



Dromex
ARC



SAFETY IN A PLACE LIKE THIS
SPECIALISED PPE



Dromex believes in uncompromising safety, so we've insisted that the integrity of our specialist ARC range also passes the most stringent garment tests in addition to the fabric tests.

Through years of consulting with experts, testing fabric combinations and working with world-leading testing facilities, we are proud to bring the Dromex ARC range of workwear and PPE to the global stage.

Dromex is committed to developing quality products, that effectively mitigate risk, which extends to our specialist offering - specifically our ARC range which has been designed to reduce the risks associated with hazardous industries, where 2nd & 3rd degree burns can occur.

Our ARC workwear is manufactured locally using our custom Dromex A.P.T.TM (Arc Protection Technologies) fabric and is certified to the highest local and international standards.

Each garment is rated to varying degrees for specific environments and conditions and our ARC range includes a number of styles and accessories for various industries.

Dromex ARC workwear and PPE is suitable during any work with or within the vicinity of industrial electrical panels switch rooms, substations and utilities power generators.

When it comes to safety, the smallest detail can make a difference. Through extensive research, development, and testing, we've created an ARC range that's every bit as comfortable and practical as it is safe:

- Inherent flame-retardant thread
- Triple needle stitched seams
- Transfer print & embroidery logos
- Flame-retardant Velcro
- Double needle stitched FR reflective tape


These standards include:

- These standards include:
- IEC 61482-1-1 • IEC 61482-1-2 • NFPA 70E • NFPA 2112
 - SANS 724 • ASTM F1959 • ASTM F2621-12
 - EN 11611:2015 • EN 11612:2015 • EN 61482-1-2:2014



At Dromex we believe that all employees are entitled to maximum safety protection and that employers should never have to compromise on the quality of protective equipment they supply their staff.

Our Arc range ensures that we deliver on that promise.



KINETRICS

LOBBY 10 TETAP, 150/202 17025 2005

Test Information for:

DROMEX
1 BLAZE ROAD,
New Germany Industrial Park,
Durban, KwaZulu Natal,
South Africa

Garment Evaluation

DW-ARC 12.4 cal – 2 PC Workwear Comb Suit


OBSERVATION OF WORK GARMENTS EXPOSED
TO AN ELECTRIC ARC

ASTM F1234 – 12 Standard Practice for Determining Arc Flash Characteristics and Design Ratings of Arc Rated
Clothing
IEC 60403-1:2008 Low voltage working – Protection Clothing, Applied for Thermal Protection on Electric Arc


Kinetrics Inc. Report No. : K-352073-02-R00

Item received: June 29, 2016

Test Date: July 5, 2016



Andrew Haines
2016.08.08
18:04:41 / 04:07



Approved by: Kenneth Cheng, P. Eng, MBA
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[illegible]

| <h1 style="text-align: center;">CERTIFICATE OF COMPLIANCE</h1> | |
|--|--|
| Certificate Number Issue Reference Issue Date | 20170038-0047676 MCHC 19-257-0007 2017 MAY 08 |
| Issued to: | DROMEX UMT 1, BLASE ROAD NEWMAN, 3610 SOUTH AFRICA |
| This is to verify that representative samples of | Protective Clothing for Protection of Industrial Personnel Against Flash Fire - Composite Material: DROMEX APT T-shirt 100% Cotton, DROMEX APT Fabric (DROMEX APT T-shirt Cotton), DROMEX APT T-shirt Cotton CofCRefNo: |
| Standards to be Satisfy: | Have been investigated by UL in accordance with the Standards indicated on this Certificate. |
| Additional Information: | NFPA 2112 Standard on Flame-Resistant Garments for Industrial Personnel Against Flash Fire See the UL Online Certifications Directory at www.ul.com/certification for additional information |
| <p>Only those products bearing the UL Certification Mark should be considered authentic as issued by UL's Certification and Follow-Up Service.</p> <p>The UL Recognized Component Mark generally consists of the manufacturer's identification and a liability symbol, stated herein to certify compliance of the equipment under "Testing for the particular Recognition in accordance with the applicable UL Directory. An independent means of identifying products is required to ensure proper identification of the equipment. The UL Recognition Mark is required to be used in conjunction with the respective Recognized Mark. The Recognized Component Mark is required to be used in conjunction with the UL Directory regarding the recognition of user "Markings" for the individual recognitions.</p> <p>Recognized components are assemblies to certain international standards and equipment performance specifications and are intended for use as components of equipment assemblies for investigation only and shall not be separately installed in Field. The use of assemblies of the component in dependent joint installation and use are compliance requirements of the UL Directory.</p> <p>Look for the UL Certification Marks on the product.</p> | |
| <div style="display: flex; justify-content: space-between; align-items: center;">   </div> | |
| <p>Printed: _____ Date: _____</p> <p>Printed: _____ Date: _____</p> <p>Printed: _____ Date: _____</p> | |



NEWS

DROMEX GLOBALE: THE NEW ERA OF WORKWEAR

At Dromex we're committed to providing customers with only the best PPE and Workwear, and this means we're always looking at new ways of improving our range.

To achieve our goal of being Africa's premier PPE supplier, we've built our own 8000m² state-of-the-art manufacturing facility at the new intermodal Keystone Park hub in Hammarisdale to ensure we deliver on that promise.

Dromex Globale is an SABS approved facility, dedicated to manufacturing all Dromex workwear at competitive prices with uncompromising quality, conforming to the highest standards.

Our workwear factory is BBBEE Certified and successfully provided **500 jobs at commencement with an additional 600 jobs within the next 18-36 months.**

The in-house Training Facility will endeavour to upskill the youth of Hammarisdale resulting in an empowered workforce.

Designed with the stringent needs of local and international markets in mind, Dromex Globale will change the way we supply workwear.

THE FUTURE OF PPE BEGINS TODAY

Dromex believes that all employees are entitled to maximum protection and that employers should never have to compromise on the quality of the personal protective products they supply their staff.

