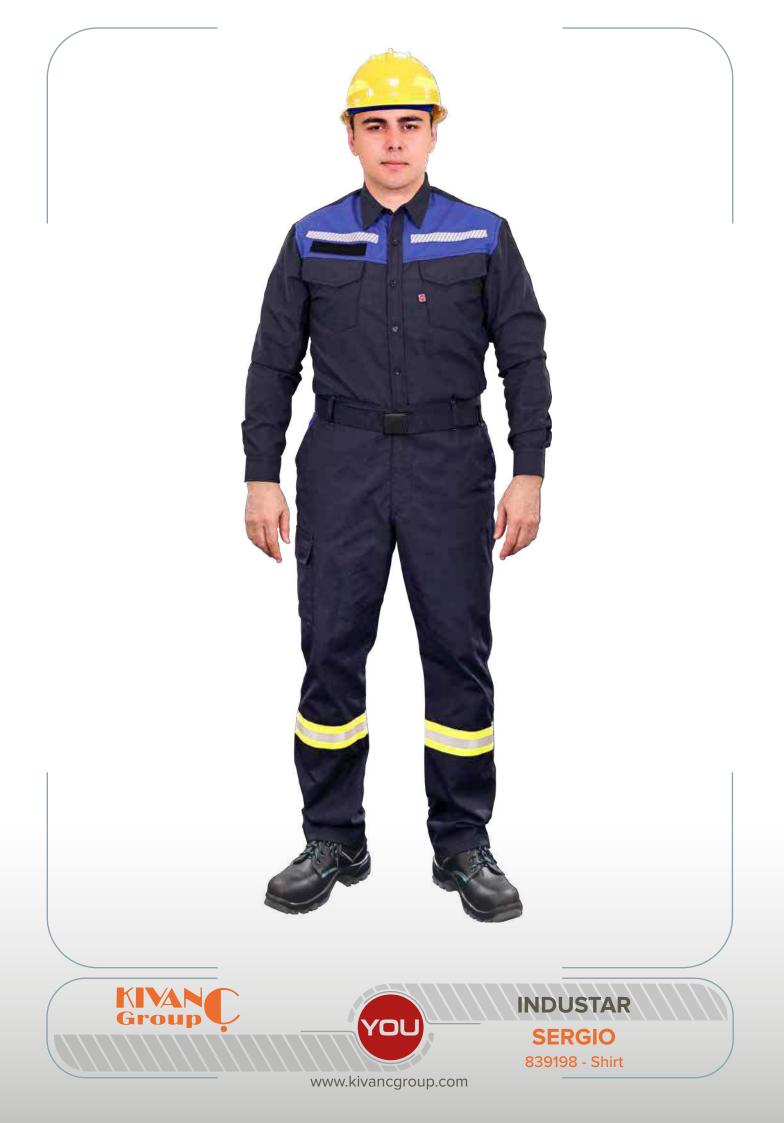


## LUIS I Vest

- Mobile phone pocket with velcro tape and drag rope for easy removal
- » Hem adjustment by means of a Velcro tape and a buckle
- » Front part closed by means of zipper and hidden snap buttons
- » Chest patch pockets with flaps closed by means of Velcro tapes
- » 2,5 cm wide segmented silver reflective tapes on chest and back
- » 5 cm wide yellow-silver-yellow reflective tapes on the back
- » Velcro tape above the right chest pocket for name tag
- » 2 Lower pockets with snap buttons and silver reflective piping
- » Cargo pocket on lower left side closed by a snap button







## SERGIO |

#### Shirt

#### **Model Details**

- » Front closure by means of buttons
- » 2 chest pockets with flaps closed by means of Velcro tapes
- » Cuff adjustment by means of buttons 0
- » 2,5 cm wide segmented silver reflective tapes on chest and back
- » Velcro tape above right chest pocket for name tag 😕
- » 5 cm wide yellow-silver-yellow reflective tapes on the back







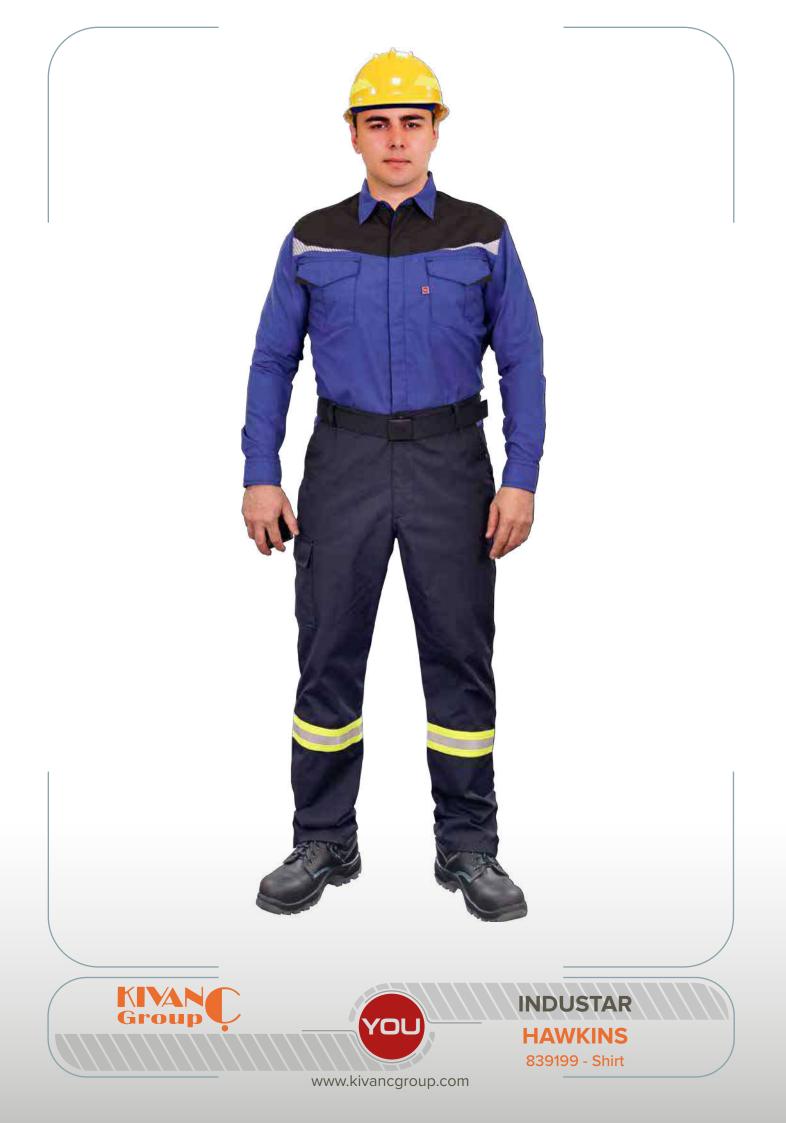




345 Body Guard 160 g/m² 1/1 Plain 55% Viscose FR, 44% Meta-aramid, 1% Antistatic







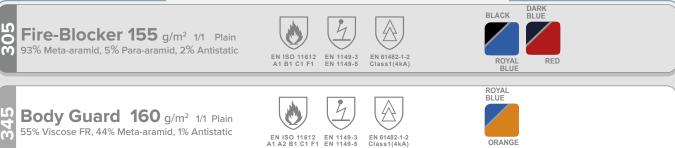
## HAWKINS | Shirt

- » Front closure by means of hidden buttons
- 2 chest pockets with flaps closed by means of Velcro tapes
- » Cuff adjustment by means of buttons
- » Segmented silver reflective tapes on chest and back (6)











## RYAN I Shirt

#### **Model Details**

- » Cuff adjustment by means of buttons
- » Epaulette on sleeves for adjustment
- » Front closure by means of hidden buttons 😕

0

- 2 chest pockets with flaps closed by means of Velcro tapes
- Velcro tapes for name and blood type tags (S)
- » Segmented silver reflective tapes 4













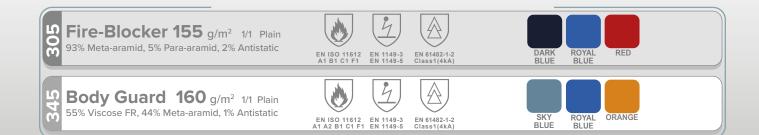
## SIMON | Shirt

- » Cellulosic sweat absorbing lining on collar
- Velcro tapes for name and blood tags on the patch pockets flaps
- » Pen pocket on both sleeves 1
- » 5 cm yellow-silver-yellow reflective tapes
   on back and sleeves
- » Chest patch pockets with flaps closed by snap buttons
- » Velcro tape on left sleeve for logo
- » Cuff adjustment by means of Velcro tape 3
- » Radio, flashlight and gas detector loops above the chest pockets
- » Front part closed by means of hidden snap buttons
- » Back yokes for easy and comfortable body movement











## BARRY I Round Collar Sweatshirt

#### **Model Details**

- » Knitted fleece fabric keeps the user warm and comfortable in cold environment
- » Bi-coloured sweatshirt 1
- » Rib knitted collar and cuffs (2)
- » Piping in different color (3)
- » Adjustable hem by means of drawcord 4







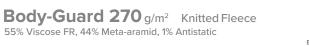




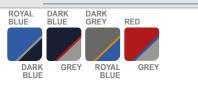
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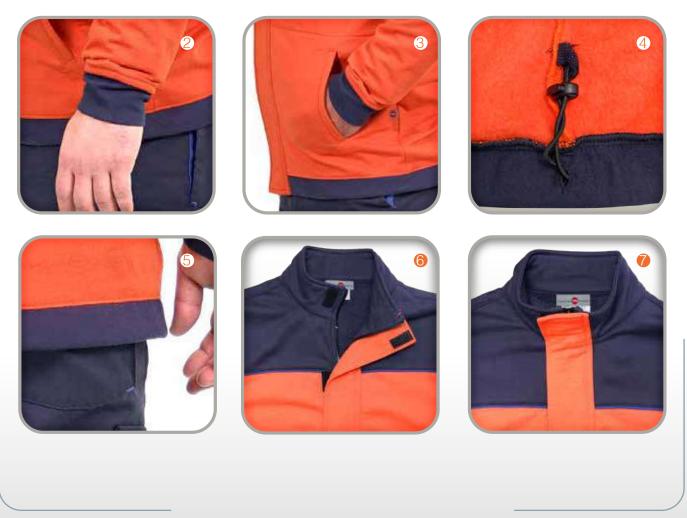




## BENSON I Straight Collar Sweatshirt

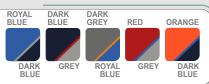
- » Knitted fleece fabric keeps the user warm, and comfortable in cold environment
- » Bi-coloured sweatshirt 1
- » Rib knitted collar and cuffs 😕
- » Slash pockets 3
- » Hem adjustment by means of drawcord 46
- » Front flap closed by means of a zipper and Velcro tape 6
- » Straight collar for warm and comfortable use 🧭
- » Piping in different color 7













## LARRY | Polo Shirt

#### **Model Details**

- » Hidden buttons
- » Knitted Polo collar
- » Rib knitted cuffs 6
- » Stitched hem
- » Chest pocket with flap closed by means of Velcro tape

a

2

» 100% Aramid sewing thread















## DANNY I Round Collar Sweatshirt

- » Collar made from main fabric 1
- » Cuffs made from main fabric 😢
- » Stitched hem
- » 100% Aramid sewing thread









