



CATALOGUE

**FLAME RETARDANT &
ARC FLASH PROTECTIVE
WORKWEAR**





**WHERE OTHER COMPANIES STOP,
ROOTS JUST BEGINS.**

Quick range

OVERVIEW

- 29. // **FLAME BUSTER 2**
- 59. // **FLAME BUSTER**
- 77. // **ARC BUSTER**
- 89. // **MULTI PROTECTOR**
- 105. // **MULTI PROTECTOR ARC**
- 115. // **MULTI PROTECTOR ALL WEATHER**
- 125. // **KERMEL & TEXTREME**
- 147. // **KERMEL ALPHA**
- 159. // **STORM BUSTER CLASSIC**
- 176. // **STORM BUSTER CONTRACTOR**
- 180. // **STORM BUSTER EXTREME**
- 186. // **RAIN WEAR**
- 193. // **FR SOFTSHELL**
- 196. // **FR SHIRTS**
- 200. // **FR UNDERWEAR**
- 209. // **ROOTS FOOTWEAR**
- 223. // **ON-IMPACT GLOVES**



RO1512

Stormbuster Classic
Waterproof Coverall

CONTENTS

Our mission.....	8
Our durable production roadmap.....	10
Our differentiators.....	12
Norms & Standards.....	20

FLAME BUSTER 2

RO28095 - Flamebuster2 Classic Nordic coverall.....	34
RO23095 - Flamebuster2 Nordic coverall w/ limited chemical splash.....	36
RO23096 - Flamebuster2 Nordic Arctic coverall w/ limited chemical splash.....	38
RO23190 - Flamebuster2 Nordic jacket w/ limited chemical splash.....	40
RO23295 - Flamebuster2 Nordic trousers w/ limited chemical splash.....	42
RO23099 - Flamebuster2 Nordic 2-tone coverall w/ limited chemical splash.....	44
RO23065 - Flamebuster2 Basic coverall.....	46
RO23160 - Flamebuster2 Basic jacket.....	48
RO23265 - Flamebuster2 Basic trousers.....	50
RO28090ULW - Flamebuster2 Nordic ultra light weight coverall.....	52
Flamebuster2 Essential Accessories.....	54

FLAME BUSTER

RO19095HV - Flamebuster Xtreme hi-vis coverall.....	60
RO19190HV - Flamebuster Xtreme hi-vis jacket.....	62
RO19295HV - Flamebuster Xtreme hi-vis trousers.....	64
RO19395HV - Flamebuster Xtreme hi-vis bib.....	66
RO19095 - Flamebuster Xtreme coverall.....	68
RO19190 - Flamebuster Xtreme jacket.....	70
RO19295 - Flamebuster Xtreme trousers.....	72

ARC BUSTER

RO13020 - Arcbuster Hot Worker welding coverall.....	78
RO13310 - Arcbuster welding coverall.....	80
RO12020 - Hot Worker light coverall.....	82
Essential Accessories.....	85

MULTI PROTECTOR

RO22097 - Multi Protector coverall.....	90
RO22167 - Multi Protector jacket.....	92
RO12168 - Multi Protector jacket.....	94
RO22267 - Multi Protector trousers.....	96
RO22367 - Multi Protector bib.....	98
RO12095HV - Multi Protector hi-vis coverall.....	102
RO12085 - Multi Protector double layer arc flash coverall.....	106
RO12180 - Multi Protector double layer arc flash jacket.....	108
RO12285 - Multi Protector double layer arc flash trousers.....	110
RO12385 - Multi Protector double layer arc flash bib.....	112
RO13340 - Multi Protector all weather parka.....	116
RO13350 - Multi Protector all weather trousers.....	118
RO13360 - Multi Protector all weather bib.....	120

KERMEL® TEXTREME & KERMEL® ALPHA

RO16090HV - Kermel® Textreme two-tone hi-vis coverall.....	126
RO16190HV - Kermel® Textreme two-tone hi-vis jacket.....	128
RO16290HV - Kermel® Textreme two-tone hi-vis trousers.....	130
RO16390HV - Kermel® Textreme two-tone hi-vis bib.....	132
RO17095HVF - Textreme hi-vis coverall - ladies fit.....	134
RO17190HVF - Textreme hi-vis jacket - ladies fit.....	136
RO17295HVF - Textreme hi-vis trousers - ladies fit.....	138
RO17095HV - Textreme hi-vis coverall.....	140
RO17190HV - Textreme hi-vis jacket.....	142
RO17295HV - Textreme hi-vis trousers.....	144
RO15095 - Kermel® Nordic coverall.....	148
RO15190 - Kermel® Nordic jacket.....	150
RO15290 - Kermel® Nordic trousers.....	152
RO15390 - Kermel® Nordic bib.....	154

STORM BUSTER CLASSIC

RO1512 - Stormbuster Classic Waterproof coverall.....	162
RO1517 - Stormbuster Classic Waterproof parka.....	164
RO1547 - Stormbuster Classic Waterproof bomber.....	166
RO1537 - Stormbuster Classic Waterproof trousers.....	168
RO1527 - Stormbuster Classic Waterproof bib.....	170
RO1557 - Stormbuster Classic hi-vis bodywarmer.....	172
RO1558 - Stormbuster Classic bodywarmer.....	173
Stormbuster Classic Accessories.....	174

STORM BUSTER CONTRACTOR

RO4517 - Stormbuster Contractor Waterproof Parka.....	176
RO4547 - Stormbuster Contractor Waterproof Bomber.....	178
RO2515 - Stormbuster Xtreme Waterproof coverall.....	180
RO2517 - Stormbuster Xtreme Waterproof parka.....	182
RO2527 - Stormbuster Xtreme Waterproof bib.....	184

RAIN WEAR

RO200350 - PU Rainwear jacket.....	186
RO200400 - PU Rainwear trousers.....	187
RO6837 - PU Rainwear hi-vis jacket.....	188
RO6544 - PU Rainwear hi-vis trousers.....	189
RO200500 - PU Rainwear bib.....	190
RO200650 - PU Rainwear coverall.....	191
RO6817 - PU Rainwear hi-vis jacket.....	192

FR SOFTSHELL

RO37760 - FR Softshell.....	193
RO37890HV - Hi-vis FR Softshell.....	194
RO37760HV - Hi-vis FR 2-tone Softshell.....	195
RO26100 - FR Sweater.....	196
RO25300 - Polo Shirt.....	197
ROPB500 - Arc Polo Shirt.....	198
ROPB700 - Hi-Vis Polo Shirt.....	199
Why you should consider arc flash rated underwear.....	200
RO25100 - Men's FR Underwear - Long sleeves shirt.....	201
RO25120 - Men's FR Underwear - Long john's.....	201
RO25200 - Ladies FR Underwear - Long sleeves shirt.....	202
RO25220 - Ladies FR Underwear - Long john's.....	202
ROPB1000 - FR Underwear Long sleeves shirt.....	203
ROPB2000 - FR Underwear Long John's.....	203

Calorific ratings.....	204
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ROOTS FOOTWEAR

RO60303 - Iowa S3 ESD.....	212
RO60301 - Mohawk S3 ESD.....	214
RO60307 - Jumano S3 ESD.....	215
RO60302 - Cheyenne S3 ESD.....	216
RO60304 - Cherokee S3.....	218
RO60305 - Apache S3.....	219
ROOTS Support Structure.....	220
RO50500 - ROOTS On Impact gloves.....	223



Got a buzzing question?

Get in contact with our Customer Service.

Call our hotline: +31(0)10 2955 955

or send us a message at info@roots-original.com

Specialists in flame retardant and arc flash protective garments, **THAT'S WHO WE ARE**

We know that health, safety and wellbeing of your essential workforce is your number one priority. ROOTS cares deeply about the safety of anyone wearing our products, understanding the hazardous conditions to which our garments need to offer protection drives us, like no other garment manufacturer, to go beyond the standard.

We are experts in flame retardant and arc flash protective workwear. ROOTS garments are intended to prevent accidents, through excellent fit, and injuries during work on exposure to the thermal hazards of an electric arc, heat, flames, cold, and electrostatic discharge.

Our garments are manufactured and thoroughly tested in accordance with the latest safety standards, meticulously designed to offer great durability and have an unbeatable comfort.

ROOTS is that spark of excitement to get the job done safe in a hazardous workplace.

This is partly due to our dedicated investments in only the highest quality fabrics with which we constantly innovate. Like no other flame retardant and arc flash garment manufacturer, ROOTS blazes a trail in pursuing safety beyond the standard to ensure the users' health, safety and well-being in any situation. Allowing ROOTS to offer uncompromised protection every time, all the time.

That's why at the beginning of ROOTS in 2004 we pioneered having burn injury predictions and ATPV calorific ratings on all our garments and continue to do so.

Within the utilities and power generation sectors, an electric arc flash is considered as an everyday risk, this requires garments that do not compromise on any level detail. Our entire organisation is obsessively focused to develop innovative garments with unbeatable comfort, quality and protection.

ROOTS has been pioneering with innovative arc flash and flame retardant protective clothing for many years. Many have tried to copy the ROOTS fabrics and garment designs, despite that some are good, most are very poor. From a distance, they may look alike, but our wearers know better. In the harsh environment our wearers operate, compromises on safety are not tolerated, and they will not settle for anything less, anything other than ROOTS.

Explore our catalogue, our websites and discover why our wearers will not settle for anything less, and why they only trust their ROOTS.

Visit www.roots-original.com for more information.

OUR DEVOTION, OUR MISSION.

- 1.//** The health and safety of every person wearing ROOTS protective equipment is our top priority.
- 2.//** ROOTS will produce "state of the art" personal protective equipment through innovation, product development and market research.
- 3.//** ROOTS will be recognised as a world class manufacturer of personal protective equipment.

Our durable production ROADMAP

We design garments to protect our wearers in the toughest situations thinkable. We are as committed as ever to reduce our ecological footprint without ever needing to compromise on safety properties of our garments. We believe that our contributions towards a more sustainable future will empower others as we are working with our global partners to find and explore or invent new ways to transit away from a "take-make-dispose" economy.

In 2004, right at the beginning of ROOTS, we questioned the poor performing, poor quality, and uncomfortable fabrics available in the market place. We were convinced that we could produce flame retardant (FR) garments that could greatly outperform other product offerings. Hence, we developed our very own FR fabrics and garments fully under our own control with unprecedented test methods.

Along with designing our garments fundamentally different this also includes looking for opportunities within our entire operations to work more efficient which in turn means we use less resources.

 **Our efforts have led to guarantee safety at 100 washing cycles.**

Our logistics team is focused on condensing shipments to our customers without having to give in on performance levels. Hence, we partner with our freight forwarding agents to achieve a concentrated shipment stream. Throughout our offices and warehouse, we have positioned motion-sensor light switches that reduce electricity consumption by eliminating the possibility that lights will accidentally be left on. We strive to equip all our office spaces with motion-sensors.

We have implemented a number of initiatives that help us to achieve our goals. We wish to shrink our carbon footprint by offering our employees who qualify for a business fleet vehicle a plug-in-hybrid or electric vehicle. And we are seeing the difference this is making.

As of June 2017, we are powering all of our Dutch offices and warehouse with 100 percent renewable energy. Most of which comes from water initiatives in the Scandinavian regions (91%), and a small portion derives from wind energy generation (9%) in the Netherlands.

In 2014, we joined several sustainability programs by which we are subjected to annual auditing and received plans of improvement. We felt that these programs benefit our CSR-development as knowledge is being frequently shared throughout the program. Additionally, our operations are certified according to ISO 9001 and ISO 14001 to safeguard our quality and environmental efforts.

We know that the road that stretches out ahead of us is long and winding, but we are making unprecedented progress within the industry. Our efforts have currently lead towards the creation of a product (ROOTS Textreme) that is certified for 100 wash cycles. That's 95 wash cycles more than the Safety Standard actually requires. This not only means your cost of ownership is being reduced but by doing so you are also positively contributing towards a better tomorrow.

ROOTS conforms with all of the essential environmental standards helping bring valuable guidance into our organisation. And we actively participate in annual audits, taking both guidance and advice from independent yet renowned auditors.



Protective workwear against electric arc.



ISO 9001 Quality Management System

ISO 9000 is the name of a series of QA standards recognised by over 200 countries around the world and adopted as their national standards for QA. The most important document in the ISO 9000 series is ISO 9001. This is the code against which audits are actually carried out. All the other documents in the ISO 9000 series provide guidelines and explanations for how to apply ISO 9001.



Business fleet vehicle analysis

We have formulated the following goals of CO₂ emissions from the total mobility fleet:

- 50% of the fleet must emit an average of 130 grams of CO₂ by 2015.
- 50% of the fleet must emit an average of 95 grams of CO₂ by 2020.

Currently, our efforts have resulted in broadly meeting our goals. As of 2018, our business fleet emits on average 80 grams of CO₂. Thus meeting the objective in accordance with the guidelines of the European Environment Agency.



ISO 14001 Environmental Management System

This standard is not an environmental standard as such and therefore does not prescribe tough environmental requirements. The standard serves as a framework to support organisations in the development of their own environmental management system. ISO 14001 can be integrated with other management functionalities and helps companies to realize their environment, as well as economic goals.



Energy consumption

As of June 2017, all our Dutch offices and warehouse run entirely on 100 percent renewable energy sources. We are devoted to reduce our energy consumption and thus installed motion-sensor light switches that reduce the likelihood of lights being accidentally left on.



CSR Register

As of September 4th 2014, we are a full member of the CSR Register, previously known as FIRA platform. The Register verifies our CSR information for reliability and promotes openness and transparency.



EnviroMeter

As of July 14, 2014, ROOTS has signed up for the Environmental Barometer. The EnviroMeter is an online calculator that provides a quick and simple overview on the environmental costs and environmental impact of a company or organisation.



Corporate Social Responsibility

ROOTS membership of Fair Wear Foundation

Fair Wear Foundation (FWF) is an independent, non-profit organisation that works with companies and factories to improve labour conditions for garment workers. FWF's 80 member companies represent over 120 brands and are based in seven European countries. Member products are sold in over 20,000 retail outlets in more than 80 countries around the world. FWF is active in 15 production countries in Asia, Europe and Africa.