And with our new Dromex Globale manufacturing facility, you can be sure you're dealing with a company that puts safety first.





WORKWEAR STANDARDS

SABS is a statutory body that was established in terms of the Standards Act. These standards, SANS (South African National Standards) promote quality in connection with commodities, products and services. SABS mark bearing products are made under a permit from the SABS for specific products made to SANS standards by a registered manufacturer and include quality audits and verification.

SANS 434: This standard specifies requirements for the material, cut, make and trim of boilersuits, two-piece workwear suits, bib and brace overalls and coats and jackets (unlined) but does not cover garments designed for the protection against specific hazards. This covers the materials, workmanship, styles, sizes, makeup of the suits, stitches & seams.

SANS 1387: South African National Standard woven cotton and similar apparel fabrics. This covers 11 types of fabric, however the parts 1 to 4 are relevant to the workwear.

Part 4 is for cotton jean and drill fabrics.

J54 - Jean material with a 2/1 twill weave, 220g/m² minimum.

D59 - Drill material with a 4/1 satin weave, 270/m² minimum.

SANS 1423: Part 1 is for performance requirements for textile fabrics of low flammability. The standard covers the flammability performance requirements for four classes of washable apparel fabric, each class being divided into three flammability performance categories. NOTE The use of certain fabric combinations, trims, accessories and sewing threads that are not compatible can have an adverse effect on the flammability performance of a garment.

Fabric Class:

Class A: Capable of withstanding the required industrial or hospital laundry processes given in SANS 10146

Class B: Capable of withstanding wash treatments at temperatures of up to 95 °C

Class C: Capable of withstanding wash treatments at temperatures of up to 60 °C

Class D: Capable of withstanding wash treatments at temperatures of up to 40 °C

Flammability Category:

Category 1: The fabric does not ignite within a given time period.

Category 2: The fabric ignites within a given time period but the flame spread ceases within a specified distance.

Category 3: The fabric ignites within a given time period and might continue to flame but at a rate of flame propagation that is within a specified limit.

SANS 724: Personal Protective Equipment & Protective Clothing against thermal hazards of an electric Arc.

Design, selection and performance requirements of electric arc resistant clothing and equipment for the protection of persons against the thermal hazards of an electric arc, which could occur during operating or working on or near electrical equipment in the workplace.

SANS 61482 Live working, Protective clothing, against the thermal hazards of an electric arc. Part 1 is IEC 61482-1-1 determination of the arc rating (ATPV or EBT50) of flame resistant materials for clothing. IEC 61482-1-1 Method A is identical to ASTM F1959, with the exception of different laundry preconditioning requirements.

SANS 50471 EN 471 High-visibility warning clothing for professional use - test methods and requirements.

NFPA: The NFPA (National Fire Protection Association) is a United States trade association, albeit with some international members, that creates and maintains private, copyrighted standards and codes for usage and adoption by local governments.

NFPA 1975 Provisions apply to design, performance, testing and certification of non-primary protective work apparel and the individual garments comprising work apparel.

Specifies criteria for thermally stable textiles that will not rapidly deteriorate, melt, shrink, or adhere to the wearer's skin, and also provides optional requirements and tests to verify flame resistance, odour resistance, water resistance and insect repellancy.

NFPA 70E Safe work practices to protect personnel by reducing exposure to major electrical hazards. NFPA 70E helps companies and employees avoid workplace injuries and fatalities due to shock, electrocution, arc flash, and arc blast.

The Standard includes guidance for making hazard identification and risk assessments, selecting appropriate PPE, establishing an electrically safe work condition and employee training.

NFPA 2112 This standard protects workers from flash fire exposure and injury by specifying performance requirements and test methods for flame-resistant fabric and garments. Criteria cover design, construction, evaluation and certification of flame-resistant garments for use by industrial personnel, with the intent of not contributing to the burn injury of the wearer, providing a degree of protection to the wearer and reducing the severity of burn injuries resulting from short-duration thermal exposures resulting from accidental exposure to flash fires.

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies, ISO member bodies. International Standards are carried out through ISO technical committees and each member of the body has the right to be represented.

ISO 13688 This International Standard specifies general performance requirements for ergonomics, innocuousness, size designation, ageing, compatibility and marking of protective clothing and the information to be supplied by the manufacturer with the protective clothing. This International Standard is only intended to be used in combination with other standards containing requirements for specific protective performance and not on a stand-alone basis.

ISO 6530 This International Standard specifies a test method for the measurement of indices of penetration, absorption and repellence for protective clothing materials against liquid chemicals, mainly chemicals of low volatility. Two levels of the potential performance of materials are assessed by this method of testing to meet with possible requirements for protection against:

a) deposition on the surface of a material, at minimal pressure, of spray droplets up to coalescence or occasional small drips;

b) contamination by a single low-volume splash or low-pressure jet, allowing sufficient time to divest the clothing or take other action as necessary to eliminate any hazard to the wearer from chemical retained by the protective garment, or, in circumstances where pressure is applied to liquid contaminants on the surface of the clothing material, as a result of natural movements of the wearer (flexing of contaminated areas of clothing at arms, knees, shoulders) and contact with contaminated surfaces (e.g. walking through sprayed foliage). The tested chemicals for the South African market are: HNO₃ (Nitric Acid), HCl (Hydrochloric Acid), H₂SO₄ (Sulphuric Acid) and NaOH (Sodium Hydroxide).