## ERIC I Underwear

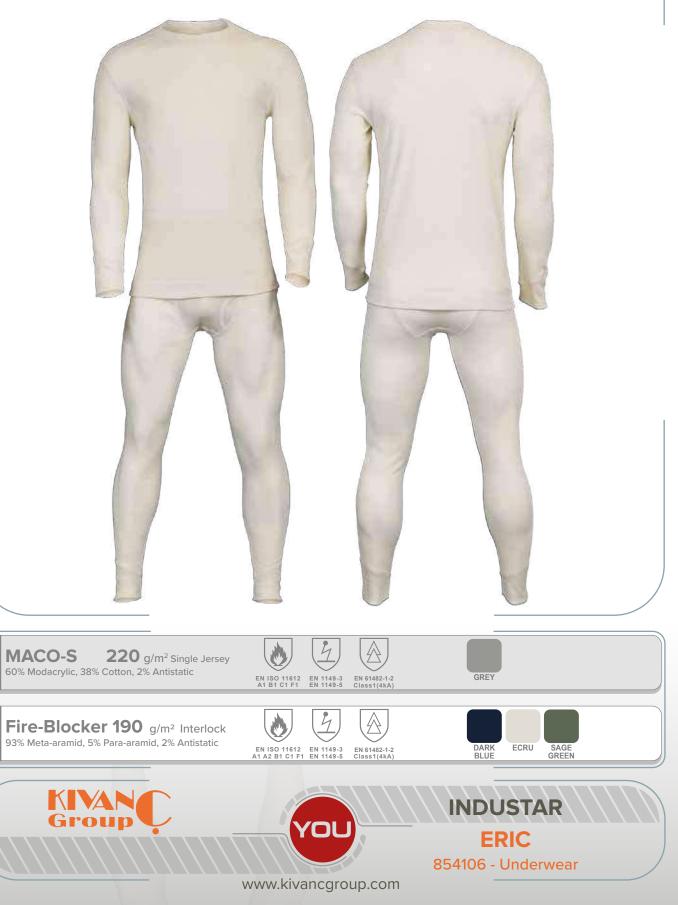
#### **Model Details**

- » Underwear designed to wear inside non-flammable clothing in a cold environment
- » Round collar

350

80

- » Long sleeves, long johns
- » Skin-friendly, breathable technical knit
- » 100% Aramid sewing thread



## NICK I Hood

- » Double Layer Hood
- » Ergonomic design in the form of head and neck
- » Ergonomic face opening
- » Special stitching preventing thickness on sewing area for comfortable skin-friendly wearing
- » 100% Aramid sewing thread



## LEE I Socks

#### **Model Details**

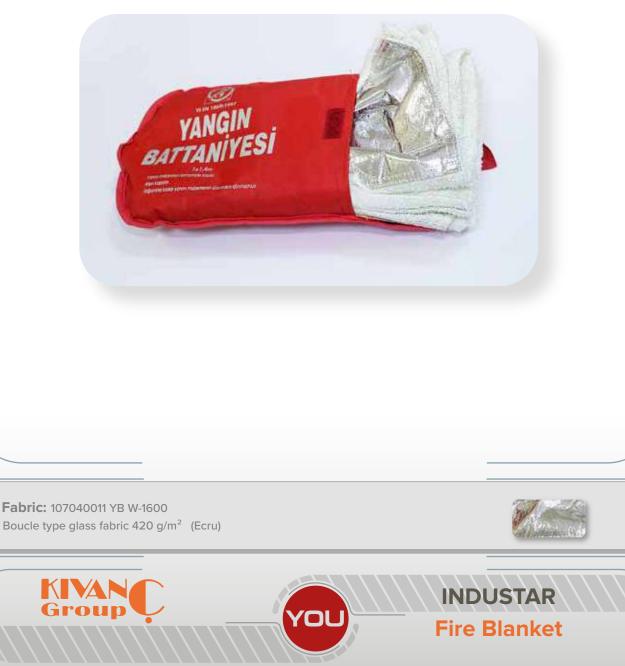
» Heat and flame resistant antistatic socks with towel sole



## **PROTEK**<sup>®</sup> I Fire Blanket

#### Model Details

- » Produced in accordance with EN 1869 and DIN 14155 standards
- » Made of non-asbestos glass fiber fabric (boucle type)
- Standard sizes are 90 x 150 cm, 160 x 180 cm, 100 x 140 cm (Production in different sizes is available upon request)
- » Fire blanket is offered in its original bag (on which user's guide is written on, and can be practically hanged in usage area) for local and industrial use.



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## PROTEK® I Welding Curtain

#### **Model Details**

- » Welding blanket made of hybride composite material reinforced with heat resistant glass fiber fabric needle punched to a molten metal splash protective carbon felt from both sides.
- » More durable, lighter and easier to use compared to other welding curtains
- Standard sizes are 90 x 100 cm, 190 x 100 cm, 190 x 200 cm, 190 x 300 cm, 190 x 400 cm (Different sizes are available upon request)



Fabric: 192062012 CF W-2000 Outer Surface: Carbon (Black) Reinforcement Layer: Glass Fiber Fabric (white)



**INDUSTAR** 



www.kivancgroup.com

# ARCSTAR Hectric Arc Protection

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Protection YOU Deserve

## Why ARCSTAR?

An electric arc is a continuous or brief electrical discharge with very high current between two conductors at a distance. An electric arc is attended with a very bright light and intensive heat. An electric arc represents a very serious threat because of the risk of severe burns, with potentially fatal consequences, caused by intense heat. The electric arc also generates other potential dangers, for example intense light, a pressure wave, noise or toxic fumes.

People working in the electrical industry place themselves in the line of danger while repairing blown transformers, replacing downed power lines and handling other jobs where high voltage is a constant threat.

Traditional fabrics like cotton or polyester continue burning, melt or drip in case of an electric arc.

ARCSTAR Protective Clothing can protect workers under these and similar situations and can help to reduce the chance of long-term injury or death.

#### **Application Areas**

- Electrical Utilities
- Power Distributions
- Power Plants
- Railways
- Engineering Projects
- Refineries
- Shipbuilding
- Automotive Industry

#### Requirements for protective clothing that protects against electric arcs

Naturally, there are requirements for the protection against the thermal effects of an electric arc. This can, according to the standard, be done in two ways. Depending on the needs of the user one or both of the methods should be applied. The open arc method described in EN 61482-1-1, while the box test falls in the EN 61482-1-2.

The open arc method determines, inter alia, the Arc Thermal Protection Value (ATPV). This must be at least 167,5 kJ/m<sup>2</sup> (4 cal/cm<sup>2</sup>). A higher value means better protection. The necessary ATPV value can be determined by a risk analysis.

At the box test, the class is determined depending on the test conditions and the measured thermal protection. Class 1 is the minimum, and thereby corresponds to an arc of 4 kA, for 500 ms and at a distance of 30 cm. The test for Class 2 makes use of a short-circuit current of 7 kA.

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ARCSTAR



## HENRY | Jacket & Trousers

### Model Details JACKET

- Front flap closed by means of a zipper and Velcro tapes
- » Chest pocket with flap closed by means of Velcro tapes
- » Name tag on chest pocket flap
- 2 patch pockets at hem with flap closed by means of Velcro tapes
- » J-Style back bellow for easy movement
- » Cuff adjustment with bellow and Velcro tapes
- Hem adjustment by means of Velcro tapes
- » Armpit gusstes for easy arm movement
- 5 cm wide silver reflective tapes on chest, back and arms

#### TROUSERS

- » Slash pockets
- » Bellow cargo pockets on both sides of the legs 😣
- » Back pocket on right side with flap closed by means of Velcro tapes
- » Elastic waist and loops 4
- » Trotter adjustment with bellow and Velcro tapes 6
- » 5 cm wide silver reflective tapes on legs









 Outershell Fabric

 Fire Blocker 220 g/m²
 2/2 Twill

 93% Meta aramid, 5% Para aramid, 2% Antistatic

 Inner Lining

 Fire Blocker 220 g/m²
 2/2 Twill

 93% Meta aramid, 5% Para aramid, 2% Antistatic

 93% Meta aramid, 5% Para aramid, 2% Antistatic

EN ISO 11612 A1 B1 C1 F1 EN 1149-5 E

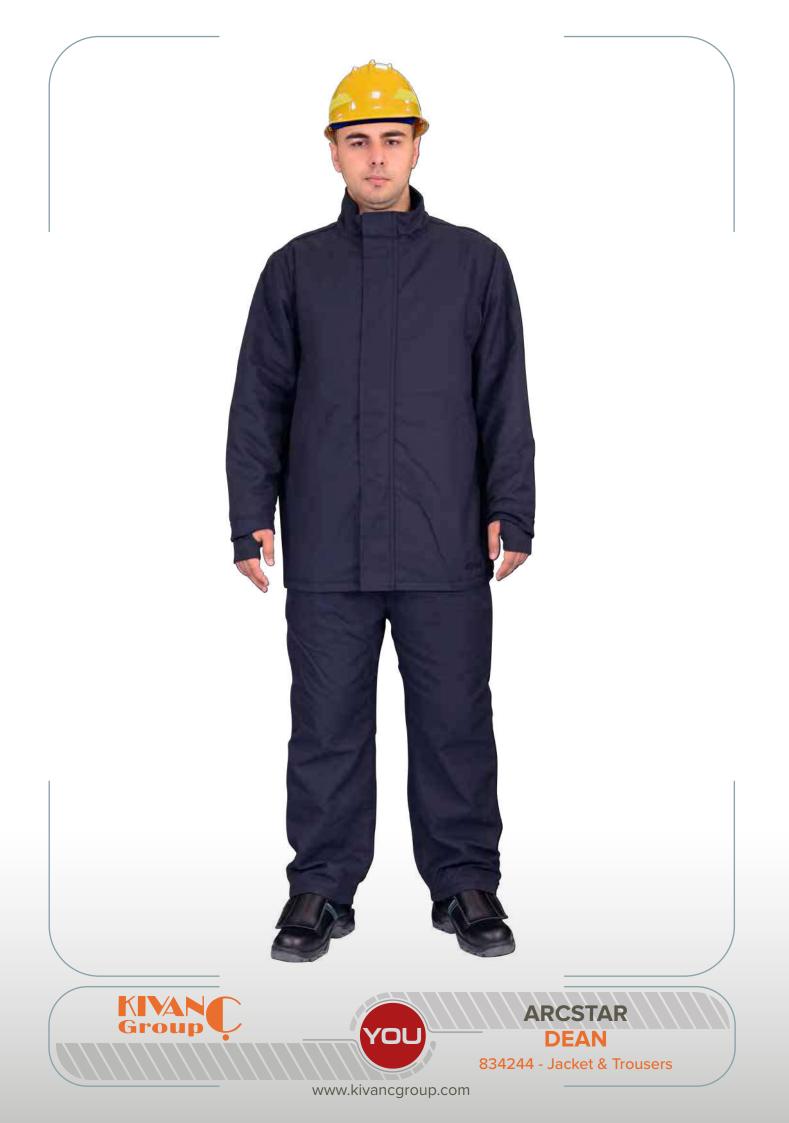




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ATPV

cal/cm



## **Jacket & Trousers**

#### DEAN Model Details JACKET

- » Front flap closed by means of a zipper and Velcro tapes
- » Back bellow for easy movement

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- » Cuff adjustment with Velcro tapes
- » Knitted cuff for additional protection 1

#### TROUSERS

- » Bib trousers with elastic suspenders 😕
- » Buckles for suspender height adjustment 🥹
- Waist adjustment with buttons and Velcro tapes 6
- » Trotter adjustment by means of Velcro tapes







#### Outershell Fabric

935

Fire-Blocker 220 g/m²2/2Twill93% Meta aramid, 5% Para aramid, 2% Antistatic

**Heat Barrier** Two layers of Aramid non-woven quilted to Aramid/Viscose FR inner lining 305 g/m<sup>2</sup>





ATPV 40 cal/cm<sup>2</sup>



## MARCO | Jacket & Trousers

#### Model Details JACKET

- » Comfort-enhancing back bellows 1
- » 5 cm wide yellow-silver-yellow reflective tapes on sleeves 1
- Cuff adjustment by means of a Velcro tape and buckle 2a 2b 2c
- » 5 cm wide yellow-silver-yellow reflective tapes on sleeves
- » Silver segmented reflective tape on the back of jacket
- » Hem adjustment by means of a Velcro tape and buckle
- » Chest pockets with flaps closed by means of Velcro tapes
- » Lower welt pockets with flaps (8)
- » Front flap closed by means of a zipper and Velcro tapes
- » Interior design with red lines