FWF keeps track of any improvements made by the companies it works with. Through sharing expertise, social dialogue and strengthening industrial relations, FWF increases the effectiveness of efforts made by companies.



THIS IS WHERE ROOTS TRULY MAKES A DIFFERENCE.

- 1. // ROOTS FABRIC DEVELOPMENTS**
- 2. // ROOTS PRODUCT TRACEABILITY**
- 3. // ROOTS DEMANDED INDEPENDENT TESTING**
- 4. // PROTECTION AGAINST UV-RADIATION**
- 5. // ROOTS ACADEMY**
- 6. // ROOTS ANNUAL ELECTRIC ARC SEMINAR**
- 7. // INDEPENDENT BURN INJURY PREDICTION ON ALL GARMENTS**
- 8. // ATPV CALORIFIC RATINGS ON ALL GARMENTS**
- 9. // ROOTS DEVELOPED WASHING POWDER**
- 10. // ROOTS WORKING WITH INDUSTRIAL LAUNDRIES**
- 11. // FOR WOMEN IN THE INDUSTRY, THE PERFECT FIT**

Our own fabric DEVELOPMENT

At ROOTS we pride ourselves on our high-quality fabrics that we have been able to create over the years. The development of this fabric can be dated back all the way back to the forming of ROOTS in 2004.

When ROOTS was formed in 2004, we were highly dissatisfied with the state of all the 'average' Flame Retardant (FR) fabric on offer in the market. The poor quality, poor performance and poor comfort associated with most fabrics drove us to produce our very own Flame Retardant fabrics and under our own control. From the start of ROOTS in 2004 to this day, ROOTS are still the only major FR manufacturer that actually controls their own fabric production from start to finish.

Fabric ingredients for FR treated fabrics

ROOTS treated fabrics are produced by using the very finest ingredients. After all, without a good fabric, you don't have a good garment. That is why we use a superb cotton quality which offers incomparable wearer comfort, garment strength and product performance. The Flame Retardant treatment that we use is a very low odour, eliminating nuisance smells normally associated with flame retardant garments, leading to wearer rejection. All these ingredients put together and combined with our high demand for performance and strict quality control leads to our fabrics having the quality that it has today, high performance, high quality, excellent colour fastness and superior comfort.

ROOTS wide range of fabrics

Our wide range of clothing leads us to have a multitude of different fabrics with different materials, treatments, weights and compositions. This creates another challenge in producing every variation of fabric to the same high standard that we demand of our garments. Every fabric is tested individually time and time again until we are satisfied and are certain that the quality of the fabric is up to ROOTS standards. We have fully cotton fabrics, cotton and polyester blends, modacrylic, aramids, nylon blends and a large range of waterproofs which we all subject to strict testing and quality control to get the best possible performance out of them.



origins of the fabric that was used all the way back to the start. For this very reason, Cosort can be truly viewed as a complete peace of mind for the employer and for the wearer!

Reflective tape tracing

A new development since the end of 2012 is that ROOTS insists on product traceability on the flame retardant reflective tape that we use. Every batch of reflective tape (a single batch is 100,000 meters) has a unique number that corresponds with a lab report that fully backs up the quality. It is not only the Flame Retardant properties that are tested, but also a washing test ensuring that the tape keeps its reflective properties after 50 washing cycles.

ROOTS is unique in this practice and is the only company that can give a detailed report on fabric and reflective tape.



We demand independent TESTING

ROOTS has partnered with independent laboratories, whom quality check our fabrics prior to every garment production. During every new batch of garments that we produce a sample of the used fabric is sent over for testing of the fabric.

Our partners are world-class leaders in fabric inspection, testing and certification and we are extremely proud to have built a partnership with such renowned organisations. Following independent testing, only then do we allow our fabrics to be released for garment production. Independent testing is carried out on top of our own laboratory testing and is in every colour that comes out of production. Most other manufacturers of Flame Retardant garments would be satisfied with only the internal laboratory reports available from the weaver.

Certified quality control

At ROOTS we value safety above all else when it comes to our products, it is people's lives that we can potentially save in the event of a catastrophe after all. We view our garments as a piece of safety equipment first and as corporate workwear second. This way of thinking demands a high level of quality and performance of our fabrics. This is why we feel that the

extra quality control of a certified third party is invaluable and pushes us to make our products even better still. This drive to keep improving has led us to create some of the best performing garments in the market with the lowest burn prediction, durability and high wearer comfort.

- The following tests are always carried out;
- Fabric flame retardancy after 50 washing /drying cycles.
 - Fabric shrinkage after 5 and 50 washing /drying cycles.
 - Fabric tear strength after 5 washing /drying cycles.
 - Fabric tensile strength after 5 washing /drying cycles.
 - pH value
 - Formaldehyde content
 - Colour fastness
 - Fabric weight

Unique in it's kind, product TRACEABILITY

During our fabric production process, we have implemented a world class quality control system. After every produced batch, all ROOTS fabrics are tested in independent laboratories for critical values such as tear strength, tensile strength, flame retardant properties, formaldehyde content and shrinkage. This is then identified by a unique number, which we call Cosort. This number is placed within the seam of every garment that we manufacture.

This method protects the unique Cosort number from flash fire flames along with garment wear and tear. This means that if anything were to happen to the garment we can trace the



How safe is YOUR GARMENT?

Our flame retardant and arc flash protective garments are renowned for their outstanding body burn wound results when exposed to a flash fire. We also use the same fabrics for our arc flash protection range because, in a way, this is also a burn wound prediction but from a different hazard source.

The goal of a burn injury prediction test combined with an open arc test is to seek prevention for wearers against 2nd-degree body burn injuries. However, the nature of both tests is completely different. The burn injury prediction test measures the level of protection of a fabric/garment during a 4-second flash fire at a temperature of approximately 1,000°C. The open arc test reveals the amount of energy measured in cal/cm2 that is needed to result in 2nd° burn injuries or the point at which a fabric breaks open. With an open arc test temperatures can go up above 19,000°C; with a duration of between 0.5 and 1.5 seconds. Apart from high temperature, the plasma from the melted stainless steel electrodes is also released onto the fabric.

The difference between the level of protection between the 2-layer solution (ATPV 26,8 cal/cm2) and the 3-layer solution (ATPV 51.9 cal/cm2) can be best described as remarkable, keeping in mind that there is not a genuine 3rd layer (FR underwear) with an own ATPV rating of 4.8 cal/cm2. This extra thin layer combined with the air gaps offers extra protection that is needed for a substantial increase in the total calorific rating result.



Body burn prediction on all garments

Burn injury predictions, according to the EN ISO 11612, are optional. However, it is mandatory to the American NFPA 2112 test method for 3 seconds. We have implemented this test method to all our garments but for 4 seconds.

Customers ask for garments conforming with EN ISO 11612 for instance. What few people are aware of is that it is already possible to get certification according to this standard after 5 cycles of washing and 5 cycles of drying, whereas the life cycle of the garment could easily reach 50 cycles of laundering. One needs to dig deeper into the technical files behind the certificate to obtain this important information. This is relevant information, because the use of FR chemicals is a significant part of the cost price for flame retardant fabrics. ROOTS EN ISO 11612 garments are certified against 50 cycles of washing and drying.

Some garment makers claim in their neck label, or in the instruction manual a 'Flame Retardancy for the life of the garment'. At ROOTS we feel that this is more than inaccurate, because EN ISO 11612 does not permit these claims. What is the life of the overalls? Is it 30 cycles, or 120 maybe? Claims like this give a false statement of safety; totally inappropriate for a last line of defence safety product.

EN ISO 11612, the standard for limited heat and flame spread, offers garment manufacturers the 'option' to test their garment on a manikin' during a 3 second flash fire. The test gives a skin burn prediction around the body whilst covered by a Flame Retardant garment. At ROOTS we realise that test is executed out on a coverall without contamination and being properly laundered, but at least it gives a reliable indication on the safety level one can expect from their FR garment.

% Area Burned	Age																	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	
53*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
58-52	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
63-57	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
78-82	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
73-77	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
68-72	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
63-67	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
58-62	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
53-57	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
48-52	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
43-47	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
38-42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
33-37	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
28-32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23-27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18-22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

0 = 0% probability of death .1 = 10% probability of death 1 = 100% probability of death Source: Major hazards monograph Thermal radiation: Physiological and pathological effects

For that reason, ROOTS takes this optional manikin test extremely seriously. ROOTS test every FR garment design for 4 seconds on a manikin and by doing so, this extra second generates an extra 30% of heat energy. ROOTS garments are tested independently and we provide all of our existing and potential customers with test results.

This diagram shows a burn wound mortality chart. It indicates the relation between burn wounds and age. For example. Age 47 with a burn area of 24% results in a probability of death of 20%.

Calorific ratings on all garments

Flash fires and arc flashes are the two main reasons for wearing flame retardant workwear. To truly know the level of protection that a garment can offer to these hazards it needs to be tested. ROOTS believes that an accurate test as close to a real catastrophe is the only way to truly know how safe a garment is. For flash fires, ROOTS does the manikin where we subject a garment to 4 seconds in a simulated flash fire which gives us a body burn prediction and thus how an accurate representation of how safe it is. As specialists in arc flash protection, ROOTS does the same for their garments with the box test (IEC 61482-1-2) and the open arc test (IEC 61482-1-1) on every single range.

BOX TEST CONFORMING TO IEC 61482-1-2

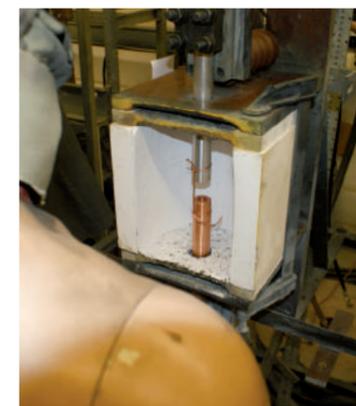
The box test is a global standard for arc protection. The box test is a very demanding test carried out with a small switch box in which a short circuit is enforced with the use of two electrodes, one aluminium and one copper.

THE BOX TEST STANDARD DEFINES TWO TESTING CONDITIONS, CLASS 1 AND CLASS 2

- Class 1 tests at an arc current of 4 kA and an arc duration of half a second (500 ms)
- Class 2 tests at an arc current of 7 kA and an arc duration of half a second (500 ms)

The box test gives out either a PASS or a FAIL as a result but does not give the value of incident energy which is usually expressed in a cal/cm2 also known as a calorific rating. It is a common misconception that the danger of arc flash is only limited to a high voltage; in fact, the real hazard lies with one of a high current.

Box ready for testing



Box after test



Object of test afterwards



Where the box test only states a PASS or a FAIL, the open arc test gives a calorific rating which is an excellent way to show the level of protection that wearers can expect from a garment, or from layered clothing systems.

Before a garment is tested and rewarded with an IEC 61482-2 standard, the fabric needs to be tested. The minimum requirement for achieving a calorific rating is a total of 7 shots across 3 different panels (see photos on the right), which means that a total of 21 pieces of fabric are tested. After the fabrics are tested, the next stage is a garment test before the certificate and rating can be rewarded. Note that a fabric with an ATPV or EBT rating below 4.0 cal/cm2 results in an automatic fail and therefore cannot be certified.

Electric arc rating can result if two types:

- **ATPV** - This is a 50% probability of second-degree burn wound in the 8 kA test on a flat panel
- **EBT** - This the 50% probability of a 1" crack in the material in the 8 kA test on a flat panel.



For women in the industry, **THE PERFECT FIT**

At ROOTS, our customers' trust means everything to us. We will never stop working to earn and maintain it through the development of garments that guarantee best in class safety performance for its wearer. No matter size or gender, our products provide you with comfortable flash fire and arc flash protection.

Due to the lack of proper fitting women's garments, we noticed ladies being tempted to purchase small-sized men's workwear as a compromise which leads to poorly fitted workwear – something that can be exceptionally hazardous in the workplace. The problem with oversized clothing is that it often leads to accidents whereby clothing is rolled up around the legs or sleeves. This easily gets trapped around machinery.

This acknowledgement empowered our designers to craft a selection of female fit range that's worn in all industries: e.g. offshore, rail, utility, transport and construction. Based on our experience and brand loyal users around the globe, we invited women from all kinds of industries to work together with us to find the perfect fit. Designs are meticulously tailored to the women's feedback ensuring comfortable, reliable, practical and, above all, a true ladies' fit.

More and more ranges ladies fit

Unlike other flame retardant workwear manufacturers, we have been committed to providing protective garments to all. This is especially evident in the special-sizing, -fits and tailoring options we offer. Our first ladies fit coverall dates back a few years. This strong commitment drives us to continue adding ladies fit garments in all our product ranges. Our latest true ladies fit coverall is the Textreme Hi-Vis ladies coverall, which is certified to 100 industrial washing cycles!

*Also available
in men's sizing!*

Our first ladies fit coverall dates back a few years and one of our latest is the Textreme Hi-Vis ladies coverall.