FABRIC COLOUR KEY

DROMEX WORKWEAR SIZING CHART

ALPHA NUMERIC

| XS | S | M | L | XL | 2XL | 3XL | 4XL | 5XL | 6XL |
|----|---|---|---|----|-----|-----|-----|-----|-----|
|----|---|---|---|----|-----|-----|-----|-----|-----|

SABS SANS 434
CHEST CIRCUMFERENCE
LONG SLEEVES

| | 30/77 | 32/82 | 34/87 | 36/92 | 38/97 | 40/102 | 42/107 | 44/112 | 46/117 | 48/122 | 50/127 | 52/132 | 54/137 | 56/142 | 58/147 | 60/152 | 62/157 | 64/162 | 66/167 |
|----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cm | 94 | 99 | 104 | 109 | 114 | 119 | 124 | 129 | 134 | 139 | 144 | 149 | 154 | 159 | 164 | 169 | 174 | 179 | 184 |
| cm | 47 | 47 | 48 | 48 | 49 | 49 | 50 | 50 | 51 | 51 | 52 | 52 | 53 | 53 | 54 | 54 | 54 | 54 | 54 |

WAIST EXTENDED
OUTSIDE LEG
INLEG

| | 26/67 | 28/72 | 30/77 | 32/82 | 34/87 | 36/92 | 38/97 | 40/102 | 42/107 | 44/112 | 46/117 | 48/122 | 50/127 | 52/132 | 54/137 | 56/142 | 58/147 | 60/152 | 62/157 |
|----|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cm | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | 165 | 170 |
| cm | 102 | 104 | 106 | 108 | 110 | 110 | 111 | 111 | 111 | 111 | 111 | 112 | 112 | 113 | 113 | 113 | 114 | 114 | 114 |
| cm | 78 | 79 | 80 | 81 | 82 | 82 | 82 | 82 | 81 | 81 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |

EXECUTIVE FIT
CHEST SIZE
BACK LENGTH
SLEEVE LENGTH
BACK WIDTH

| | 30/77 | 32/82 | 34/87 | 36/92 | 38/97 | 40/102 | 42/107 | 44/112 | 46/117 | 48/122 | 50/127 | 52/132 | 54/137 | 56/142 | 58/147 | 60/152 | 62/157 | 64/162 |
|----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cm | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 | 165 | 170 | 175 | 180 |
| cm | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 73 | 74 | 74 | 75 | 75 | 76 | 76 | 77 | 77 | 78 | 78 |
| cm | 49 | 49 | 50 | 50 | 51 | 51 | 52 | 52 | 53 | 53 | 54 | 54 | 55 | 55 | 56 | 56 | 57 | 57 |
| cm | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 |

WAIST EXTENDED
OUTSIDE LEG
INLEG

| | 26/67 | 28/72 | 30/77 | 32/82 | 34/87 | 36/92 | 38/97 | 40/102 | 42/107 | 44/112 | 46/117 | 48/122 | 50/127 | 52/132 | 54/137 | 56/142 | 58/147 | 60/152 |
|----|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cm | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | 145 | 150 | 155 | 160 |
| cm | 94 | 96 | 98 | 100 | 102 | 102 | 103 | 103 | 103 | 103 | 103 | 104 | 104 | 105 | 106 | 106 | 106 | 106 |
| cm | 70 | 71 | 71 | 72 | 73 | 74 | 74 | 74 | 73 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |

COMFI FIT
CHEST SIZE
BACK LENGTH
SLEEVE LENGTH
BACK WIDTH

| | 30/77 | 32/82 | 34/87 | 36/92 | 38/97 | 40/102 | 42/107 | 44/112 | 46/117 | 48/122 | 50/127 | 52/132 | 54/137 | 56/142 | 58/147 | 60/152 | 62/157 | 64/162 |
|----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cm | 92 | 97 | 102 | 107 | 112 | 117 | 122 | 127 | 132 | 137 | 142 | 147 | 152 | 157 | 162 | 167 | 172 | 177 |
| cm | 64 | 64.5 | 65 | 65.5 | 68 | 68.5 | 69 | 70.5 | 72 | 73.5 | 75 | 76.5 | 77 | 77.5 | 78 | 78.5 | 79 | 79.5 |
| cm | 43 | 43 | 43 | 44 | 45 | 45 | 45 | 45 | 46 | 47 | 48 | 49 | 49 | 49 | 50 | 50 | 50 | 50 |
| cm | 41 | 42.5 | 45.05 | 45.5 | 47 | 48.5 | 50 | 51.5 | 53 | 55 | 56 | 57.5 | 59 | 60.5 | 62 | 63.5 | 65 | 66.5 |

WAIST EXTENDED
OUTSIDE LEG
INLEG

| | 26/67 | 28/72 | 30/77 | 32/82 | 34/87 | 36/92 | 38/97 | 40/102 | 42/107 | 44/112 | 46/117 | 48/122 | 50/127 | 52/132 | 54/137 | 56/142 | 58/147 | 60/152 |
|----|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| cm | 72 | 77 | 82 | 87 | 92 | 97 | 102 | 107 | 112 | 117 | 122 | 127 | 132 | 137 | 142 | 152 | 157 | 162 |
| cm | 96.5 | 97.5 | 98.5 | 100 | 101 | 102.5 | 103.5 | 105 | 106 | 107.5 | 108.5 | 110 | 111 | 112.5 | 113.5 | 114.5 | 115.5 | 116.5 |
| cm | 71.5 | 72 | 72.5 | 73 | 73.5 | 74.5 | 75 | 75.5 | 76.5 | 77 | 77.5 | 78.5 | 79 | 80 | 80.5 | 81 | 81.5 | 82 |



Q&A



What is an Arc Flash?

An Arc Flash is a potentially fatal explosion of extreme light & radiant heat as a result of a short circuit on an electrical panel that can be caused by dust, dropping tools, accidental touching, condensation, corrosion or a faulty installation.

An Arc Flash can reach temperatures of up to 20 000°C and can cause permanent and often deadly injuries.

What are the hazards and dangers of an Arc Flash?

For the worker, injuries caused by an Arc Flash can be severe depending on the distance of work, the incident energy and the duration of the Arc Flash.

Possible injuries include second & third degree burns from the extreme heat of the blast, burns from airborne molten metal, metal oxides & vaporised copper, concussion & head injuries, hearing impairment and damaged eyesight.

An Arc Flash can also cause fire in the surrounding work areas.