### TROUSERS

- » Semi bellow cargo pockets with flaps closed by 
   4 Velcro tape
- » Ergonomic cut of trousers waist 6
- » 5 cm wide yellow-silver-yellow reflective tapes 6
- » Elastic belt system 6
- » Slash pockets
- » Semi bellow cargo pockets on the back with flaps closed by Velcro tape 6

-

» Trotter adjustment by means of Velcro tapes and buckle otin Velcro tapes















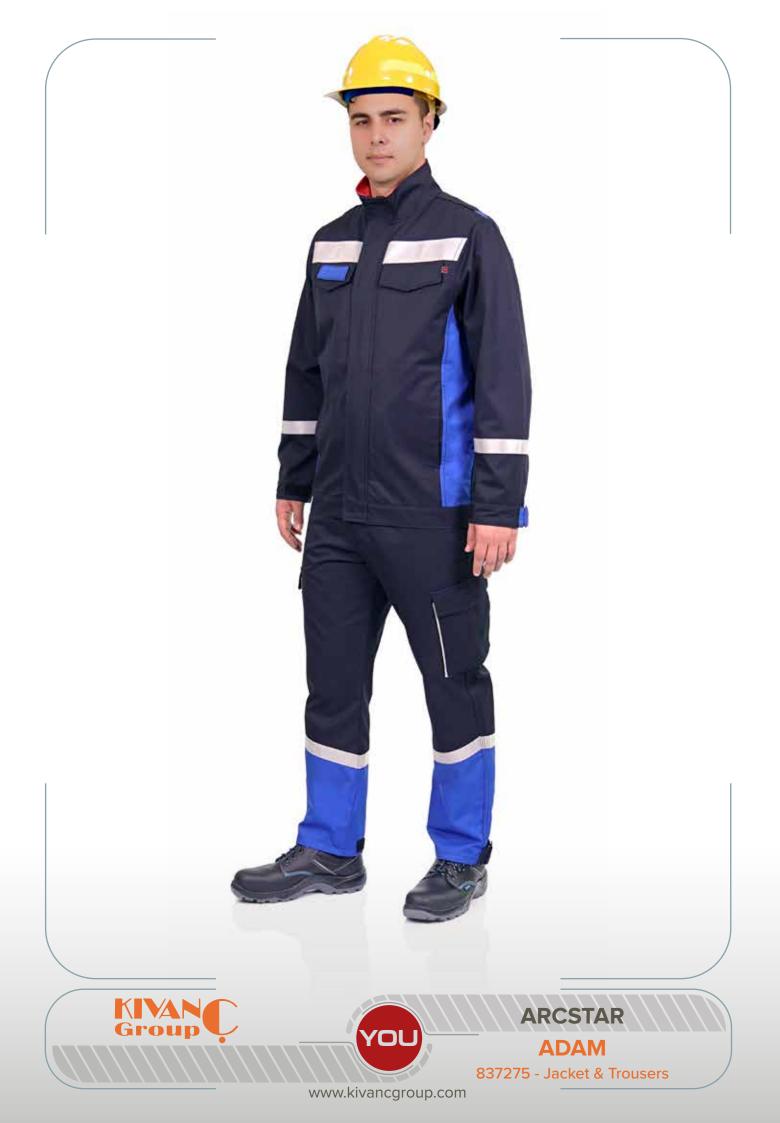


EN ISO 11612 EN 1149-3 EN 61482-1-2 EN 61482-14ATPV A1 A2 B1 C1 F1 EN 1149-5 Class1(4kA) 7,5 cal/cm2





335



## ADAM | Jacket & Trousers

#### **Model Details JACKET**

- » Comfort-enhancing J-type back bellows 1a
- » Elastic tape and tunnel for J-type bellow **1**b
- » Additional piece of fabric on armpit for comfortable movement
- » Cuff adjustment by means of a Velcro tape and buckle 2
- » 5 cm wide silver reflective tapes on chest and back 3 cm wide silver reflective tapes on sleeves
- » Lower welt pockets
- » Hem adjustment by means of a Velcro tape and buckle
- » Front flap closed by means of a zipper and Velcro tapes
- » Interior design with orange lines

#### TROUSERS

- » Semi bellow side cargo pockets with silver reflective piping
- Back pocket on the right with flaps and silver reflective >> piping (4)
- » Slash pockets
- » Elastic belt system 5
- » Trotter adjustment by means of Velcro tape and buckle
- » Trousers front closed by means of a zipper and button
- » 3 cm wide silver reflective tapes
- Bi-coloured trotters (6) >>





















#### LUCAS I Waterproof Jacket

- » Water and windproof hood with drawcord, detachable by means of a zipper 1
- » Jacket has a moisture barrier, all seams are seam-sealed to prevent water leakage
- » Front flap closure by means of a zipper and Velcro tapes
- Chest patch pockets with flaps closed by means of Velcro tapes 😕 >>
- Velcro tapes to fix name and blood type tags 2 >>
- Radio, flashlight and gas detector loops above the chest pockets 2 >>
- Lower patch pockets with flaps >>
- » 2.5 cm wide segmented silver reflective tapes on chest 2
- » Cuff adjustment by means of Velcro tape 8
- Pen pockets on both sleeves 4 >>
- Velcro tape on right sleeve for logo >>
- » Comfort-enhancing back bellows
- Inner pocket >>
- » 5 cm wide yellow-silver-yellow reflective tapes on sleeves, chest and hem 6
- Adjustable jacket hem by means of Velcro tapes >>

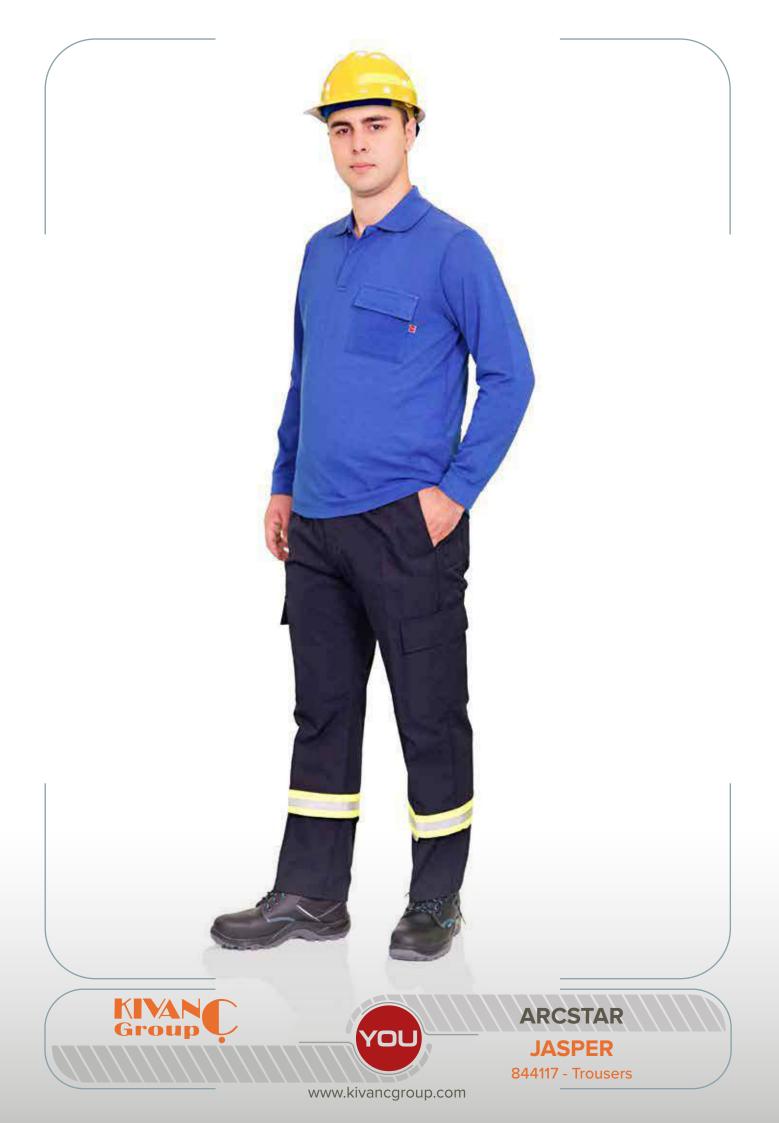












## JASPER I Trousers

- » Slash pockets
- » Patch pockets on both sides of legs with flaps closed by means of Velcro tape
- » 2 Patch pockets on back with flaps closed by means of Velcro tapes
- » Elastic waist with loops
- » Front closure with a zipper and a button
- » 5 cm wide yellow-silver-yellow reflective tapes on legs

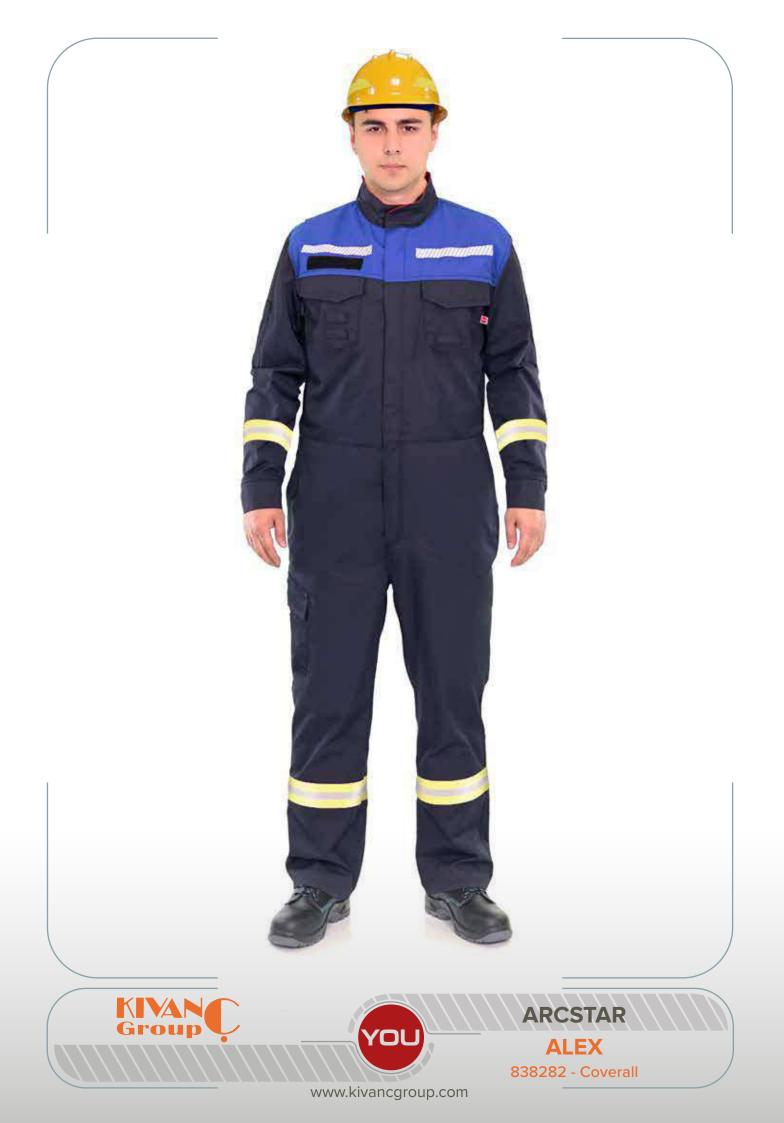












#### ALEX Coverall \_ I

#### **Model Details**

- » Front flap closed by means of a zipper and Velcro tapes
- 5 cm wide yellow-silver-yellow reflective tapes on >> sleeves, back and legs
- 2,5 cm wide segmented reflective tapes on chest and >> back
- 2 Chest pockets with flaps closed by means of Velcro >> tapes
- Radio, flashlight and gas detector loops on the chest >> pockets
- » Pen pocket on right sleeve and velcro tape on left sleeve for logo
- » Comfort-enhancing flexible waist system for easy and comfortable body movement 1
- » Comfort-enhancing J-type back bellows 2
- » Elastic tape and tunnel for J-type bellow 8
- » Cuff adjustment by means of snap buttons 4