Key features:

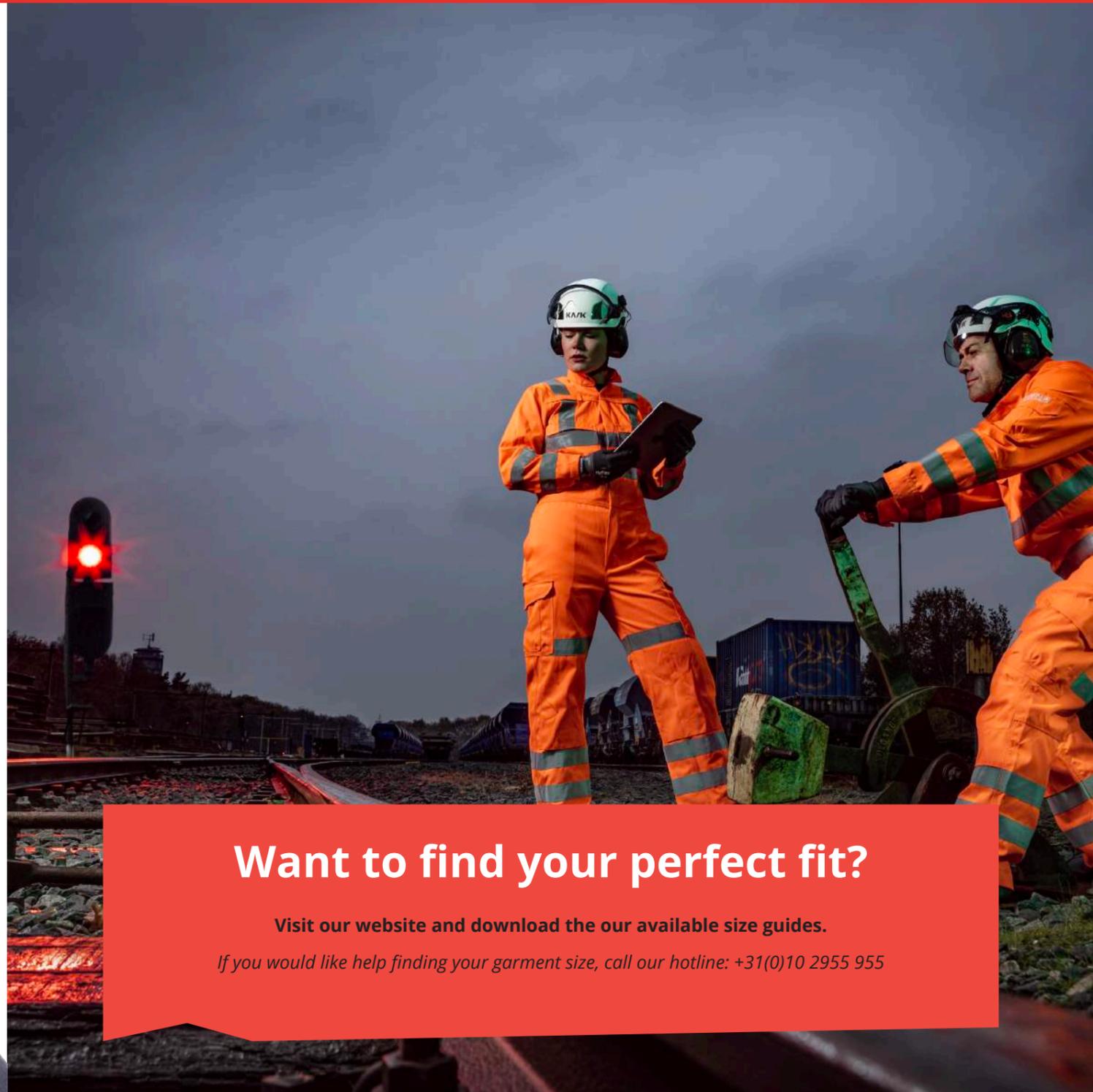
- A true ladies fit
- Certified for 100 washing cycles
- Extremely visible - conforms to RIS-3279-TOM

ARC 2 protection level:

- ATPV of 9.1 cal/m²
- Reaches an ARC rating of 31.8 cal/cm² when combined with our ROOTS baselayer underwear (ROPB1000 & ROPB2000)!

Body burn prediction:

- 2nd & 3rd degree burns: 13,7%



Want to find your perfect fit?

Visit our website and download the our available size guides.

If you would like help finding your garment size, call our hotline: +31(0)10 2955 955



Got a buzzing question?

Get in contact with our Customer Service.

Call our hotline: +31(0)10 2955 955

or send us a message at info@roots-original.com

NORMS & STANDARDS

EN 343:2003

Protective clothing - Protection against rain and foul weather



This European Standard specifies requirements and test methods applicable to materials and seams of protective clothing against the influence of precipitation (e. g. rain, snowflakes), fog and ground humidity.

The testing of rain proofness of ready made garments is excluded in this standard at this time because a separate test method for such a property is currently being prepared.

(EN 343 is the European standard for protective clothing against rain (snowflakes, fog and ground humidity.) Two values (X-X) are indicated in the description of the EN 343 standard. Both scales values range from 1-3, where 3 is the highest class. The first X indicates waterproof rating and the second X indicates the material's ability to conduct moisture and sweat away of the body.)

EN ISO 20471:2013

High visibility clothing - Test methods and requirements



This International Standard specifies requirements for high visibility clothing which is capable of visually signalling the user's presence. The high visibility clothing is intended to provide conspicuity of the wearer in any light condition when viewed by operators of vehicles or other mechanized equipment during daylight conditions and under illumination of headlights in the dark. This International Standard is not applicable to medium-risk and low-risk situations.

Performance requirements are included for colour and retroreflection as well as for the minimum areas and for the placement of the materials in protective clothing.

EN 1149-5:2008

Protective Clothing - Electrostatic Properties - Part 5: Material Performance And Design Requirements



This International Standard specifies the performance requirements for the limited flame spread properties of all materials, all material assemblies, and protective clothing in order to reduce the possibility of the clothing burning when in occasional and brief contact with small flames and thereby constituting a hazard.

Additional requirements for clothing are also specified, including design requirements, mechanical requirements, marking, and information supplied by the manufacturer.

When protection against heat hazards is necessary, in addition to protection against flame, this International Standard is not appropriate. International Standards such as ISO 11612 are to be used instead.

A classification system is given for materials, material assemblies, and garments which are tested according to ISO 15025, Procedure A.

EN 13034:2005

Protective clothing against liquid chemicals - Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals



This document specifies the minimum requirements for limited use and re-useable limited performance chemical protective clothing. Limited performance chemical protective clothing is intended for use in cases of a potential exposure to a light spray, liquid aerosols or low pressure, low volume splashes, against

which a complete liquid permeation barrier (at the molecular level) is not required.

This document covers both chemical protective suits (Type 6) and partial body protection (Type PB [6]). Chemical protective suits (Type 6) cover and protect at least the trunk and the limbs, e.g. one-piece coveralls or two piece suits, with or without hood, boot-socks or boot-covers. This document specifies minimum requirements for the connections between different parts of Type 6 suits by the use of a reduced whole suit spray test.

Partial body protection of similar limited performance (Type PB [6]) covers and protects only specific parts of the body, e.g. coats, aprons, sleeves etc. They should not be tested to the whole suit test.



Questions?

Get in contact with our QHSE & CSR department.

Call our hotline: +31(0)10 2955 955

or send us a message at QHSE@roots-original.com

EN ISO 11611:2015

Protective Clothing For Use In Welding And Allied Processes



This European Standard specifies requirements for protective clothing capable of signalling the user's presence visually, intended to provide conspicuity of the user in hazardous situations under any light conditions by day and under illumination by vehicle headlights in the dark. On all garments the retro-reflective tape must not be less than 50mm wide.

THE EN 471 STANDARD HAS 3 CLASSES:

Class 1

Minimum level of protection required for any persons working on a private road or to be used in conjunction with a higher classed garment. Must incorporate a minimum of 0.14m² of background material and 0.10m² of retroreflective materials.

Class 2

Required for any persons working on or near A and B class roads, also for delivery drivers. Must incorporate a minimum of 0.50m² of background material and 0.13m² of retroreflective materials.

Class 3

Highest level of protection - required for any persons working on or near motorways or dual-carriageways or airports. Must incorporate a minimum of 0.80m² of background material and 0.20m² of retro-reflective materials.

EN ISO 11612:2015

Protective clothing - Clothing to protect against heat and flame - Minimum performance requirements



This document specifies the minimum requirements for limited use and re-useable limited performance chemical protective clothing. Limited performance chemical protective clothing is intended for use in cases of a potential exposure to a light spray, liquid aerosols or low pressure, low volume splashes, against

which a complete liquid permeation barrier (at the molecular level) is not required.

This document covers both chemical protective suits (Type 6) and partial body protection (Type PB [6]). Chemical protective suits (Type 6) cover and protect at least the trunk and the limbs, e.g. one-piece coveralls or two piece suits, with or without hood, boot-socks or boot-covers. This document specifies minimum requirements for the connections between different parts of Type 6 suits by the use of a reduced whole suit spray test.

Partial body protection of similar limited performance (Type PB [6]) covers and protects only specific parts of the body, e.g. coats, aprons, sleeves etc. They should not be tested to the whole suit test.

EN ISO 14116-2015

Protective Clothing - Protection Against Flame



This International Standard specifies the performance requirements for the limited flame spread properties of all materials, all material assemblies, and protective clothing in order to reduce the possibility of the clothing burning when in occasional and brief contact with small flames and thereby constituting a hazard.

Additional requirements for clothing are also specified, including design requirements, mechanical requirements, marking, and information supplied by the manufacturer.

When protection against heat hazards is necessary, in addition to protection against flame, this International Standard is not appropriate. International Standards such as ISO 11612 are to be used instead.

A classification system is given for materials, material assemblies, and garments which are tested according to ISO 15025, Procedure A.

IEC 61482-2:2009

Live working - Protective clothing against the thermal hazards of an electric arc - Part 2: Requirements



IEC 61482-2:2009 is applicable to protective clothing used in work if there is an electric arc hazard. Specifies requirements and test methods applicable to materials and garments for protective clothing for electrical workers against the thermal hazards of an electric arc based on:

- Relevant general properties of the textiles, tested with selected textile test methods, and
- Arc thermal resistance properties, such as:
 1. The arc rating of materials (ATPV or EBT50), when tested with an open electric arc under defined laboratory conditions according to IEC 61482-1-1
 2. The arc protection class of materials and garments (Class 1 or Class 2), when tested with a directed and constrained electric arc under defined laboratory conditions according to IEC 61482-1-2.

Requirements of this standard do not address electric shock hazards.

Visit roots-original.com
for more information on Norms & Standards!



THIS IS FOR THE WORKING CLASS HEROES.

Some people may not believe in heroes, but truth of the matter is that heroes are amongst us all. Heroes are the ones who do what has to be done when it needs to be done, taking control in hazardous situations to ensure everyone will come home safe. They're the ones who reach for the stars when times are dark. You may find a hero within yourself or see someone else blaze a trail.

Heroes empower others to become a hero too.

Because we can all be heroes.

www.heroesofroots.com

#HeroesofROOTS

Visit www.heroesofroots.com to share your story.

Ricardo Santillan

Rob Vader

Rob, Tunisia

Simon Chalv





Introducing the all-new **FLAMEBUSTER2**

Ever since the birth of ROOTS in 2004, we have continuously strived to offer the best in class coverall on offer in the marketplace and educated our end-user clients on correct garment maintenance along the way. The ROOTS coverall became known as Flamebuster.

Now, we see the results of our hard work.

Both operators, as well as contractors, nowadays recognise the importance of a good laundry program on oil rigs, platforms and vessels. But more importantly, the quality of the product has increased over the past 15 years.

Starting as a newcomer in the oil & gas market, ROOTS is now one of the leading brands in every major industry. Even in such a way that other brands are simply forced to upgrade their product ranges.

The unique selling points with which ROOTS started over 15 years ago are now generally available. This is good news, especially for your essential workforce. But 15 years on, it is now time for the next major step.

Why? Because this is our pledge as described in our mission statement.



Designed for performance

At ROOTS, our customers' trust means everything to us. We will never stop working to earn and maintain it through the development of garments that guarantee best in class safety performance for its wearer. No matter size or gender our products provide you comfortable Arc Flash protection.

We redesigned all basic characteristics for a coverall that we have learnt from the original Flamebuster and heard from our loyal customer base. Together with them we enhanced the overall design and fit.

New shoulder construction with possibility to wear shoulder pads. In order to increase comfort we removed the shoulder seam. Most of our wearers use safety harnesses. A shoulder seam is a pressure point that could irritate the skin underneath, or do even more harm when things like scaffolders pipes are carried on the shoulder. As a separate item ROOTS designed two types of shoulder pads in order to get the maximum benefit from this new construction.

RO8008



KNEE PAD CONSTRUCTION
The standard-fitted 2-tier knee allowing wearers to place ROOTS knee pads 2 inches down for more comfort.

RO8010



SHOULDER CONSTRUCTION
The new shoulder construction allowing insertion of our perforated and non-perforated shoulder pads for more comfort and protection against injury.



FULLY NON METALLIC
Non-metallic studs and not metallic zips for more comfort and durability. The non-spark nylon spiral zip design puts an end to broken zip teeth.



ELASTICATED WAISTBAND
New elasticated waistband construction allowing the wearer a free range of motion and more comfort.

Protection against electric arc

The move towards calorific ratings.

In the world of protective clothing, European and American standards are becoming more harmonised. A very good example for this is the open arc test method and standard. The open arc test is a very welcome extension to the palette of safety standards for workwear - especially for protection against electric arc.

The open arc test gives a calorific rating to the level of protection that wearers can expect from a garment, or from layered clothing systems. The minimum requirement for achieving a calorific rating is a total of 7 shots on 3 different panels (see photograph of test cradle), which means that in

total 21 pieces of fabric are tested. After the fabric test, the next stage is a garment test before the certificate and rating can be rewarded. Note; fabric rating below 4.0 cal/cm² ATPV or EBT results automatically in a fail and cannot be certified

Electric arc rating can be of two types:

1. ATPV; This is 50% probability of second degree burn wound in the 8 kA test on a flat panel;
2. EBT; This is the 50% probability of a 1" crack in the material in the 8kA test on a flat panel.

ATPV (Arc Thermal Performance Value) is defined as the arc energy required causing the onset of second-degree burn and is represented in calories per square centimetre (cal/cm²). This rating is the result of the testing procedure that measures the amount of thermal protection an FR fabric would give a wearer if the person were exposed to an electric arc. Alternatively, the material may have an EBT (Energy Break-open Threshold) rating. EBT is defined as the average of the 5 highest incident energy exposure values below the Stoll curve where the specimen did not exhibit break-open. EBT is reported when ATPV cannot be measured due to the FR fabric breaking open.



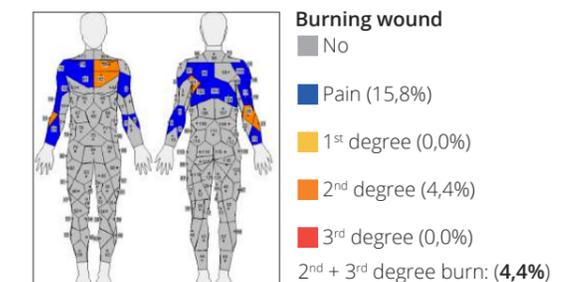
Body burn prediction

EN ISO 11612, the standard for limited heat and flame spread, offers garment manufacturers the 'option' to test their garment on a manikin during a 3-second flash fire. The test gives a skin burn prediction around the body whilst covered by a Flame Retardant garment. In general - hardly any manufacturer of FR garments bothers because it is not a mandatory test.