How is Arc Flash energy measured?

Arc Flash energy is measured in calories/cm².

A calorie is the energy required to raise one gram of water to one degree celcius at one atmosphere. Secondary burns can occur from just 1.2cal/cm².

What is the accepted worker incident energy level?

Industry standards and government agencies agree that 1.2 to 2.0cal/cm² is an acceptable worker incident energy level.

The exposure to arc radiant heat energy has the possibility of causing 2nd degree burns of the epidermis and shows as painful red skin or blisters.

Controlling worker's incident energy reduces the severity of burn injuries and saves lives. Methods used to reduce worker incident energy levels are to reduce Arc Flash current and clearing time, move the worker farther from potential Arc, wear correct Arc Thermal Performance Value (ATPV) & Flame Resistant (FR) clothing system, and change the work method to a lower Arc incident energy.

FABRIC TESTING vs GARMENT TESTING

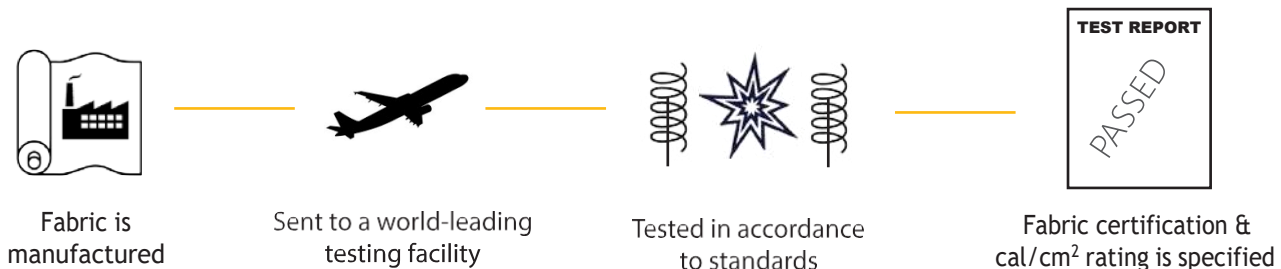


Arc Fabric & Garment tests are vital to ensure that both FR fabrics and the constructed garment pass the necessary international requirements for Arc Workwear and ultimately worker safety.

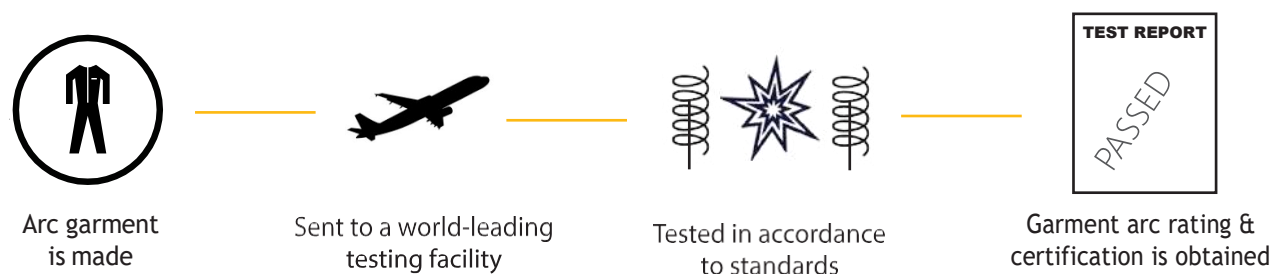
Arc fabric testing is done first to ensure that the fabric passes the required ratings & quality standards.

Thereafter the Arc garment is fully constructed using the certified fabric mannequin tested to ensure performance & appropriate protection.

• Arc Fabric Testing Process:



• Arc Garment Testing Process:



IMPORTANT: Always request a *FABRIC TEST* report & certificate in addition to the *GARMENT INTEGRITY TEST*.

A reputable supplier should be able to produce BOTH certificates upon request.



UNDERSTANDING ARC WORKWEAR

FR COTTON vs INHERENT FABRICS

> FLAME RETARDANT COTTON FABRICS:

FR Cotton fabrics have had flame retardants engineered into the fabric to create flame resistance thereby producing fabrics that have guaranteed flame retardancy for the life of the garment.

> INHERENT FLAME RETARDANT FABRICS:

'Inherent fabrics' consist of synthetic fibre that do not require additional FR chemical treatments - each fibre is 'inherently' flame retardant.

All FR fabrics (inherent & treated) are engineered to prevent ignition. While the fabrics are essentially different, technological advancements and development means that the efficacy of both fabrics are very similar and choosing Arc workwear should be based on:

- Arc hazard & environment of use
- Performance & certifications
- Comfort & quality
- Durability
- Value & availability
- Brand reputation

Did You Know?

Dromex A.P. T™ FR Cotton Fabric has passed "Red Metal" testing which offers additional bodily protection from Molten Metal, Vaporised Copper & Metal Oxides up to 1400°C. This offers the wearer effective protection and peace of mind.

Molten metal is a deadly hazard that can easily penetrate synthetic lightweight fabrics during an Arc Flash incident.



ArcWear

3018 Eastpoint Parkway
Louisville, Kentucky 40223

Page 1 of 1

Date: 12/12/2019
Client: Dromex
1 Blasé Road, New Germany
Durban, KZN
South Africa 3620
Sample(s) Received: 10/14/2019
Sample Description (provided by client): Dromex, Style Dromex A.P.T., 9.0 oz/yd² 305 g/m² Woven, 88% FR Cotton 12% Nylon, Navy, AAD 9.7 oz/yd² 329 g/m², ArcWear# 1911P05
Testing Date: 12/6/2019
Procedure: Testing was completed in accordance with the method identified below at ArcWear in Louisville, Kentucky.