55% Viscose FR, 44% Meta-aramid, 1% Antistatic

- » Slash pockets
- » Semi bellow cargo pocket on right side with flap closed by means of Velcro tape
- Semi bellow pockets on the back with flaps closed by >> means of Velcro tapes







EN ISO 11612 EN 1149-3 EN 61482-1-1 A1 A2 B1 C1 F1 EN 1149-5 ATPV 8,7 cal/cm2

EN ISO 1161 Class 1

ROYAL BLUE

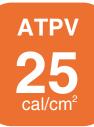
RED



## DUSTIN I Overjacket

## Model Details

- » Right and left flap for better protection in front
- Front flaps closed by means of a zipper and Velcro tape
- » High collar for better protection
- » Long overjacket will knee
- » Cuff adjustment with Velcro tapes





## Outershell Fabric

Fire Blocker 220 g/m<sup>2</sup> 2/2 Twill 93% Meta aramid, 5% Para aramid, 2% Antistatic Inner Lining Fire Blocker 220 g/m<sup>2</sup> 2/2 Twill 93% Meta aramid, 5% Para aramid, 2% Antistatic







## LUIS I Vest

#### Model Details

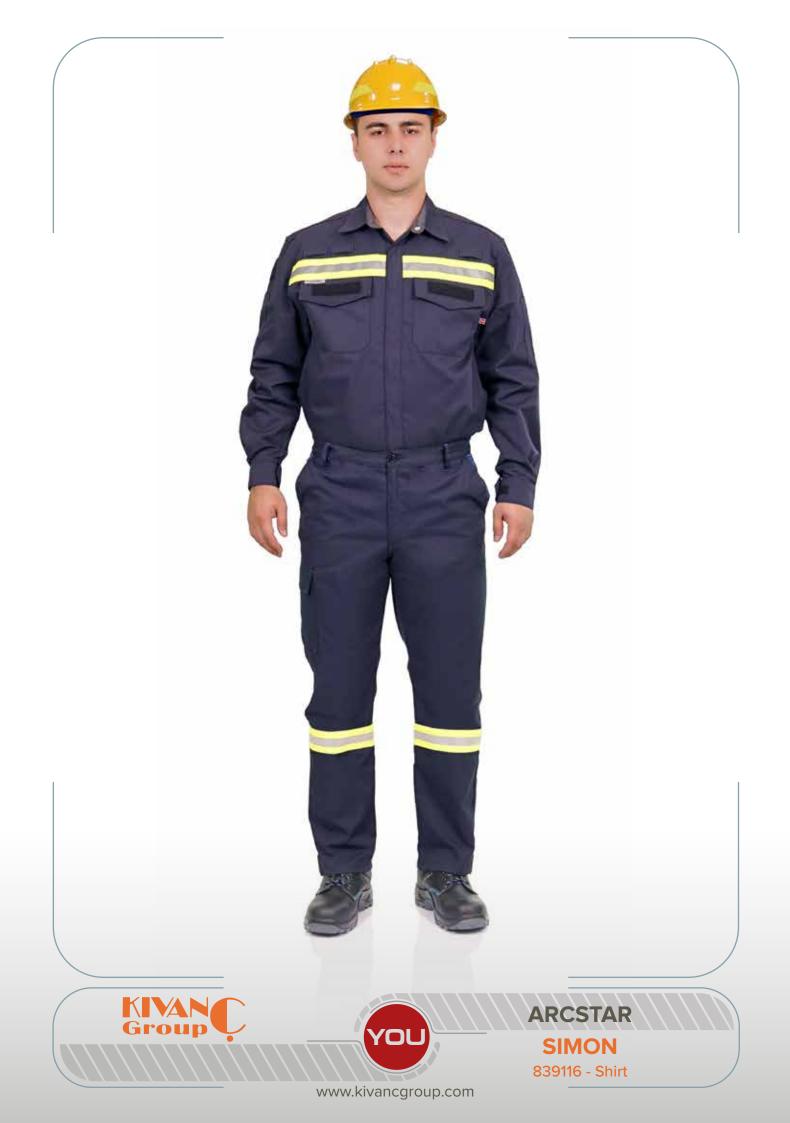
- Mobile phone pocket with velcro tape and drag rope for easy removal
- » Hem adjustment by means of a Velcro tape and a buckle
- » Front part closed by means of zipper and hidden snap buttons
- » Chest patch pockets with flaps closed by means of Velcro tapes
- » 2,5 cm wide segmented silver reflective tapes on chest and back
- » 5 cm wide yellow-silver-yellow reflective tapes on the back
- » Velcro tape above the right chest pocket for name tag
- » 2 Lower pockets with snap buttons and silver reflective piping
- » Cargo pocket on lower left side closed by a snap button



ROYAL BLUE

EN ISO 11612 EN 1149-3 EN 61482-1-2 EN 61482-11ATPV A1 A2 B1 C1 F1 EN 1149-5 Class1(4kA) 7,5 cal/cm2





## SIMON | Shirt

- » Cellulosic sweat absorbing lining on collar
- » Velcro tapes for name and blood tags on the patch pockets flaps
- » Pen pocket on both sleeves 1
- » 5 cm yellow-silver-yellow reflective tapes
   on back and sleeves
- Chest patch pockets with flaps closed by snap buttons
- » Velcro tape on left sleeve for logo
- » Cuff adjustment by means of Velcro tape 😣
- » Radio, flashlight and gas detector loops above the chest pockets
- » Front part closed by means of hidden snap buttons
- Back yokes for easy and comfortable body movement







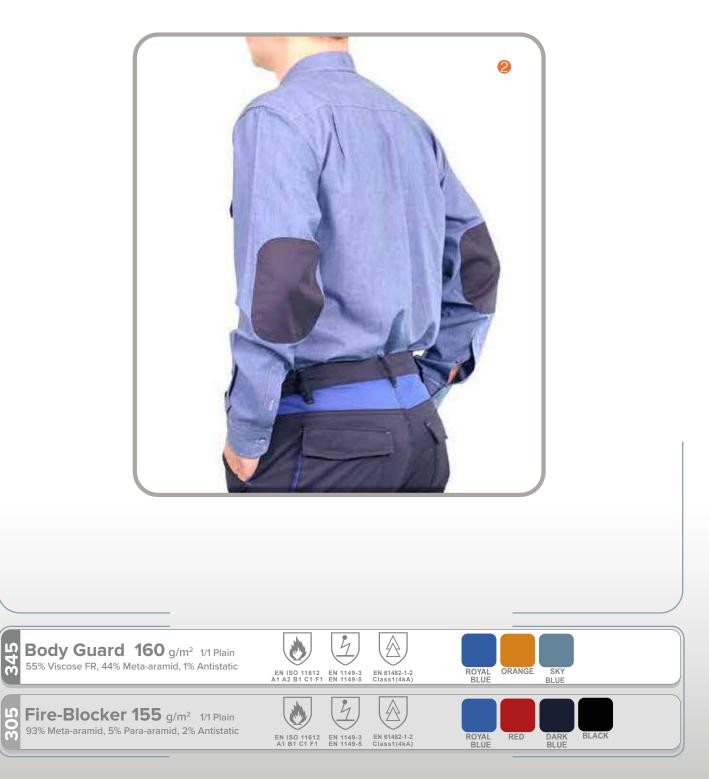


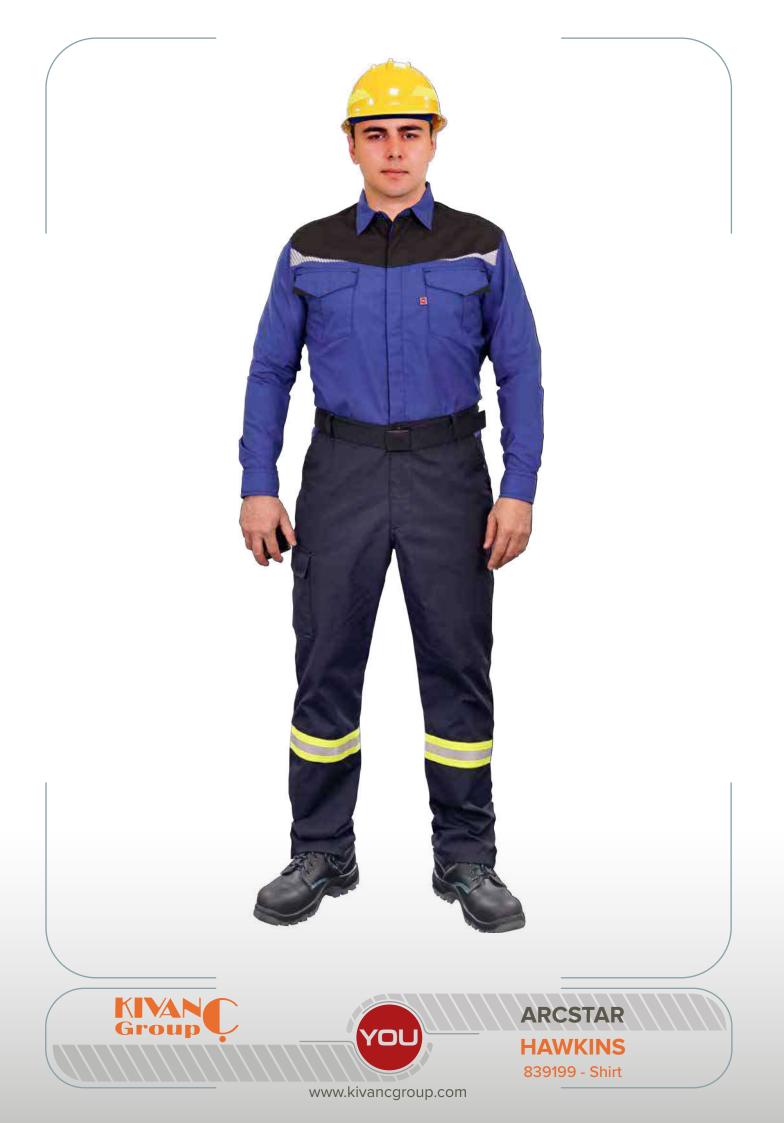


## BRICE I Shirt

- Front closure by means of hidden buttons 1
- 2 chest pockets with flaps closed by means of Velcro tapes
- » Cuff adjustment by means of buttons
- » Elbow reinforcements with contrast color







# HAWKINS I Shirt

# Model Details

- » Front closure by means of hidden buttons
- » 2 chest pockets with flaps closed by means of Velcro tapes 🚺
- » Cuff adjustment by means of buttons (2)
- » Segmented silver reflective tapes on chest and back 3