At ROOTS we strongly believe that the 'normal' EN ISO 11612 A1 or A2 test is a very basic test to validate FR fabrics, but without giving any prediction on how fabrics would perform during an actual flash fire.

For that reason, ROOTS takes this optional manikin test extremely seriously. ROOTS test every FR garment design for 4 seconds on a manikin and by doing so, this extra second generates an extra 30% of heat energy. ROOTS garments are tested independently by a certified testing institute and we provide all of our existing and potential customers with the test results.

A 0% body burn prediction is the goal that ROOTS is continuously working to achieve but one that is simply not yet able to be met even with today's technology and knowledge. However, with the exceptional Flamebuster2 body burn prediction of 4.4%, we are coming very close indeed. Most blended fabrics that incorporate polyester do not even come close to these results; even the majority of 100% cotton fabrics would have lesser results.



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

Product traceability

During our fabric production process, we have implemented a world class quality control system. After every produced batch, all ROOTS fabrics are tested in our laboratory for critical values such as tear strength, tensile strength, flame retardant properties, formaldehyde content and shrinkage. This is then identified by a unique number, which we call Cosort. This number is placed within the seam of every garment which we manufacture. This method protects the unique Cosort number from flash fire flames along with garment wear and tear.

For this very reason, Cosort can be truly viewed as a complete peace of mind for the employer and the wearer! ROOTS has partnered with independent laboratories, who quality check our fabrics prior to every garment production. Our partners are world class in fabric inspection, testing and certification and we are extremely proud to have built partnerships with such renowned organisations.

Following independent testing, only then do we allow our fabrics to be released for garment production. Independent testing is carried out on top of our own laboratory testing and is on every colour that comes out of production. Most other manufacturers of FR garments would be satisfied with only the internal laboratory reports available from the weaver.

The following tests are always carried out with respect of the Flamebuster2 fabric;

- Fabric shrinkage after 5 cycles washing at 75°C and tunnel drying at 155°C (industrial laundry demand) + 45 washing cycles at 75°C and tumble drying at 80°C. This demanding tests; in fact going beyond offshore reality has never been witnessed for O&G coveralls.
- Fabric flame retardancy after the above mentioned 50 washing /drying cycles.
- Fabric tear strength after 5 washing /drying cycles.
- Fabric tensile strength after 5 washing /drying cycles
- pH value
- Formaldehyde content
- Colour fastness
- Fabric weight

If the shrinkage after 5 cycles is +3% ROOTS rejects the fabric;

If flame retardant properties fail after 50 cycles of washing/ drying ROOTS rejects the fabric. If tear and tensile strength are outside the strict ROOTS demands, the fabric is rejected.



So what is the big deal?

With the launch of the Flamebuster2, we have also introduced our fabric 80% cotton + 19% polyester + 1% antistat. So what? Every respectable and not so respectable weaver nowadays has a blend like this, cotton rich 80-20.

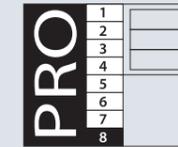
The difference in performance and quality between the ROOTS 80-20 and any other fabric in the market is in fact incomparable. If making an ultra-high performance fabric would only lean on the blend of 80% cotton and 20% polyester into a yarn,...job done, ROOTS would never make such a big deal out of it. The fact is that the entire chain, in order to produce this fabric, from fibres, spinning, construction, weaving, mercerising and sanforising... every phase is 'special' and different from what is regarded as 'normal'.

All of this to get to the real secret of this ROOTS masterpiece of fabric, which is the extremely high density. The result of this high-density fabric is not only a superior shrinking performance but also providing fantastic safety and comfort. Just like the customer would expect from our company.

LESS SHRINKAGE + MORE DURABILITY + SUSTAINABILITY

The Flamebuster2 coverall has the lowest shrinkage percentage in the industry. ROOTS Flamebuster2 passes the demanding EN ISO 15797 Industrial Laundry test. This test requires a shrinkage of less than 3% after 5 cycles of washing at 75°C and with a tunnel drying temperature set at 155°C. Take into account that every other coverall in today's market has a maximum washing temperature of 60°C, followed by a drying temperature of 50°C. The new Flamebuster 2 Fabric also conforms to the very demanding Öko-Tex Standard 100 certificate.

Now this is what we would call the 'normal' wash instruction for any FR treated garment, asking customers to wash at 60°C and dry at 50°C. In real life coveralls are boil washed and often dried at temperatures of 80°C.



This is the laundry instruction for the Flamebuster2. Washing at 75°C and drying at 155°C conforming the most demanding industrial laundry standard.



Got a buzzing question?

Get in contact with our QHSE & CSR department.

Call our hotline: +31(0)10 2955 955

or send us a message at QHSE@roots-original.com



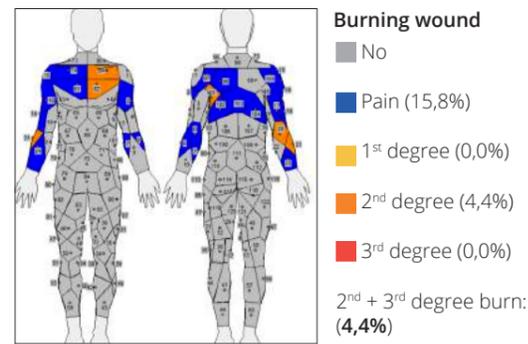
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2 10.2 cal/m² <small>Above shown is the ATPV value.</small>	BODY BURN INJURY PREDICTION 4.4% <small>Body burn prediction of 2nd degree burns.</small>
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EN SAFETY STANDARDS

EN 1149-5:2008	EN ISO 11612:2008 A1 B1 C2 D0 E0 F1 (A1=50 washing cycles)	IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1
ISO 6330:2012 60°C	ISO 15797:2002 75°C	

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
Product code	Sizing
RO28095	UK 34 - UK 62 EU 44 - EU 72
Fabric weight	Inside leg length
Coverall: 320 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

Triple stitched	YKK center zipper	Rule pocket on right leg
Visible safety standards	8 pockets	Elasticated waist

FEATURES & BENEFITS

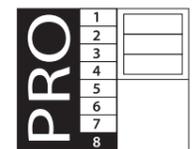
- Flame retardant retroreflective tape > Stay visible in any situation
 - Fully non-metallic > Virtually indestructible, more suited for laundry
 - Central YKK zipper > Durable and easy to open and close
 - 2 chest pockets with YKK zip > Double storage space
 - 2 Side pockets with trouser access > Double leg storage
 - 2 Back pockets > Easy access storage
 - 2 Radio / gas detector loops > Keep your instruments within reach
 - Pen pocket on left sleeve > Keep your pen in place
 - Rule pocket on right leg > Convenient space for a rule
 - 2-tier knee pad pockets > Tightly secure your knee pads
 - Possibility to place shoulder pads > Lessen the strain on the shoulders
- The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).*

FABRIC INFORMATION

Fabric composition	
FLC320 - 80% cotton / 19% polyester / 1% antistatic	
Fabric weight	FR Fabric Type
320 g/m ²	Treated
Additional certification	Logo
 Oeko-Tex® CONFIDENCE IN TEXTILES STANDARD 100 SHW0 093104 TESTEX <small>Tested for harmful substances. www.oeko-tex.com/standard100</small>	Certified for logo applications
<small>1. Oeko-Tex Standard 100 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection) Please visit www.roots-original.com/certificates to download all relevant certificates.</small>	

Product care instructions

- To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.
- Always launder with coverall zippers closed.
 - Remove all tools from pockets.
 - Rinse properly after wash.
 - Never wash FR treated clothing with detergents containing bleach.
 - Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8012 - Shoulder pads
 Pair of rubber foam perforated shoulder pads.



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



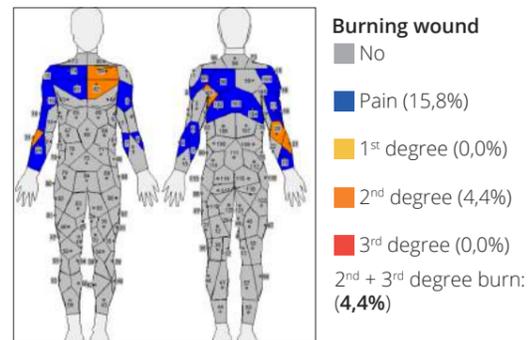
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2 10.2 cal/m² <small>Above shown is the ATPV value.</small>	BODY BURN INJURY PREDICTION 4.4% <small>Body burn prediction of 2nd + 3rd degree burns.</small>
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EN SAFETY STANDARDS

EN 13034:2005 A1:2009 Type 6	EN 1149-5:2008	EN ISO 11611:2015 A1 A2 Class 2
EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1 (A1=50 washing cycles)	IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1	ISO 6330:2012 60°C
ISO 15797:2002 75°C		

Body burn injury prediction



Above shown body burn scores are without FR underwear.
 Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Red
- Orange
- Royal

Product code	Sizing
RO23095	UK 34 - UK 64 EU 44 - EU 74
Fabric weight	Inside leg length
Coverall: 320 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

Treated fabric	2 Radio loops	Possibility for shoulder pads
Triple stitched	Non metallic YKK zippers	Reflective elements
Visible safety standards	8 pockets	Elasticated waist

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Fully non-metallic > Virtually indestructible materials
- Central zipper > Easy to open and close
- 2 Chest pockets with zip > Double storage space
- 2 Back pockets with flap > More storage
- 2 Side pockets with trouser access > Easy access
- Rule pocket on right leg > Always space for a ruler
- Pen pocket with flap on left sleeve > Keep a pen on you at all times
- 2 radio / gas detector loops > Keep your instruments within reach
- 2 tier knee pockets > Place for your kneepads
- Possibility to place shoulder pads > Less strain on the shoulders
- Non-metallic YKK zippers > Durable for long time use

The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).

FABRIC INFORMATION

Fabric composition

FLC320 - 80% cotton / 19% polyester / 1% antistatic

Fabric weight

320 g/m²

FR Fabric Type

Treated

Additional certification

1. Oeko-Tex Standard 100
 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Logo

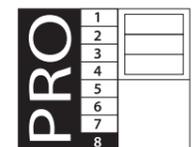
Certified for logo applications

Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash FR treated clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8012 - Shoulder pads
 Pair of rubber foam perforated shoulder pads.



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



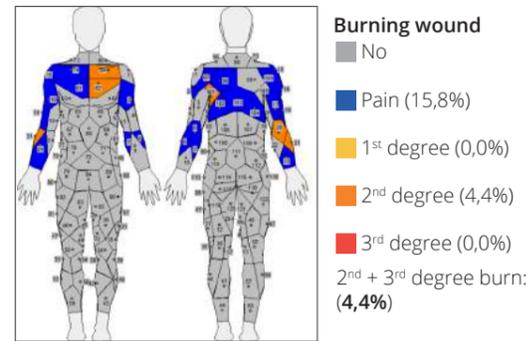
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2 10.2 cal/m² <small>Above shown is the ATPV value.</small>	BODY BURN INJURY PREDICTION 4.4% <small>Body burn prediction of 2nd + 3rd degree burns.</small>
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EN SAFETY STANDARDS

EN 13034:2005 A1:2009 Type 6	EN 1149-5:2008	EN ISO 11611:2015 A1 A2 Class 2
EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1 (A1=50 washing cycles)	IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1	ISO 6330:2012 60°C
ISO 15797:2002 75°C		

Body burn injury prediction



Above shown body burn scores are without FR underwear.
 Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours			
Product code	Sizing		
RO23095	UK 34 - UK 64 EU 44 - EU 74		
Fabric weight	Inside leg length		
Coverall:	320 g/m ²	Short:	29"
Winter liner:	140 g/m ²	Regular:	31"
		Tall:	33" (standard size)

KEY FEATURES

Treated fabric	2 Radio loops	Possibility for shoulder pads
Triple stitched	Non metallic YKK zippers	Reflective elements
Visible safety standards	8 pockets	Elasticated waist

Comes with Winter Liner!

FABRIC INFORMATION

Fabric composition	
FLC320 - 80% cotton / 19% polyester / 1% antistatic Treated FR - 100% polyester	
Fabric weight	FR Fabric Type
320 g/m ² + 140 g/m ²	Treated
Additional certification	Logo
	Certified for logo applications
1. Oeko-Tex Standard 100 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection) <small>Please visit www.roots-original.com/certificates to download all relevant certificates.</small>	

Related products

	RO8012 - Shoulder pads Pair of rubber foam perforated shoulder pads.		RO8008 - Kneepads Pair of foam ROOTS knee pads for extra comfort.
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FEATURES & BENEFITS

- Winter liner** > Defy cold weather
- Flame retardant retroreflective tape** > Stay visible in any situation
- Fully non-metallic** > Virtually indestructible materials
- Central zipper** > Easy to open and close
- 2 Chest pockets with zip** > Double storage space
- 2 Back pockets with flap** > More storage
- 2 Side pockets with trouser access** > Easy access
- Rule pocket on right leg** > Always space for a ruler
- Pen pocket with flap on left sleeve** > Keep a pen on you at all times
- 2 radio / gas detector loops** > Keep your instruments within reach
- 2 tier knee pockets** > Place for your kneepads
- Possibility to place shoulder pads** > Less strain on the shoulders
- Non-metallic YKK zippers** > Durable for long time use

The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash FR treated clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.

Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



TICKING ALL BOXES

**PROTECTION LEVEL:
 ARC 2**
10.2 cal/cm²

Above shown is the ATPV value.