Test Report: 1911P05-X

| ASTM D3776/D3776M | | | | | | |
|---|--|-----|-----|-----|-----|------------|
| Standard Test Method for Mass per Unit Area Fabric Weight-Option C Small Swatch | | | | | | |
| Preconditioning: | 200 cycles of washing and drying as specified in sec 8.1.3 of NFPA 2112-18 | | | | | |
| Conditioning: | ASTM D1776 | | | | | |
| Slevages Included: | No | | | | | |
| Fabric Mass (oz/yd²): | 10.18 | | | | | |
| Fabric Mass (g/m²): | 345 | | | | | |
| ASTM D6413/D6413M-15 | | | | | | |
| Standard Test Method for Flame Resistance of Textiles (Vertical Test) | | | | | | |
| Preconditioning: | 200 cycles of washing and drying as specified in sec 8.1.3 of NFPA 2112-18 | | | | | |
| Length Direction | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | AVG Length |
| Afterflame Time (sec) | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| Afterglow Time (sec) | 1.0 | 1.0 | 1.2 | 1.2 | 1.0 | 1.1 |
| Char Length (mm) | 78 | 78 | 72 | 75 | 81 | 77 |
| Melting? | No | No | No | No | No | |
| Dripping? | No | No | No | No | No | |
| Width Direction | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | AVG Width |
| Afterflame Time (sec) | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| Afterglow Time (sec) | 1.2 | 1.4 | 1.0 | 1.0 | 1.4 | 1.2 |
| Char Length (mm) | 61 | 75 | 78 | 72 | 78 | 73 |
| Melting? | No | No | No | No | No | |
| Dripping? | No | No | No | No | No | |

Signed for the Company by:

Jill Kirby
Lab Manager

Jill Kirby

Digitally signed by Jill Kirby
Date: 2019.12.12 09:22:11
+0500

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FLAMMABILITY TESTING

When a garment is tested for flammability against the NFPA 2112 standard it has already been washed 100 times before NFPA 2112 tests are applied.

At Dromex we believed in the superior quality of our fabric and took this test one step further.

Our Dromex A.P. T™ fabric was tested against the NFPA 2112 standard and passed after 200 washes.

ARC WORKWEAR LIFESPAN

The lifespan of an Arc garment is dependent on many factors such as wash care, storage between use and wear and tear during use.

E.g. If the garment has been in use for 3 weeks and a worker is exposed to an Arc Flash incident the workwear and PPE needs to be replaced therefore the lifespan of the garment has ended.

Likewise if Arc workwear & PPE is damaged during use, it needs to be removed from service and replaced immediately.



ARC THERMAL PROTECTION VALUE

ATPV is the embroidered or printed markings on all Arc workwear & PPE.

ATPV is measured in cal/cm² and is defined as the maximum incident heat energy that a fabric can absorb and lessen the injury against a 2nd or 3rd degree burn.

For example, if a worker has the potential to be exposed to an incident where the heat energy level is less than 4.0 cal/cm², the required ATPV clothing & PPE is a minimum of 4 cal/cm².







HEAT ATTENUATION FACTOR (HAF)

HAF refers to the amount of heat blocked by the FR fabric. Though a fabric may be flame resistant, it may not block all of the heat to which it is exposed. An HAF of 85% means that it will block 85% of the heat the fabric encounters. This applies to a short burst of heat - usually less than one second. In the event of prolonged heat exposure, the HAF would be lower.

Note: Synthetic fabrics generally have a lower HAF than Cotton FR Fabrics.

ARC WORKWEAR & PPE SELECTION

| HAZARD / RISK CATEGORY | CLOTHING DESCRIPTION RECOMMENDED | MINIMUM REQUIRED ARC RATING OF PPE CAL/CM ² |
|---|--|--|
|  1 HRC | Arc Rated FR shirt & FR pants or coverall | 4 |
|  2 HRC | Arc Rated FR shirt & FR pants or coverall | 8 |
|  3 HRC | Arc rated FR shirt or FR pants or FR coverall and arc flash suit selected so that the system arc rating meets the required minimum | 25 |
|  4 HRC | Arc rated FR shirt or FR pants or FR coverall and arc flash suit selected so that the system arc rating meets the required minimum | 40 |

NOTE: Energy / Incident Analysis & Calculation assessments are available on request to ensure correct Arc Workwear & PPE selection according to the arc hazard present.



100cal ARC SUIT BIB & BRACE, JACKET & HOOD



OEKO-TEX®

CODES: DW-ARC100-J / BP (JACKET / BIP PANTS)

DH-ARC100-SH (SWITCHING HOOD)

DG-ARC100 (SWITCHING GLOVE)

DH-ARC100-KIT (JACKET/PANTS/VENTILATED HOOD, GLOVES)

NFPA 2112, NFPA 70E, SANS 724, ASTM F2621-12, EN 11612:2015,

EN 61482-2-2:2020

HOOD: ASTM F2178-12

GLOVE: ASTM F2675

- ATPV 100cal/cm²
- Dromex A.P.T Fabric - 88% Cotton, 12% Nylon
- Triple layer construction: 14oz outer, 250gsm meta aramid FR mat lining & 14oz inner
- Inherent flame retardant thread throughout
- Fully triple needle stitched garment
- Concealed YKK Vizlon zip on jacket
- Flame retardant Velcro closures
- Flame retardant knitted rib cuffing
- cal/cm² Rating embroidery on hood, jacket, bib & brace and gloves

Hood:

- Back flap with Velcro closure for built-in fan/air system
- Flame retardant Velcro closures
- Dromex BSD 100cal/cm² Arc Visor with *Real View Technology*
- Integrated fresh air arc flash ventilation system for cooling

Sizes:

- Jackets: S - 5XL
- Bib & Brace: S - 5XL
- Gloves: S/M & L/XL (see pg 40 for more info)

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



55cal ARC SUIT BIB & BRACE, JACKET & HOOD

CODES: DW-ARC55-J / BP (JACKET / BIB PANTS)

DH-ARC55-SH (SWITCHING HOOD)

DH-ARC55-SHV (SWITHING HOOD WITH VENTILATION)