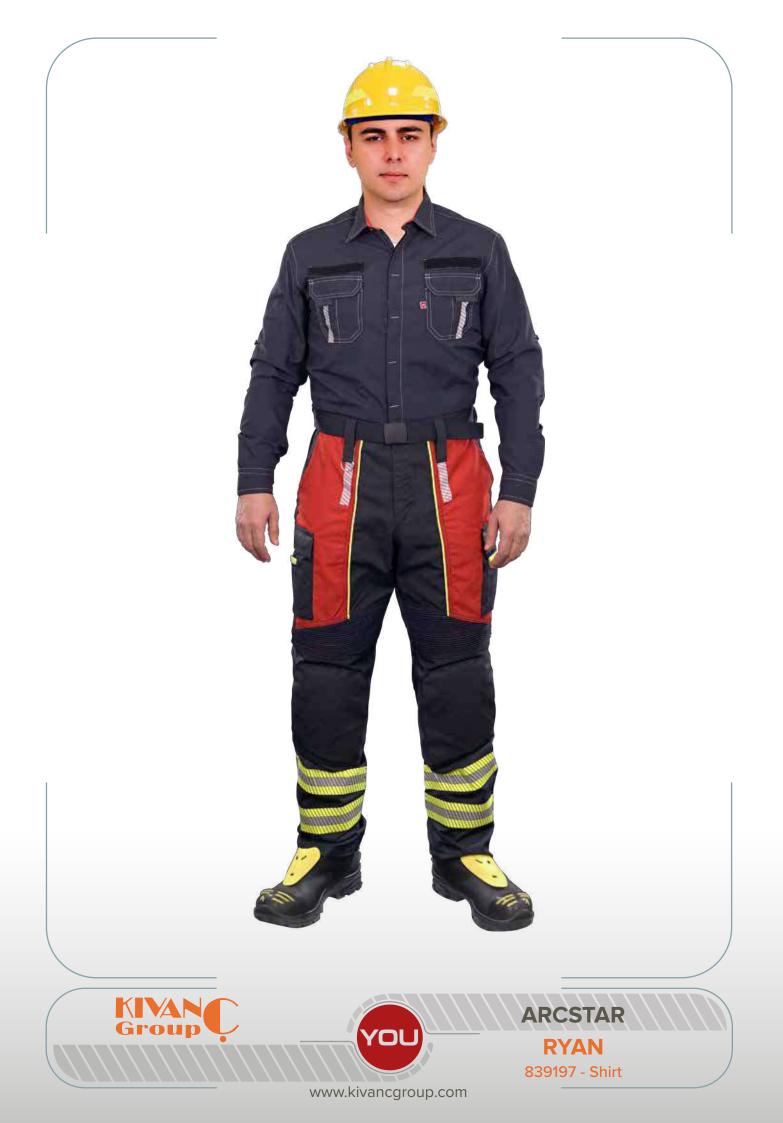
305



ORANGE



EN ISO 11612 EN 1149-3 EN 61482-1-2 A1 A2 B1 C1 F1 EN 1149-5 Class1(4kA)



# RYAN I Shirt

# **Model Details**

- » Cuff adjustment by means of buttons
- » Epaulette on sleeves for adjustment
- » Front closure by means of hidden buttons 😕

0

- 2 chest pockets with flaps closed by means of Velcro tapes 3
- » Velcro tapes for name and blood type tags
- » Segmented silver reflective tapes (4)











4

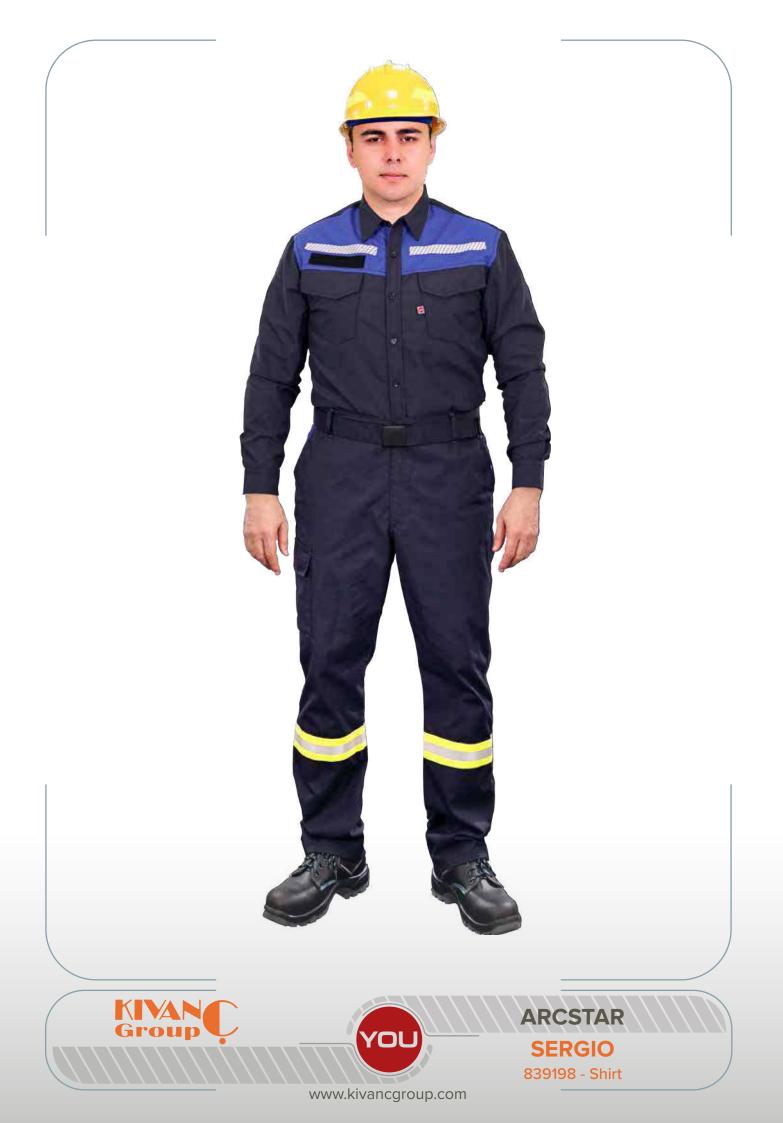
Body Guard 160 g/m² 1/1 Plain 55% Viscose FR, 44% Meta-aramid, 1% Antistatic

Fire-Blocker 155 g/m<sup>2</sup> 1/1 Plain 93% Meta-aramid, 5% Para-aramid, 2% Antistatic

305

45

EN ISO 11612 EN 1149-3 EN 61482-1-2 A1 A2 B1 C1 F1 EN 1149-5 Class1(4kA)



# SERGIO I

# Shirt

# Model Details

- » Front closure by means of buttons
- » 2 chest pockets with flaps closed by means of Velcro tapes
- » Cuff adjustment by means of buttons
- 2,5 cm wide segmented silver reflective tapes on chest and back
- » Velcro tape above right chest pocket for name tag
- » 5 cm wide yellow-silver-yellow reflective tapes on the back













# DANNY I Round Collar Sweatshirt

#### **Model Details**

- » Collar made from main fabric 1
- » Cuffs made from main fabric 😢
- » Stitched hem
- » 100% Aramid sewing thread











# LARRY | Polo Shirt

#### Model Details

- » Hidden buttons
- » Knitted Polo collar
- » Rib knitted cuffs
- » Stitched hem
- » Chest pocket with flap closed by means of Velcro tape

0

2

6

» 100% Aramid sewing thread













# **ERIC** I Underwear Model Details

- » Underwear designed to wear inside non-flammable clothing in a cold environment
- » Round collar

200

80

- » Long sleeves, long johns
- » Skin-friendly, breathable technical knit
- » 100% Aramid sewing thread



#### NICK | Hood **Model Details**

- Double Layer Hood >>
- Ergonomic design in the form of head and neck >>
- Ergonomic face opening >>
- Special stitching preventing thickness on sewing area for comfortable skin-friendly wearing >>
- » 100% Aramid sewing thread



Aramid/Viscose FR 220g/m<sup>2</sup> EN 13911 50% Aramid, 50% Viscose FR

Inner Lining

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GOLD

ARCSTAR

NICK 825105 - Hood



#### LUKE I Hood **Model Details**

- » Replaceable Visor by means of Velcro tapes
- » Cap connected to the hood by means of Velcro tapes
- » Long front part for better protection
- » Visor could be protected when not in use by folding the front part and fixing with Velcro tape 1
- » This hood is certified according to EN 166, EN 170 and GS-ET-29 Class 2
- » Visor ATPV 25 cal/cm<sup>2</sup>
- » Fabric ATPV 34 cal/cm<sup>2</sup>

6 84

93% Meta aramid, 5% Para aramid, 2% Antistatic





EN ISO 11612 EN 1149-3 EN 61482-1-2 EN 61482-11ATPV A1 B1 C1 F1 EN 1149-5 Class2 (7kA) 34 cal/cm<sup>2</sup>



#### LEO Hood

# **Model Details**

- Replaceable Visor by means of >> Velcro tapes
- 3M H700 helmet connected to the >> hood by means of Velcro tapes
- Long front part for better protection >>
- Ergonomic design covering the head, >> throat and shoulder area
- » This hood is certified according to EN 166, EN 170 and GS-ET-29 Class 2
- » Visor ATPV 40 cal/cm<sup>2</sup>
- Fabric ATPV 43.4 cal/cm<sup>2</sup> >>



# **Outershell Fabric**

Fire-Blocker 220 g/m<sup>2</sup> 2/2 Twill 93% Meta aramid, 5% Para aramid, 2% Antistatic

935 **Heat Barrier** 

Two layers of Aramid non-woven quilted to Aramid/Viscose FR inner lining 305 g/m<sup>2</sup>









ARCSTAR RONALD 805101 - Gloves

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# Boots

# HARVIK 9726 I Model Details

- » Harvik 9726 Dielectric Safety Boots
- » Vulcanized Rubber Upper and Sole
- » For working environment with high voltage hazards





# ARC GOGGLES

# Model Details

- High Performance Arc Goggle with nose shield for electricians designed to specifically address the requirements of Arc Flash Protection
- » Black frame, blue bezel, green lens
- » Weight of 205 g
- » Two options available
  - ATPV 12 cal/cm<sup>2</sup> (Silicone frame and strap,
     Polycarbonate lens, Polymer alloy components)
  - ATPV 38 cal/cm<sup>2</sup> (Silicone frame and strap,
     Polycarbonate outer lens and propionate inner lens,
     Polymer alloy components)





**STANDARD:** ANSI Z87.1, ASTM F2178





# VISOR

# Model Details

Face shield kit options with green color, made of polycarbonate, with 18,4 x 50,8 x 0,15 cm window size and complying with EN 166, ANSI Z87.1, GS-ET-29 (Class 2), ASTM F2178, NFPA 70E standards



AMP1-E12-PCT

Face Shield kit with large transparent, ergonomically shaped chin protector. Includes cap bracket with EURO clips.



ARC-E-25-S2K2

Face Shield kit with large transparent chin protector.Includes helmet bracket with elastomeric band.



ARC-E-25-S2K1-PCT

Face Shield kit with large chin protector. Includes helmet bracket with EURO clips.



ARC-PCE-12-S2K1-PCT

Face Shield kit with large chin protector. Includes cap bracket with EURO clips.



Face Shield kit with large transparent chin protector.Includes helmet bracket with elastomeric band.





ARCSTAR PAULSON Visor

www.kivancgroup.com

# VISOR Model Details

Face shield kit options with clear color, made of polycarbonate, with 20 x 39 cm window size and complying with EN 166, ANSI Z87.1, GS-ET-29 (Class 1) standards



ARC-E-1-SK1-PCT

Face Shield kit with includes cap bracket with EURO clips.





Face Shield kit with large includes cap bracket with elastomeric band.



ARC-E-1-SK7 Face Shield kit includes large headgear.