**BODY BURN INJURY
 PREDICTION**
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005
 A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015
 A1 A2 Class 2



EN ISO 11612:2015
 A1 A2 B1 C2 D0 E3 F1
 (A1=50 washing cycles)



IEC 61482-2:2009
 ATPV 10.2 cal/cm²
 Class 1

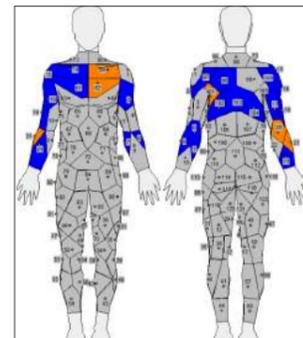


ISO 6330:2012
 60°C



ISO 15797:2002
 75°C

Body burn injury prediction



Burning wound

- No
- Pain (15,8%)
- 1st degree (0,0%)
- 2nd degree (4,4%)
- 3rd degree (0,0%)
- 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Red
- Orange
- Royal

Product code

RO23190

Sizing

UK 36 - UK 58
 EU 46 - EU 68

Fabric weight

Jacket: 320 g/m²

KEY FEATURES



Treated FR fabric



2 front pockets with velcro



Central zipper



2 radio / gas detector loops



Possibility to place shoulder pads



Flame retardant retroreflective tape



Visible safety standards



5 pockets

FABRIC INFORMATION

Fabric composition

FLC320 - 80% cotton / 19% polyester / 1% antistatic

Fabric weight

320 g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

Flame retardant retroreflective tape > Stay visible in any situation

Fully non-metallic > Durable non-metallic alternative. Virtually indestructible materials and more suited for laundry environments

Central zipper > Easy to open and close

2 Front pockets with velcro > Double the storage within close reach

2 Radio/gas detector loops > Keep your instruments within reach

Pen pocket on left sleeve > Keep an easily reachable pen on you

Possibility to place shoulder pads > Lessen the strain on the shoulders, extra comfort for scaffolders

Non-metallic YKK zippers > Durable for long time use

The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).

Related products



**RO23295
 Flamebuster2 Nordic
 trousers** with limited chemical splash



RO8012 - Shoulder pads
 Pair of rubber foam perforated shoulder pads.

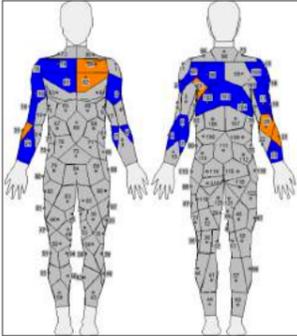
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
10.2 cal/cm²	4.4%
<small>Above shown is the ATPV value.</small>	<small>Body burn prediction of 2nd + 3rd degree burns.</small>

EN SAFETY STANDARDS

 EN 13034:2005 A1:2009 Type 6	 EN 1149-5:2008	 EN ISO 11611:2015 A1 A2 Class 2
 EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1 (A1=50 washing cycles)	 IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1	 ISO 6330:2012 60°C
 ISO 15797:2002 75°C		

Body burn injury prediction

	Burning wound
	■ No
	■ Pain (15,8%)
	■ 1 st degree (0,0%)
	■ 2 nd degree (4,4%)
	■ 3 rd degree (0,0%)
2nd + 3rd degree burn: (4,4%)	

Above shown body burn scores are without FR underwear.
 Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
 Navy	 Red
 Orange	 Royal
Product code	Sizing
RO23295	UK 30 - UK 48 EU 46 - EU 68
Fabric weight	
Trousers:	320 g/m ²

KEY FEATURES

 Treated FR fabric	 Central zipper	 Triple stitched
 Ruler pocket on right leg	 4 pockets	

FEATURES & BENEFITS

- Flame retardant retroreflective tape** > Stay visible in any situation
- Fully non-metallic** > Durable non-metallic alternative. Virtually indestructible materials and more suited for laundry environments
- 2 Side pockets** > Double the storage space
- No trouser access** > No trouser access
- 2 back pockets with flaps** > Ambidextrous rear storage space
- Ruler pocket on right leg** > Always space for a ruler
- 2-tier knee pockets** > Place for your kneepads
- Non-metallic YKK zippers** > Durable for long time use

The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).

FABRIC INFORMATION

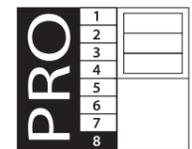
Fabric composition	FLC320 - 80% cotton / 19% polyester / 1% antistatic
Fabric weight	320 g/m ²
Additional certification	 1. Oeko-Tex Standard 100 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)
FR Fabric Type	Treated
Logo	Certified for logo applications

Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash FR treated clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO23190
 Flamebuster2 Nordic Jacket
 with limited chemical splash



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
 For use with ROOTS trousers for improved fit without compromising protection.



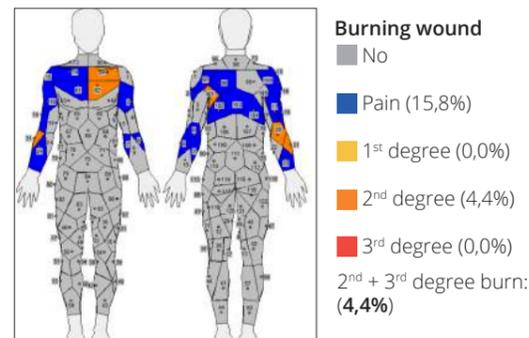
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
10.2 cal/m²	4.4%
<small>Above shown is the ATPV value.</small>	<small>Body burn prediction of 2nd + 3rd degree burns.</small>

EN SAFETY STANDARDS

EN 13034:2005 A1:2009 Type 6	EN 1149-5:2008	EN ISO 11611:2015 A1 A2 Class 2
EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1 (A1=50 washing cycles)	IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1	ISO 6330:2012 60°C
ISO 15797:2002 75°C		

Body burn injury prediction



Above shown body burn scores are without FR underwear.
 Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

Yellow/Navy Yellow/Red

Product code	Sizing
RO23099	UK 36 - UK 60 EU 46 - EU 70
Fabric weight	Inside leg length
Coverall: 320 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

Treated fabric	2 Radio loops	Reflective elements
Triple stitched	Non metallic YKK zippers	Visible safety standards
8 pockets		

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Fully non-metallic > Virtually indestructible materials
- Central zipper > Easy to open and close
- 2 Chest pockets with zip > Double storage space
- 2 Back pockets > More storage
- 2 Side pockets with trouser access > Easy access
- Pen pocket on left sleeve > Keep a pen on you at all times
- Non-metallic YKK zippers > Durable for long time use

The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).

FABRIC INFORMATION

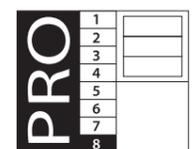
Fabric composition	FLC320 - 80% cotton / 19% polyester / 1% antistatic
Fabric weight	320 g/m ²
FR Fabric Type	Treated
Additional certification	
Logo	Certified for logo applications

1. Oeko-Tex Standard 100
 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)
 Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash FR treated clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



Non-metallic zipper in combination with non-metallic press studs

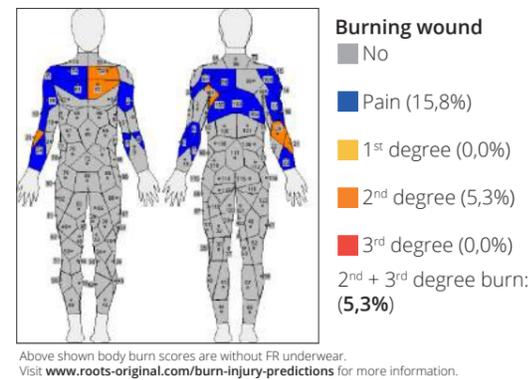
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
10.2 cal/m²	5.3%
Above shown is the ATPV value.	Body burn prediction of 2 nd degree burns.

EN SAFETY STANDARDS

 EN 13034:2005 A1:2009 Type 6	 EN 1149-5:2008	 EN ISO 11611:2015 A1 A2 Class 2
 EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1	 IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1	

Body burn injury prediction



QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Red ■ Orange ■ Royal

Product code	Sizing
RO23065	UK 36 - UK 60 EU 46 - EU 70
Fabric weight	Inside leg length
Coverall: 320 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

 Treated FR fabric	 Knee pad pockets	 Triple stitched
 2 Radio loops	 elasticated waist	 Visible safety standards
 Rule pocket on right leg	 9 pockets	

FEATURES & BENEFITS

- Central press stud closure > Secure closure
- 2 Large chest pockets with flap > Easy to access storage space
- 2 Radio/gas detector loops > Keep your instruments within reach
- Knee pockets > Tightly secure your knee pads
- Two side pockets with flap > Easy trouser access
- Rule pocket on right leg > Always space for a rule
- Adjustable elasticated waist > Adjust for the perfect fit
- Non-metallic YKK zippers > Durable for long time use
- Garment fit for industrial laundry > ISO 15797 - 75°C
- Garment fit for domestic laundry > ISO 6330 - 60°C

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification

1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Logo

Certified for logo applications

Please visit www.roots-original.com/certificates to download all relevant certificates.

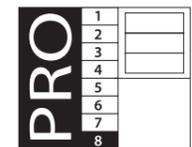
Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash FR treated clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.

Non-metallic zipper in combination
with non-metallic press studs



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
10.2 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 2

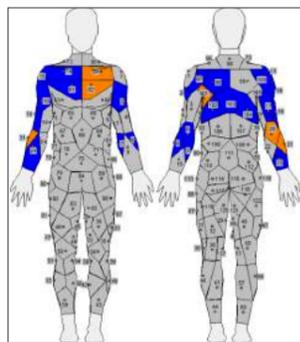


EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 10.2 cal/cm²
Class 1

Body burn injury prediction



Burning wound

- No
 - Pain (15,8%)
 - 1st degree (0,0%)
 - 2nd degree (4,4%)
 - 3rd degree (0,0%)
- 2nd + 3rd degree burn:
(4,4%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Red
- Orange
- Royal

Product code

RO23160

Sizing

UK 36 - UK 60
EU 44 - EU 72

Fabric weight

Jacket: 320 g/m²

KEY FEATURES



Treated FR fabric



Concealed non-metallic YKK zip



Triple stitched



Radio loop



5 pockets

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- Central non-metallic zip > With press studs at the top
- 2 Chest pockets with flap > Easy to access storage space
- 1 Radio/gas detector loop > Keep your instruments within reach
- 2 Front pockets with flap > Extra front storage space
- Pen pocket on left sleeve > Always keep a pen on you
- Non-metallic YKK zippers > Durable for long time use
- Garment fit for industrial laundry > ISO 15797 - 75°C
- Garment fit for domestic laundry > ISO 6330 - 60°C

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO23265 - Basic Trouser
Flamebuster2 Basic trousers



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
10.2 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 2

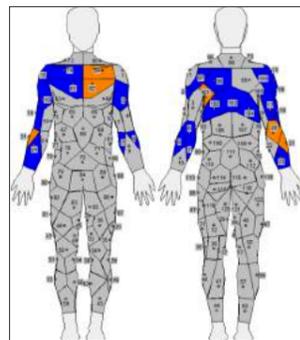


EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 10.2 cal/cm²
Class 1

Body burn injury prediction



Burning wound
■ No

■ Pain (15,8%)

■ 1st degree (0,0%)

■ 2nd degree (4,4%)

■ 3rd degree (0,0%)

2nd + 3rd degree burn:
(4,4%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Red ■ Orange ■ Royal

Product code

RO23265

Sizing

UK 28 - UK 44
EU 44 - EU 64

Fabric weight

Trousers:

320 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Treated FR fabric



Concealed non-metallic YKK zip



Triple stitched



Radio loop



6 pockets

FEATURES & BENEFITS

2 side pockets > Easy to access storage space

2 back pockets > With flaps and velcro for extra security

Rule pocket on right leg > Always keep a ruler on you

Knee pad pockets > Add extra comfort with knee pads

Non-metallic YKK zippers > Durable for long time use

Garment fit for industrial laundry > ISO 15797 - 75°C

Garment fit for domestic laundry > ISO 6330 - 60°C

FABRIC INFORMATION

Fabric composition

FLC320 - 80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing
UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.



Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



**RO23160
Basic Jacket**
Flamebuster2 Basic Jacket



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.



Reflective elements

TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
5.4 cal/cm²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN ISO 11612:2015
A1 A2 B1 C1 D0 E0 F1



EN 1149-5:2008



IEC 61482-2:2009
ATPV 5.4 cal/cm²

*Fabric weight:
 205 g/m²*

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Red ■ Orange ■ Khaki

Product code

RO28090ULW

Sizing

UK 34 - UK 60
 EU 44 - EU 70

Fabric weight

Coverall: 205 g/m²

Inside leg length

Short: 29"
Applicable for sizing:
 UK 34 - UK 38
 EU 44 - EU 48

Regular: 31"
Applicable for sizing:
 UK 40 - UK 52
 EU 50 - EU 62

Tall: 33"
Applicable for sizing:
 UK 54 - UK 60
 EU 64 - EU 70

*1" reflective tape
 for more comfort!*



Lightweight

KEY FEATURES



Treated FR fabric



Rule pocket



Triple stitched



Chest, back and side pockets



Central YKK zippers



Reflective elements



Lightweight



Visible safety standards



8 pockets

FEATURES & BENEFITS

Central zipper closure with press studs at the top > Easy to open and close

2 chest pockets with zip > Chest storage with easy access

2 back pockets > Double the storage space

2 side pockets with trouser access > Double leg storage with easy access

Rule pocket on right leg > Always space for a ruler

Pen pocket on left sleeve > Keep an easily reachable pen on you

Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320 - 80% cotton / 19% polyester / 1% antistatic

Fabric weight

205 g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Flamebuster2 essential accessoires

RO8012



PAIR OF SHOULDER PADS (RUBBER FOAM PERFORATED)

Perforated shoulder pads that give great comfort and more flexibility while also preventing shoulder injuries.

RO8010



PAIR OF SHOULDER PADS (PE/EVA NON-PERFORATED)

Gives great comfort and helps prevent shoulder injuries.

RO8008



PAIR OF KNEEPADS

Can be inserted into garments with knee pad pockets allowing for more comfort and protecting the knees.