EN



OEKO-TEX®

IEC 61482-1-1, NFPA 2112, NFPA 70E, SANS 724,

ASTM F1959, ASTM F2621-12, EN 11612:2015

HOOD: ASTM F2178-12

- APTV 55cal/cm²
- Dromex A.P.T Fabric - 88% Cotton, 12% Nylon
- Double layer construction: 14oz & 9oz inner
- Inherent flame retardant thread throughout
- Fully triple needle stitched garment
- YKK Concealed brass zips on jackets & pants
- Flame retardant Velcro closures
- Flame retardant knitted rib cuffing
- cal/cm² Rating embroidery on hood, jacket, bib & brace

Hood:

- Back flap with velcro closure for built-in fan/air system
- Flame retardant velcro closures throughout
- Dromex BSD Arc Visor with *Real View Technology*
- Available with or without ventilation

Sizes:

- Jackets: S - 5XL
- Bib & Brace: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





25^{cal} ARC SUIT

CODE: DW-ARC25-J / P



OEKO-TEX®

IEC 61482-1-1, NFPA 2112, NFPA 70E, SANS 724,
ASTM F1959, ASTM F2621-12, ASTM 1506-19,
EN 11612:2015

- ATPV 25cal/cm²
- 14oz Dromex A.P.T Fabric - 88% Cotton, 12% Nylon
- Flame retardant thread throughout
- YKK Concealed brass zips on jacket & pants
- Flame retardant velcro closures
- Fully triple needle topstitched garment
- Flame retardant knitted rib cuffing
- Three jacket pockets with mitred flap & flame retardant Velcro closure & side swing pocket on pants
- cal/cm² Rating embroidery on jacket & pants

Sizes:

- Jackets: S - 5XL
- Pants: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



15cal ARC SUIT

CODE: DW-ARC15-J / P



OEKO-TEX®

IEC 61482-1-1, IEC 61482-1-2, NFPA 2112, NFPA 70E, SANS 724, ASTM F1959, ASTM F2621-12, EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014, CE 0338:2016

- ATPV 15cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 305gsm
- Flame retardant thread throughout
- YKK concealed brass zip on jacket & pants
- Flame retardant velcro closures
- Full triple needle topstitched garment
- Flame retardant knitted rib cuffing
- Three jacket pockets with mitred flap & flame retardant Velcro closure & side swing pockets on pants
- 50mm Flame retardant reflective tape on arms & legs
- cal/cm² Rating embroidery on jacket & pants

Sizes:

- Jackets: 32 - 68
- Pants: 28 - 66

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





12.4cal ARC SUIT

CODE: DW-ARC12-OR



OEKO-TEX®

IEC 61482-1-1, IEC 61482-1-2, NFPA 2112, NFPA 70E, SANS 724, ASTM F1959, ASTM F2621-12, EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014, CE 0338:2016

- ATPV 12.4 cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 305gsm
- Flame retardant thread throughout
- YKK concealed brass zip on jacket & pants
- Flame retardant velcro closures
- Full triple needle topstitched garment
- Flame retardant knitted rib cuffing
- Three jacket pockets with mitred flap & flame retardant Velcro closure & side swing pockets on pants
- 50mm Flame retardant reflective tape on arms & legs
- cal/cm² Rating embroidery on jacket & pants

Sizes:

- Jackets: 32 - 60
- Pants: 28 - 56

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



15cal ARC BOILERSUIT

CODE: DW-ARC15-0



OEKO-TEX®

IEC 61482-1-1, IEC 61482-1-2, NFPA 2112, NFPA 70E, SANS 724, ASTM F1959, ASTM F2621-12, EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014, CE 0338:2016

- ATPV 15 cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 305gsm
- Flame retardant thread throughout
- YKK concealed brass zip
- Flame retardant velcro closures
- Triple needle topstitched garment
- Flame retardant knitted rib cuffing
- Two breast pockets with mitred flap & flame retardant Velcro closure & side entry hip pockets
- 50mm Flame retardant reflective tape on arms, legs & "X" on back
- cal/cm² Rating embroidery on right breast pocket flap

Sizes: 30 - 64

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



LADIES 15cal ARC SUIT

CODE: DWL-ARC15-J / P



OEKO-TEX®

IEC 61482-1-1, IEC 61482-1-2, NFPA 2112,
NFPA 70E, SANS 724, ASTM F1959, ASTM F2621-12,
EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014

- APTV 15cal/cm²
- Dromex A.P.T Fabric - 88% Cotton, 12% Nylon, 305gsm
- Triple needle topstitched garment
- Flame retardant throughout
- YKK Concealed brass zips on jackets & pants
- Flame retardant Velcro closures
- Full triple needle topstitched garment
- Flame retardant knitted rib cuffing
- Three jacket pockets with mitred flap & flame retardant Velcro closure & side swing pockets on pants
- cal/cm² Rating embroidery on jacket & pants
- 50mm Flame retardant reflective tape on arms & legs

Sizes: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





15CAL ARC SHIRT

CODE: DW-ARC12,4



OEKO-TEX®

IEC 61482-1-1, IEC 61482-1-2, NFPA 2112, NFPA 70E, ASTM F1959,
ASTM F2621-12, EN 11611:2015, EN 61482-1-1:2009
EN 11612:2015, EN 61482-2:2009, CE 0338:2016

- ATPV 15 cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 305gsm
- Flame retardant thread throughout
- Flame retardant melamine buttons
- Triple needle topstitched garment
- Two mitred breast pockets with double needle topstitching & mitred flap
- 50mm Lime/silver/lime FR reflective tape
- cal/cm² Rating embroidery on right breast

Sizes: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





9.6CAL ARC SHIRT

CODE: DW-ARC9,6



OEKO-TEX®

IEC 61482-1-2, NFPA 2112, NFPA 70E, ASTM F2621-12, EN 11611:2015, EN 11612:2015

- ATPV 9.6 cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 237gsm
- Flame retardant thread throughout
- Flame retardant melamine buttons
- Triple needle topstitched garment
- Two mitred breast pockets with double needle topstitching & mitred flap
- 50mm silver FR reflective tape
- cal/cm² Rating embroidery on right breast