# **HELMET WITH VISOR**



SECRA-1

#### **Model Details**

- » Electrically Insulating Safety Helmet With Integrated Face Shield Class 1
- » Available in two versions, made of polyamide or ABS
- » Additionally equipped with a face shield with visor made of polycarbonate with a thickness of 1.5 mm
- » Available with transparent visor and white, yellow, red or green shell
- » EN 397:2012+A1:2012, EN 50365:2002, EN 166:2001, GS-ET-29:2011, ANSI/ISEA Z89.1:2014



SECRA-2

Model Details

- » Electrically Insulating Safety Helmet With Integrated Face Shield Class 2
- Helmet available in two versions, made of polyamide or ABS,

additionally equipped with a face shield with visor made of polycarbonate with a thickness of 1.7 mm

ARCSTAR

SECRA Helmet with Visor

- Available with transparent green visor and white, yellow, red or green shell
- » EN 397:2012+A1:2012, EN 50365:2002, EN 166:2001, GS-ET-29:2011, ANSI/ISEA Z89.1:2014

**KIVANÇ** GroupÇ





# METALSTAR

Molten Metal Splash Protection

Protection YOU Deserve

# Why METALSTAR?

The process of combining metals with pressure, heat, flame or electric arc is called welding. Welding work is a safe occupation if adequate measures are taken against potential hazards. If these measures are ignored, welders may be exposed to sparks, molten metal splashes, radiation, heat, hot metal, smoke, gas and even electric shock.

Welders should wear a garment that protects them from injury, such as firemen or many other occupational groups. The most common of all injuries is burns which are formed by bare spattering of sparks. Severe burns occur when the very intense arc of contact touches the skin for a short period of time.

Molten metal splash like in an iron & steel company may be very dangerous. Molten metal may stick on the outer fabric of the workwear and burn the skin of the person which may held to severe injuries. Traditional fabrics like cotton or polyester start burning, melting or dripping during welding or molten metal splashes which increases the body burn.

METALSTAR Protective Clothing provides permanent flame resistance; does not melt, ignite and continue burning; insulates the wearer from heat and decreased/avoid heat burns; provide time to escape; increases the chance of survival.

#### **Application Areas**

- Iron & Steel Industry
- Automotive Industry
- Engineering Projects
- Foundries
- Railways
- Shipbuilding
- Welding

#### ISO 11612 Heat & Flame Protection:

The purpose of this standard is to provide minimum performance requirements for clothing to protect against heat and flame. Within many of hazards listed in this standard there are three performance levels (except Radiant Heat where there are 4 Levels). Level 1 indicates exposure to perceived low risk, Level 2 indicates exposure to perceived medium risk and Level 3 indicates exposure to perceived high risk.

- Code A: Limited Flame Spread (A1, A2)
- Code B: Convective Heat (B1, B2, B3)
- Code C: Radiant Heat (C1, C2, C3, C4)
- Code D: Molten Aluminum (D1, D2, D3)
- Code E: Molten Iron (E1, E2, E3)
- Code F: Contact Heat (F1, F2, F3)

#### ISO 11611 Heat & Flame Protection:

ISO 11611 specifies minimum basic safety requirements and test methods for protective clothing including hoods, aprons, sleeves and gaiters that are designed to protect the wearer's body including head (hoods) and feet (gaiters) and that are to be worn during welding and allied processes with comparable risks.

ISO 11611 specifies two classes with specific performance requirements, i.e. Class 1 being the lower level and Class 2 the higher level.

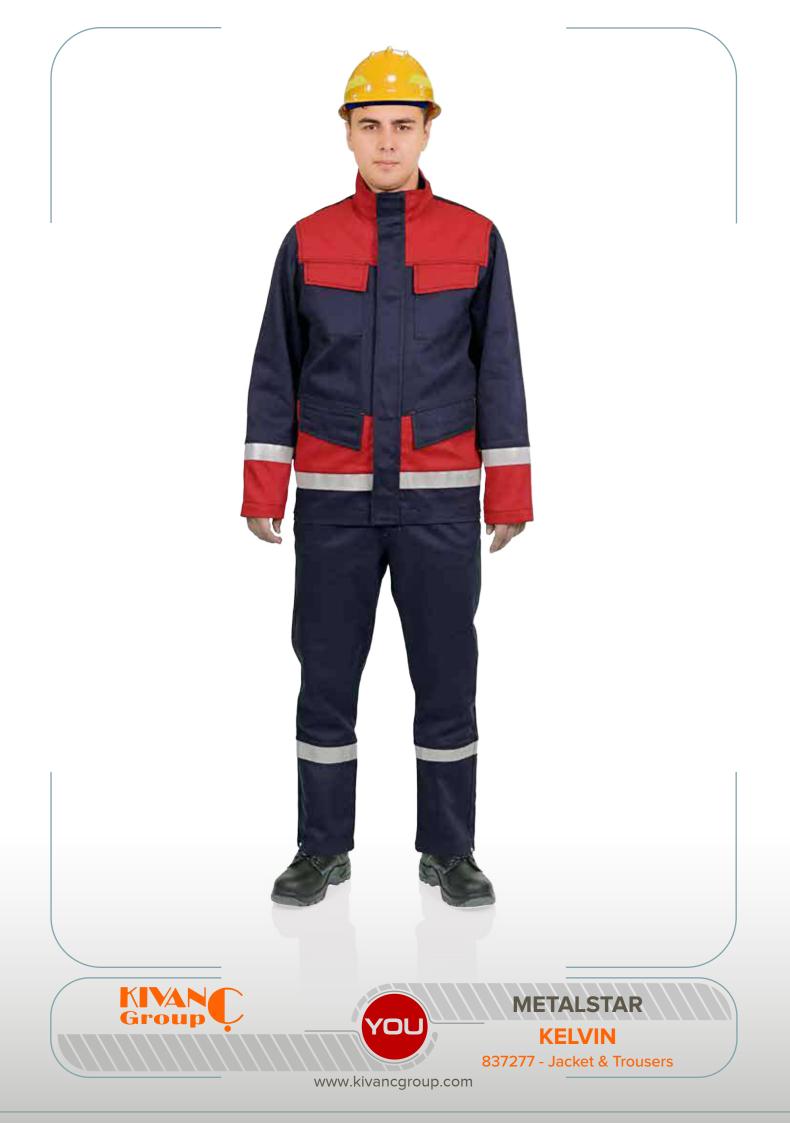
Class 1 is protection against less hazardous welding techniques and situations, causing lower levels of spatter and radiant heat.

Class 2 is protection against more hazardous welding techniques and situations, causing higher levels of spatter and radiant heat.

**METALSTAR** 



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# KELVIN | Jacket & Trousers

# Model Details

#### JACKET

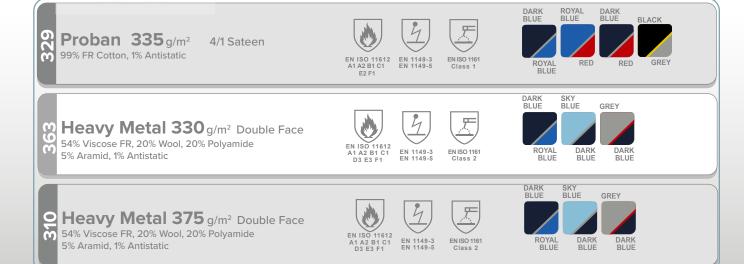
- » Overlapped seam to allow the molten metal splash to flow from the fabric surface
- » Comfort-enhancing back bellows 1
- Additional piece of fabric on armpit for comfortable movement
- » Inclined chest pockets with flaps closed by means of Velcro tape
- » Jacket closed by means of a front zipper and Velcro tapes
- » Additional flap under zipper 😕
- » Cuff adjustment by means of snap buttons 3
- » Interior design with grey lines 4
- » Silver reflective tapes on sleeves and jacket hem

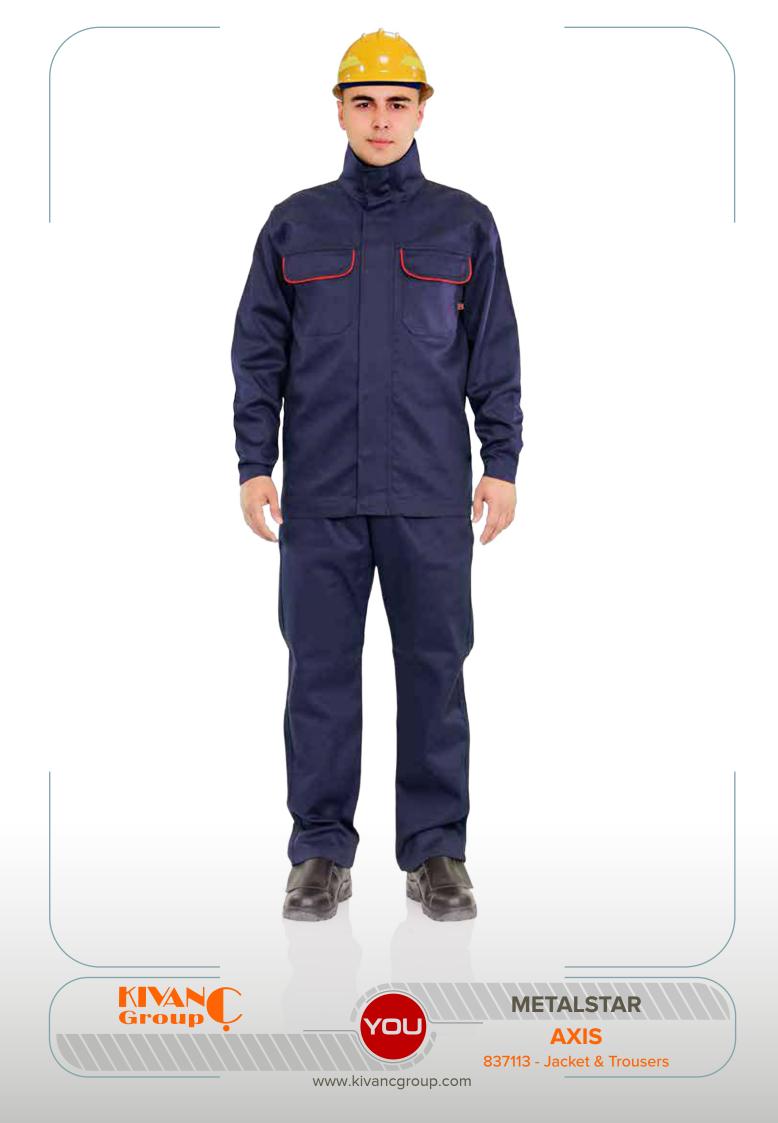
# TROUSERS

- » Slash pockets
- » Elastic belt system 6
- » Trotter adjustment by means of snap buttons 6
- » Front closure with a zipper and button
- » Silver reflective tapes on both legs









# AXIS | Jacket & Trousers

#### **Model Details**

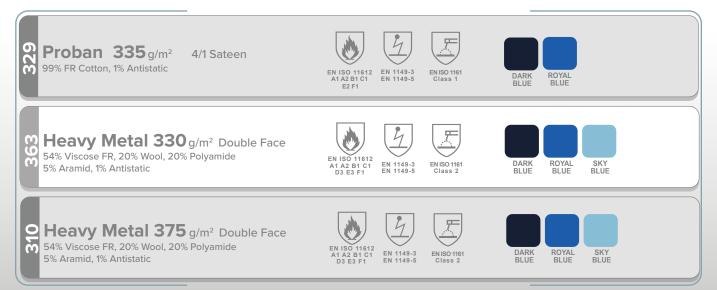
#### JACKET

- » Overlapped seams to allow molten metal splash to flow from the fabric surface
- » Comfort-enhancing back bellows
- » Chest pockets with flaps closed by means of Velcro tapes
- » Front flap closed by means of a zipper and Velcro tapes
- » Cuff adjustment by means of snap buttons

#### TROUSERS

- » Slash pockets
- » Elastic belt system
- » Adjustable trotters by means of snap buttons
- » Front closure with a zipper and a button