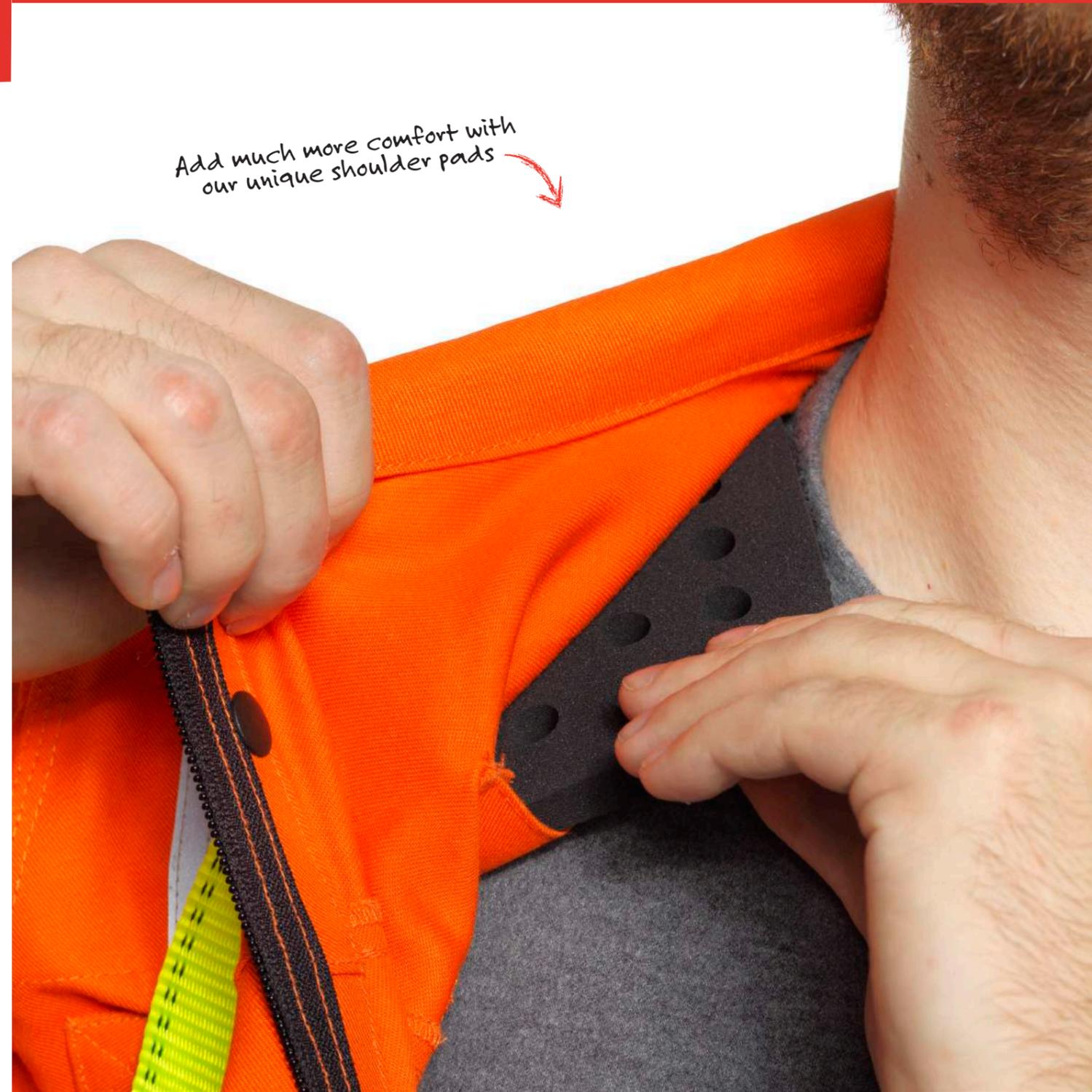
RO1507



ROOTS BELT

For use with ROOTS trousers for improved fit without compromising protection. Made from durable materials for great longevity.

Add much more comfort with our unique shoulder pads



Got a buzzing question?

Get in contact with our QHSE & CSR department.

Call our hotline: +31(0)10 2955 955

or send us a message at QHSE@roots-original.com



RO19095HV

Flamebuster Xtreme
Hi-Vis Coverall

PROTECTION

FLAME BUSTER



Inherent, comfortable and outstanding performance against electrical arc

FLAMEBUSTER XTREME

Taking into account the dangers of arc flashes and flash fires, modacrylic based fabrics offer acceptable levels of protection for both hazards.

"Flamebuster Xtreme combines comfort with protection"

The ROOTS Xtreme 310 offers an excellent wearing comfort. With the tensile strength and tear resistance that is unprecedented for such fabrics.

PROTECTION LEVEL: **ARC 2** **9.6 cal/m²**

Above shown is the EBT50 value.





Highly visible



Double radio loops



Knee pad pockets

TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
9.6 cal/m²

Above shown is the EBT50 value.

BODY BURN INJURY PREDICTION
14.9%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 471:2003
+ A1:2007 3/2



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 1



EN ISO 11612:2008
A1 B1 C1 D0 E1 F1

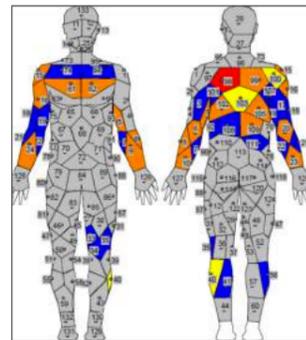


IEC 61482-2:2009
EBT50 9.6 cal/cm²
Class 1



EN 13034:2005
A1:2009 Type 6

Body burn injury prediction



Burning wound

- No
 - Pain (16,7%)
 - 1st degree (2,6%)
 - 2nd degree (14,0%)
 - 3rd degree (0,9%)
- 2nd + 3rd degree burn:
(14,9%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/urn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Hi-vis Yellow/Navy

Product code

RO19095HV

Sizing

UK 36 - UK 64
EU 46 - EU 74

Fabric weight

Coverall: 310 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Inherent FR fabric



Highly visible



Triple stitched



Knee pad pockets



Non metallic YKK zippers



Radio loops



Visible safety standards



8 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed nylon central zip > Sturdy and non metallic
- 2 Large chest pockets with zip > Double the storage space
- 2 Back pockets > Ambidextrous rear storage space
- 2 Side pockets with trouser access > Easy to access
- 2 Radio / gas detector loops > Keep your instruments within reach
- Pen pocket on left sleeve > Keep your pen in place
- Rule pocket on right leg > Always space for a ruler
- Knee pad pockets > Place for your kneepads
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight

310 g/m²

FR Fabric Type

Inherent

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
9.6 cal/m²

Above shown is the EBT50 value.

BODY BURN INJURY PREDICTION
14.9%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 471:2003
+ A1:2007 2/2



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 1



EN ISO 11612:2008
A1 B1 C1 D0 E1 F1

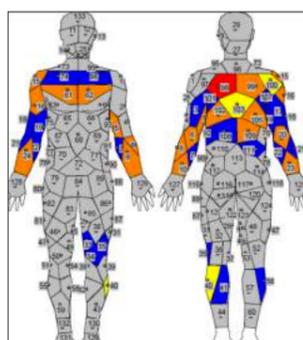


IEC 61482-2:2009
EBT50 9.6 cal/cm²
Class 1



EN 13034:2005
A1:2009 Type 6

Body burn injury prediction



Burning wound

- No
 - Pain (16,7%)
 - 1st degree (2,6%)
 - 2nd degree (14,0%)
 - 3rd degree (0,9%)
- 2nd + 3rd degree burn:
(14,9%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Hi-vis Yellow/Navy

Product code

RO19190HV

Sizing

UK 32 - UK 60
EU 42 - EU 70

Fabric weight

Jacket: 310 g/m²

KEY FEATURES



Inherent FR fabric



Highly visible



Triple stitched



Visible safety standards



Non metallic YKK zippers



5 pockets

FABRIC INFORMATION

Fabric composition

Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight

310 g/m²

FR Fabric Type

Inherent

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed nylon central zip > Sturdy and non-metallic
- 2 Large chest pockets with zip > Double the storage space
- 2 Radio / gas detector loops > Keep your instruments within reach
- Pen pocket on left sleeve > Keep your pen in place
- Non-metallic YKK zippers > Durable for long time use

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO19295HV
Xtreme Hi-Vis trousers
Flamebuster Xtreme Hi-Vis Trousers.



TICKING ALL BOXES

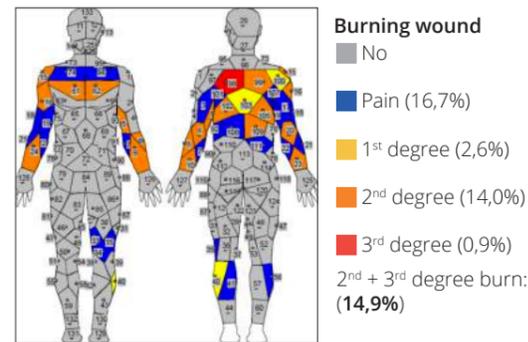
PROTECTION LEVEL: ARC 2 9.6 cal/m²	BODY BURN INJURY PREDICTION 14.9%
--	--

Above shown is the EBT50 value. Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS

 EN 471:2003 + A1:2007 1/2	 EN 1149-5:2008	 EN ISO 11611:2007 A1 Class 1
 EN ISO 11612:2008 A1 B1 C1 D0 E1 F1	 IEC 61482-2:2009 EBT50 9.6 cal/cm ² Class 1	 EN 13034:2005 A1:2009 Type 6

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
■ Hi-vis Yellow/Navy	
Product code	Sizing
RO19295HV	UK 32 - UK 60 EU 46 - EU 68
Fabric weight	Inside leg length
Trousers: 310 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

 Inherent FR fabric	 Highly visible	 Triple stitched
 Rule pocket on right leg	 Knee pad pockets	 5 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 Side pockets with trouser access > Easy to reach
- 2 Back pockets > Double the storage space
- Knee pad pockets > Place for your kneepads
- Rule pocket on right leg > Always space for a ruler
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition
 Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight 310 g/m² **FR Fabric Type** Inherent

Additional certification   **Logo** Certified for logo applications

1. Oeko-Tex Standard 100
 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)
- Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO19190HV Xtreme Hi-Vis Jacket
 Flamebuster Xtreme Hi-Vis Jacket.



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
 For use with ROOTS trousers for improved fit without compromising protection.

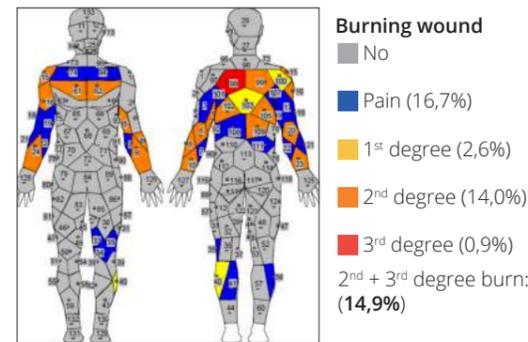
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
9.6 cal/m²	14.9%
Above shown is the EBT50 value.	Body burn prediction of 2 nd + 3 rd degree burns.

EN SAFETY STANDARDS

 EN 471:2003 + A1:2007 2/2	 EN 1149-5:2008	 EN ISO 11611:2007 A1 Class 1
 EN ISO 11612:2008 A1 B1 C1 D0 E1 F1	 IEC 61482-2:2009 EBT50 9.6 cal/cm ² Class 1	 EN 13034:2005 A1:2009 Type 6

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
■ Hi-vis Yellow/Navy	
Product code	Sizing
RO19395HV	UK 32 - UK 60 EU 42 - EU 70
Fabric weight	Inside leg length
Bib: 310 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

 Inherent FR fabric	 Highly visible	 Triple stitched
 Rule pocket on right leg	 Knee pad pockets	 6 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Chest pocket > Chest storage with easy access
- 2 Side pockets with trouser access > Double the storage space
- 2 Back pockets > Ambidextrous rear storage space
- Rule pocket on right leg > Always space for a ruler
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition
Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight 310 g/m²
FR Fabric Type Inherent

Additional certification OEKO-TEX® STANDARD 100
Logo Certified for logo applications

1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)
Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO19190HV Xtreme Hi-Vis Jacket
Flamebuster Xtreme Hi-Vis Jacket.



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
9.6 cal/m²

Above shown is the EBT50 value.

BODY BURN INJURY PREDICTION
14.9%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 1

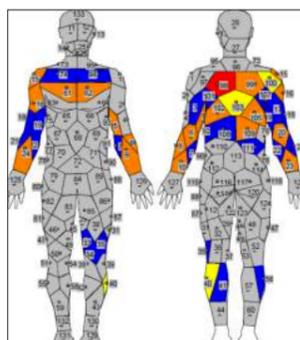


EN ISO 11612:2015
A1 A2 B1 C1 D0 E1 F1



IEC 61482-2:2009
EBT50 9.6 cal/cm²
Class 1

Body burn injury prediction



Burning wound

- No
 - Pain (16,7%)
 - 1st degree (2,6%)
 - 2nd degree (14,0%)
 - 3rd degree (0,9%)
- 2nd + 3rd degree burn:
(14,9%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Red ■ Orange ■ Royal

Product code

RO19095

Sizing

UK 32 - UK 58
EU 42 - EU 68

Fabric weight

Coverall: 310 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Inherent FR fabric



Reflective elements



Triple stitched



Knee pad pockets



Non metallic YKK zippers



Radio loops



Visible safety standards



8 pockets

FABRIC INFORMATION

Fabric composition

Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight

310 g/m²

FR Fabric Type

Inherent

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UFF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed nylon central YKK zip > Sturdy and non metallic
- 2 Large chest pockets with YKK zip > Double the storage space
- 2 Back pockets > Ambidextrous rear storage space
- 2 Side pockets with trouser access > Easy to access
- 2 Radio / gas detector loops > Keep your instruments within reach
- Pen pocket on left sleeve > Keep your pen in place
- Rule pocket on right leg > Always space for a ruler
- Knee pad pockets > Place for your kneepads
- Non-metallic YKK zippers > Durable for long time use

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- After washing, tumble dry at 50°C to avoid excessive shrinkage.
- Do not iron directly over heat seal logos.



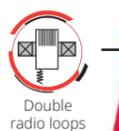
Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8008 - Kneepads

Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
9.6 cal/m²

Above shown is the EBT50 value.