Sizes: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



40CAL ARC THERMAL JACKET

CODE: DW-ARC40-WJ



OEKO-TEX®

NFPA 2112, EN 11611:2015, EN 11612:2015

- ATPV 40 cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 305gsm (Outer fabric & lining)
- Flame retardant wadding interlining
- Flame retardant thread throughout
- Flame retardant Velcro on pockets & front closure
- Flame retardant rib knit cuffing on sleeves
- cal/cm² Rating embroidery on right breast
- 50mm Flame retardant reflective tape on arms
- Double needle topstitching on armholes & shoulders
- Rounded chest pocket and mitred flap with FR Velcro closure
- Concealed YKK chunky nylon zip with 25mm FR Velcro closure

Sizes: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





15CAL ARC X-BIB

CODE: DW-ARCBIB12.4



EN

OEKO-TEX®

IEC 61482-1-2, NFPA 2112, NFPA 70E, ASTM F1959,
EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014,
EN ISO 20471:2013

- ATPV 15 cal/cm²
- Dromex A.P.T Fabric - 88% Cotton 12% Nylon, 305gsm
- Flame retardant thread throughout
- Adjustable flame retardant velcro closure
- 50mm Lime/silver/lime flame retardant reflective tape

Sizes: S - XL
2XL - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





21cal ARC DENIM JEANS

CODE: DW-ARC21-DJ



OEKO-TEX®

NFPA 2112, NFPA 70E, ASTM F1959, EN 11611:2015,
EN 11612:2015, EN 61482-1-2:2014

- ATPV 21cal/cm²
- 100% Cotton, 14oz Arc Denim
- Flame retardant corespun 40 thread
- YKK concealed brass zip
- Double needle top stitching at inleg & back rise
- Swing pockets with double needle topstitch
- Five belt loops
- Back yoke with double needle topstitching
- Two back pockets with double needle topstitching
- cal/cm² Rating embroidery on right back pocket

Sizes: 28 - 50

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



15cal ARC DUST COAT

CODE: DW-ARDCD



OEKO-TEX®

NFPA 2112, NFPA 70E, ASTM F1959, ASTM F2621-12,
EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014,
EN ISO 204471:2013, SANS 724

- ATPV 15cal/cm²
- Dromex A.P.T Fabric - 88% Cotton, 12% Nylon, 305gsm
- Flame retardant thread throughout
- Concealed flame retardant plastic snap buttons & 25mm x 85mm velcro closure at front
- Flame retardant rib cuff
- 50mm Lime/silver/lime flame retardant reflective tape on arms, chest and "X" on back
- Triple needle topstitched shoulders & armholes
- Slit at centre back hem
- cal/cm² Rating embroidery on right breast

Sizes: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries





9.9CAL T-SHIRT UNDERGARMENTS

CODE: DW-ARC9.9-LST (LONG SLEEVE)

DW-ARC9.9-SST (SHORT SLEEVE)



EN OEKO-TEX®

IEC 61482-1-2, NFPA 2112, NFPA 70E, ASTM F1959,
EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014

- ATPV 9.9 cal/cm²
- 88% Cotton, 12% Nylon Interlock FR Knitted Fabric, 203gsm
- Flame retardant thread throughout
- Flame retardant knitted rib cuffing
- cal/cm² Rating embroidery on left breast
- Suitably worn under any Dromex Arc garment

Sizes: S - 5XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries



9.9CAL BOXER SHORTS

CODE: DW-ARC 9.9-BSH



IEC 61482-1-2, NFPA 2112, NFPA 70E, ASTM F1959,
EN 11611:2015, EN 11612:2015, EN 61482-1-2:2014

- ATPV 9.9 cal/cm²
- 88% Cotton, 12% Nylon Interlock FR Knitted Fabric, 203gsm
- Flame retardant thread throughout
- Flame retardant knitted waist band
- cal/cm² Rating embroidery on left leg
- Suitably worn under any Dromex Arc garment

Sizes: S - M
L - XL

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining, chemical & refineries

FLAME RETARDANT SOCKS

CODE: DF-9162-CH-L (CHARCOAL)

DF-9162-BLK-L (BLACK)

- Ribbed cuff for secure fit
- Reinforced heel & toe for durability
- Blister resistant
- Convection & radiant heat protection
- Thermally balanced & odour free
- Will not burn when exposed to heat & flame

- Charcoal:
80% Wool, 15% Nylon, 4% Lycra, 1% Elastane
- Aflammit® ZR treated yarn
- Black:
29% Polyamide and 71% Flame retardant polyester

Sizes: Large (8 - 11)

Suitable Use:

- Petroleum service industry
- Petrochemical industry
- Oil & gas industry
- Electrical & gas utility
- Steel mills
- Fighter pilots



CHARCOAL



BLACK



NEW



DW-ARC9.9-BAL-S



DW-ARC31-BAL-DBL



ARC BALACLAVA



NFPA 70E & NFPA 2112

- 100% Meta-Aramid
- Single layer: 203gsm fabric
Double layer: 406gsm fabric
- Flame retardant thread throughout
- Lightweight & breathable

Suitable Use:

Fire caused by -

- Chemicals
- Petrochemicals
- Utility/Electrical work

Sizes: One size fits all



55CAL ARC BLANKET

CODE: DW-ARCBANK



NFPA 70E & NFPA 2112

- Dromex A.P.T Fabric - 88% Cotton, 12% FR Nylon
- Two-layer panel system
 - > 14 oz Layer 1
 - > 14 oz Layer 2
- Inherent FR thread throughout
- Heat transfer print & FR ATPV 55cal embroidery
- Ten double-layer loops for securing in place
- Centralised cable strap with Velcro/zip strap
- Provides protection against arc blast hazards during electrical work in confined spaces