# TRAVIS | Jacket & Trousers

# **Model Details** JACKET

- » Overlapped seam to allow the molten metal splash to flow from the fabric surface
- » Comfort-enhancing back bellows
- » Chest pockets with flaps closed by means of snap buttons
- » Radio, flashlight and gas detector loops above the chest pockets
- » Velcro tape on right chest pocket flap for name tag
- » Pen pockets on both sleeves
- » Jacket closed by means of a front zipper and snap buttons
- » Cuff and hem adjustment by means of snap buttons
- 5 cm wide red-silver-red reflective tapes on back >>

# TROUSERS

- » Slash pockets
- » Elastic belt system
- » Front closure with a zipper and button
- » Side cargo pockets with flaps closed by means of snap buttons
- » Cargo pockets on the back with flaps closed by snap buttons



Outershell Material 363 Heavy Matal 330 g/m<sup>2</sup> Double Face 54% Viscose FR, 20% Wool, 20% Polyamide 5% Aramid , 1% Antistatic **Inner Lining** 

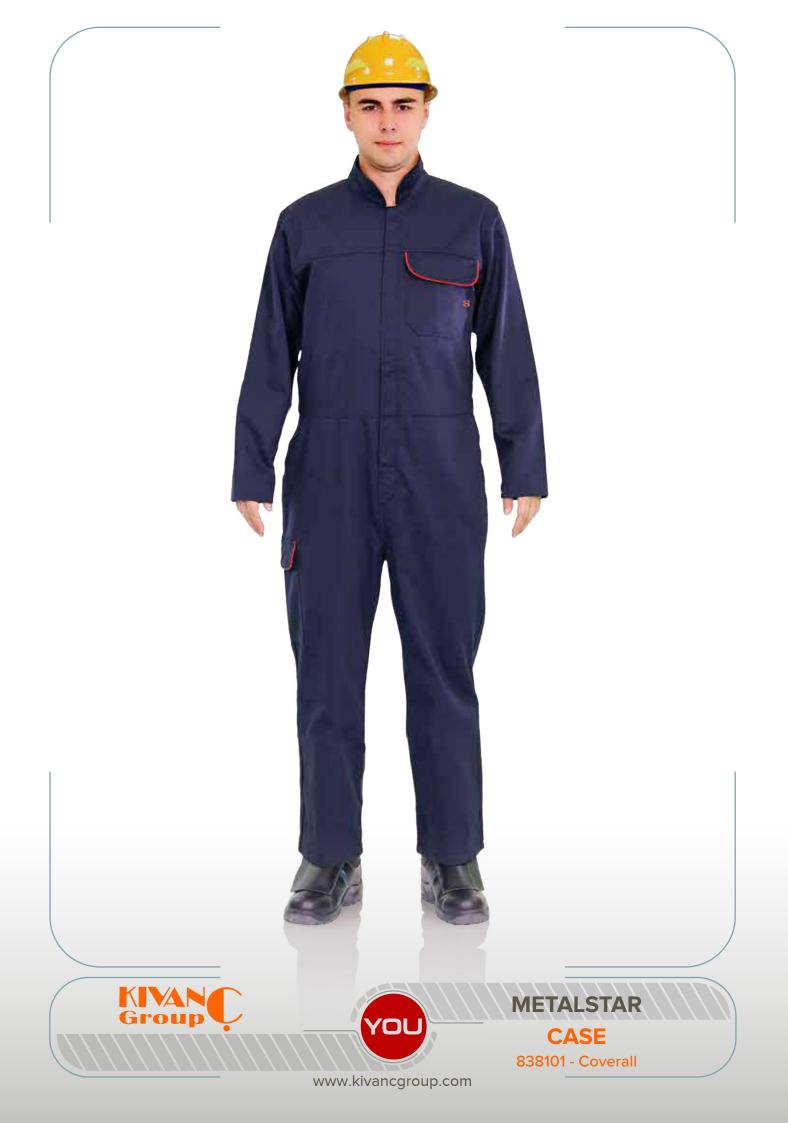
6000 Aramid/Viscose FR 120 g/m<sup>2</sup>

D 00





DAR

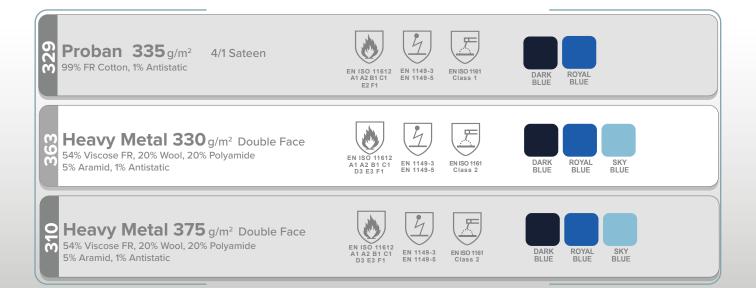


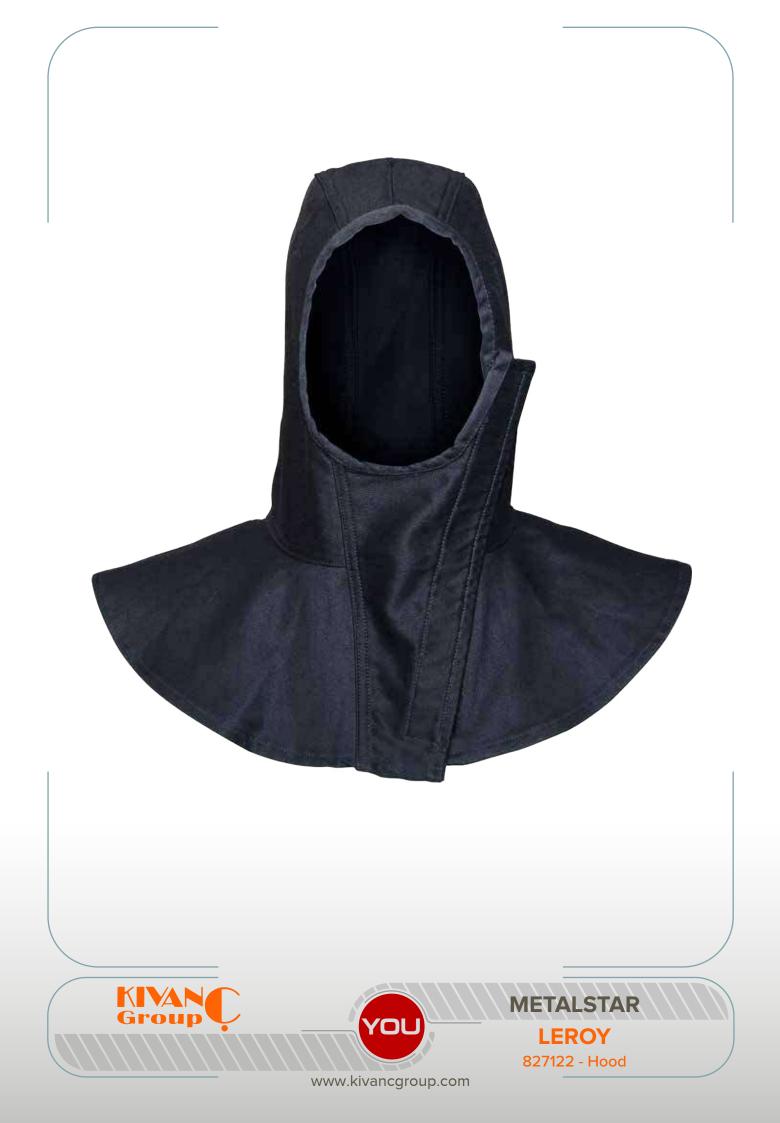
# CASE | Coverall

#### Model Details

- Overlapped seams to allow molten metal splash to flow from the fabric surface
- » Comfort-enhancing back bellows
- » Chest pocket with flap closed by means of snap buttons
- » Slash pockets
- » Side pocket with flap closed by snap buttons
- » Back pocket with flap
- Front flap closed by means of snap buttons for quick removal
- » Elastic waist adjustment by means of a button
- » Cuff adjustment by means of snap buttons







# LEROY | Hood

#### **Model Details**

- » Overlapped seams to allow the molten metal splash to flow from the hood surface
- » Hood closed by means of Velcro tape

» Hood protects the head, face and neck against fire and harmful effects of heat and molten metal splashes





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# PROTEK® I Welding Curtain

#### **Model Details**

- » Welding blanket made of hybride composite material reinforced with heat resistant glass fiber fabric needle punched to a molten metal splash protective carbon felt from both sides.
- » More durable, lighter and easier to use compared to other welding curtains
- » Standard sizes are 90 x 100 cm, 190 x 100 cm, 190 x 200 cm, 190 x 300 cm, 190 x 400 cm (Different sizes are available upon request)



Fabric: 192062012 CF W-2000 Outer Surface: Carbon (Black) Reinforcement Layer: Glass Fiber Fabric (white)



**METALSTAR** 



# 911C | Helmet

# **Model Details**

- » The Bullard Model 911C is a cap-style hard hat designed specifically for high heat applications.
- » It is offered with the option of either a pinlock or ratchet suspension featuring a replaceable, padded cotton brow pad.
- » The suspension system has six points of attachment with six separate keys for a secure fit and 1" wide crown straps for comfort.
- » Weight (with suspension): 425g
- » ANSI/ISEA Classification: Z89.1-2014, Type I, Class E and G
- » Thermoplastic shell has higher heat resistance than polyethylene.



# REFSTAR

**Radiant Heat Protection** 

Protection YOU Deserve

# Why REFSTAR?

People working in front of high temperatures like iron&steel or glass industry are exposed to high radiant heat which may cause injuries. Non-FR products like cotton or polyester may catch fire. High radiant heat also restricts working conditions.

REFSTAR protective clothing is designed to reflect the radiant heat ensuring people to work more comfortably and safely.

REFSTAR protective clothing should be worn on other protective garments to ensure an additional protection. They should be used as complementary equipment to current protective clothing, not instead of those.

REFSTAR garments are tested and certified according to ISO 11612 standard. Radiant Heat Transfer value of aluminized garments are much higher compared to woven protective fabrics. Radiant Heat Transfer Index is called C according to ISO 11612. There are 4 levels. C1 is the lowest protection level and C4 is the highest protection level.

### **Application Areas**

- Airport Personel
- Aluminium Workers
- Automotive Industry
- Cement Industry
- Ceramic Industry
- Railways
- Glass Industry
- Iron & Steel Industry
- Shipbuilding
- Welding

Aluminized garments also give protection against molten metal splashes. Molten Aluminium Splash is Index D and Molten Iron Splash is Index E where D1 and E1 are the lowest protection level and D3 and E3 are the highest protection level.

REFSTAR





# ALUSTAR ULTRA LIGHT | Aluminized Suit

### **Model Details**

- » This suit is designed to protect the wearer against high radiant, convective and contact heat.
- » The set contains the following items
  - » Jacket with back space for covering SCBA cylinders
  - » Trousers
  - » Shroud with gold coated visor and EN 397 certified helmet
  - » Gloves
  - » Gaiters with EN 15090 certified rubber boots
  - » Carrying bag
- » This suit may be used in
  - » proximity firefighting
  - » front or inside ovens during maintenance
  - » glass or iron&steel industries in front of molten glass or metals
  - » areas where there is high radiant heat





# 827100 - Wolf Shroud



### 805100 - Tyler Gloves



### 817100 - Harvey Gaiters







# ALUSTAR I Aluminized Suit

# Model Details

- » This suit is designed to protect the wearer against high radiant, convective and contact heat.
- » The set contains the following items
  - » Jacket with back space for covering SCBA cylinders
  - » Trousers
  - » Shroud with gold coated visor and EN 397 certified helmet
  - » Gloves
  - » Gaiters with EN 15090 certified rubber boots
  - » Carrying bag
- » This suit may be used in
  - » proximity firefighting
  - » front or inside ovens during maintenance
  - glass or iron&steel industries in front of molten glass or metals
  - » areas where there is high radiant heat





# 827100 - Wolf Shroud



# 805100 - Tyler Gloves



# 817101 - Curtis Gaiters

















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KIVANÇ GroupÇ

REFSTAR TERRY 805105 - Gloves

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YOL



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# FORESTAR

Chainsaw Protection

Protection YOU Deserve

# Why FORESTAR?

Chainsaws have the potential to cause major injuries. It is essential that anyone who uses a chainsaw at work should have received adequate training and be competent in using a chainsaw for the type of work that they are required to do. They are also required to wear appropriate chainsaw protective clothing while using the chainsaw.