BODY BURN INJURY PREDICTION
14.9%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 1

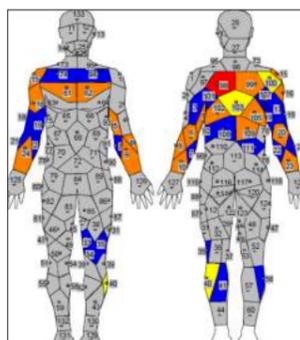


EN ISO 11612:2015
A1 A2 B1 C1 D0 E1 F2



IEC 61482-2:2009
EBT50 9.6 cal/cm²
Class 1

Body burn injury prediction



Burning wound

- No
- Pain (16,7%)
- 1st degree (2,6%)
- 2nd degree (14,0%)
- 3rd degree (0,9%)
- 2nd + 3rd degree burn: (14,9%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Red
- Orange
- Royal

Product code

RO19190

Sizing

UK 32 - UK 54
EU 42 - EU 64

Fabric weight

Jacket: 310 g/m²

KEY FEATURES



Inherent FR fabric



Reflective elements



Triple stitched



Visible safety standards



Non metallic YKK zippers



5 pockets

FABRIC INFORMATION

Fabric composition

Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight

310 g/m²

FR Fabric Type

Inherent

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed nylon central zip > Sturdy and non-metallic
- 2 Large chest pockets with zip > Double the storage space
- 2 Radio / gas detector loops > Keep your instruments within reach
- Pen pocket on left sleeve > Keep your pen in place
- Non-metallic YKK zippers > Durable for long time use

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO19295
Xtreme Nordic trousers
Flamebuster Xtreme Nordic Trousers.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2

9.6 cal/m²

Above shown is the EBT50 value.

BODY BURN INJURY PREDICTION

14.9%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 1

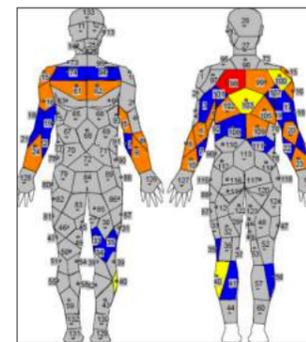


EN ISO 11612:2015
A1 A2 B1 C1 D0 E1 F2



IEC 61482-2:2009
EBT50 9.6 cal/cm²
Class 1

Body burn injury prediction



Burning wound

- No
- Pain (16,7%)
- 1st degree (2,6%)
- 2nd degree (14,0%)
- 3rd degree (0,9%)
- 2nd + 3rd degree burn: (14,9%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Red
- Orange
- Royal

Product code

RO19295

Sizing

UK 32 - UK 50
EU 48 - EU 70

Fabric weight

Trousers: 310 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES

- Inherent FR fabric
- Reflective elements
- Triple stitched
- Rule pocket on right leg
- Knee pad pockets
- 5 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 Side pockets with trouser access > Easy to reach
- 2 Back pockets > Double the storage space
- Knee pad pockets > Place for your kneepads
- Rule pocket on right leg > Always space for a ruler
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Xtreme 310 - 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic

Fabric weight

310 g/m²

FR Fabric Type

Inherent

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



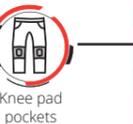
RO19190 Xtreme Nordic Jacket
Flamebuster Xtreme Nordic Jacket.



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.





RO13315-2

Zip-on welding hood (in parka style)

RO13020

Arcbuster Hot Worker Welding Coverall



When it comes to hardcore welding. **ARC BUSTER**

Welding coveralls confectioned from Arcbuster fabric can be referred to as being the best in the market place, simply because they are. No other fabric even comes close to the Arcbuster fabric. Complying with Class 2 according to EN ISO 11611 (welding standard), the Arcbuster fabric even surpasses the testing equipment limits.

The Arcbuster product range was the second range we launched with immense success across the European market. Back in 2008, when we started developing the Arcbuster we carefully listened to the input from welders at the naval base Devenport in the UK, then known as DML, nowadays called Babcock. The welders work in confined spaces, i.e. in the skin of the double walled submarine, and they required a combination of maximum protection and comfort. A lot of attention went into fabric development as we knew that if we could get the fabric weight as light as possible this would result in better comfort for the wearer, but not losing sight on the safety perspective. The final design was made in conjunction with the welders themselves.

Complying to the strict EN standards is a challenge for all manufacturers of flame retardant workwear, however...surpassing the limits of the testing equipment is something which does not happen frequently. And that is exactly what ROOTS has accomplished with the Arcbuster fabric.

The Notified Body SATRA was not able to apply more than 40 drops of molten metal whilst the fabric could take much more. According to the performance levels within the EN ISO 11611 we reached Class 2 and for EN ISO 11612 we reached E3 - the highest performance level.

The Arcbuster range is also certified against EN 1149-5 (antistatic properties) and IEC 61482-2 (arc rating). Some may think these standards don't add anything, but at ROOTS we go for maximum protection for the wearer! The Arcbuster coverall has also been submitted to obtain a burn injury prediction after 50 laundry cycles using the 4 second manikin flash fire test at BTTG. The results are stunning for a welding fabric; 2.7% 2nd° + 3rd° burn injury.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
18.0 cal/m²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
2.7%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



IEC 61482-2:2009
ATPV 18.0 cal/cm²
Class 1



EN 1149-5:2008

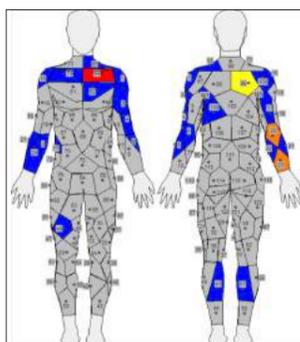


EN ISO 11611:2015
A1 A2 Class 2



EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1

Body burn injury prediction



Burning wound

- No
 - Pain (17,5%)
 - 1st degree (0,9%)
 - 2nd degree (1,8%)
 - 3rd degree (0,9%)
- 2nd + 3rd degree burn:
(2,7%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Orange

Product code

RO13020

Sizing

UK 36 - UK 58
EU 46 - EU 68

Fabric weight

Coverall: 440 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Treated fabric



Visible EN standards



Possibility for shoulder pads



Non metallic YKK central zip



8 pockets

FABRIC INFORMATION

Fabric composition

FLC440 - 99% cotton / 1% antistatic

Fabric weight

440 g/m²

FR Fabric Type

Treated

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- Concealed central non-metallic zip > Behind double flap
- 1 Chest pocket with flap > Easy access storage space
- 1 Oversized chest pocket with flap > Extra storage
- 2 Back pockets with flap > Double storage space
- Toolbar above left chest pocket > Convenient space for tools
- 2 Rule pockets > Double storage space for rulers
- 2 Side pockets > Easy to reach storage compartments
- High collar with velcro > Extra neck protection
- Internal knee pockets > Stow away your knee pockets internally
- Possibility to zip on a welding hood > Swiftly transform your coverall
- Non-metallic YKK zippers > Durable for long time use

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- After washing, tumble dry at 50°C to avoid excessive shrinkage.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO13315 Arcbuster Welders Hood

Detachable hood for welders coverall RO13020 and RO13310.



RO13315-2 Welding Hood

Detachable welding hood to be used with the RO13020 and RO12020.



TICKING ALL BOXES

PROTECTION LEVEL: ARC 2
18.0 cal/m²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
2.7%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



IEC 61482-2:2009
ATPV 18.0 cal/cm²
Class 1



EN 1149-5:2008

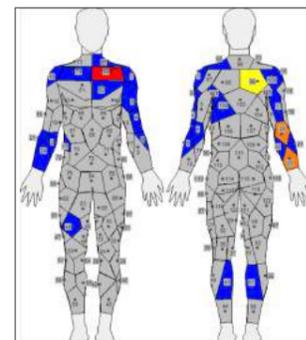


EN ISO 11611:2015
A1 A2 Class 2



EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1

Body burn injury prediction



- Burning wound**
- No
 - Pain (17,5%)
 - 1st degree (0,9%)
 - 2nd degree (1,8%)
 - 3rd degree (0,9%)
- 2nd + 3rd degree burn: (2,7%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Orange

Product code

RO13310

Sizing

UK 36 - UK 64
EU 46 - EU 74

Fabric weight

Coverall: 440 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Treated fabric



Visible EN standards



Possibility for shoulder pads



Non metallic YKK central zip



7 pockets

FABRIC INFORMATION

Fabric composition

FLC440 - 99% cotton / 1% antistatic

Fabric weight

440 g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.



Logo

Certified for logo applications

FEATURES & BENEFITS

- Concealed heavy-duty jeans closure > Sturdy and out of sight
- 2 internal chest pockets > Safely tuck away your goods
- 2 back pockets with flap > Ambidextrous rear storage space
- 2 side pockets > Ambidextrous storage space
- 1 tool pocket > Extra space for tools
- Internal knee pockets > Stow away your knee pockets internally
- Non-metallic YKK zippers > Durable for long time use
- Safety stitched > Protects yarns against welding sparks

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO13315 Arcbuster Welders Hood

Detachable hood for welders coverall RO13020 and RO13310.



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
10.2 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
5.3%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



IEC 61482-2:2009
ATPV 10.2 cal/cm²
Class 1



EN 1149-5:2008

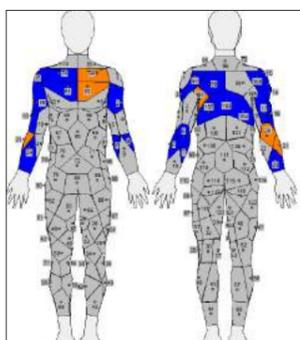


EN ISO 11611:2015
A1 A2 Class 2



EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1

Body burn injury prediction



Burning wound

- No
 - Pain (15,8%)
 - 1st degree (0,0%)
 - 2nd degree (5,3%)
 - 3rd degree (0,0%)
- 2nd + 3rd degree burn:
(5,3%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Orange

Product code

RO12020

Sizing

UK 38 - UK 58
EU 48 - EU 68

Fabric weight

Coverall: 320 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Treated fabric



Two rule pockets



Visible EN standards



Possibility to attach optional hood



8 pockets

FABRIC INFORMATION

Fabric composition

FLC320 - 80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

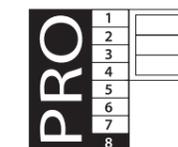
FEATURES & BENEFITS

- Concealed central zip > Non metallic behind double flap
- Two oversized chest pockets > Considerably more storage
- Two back pockets > Double storage, toolbal above left pocket
- Two rule pockets > Keep a rule at your side
- Two side pockets with trouser access > Easy access, velcro closure
- Non-metallic YKK zippers > Durable for long time use

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash FR treated clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



**RO12315
Welding Hood**

Optional Multi Protector Hot Worker welding hood for the RO12020



**RO13315-2
Welding Hood**

Detachable welding hood to be used with the RO13020 and RO12020.



! This welding hood can be zipped onto the Hotworker welding coverall

RO13315-2
Detachable welding hood

Essential accessories

RO13315



RO13315-2



IMPROVED DESIGN!

Has a zipper in the neck area for convenience!

WELDING HOOD 2-LAYERS OF FABRIC

Detachable flame retardant, antistatic welding hood.

Available sizing: One size fits all
Available colours: Navy

EN safety standard:

EN ISO 11611:2015 A1 A2 Class 2

EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1

EN 1149-5:2008

ZIP-ON WELDING HOOD (IN PARKA DESIGN)

Detachable flame retardant, antistatic welding hood to be used with:

- RO13020 Arcbuster Hot Worker Welding Coverall
- RO12020 Multi Protector Hot Worker Light Coverall

Available sizing: One size fits all
Available colours: Navy

EN safety standard:

EN ISO 11611:2015 A1 A2 Class 2

EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1

EN 1149-5:2008



Have a buzzing question?

Get in contact, we'd love to help you.

Call our hotline: +31(0)10 2955 955

or send us an e-mail at info@roots-original.com



RO22167

Multi Protector Jacket

RO22267

Multi Protector Trousers



All new. All safety.

MULTI PROTECTOR

The starting point of the designing phase of the brand new Multi Protector-line was to create a modern and functional garment in which our wearers feel incredibly comfortable. No compromise on the maximum safety was tolerated.

The new Multi Protector-line is specially designed to provide protection against different perils, while being simultaneously practically useable. We made this possible by using the superior Flamebuster2 fabric that, because of the high density of the yarns, achieves an incredible result on dimensional stability (shrinkage), while at the same time offering great results in safety and comfort. Furthermore, the percentage of shrinkage on industrial washing is the lowest in the industry.

Extensive conversations with our wearers in the energy sector have led to the product being further developed into a line consisting of an overall, jacket, trousers and American overall.

The clothes don't only look great, but also meet the necessary standards that our wearers rely on during their daily activities.

The new Multi Protector garments meet:

- Protection against heat and flames according to EN ISO 11612:2008 A1 B1 C2 D0 E3 F1 – unprecedented protection against radiant heat (C2) and the impact of metal drops (E3);
- Protection against welding according to EN ISO 11611:2007 A1 Class 2;
- Antistatic properties according to EN 1149-5:2008;
- Protection against an electric arc according to IEC 61482-2:2009;
- Protection against liquid chemicals according to EN 13034:2005 + A1:2009 Type 6 – this treatment results in a better cleaning of heavily soiled clothing.



Two chest pockets with zip



Possibility to place knee pads

TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
10.2 cal/cm²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005 + A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2015 A1 A2 Class 2

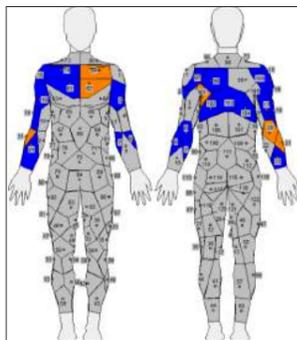


EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1



IEC 61482-2:2009 ATPV 10.2 cal/cm² Class 1

Body burn injury prediction



Burning wound

- No
 - Pain (15,8%)
 - 1st degree (0,0%)
 - 2nd degree (4,4%)
 - 3rd degree (0,0%)
- 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Grey/Black

Product code

RO22097

Sizing

UK 36 - UK 60
EU 46 - EU 70

Fabric weight

Coverall: 320 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Treated FR fabric



Chest, side, knee, back and tool pockets



Triple stitched



Knee pad pockets



FR reflective tape



Radio loops



Elasticated waist



Visible safety standards



Adjustable cuffs



8 pockets

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- High collar > Extra neck protection
- FR reflective tape > Stay visible in any situation
- 2 chest pockets with zip > Double the chest storage space
- 2 radio/gas loops > Convenient storage space for your tools
- 1 pocket with flap and velcro on left sleeve > Double the storage
- Two side pockets with velcro > Double the storage space
- Back pleat > Optimum fit
- Knee pockets > Place for your kneepads
- Tool pocket with flap and velcro on the right leg > Convenient storage space for your tools
- 2 back pockets with flap > Ambidextrous rear storage space
- Non-metallic YKK zippers > Durable for long time use

The product is fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C).