Suitable Use:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations
- Mining

Sizes:

- Small: 1.5m x 2.4m
- XLarge: 2.5m x 4m



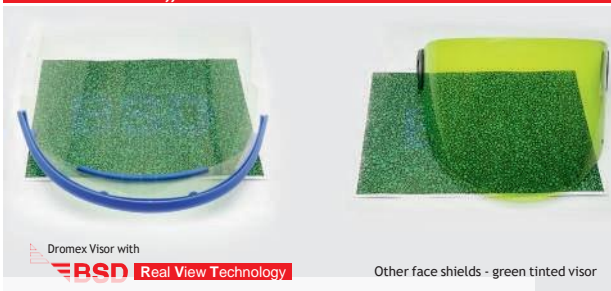
ERGOS2 ARC VISOR

CODE: ARC ERGOS2 12 / 12-EU / 26

- **Increased worker safety because of REAL VIEW of work environment.**
- New generation of face protection against the thermal hazards and impact of an arc flash
- Tested to EN 166 for protection against molten metals & hot solids
- Realistic colour reproduction >95%
- Protection against high-speed particles: medium energy impact (B)
- Extended length visor & transparent chin guard
- Optimised weight balance & no time limit on durability
- Fitted with a universal bracket for use with front brim arc rated hard hats according to EN 50365 or EN 397 standards
- Available in 12 cal/cm² & 26 cal/cm²

**AVAILABLE IN EURO HELMET SLOT MOUNTED OPTIONS:
12 cal/cm² & 26 cal/cm²**

The lens makes the difference!



ARC HARD HAT

CODE: ARC HHSG 18

- Electric hard hat offering dielectric protection up to 20 000 volts
- 4-point quick fit suspension
- Adjustable Fast-Trac III ratchet
- Fixed stitched sweat band
- Easily integrated with face and hearing PPE
- Suitable for use in electric / utilities & manufacturing industries



ERGOS INTEC ARC HELMET

CODE: ARC ERGOS 28

- ATPV 28 cal/cm²
- Insulated helmet with integrated retractable visor & chin protection
- Provides safety against thermal hazards of an electric arc & projected droplets of molten metal
- Electrical insulation 1000V AC & 1500V DC
- Conforms to EN 166:2001, EN 170:2002, EN 50365:2002, EN 397:2012 + A1:2012, GS-ET-29:2011 & ASTM F2178-17b
- Suitable for use by electricians during work on live equipment and work at heights on electrical connections



70cal ARC SWITCHING GLOVES

CODE: DG-ARC70



OEKO-TEX®

NFPA 2112, NFPA 70E, ASTM F2675, IEC 61482-1-1, IEC 61482-1-2, EN 11611, EN 11612, EN 61482

- APTV 70cal/cm²
- Dromex A.P.T Fabric - 88% Cotton, 12% Nylon
- Flame retardant glove lined with meta aramid mat lining
- Inherent FR stitching throughout
- Glove thickness: 2.7mm
- Elasticated shirred glove for comfort

Sizes: S/M & L/XL

Suitable Uses:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations

100cal ARC SWITCHING GLOVES

CODE: DG-ARC100



OEKO-TEX®

NFPA 2112, NFPA 70E, ASTM F2675, IEC 61482-1-1, IEC 61482-1-2, EN 11611, EN 11612, EN61482, SANS 724

- APTV 100cal/cm² mitt-style glove
- Dromex A.P.T Fabric - 88% Cotton, 12% Nylon
- Triple layer construction: 14oz outer, 700gsm meta aramid mat lining & 14oz inner
- Inherent FR stitching throughout
- Elasticated shirred glove for an ideal fit
- cal/cm² Rating embroidery on cuff

Sizes: S/M & L/XL

Suitable Uses:

- Substations & switchrooms
- Utilities & power generators
- Industrial electrical maintenance & installations



16.8cal ARC FLASH DIPPED GLOVE

CODE: NE423AF



EN 388



2341C

EN 407



41324X



ASTM

F2675/F2675M-13

D 3776:2013 Option C

- 42.3cal/cm² Arc rated palm & 16.8cal/cm² arc rated back
- Excellent grip in wet, oily & dry environments
- High dexterity
- High resistance to snatch, tear, cut, abrasion & heat
- Basic chemical oil stability
- Seamless knitted aramid fibre glove with a textured Nitrile micro foam & neoprene coated palm
- 13g Aramid flexible knit fabric
- Extended 16cm cuff

Sizes: 7 - 13

Suitable Use:

- Power & Utility companies
- Installation, maintenance & repairs



51cal LEATHER ARC GLOVE

CODE: CA420

EN 388



3X33D

EN 407



X1XXXX



ASTM

F2675/F2675M-13

- 51cal/cm² Arc rated leather gloves
- High cut level D protection
- High abrasion resistance
- High resistance to snatch, tear, cut & heat
- Multi-layer protection provides flexibility, comfort & excellent insulation
- Leather glove lined with Aramid fibre
- Kevlar stitching
- Shirred extended 16cm cuff
- Cow split leather 1mm

Sizes: 8 - 11

Suitable Use:

- Power & Utility companies
- Installation, maintenance & repairs of high voltage equipment



ARC FLASH TREAD SAFETY BOOT

CODE: DF-FLASH



- Conforms to EN ISO 20345:2011
- Waterproof full grain cow leather upper
- Slip resistant outsole, SRC
(Slip resistance on ceramic tile floor with NaLS & on steel floor with glycerine[^]c)
- Energy absorbing heel
- Removable insock
- Oil resistant
- Contact heat resistant outsole at 300°C for 60 seconds
- Composite toe cap is impact resistant up to 200 ± 4J
- Cleated outsole for additional traction
- Dual velcro closure strap design for ease of use with gloves
- NRCS Approved

Sizes: 3 - 13

Suitable Use:

- Arc Flash & flash fire potential
- Manufacturing (incl. computer equipment)
- Refineries