FORESTAR chainsaw protective clothing is designed for logging operators, and thanks to its special protective layer, it stops the chainsaw and prevents the person from being harmed.

FORESTAR chainsaw protective clothing is the first EN 381 certified product manufactured in Turkey. Chainsaw protective clothing should be used with the right equipment for full protection. These are chainsaw boots, chainsaw gloves, helmets, visors and ear protectors.

#### **Application Areas**

- Arboriculture
- Forestry
- Power Distribution
- Farming

### Requirements for protective clothing that protects against chainsaw:

Some of chainsaw PPE are labelled Class 1, Class 2 and Class 3. This labelling defines the chainsaw speed at wich that particular item of PPE was tested and therefore the speed at wich it can effectively stop the chain. Class 1 products are tested with a chainsaw speed of 20m/s. Class 2 products at 24m/s and Class 3 at 28m/s.

Leg protection is an important piece of PPE when operating a chainsaw and should comply with EN 381-5.

Safety helmet to EN 397. Hearing protection to EN 352-1. Eye protection: Mesh visors to EN 1731 or safety glasses to EN 166.

Upper body protection: Chainsaw jackets should comply with EN 381-11.

Chainsaw Gloves should comply with EN 388 for Mechanical Hazards and EN 381-7 for Handled - Chainsaws protection againist chainsaw cuts, thorny material and cold/wet conditions.

Specific requirements for Chainsaw Safety Boots are included in EN ISO 20345:2011.



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FORESTAR



# Trousers

2

# TIMBER Model Details

» Bib trousers with elastic suspenders

- » Buckles for suspender height adjustment 1
- » Front flap closed with zipper
- » Lateral closure with buttons (2)
- » Patch pocket with zipper on chest (8)
- » Side pockets
- » Patch pocket with flap on the right of back
- » Two ventilating pockets with zipper on the back
- » Orange pieces on trotters to improve visibility

















# Trousers

2

# TIMBER Model Details

» Bib trousers with elastic suspenders

- » Buckles for suspender height adjustment 1
- » Front flap closed with zipper
- » Lateral closure with buttons (2)
- » Patch pocket with zipper on chest (8)
- » Side pockets
- » Patch pocket with flap on the right of back
- » Two ventilating pockets with zipper on the back
- » Orange pieces on trotters to improve visibility

















# MILES

# Jacket

# Model Details

- Jacket with front flap closed by means of zipper and snap buttons 1
- » Patch pocket with flap on left chest

- » Right chest patch pocket with flap and snap buttons
- » Two patch pockets with flap on jacket hem
- » Cuff adjustment by means of snap buttons 🤌
- » Orange pieces on shoulders to improve visibility











# TH040 Gloves

# Model Details

- » Class 0 (16m/s) protection to the left hand, a durable cowhide palm, with reinforcement bar
- » Water resistant & breathable polyester Hi-Vis orange backing





Material: Leather & Polyester







# HARVIK 9794 | Boots

# Model Details

- » Harvik 9794 Chaainsaw Boots
- » Vulcanized Rubber Upper and Sole
- » Waterproof
- » Extra comfort with woven cotton canvas
- » Suitable for logging activity
- » Products tested at 24 metres per second of chainsaw's chain speed





# HAIX PROTECTOR LIGHT 2.0 | Boots

# Model Details

- » Light, comfortable allrounder with protective cut-resistance
- » High-quality nubuck leather
- » Meets the cut protection standards of the Class 1 (20 m/sec)
- » Additional rubber cap prevents wear and tear
- » Breathable and water resistant
- » Antistatic and oil/petrol resistant sole





Material: Nubuck leather

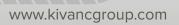
**Certification:** CE 0193 EN ISO 20345:2011 S3 HRO HI CI WR SRC



FORESTAR

**PROTECTOR LIGHT 2.0** 604110 - Boots





# **3M PELTOR FORESTRY HELMET KIT**

# Model Details

- » 3M PELTOR Forestry Helmet Set, suitable for forestry work all the year round, in particular using chainsaws.
- » System combines the proven 3-piece head, face and hearing protection, and this highly visible orange kit includes:
  - » (G2000) safety helmet (EN 397) with 4 point ratchet suspension and UV sensor
  - » Mesh visor (EN 1731)
  - » Helmet mounted ear muffs (EN 352)





# STANDARDS FOR INDUSTRIAL SOLUTIONS

protective clothing:

- EN ISO 11612 Heat, Flame & Molten Metal Splash
- EN ISO 11611 Welding Protection
- EN ISO 14116 Heat & Flame Protection, Limited Flame Spread
- EN 1149-5 Electrostatic Properties
- EN 61482-1-2 Electric Arc Protection (Box Test)
- EN 61482-1-1 Electric Arc Protection (Open Arc)
- EN 20471 High Visibility
- EN 343 Protection against Rain
- EN 381 Chainsaw Protection

Check the label of your garment in order to learn the protection level.

#### EN ISO 11612 **Heat& Flame Protection**

The purpose of this standard is to provide minimum performance requirements for clothing to protect

against heat and flame. Within many of the hazards listed in this standard there are three performance levels, Level 1 to indicate exposure to perceived low risk, Level 2 to indicate exposure to perceived medium risk and Level 3 to indicate exposure to perceived high risk. For protection against radiant heat, there is a fourth performance level, to take into account high performance materials such as aluminized and similar materials. The level of personal protection to be provided should be based on the outcome of the risk assessment. For complete protection against exposure to heat and/or flame, it is probable that it will be necessary to protect the head, face, hands and/ or feet with suitable PPE and in some cases, appropriate respiratory protection may also be considered as necessity.

- Code A: Limited Flame Spread (A1 or A2)
- Code B: Protection against Convective Heat (B1, B2 or B3)
- Code C: Protection against Radiant Heat (C1, C2, C3 or C4)
- Code D: Protection against Molten Aluminium (D1, D2 or D3)
- Code E: Protection against Molten Iron Splash (E1, E2 or E3)
- Code F: Protection against Contact Heat (F1, F2 or F3)

#### EN ISO 11611 Welding Protection

EN ISO 11611 specifies

minimum basic safety requirements and test methods for protective

clothing including hoods, aprons, sleeves and gaiters that are designed to protect the wearer's body including head (hoods) and feet (gaiters) and that are to be worn during welding and allied processes with comparable risks. For the protection of the wearer's head and feet, EN ISO 11611 is only applicable for hoods and gaiters. EN ISO 11611 does not cover requirements for hand protection. This type of protective clothing is intended to protect the wearer against spatter (small splashes of molten metal), short contact time with flame, radiant heat from the arc, and minimizes the possibility of electrical shock by short term, accidental contact with live electrical conductors at voltages up to approximately 100 V d.c. in normal conditions of welding. Sweat, soiling or other contaminants can affect the level of protection provided against short term accidental contact with live electric conductors at these voltages.EN ISO11611 specifies two classes with specific performance requirements, i.e. Class 1; the lower level and Class 2; the higher level.

There are several standards regarding personal Class 1 is protection against less hazardous wel- IEC 61482 ding techniques and situations, causing lower levels of spatter and radiant heat.

> Class 2 is protection against more hazardous welding techniques and situations, causing higher levels of spatter and radiant heat.

> For adequate overall protection against the risks to which welders are likely to be exposed, personal protective equipment (PPE) covered by other standards should additionally be worn to protect the head, face, hands and feet.

#### **EN ISO 14116** Heat& Flame Protection, Limited **Flame Spread**

ISO 14116 specifies the performance EN ISO 14116 requirements for the limited flame

spread properties of materials, material assemblies and protective clothing in order to reduce the possibility of the clothing burning and there by itself constituting a hazard. Additional requirements for clothing are also specified.

Protective clothing complying with this International Standard is intended to protect workers against occasional and brief contact with small igniting flames, in circumstances where there is no significant heat hazard and without the presence of another type of heat. When protection against heat hazards is necessary in addition to protection against limited spread flammability, then standards, such as EN ISO 11612, are more appropriate. A classification system (index 1, index 2, index 3) is given for materials, material assemblies and garments which are tested according to EN ISO 15025, Procedure А

#### EN 1149-5 **Electrostatic Properties**

This European Standard specifies material and design requirements for electrostatic dissipative protective

clothing, used as part of a total earthed system, to avoid incendiary discharges. The requirements may not be sufficient in oxygen enriched flammable atmospheres. This European Standard is not applicable for protection against mains voltages.

#### The standard specifies 3 areas:

- 1- Material performance requirements
- 2- Design requirements
- 3- Marking & guidance

Ad 1)Performance tests should be made after pretreatment for protective clothing produced from woven fabrics

#### Electrostatic requirements

Materials with conduction threads in stripe or grid pattern, the maximum space shall not exceed 10 mm in one direction

Surface Resistance & Induction Charging

EN 1149-1	≥ 2.5 x 10 <sup>9</sup> Ω
EN 1149-3 - 2	Half decay time > 4 s
	Shielding factor > 0.2



# **Electric Arc Protection**



This standard regulates heat and flame resistant clothing for workers exposed IEC 61482-2:2018 to electric arcs. A direct and constrained

electric arc in a low voltage circuit is used to classify material / garments in defined arc protection classes.

#### EN 61482-1-2 **Box Test**

- APC 1: Fabrics that pass 4kA current, burning time less than 5 seconds.
- APC 2: Fabrics that pass 7kA current, burning time less than 5 seconds.

Garment test must be done along with material tests. Both tests are necessary for certification. Garment class will be defined according to the results of tests. Garment protection level should be clearly written on the label.

If a garment consists of different layers this should be written on the user manual. Never use synthetic and flammable fabrics inside these garments. You can wear these garments with the other fire retardant suits to increase the safety performance.

#### EN 61482-1-1 **Open Arc Test**

ATPV: Arc Thermal Performance Value (cal/cm<sup>2</sup>) EBT: Energy to Break Open Value HAF: Heat Attenuation Factor

EN 61482-1-1 specifies test methods to measure the arc thermal performance value of materials intended for use in heat- and flame-resistant clothing for workers exposed to the thermal effects of electric arcs and the function of garments using these materials.

#### **FN 20471 High Visibility**

EN 1149-5



EN ISO 20471 is the harmonized European standard for high visibility clothing. It specifies the requirements

for signaling the users presence day or night. It intends to make users in hazardous situations conspicuous under any light conditions. The standard provides for two performance parameters:

- X: Surface of fluorescent and retroreflective material (3 levels)
- Y: Quality of the retro-reflecting materials (2 levels)

#### EN 343 **Protection Against Rain**



EN 343 is the harmonised European standard that applies to garments worn in adverse weather

conditions. It specifies the characteristics of protective clothing against the influence of foul weather, wind and cool above -5°C. The standard provides for two performance parameters:

X: Waterproofness (3 levels) Y: Breathability properties (3 levels)



EN ISO 11611





# **KIVAN** Group

#### Head Quarters:

İkitelli OSB Aykosan Sanayi Sitesi 2.Kısım 5.Ada C Blok 34490 Başakşehir İstanbul/TURKEY Tel: +90 (212) 671 28 00 Fax: +90 (212) 671 99 27



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