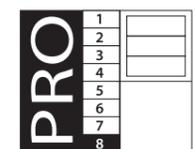
Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash FR treated clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

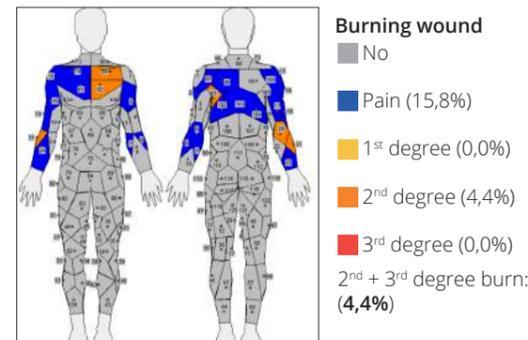
PROTECTION LEVEL: ARC 2 10.2 cal/cm²	BODY BURN INJURY PREDICTION 4.4%
--	---

Above shown is the ATPV value. Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS

 EN 13034:2005 + A1:2009 Type 6	 EN 1149-5:2008	 EN ISO 11611:2015 A1 A2 Class 2
 EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1	 IEC 61482-2:2009 ATPV 10.2 cal/cm ² Class 1	

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Grey/Black

Product code

RO22167

Fabric weight

Jacket: 320 g/m²

Sizing

UK 36 - UK 60
EU 46 - EU 70

KEY FEATURES

 Treated FR fabric	 Chest pocket	 Triple stitched
 Adjustable cuffs	 Visible safety standards	 Radio loops
 5 pockets	 FR reflective elements	

FEATURES & BENEFITS

- Mandarin collar > Extra neck protection
- 1 Chest pocket > With flap and velcro for additional security
- 2 Side pockets with zip > Extra storage space
- 1 Pocket on left arm with flap > Easy to reach
- Loops on chest > Keep your instruments within reach
- 1 Internal pocket > Safely stow away your stuff
- Adjustable waist > Adjust for the perfect fit
- Adjustable cuffs > Adjust to your likings
- Non-metallic YKK zippers > Durable for long time use
- Product is fit for domestic laundry > ISO 6330°C
- Product is fit for industrial laundry > ISO 15797 - 75°C

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification

1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

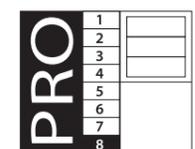
Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash FR treated clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO22267
Multi Protector trousers
Multi Protector trousers



RO22367
Multi Protector BiB
Multi Protector BiB



Radio loops

TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
10.2 cal/cm²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005 +
A1:2009
Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 2

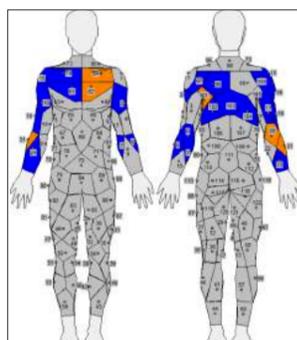


EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 10.2 cal/cm²
Class 1

Body burn injury prediction



Burning wound

- No
 - Pain (15,8%)
 - 1st degree (0,0%)
 - 2nd degree (4,4%)
 - 3rd degree (0,0%)
- 2nd + 3rd degree burn:
(4,4%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Grey/Black

Product code

RO12168

Fabric weight

Jacket: 320 g/m²

Sizing

UK 36 - UK 60
EU 46 - EU 70

KEY FEATURES



Treated FR fabric



Chest, side, knee,
back and tool
pockets



Triple stitched



Adjustable cuffs



FR reflective tape



Radio loops



Elasticated waist



Visible safety
standards



5 pockets

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing
UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.



Logo

Certified for logo applications

FEATURES & BENEFITS

- High collar > Extra neck protection
- 2 chest pocket > With flap and velcro for additional security
- 2 Side pockets with zip > Extra storage space
- 1 Pocket on left arm with flap > Easy to reach
- Loops on chest > Keep your instruments within reach
- 1 Internal pocket > Safely stow away your stuff
- Adjustable waist > Adjust for the perfect fit
- Adjustable cuffs > Adjust to your likings
- Non-metallic YKK zippers > Durable for long time use
- Product is fit for domestic laundry > ISO 6330°C
- Product is fit for industrial laundry > ISO 15797 - 75°C

Related products



RO22267
Multi Protector trousers
Multi Protector trousers



RO22367
Multi Protector BiB
Multi Protector BiB

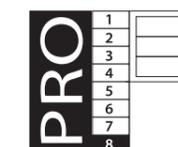
Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash FR treated clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care





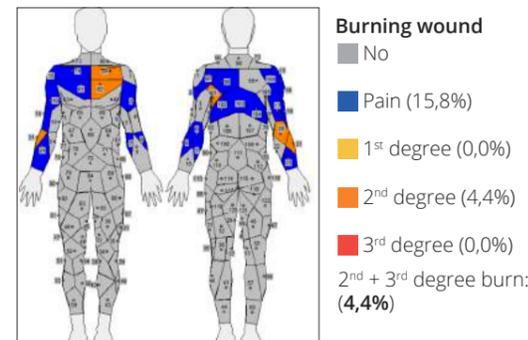
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
10.2 cal/cm²	4.4%
<small>Above shown is the ATPV value.</small>	<small>Body burn prediction of 2nd + 3rd degree burns.</small>

EN SAFETY STANDARDS

EN 13034:2005 + A1:2009 Type 6	EN 1149-5:2008	EN ISO 11611:2015 A1 A2 Class 2
EN ISO 11612:2015 A1 A2 B1 C2 D0 E3 F1	IEC 61482-2:2009 ATPV 10.2 cal/cm2 Class 1	

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Grey/Black

Product code

RO22267

Fabric weight

Trousers: 320 g/m²

Sizing

UK 28 - UK 44
EU 44 - EU 70

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES

Treated FR fabric	Mobile phone pocket	Knee pad pockets
Fly zipper	Elasticated waist	5 pockets

FEATURES & BENEFITS

- Elasticated waist > Adjust for the perfect fit
- Fly zip > Convenient central zip
- Tool loop left and right > Keep your tools close at hand
- 2 Front pockets > Functional and safe storage
- 2 Back pockets > With flaps and velcro for extra security
- Tool & mobile phone pocket on right leg > Convenient storage space
- Knee pad pockets > Space for your knee pads
- Non-metallic YKK zippers > Durable for long time use
- Product is fit for domestic laundry > ISO 6330°C
- Product is fit for industrial laundry > ISO 15797 - 75°C

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification

- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

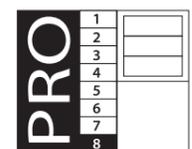
Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash FR treated clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO22167- Multi Protector jacket
Multi protector jacket



RO12168 - Multi Protector jacket
Multi protector jacket



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
10.2 cal/cm²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 13034:2005 +
A1:2009
Type 6



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 2

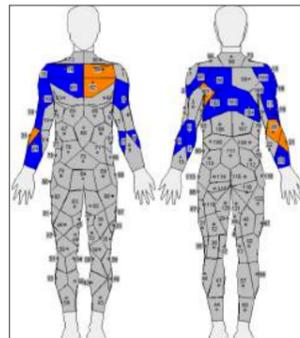


EN ISO 11612:2015
A1 A2 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 10.2 cal/cm²
Class 1

Body burn injury prediction



Burning wound

- No
- Pain (15,8%)
- 1st degree (0,0%)
- 2nd degree (4,4%)
- 3rd degree (0,0%)
- 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Grey/Black

Product code

RO22367

Sizing

UK 28 - UK 60
EU 38 - EU 70

Fabric weight

Bib: 320 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Treated FR fabric



Mobile phone pocket



Knee pad pockets



Fly zipper



Elasticated waist



6 pockets

FEATURES & BENEFITS

Flame retardant retroreflective tape > Stay visible in any situation

Fly zip > Convenient central zip

1 Chest pocket > Functional and easy storage

2 Side pockets > Easy to access

Tool pocket and mobile phone pocket > Keep your gear in reach

2 Back pockets > With flap and velcro for extra security

Non-metallic YKK zippers > Durable for long time use

Product is fit for domestic laundry > ISO 6330°C

Product is fit for industrial laundry > ISO 15797 - 75°C

FABRIC INFORMATION

Fabric composition

FLC320
80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

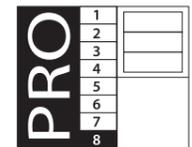
Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash FR treated clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO22167
Multi Protector jacket
Multi protector jacket



RO12168 - Multi Protector jacket
Multi protector jacket



RO8008 - ROOTS knee pads
A pair of foam knee pads



RO12095HV

Multi Protector Hi-Vis
Coverall



Possibility to place knee pads

TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
10.2 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
4.4%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 471:2003
+ A1:2007 3/2



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 2



EN ISO 11612:2008
A1 B1 C2 D0 E3 F1

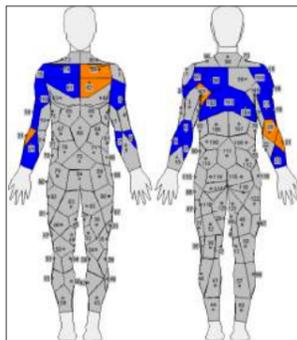


IEC 61482-2:2009
ATPV 10.2 cal/cm²
Class 1



EN13034:2005
+ A1:2009 Type 6

Body burn injury prediction



Burning wound

- No
 - Pain (15,8%)
 - 1st degree (0,0%)
 - 2nd degree (4,4%)
 - 3rd degree (0,0%)
- 2nd + 3rd degree burn:
(4,4%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

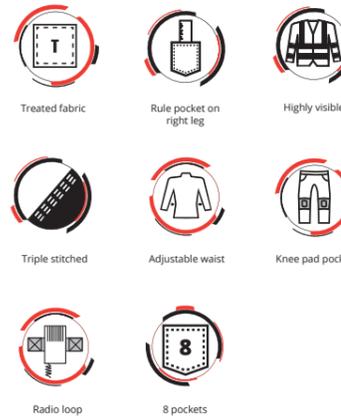
QUICK DETAIL OVERVIEW

Available colours

- Hi-Vis Yellow/Navy
- Hi-Vis Yellow/Red

Product code	Sizing
RO12095HV	UK 36 - UK 60 EU 46 - EU 70
Fabric weight	Inside leg length
Coverall:	320 g/m ²
	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES



FEATURES & BENEFITS

- FR retroreflective tape > Stay visible in any situation
- Concealed press stud closure > Sturdy closure
- Adjustable elasticated waists > Adjust for a perfect fit
- 2 Chest pockets with flap and zip > Double storage space
- 2 Back pockets > Double storage with easy access
- Radio/gas detector loop > Keep your instruments within reach
- 2 Front pockets > With trouser access
- Pen pocket on left sleeve > Always keep a pen on you
- Rule pocket on right leg > Keep a rule at your side
- Knee pad pockets > Place for your kneepads
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320HV - 80% cotton / 19% polyester / 1% antistatic

Fabric weight

320g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

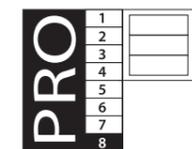
Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash FR treated clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



Double layered protection against **THE HAZARDS OF AN ELECTRIC ARC**

Due to an increase of knowledge regarding the do's and don'ts for protection against the hazards of an electrical arc ROOTS has developed a new range of garments specific for this cause. For high voltage industries we have created a multi layered solution which you can see on the following pages.

The ROOTS range of products is renowned for the outstanding body burn wound results when exposed to a flash fire. We also use the same fabrics for our arc flash protection range because in a way, this is also burn wound prediction but from a different hazard source.

The goal of a burn injury prediction test combined with an open arc test is to seek prevention for wearers against 2nd degree body burn injuries. However, the nature of both tests is completely different. The burn injury prediction test measures the level of protection of a fabric/garment during a 4 second flash fire at a temperature of approximately 1,000°C.

The open arc test reveals the amount of energy measured in cal/cm² that is needed to result in 2nd burn injuries, or the point at which a fabric breaks open. With an open arc test temperatures can go up above 19,000°C; with a duration of between 0.5 and 1.5 seconds. Apart from high temperature, the plasma from the melted stainless steel electrodes is also released onto the fabric.

The difference between the level of protection between the 2-layer solution (ATPV 26,8 cal/cm²) and the 3-layer solution (ATPV 51.9 cal/cm²) can be best described as remarkable, keeping in mind that there is not a genuine 3rd layer (FR underwear) with an own ATPV rating of 4.8 cal/cm². This extra thin layer combined with the air gaps offers extra protection that is needed for a substantial increase in the total calorific rating result.



Extra high collar for additional protection



Triple stitching in red for strength



185 g/m² flame retardant inner liner with 2 internal pockets



Large cargo pocket on leg coverall, trousers and Bib



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 3**
26.8 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 2



EN ISO 11612:2008
A1 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 26.8 cal/cm²
Class 2

QUICK DETAIL OVERVIEW

Available colours

■ Royal

Product code

RO12085

Sizing

UK 38 - UK 54
EU 48 - EU 64

Fabric weight

Coverall: 320g/m² + 185 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

*Flame retardant underwear
as third layer to get a stunning
51.9 cal/cm² protection!*

KEY FEATURES



Treated FR fabric



Knee pad pockets



Triple stitched



Visible safety standards



Concealed non-metallic central YKK zipper



7 pockets

FEATURES & BENEFITS

- Extra high collar > Additional protection
- Concealed non-metallic central YKK zipper > Easy to open and close
- 2 Internal chest pockets > Stow away your goods
- 2 Large cargo pockets > Extra storage compartments
- 2 Side pockets > With easy trouser access
- Pen pocket on left sleeve > Tightly secure your knee pads
- Large knee pockets > Room for your knee pads
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO25100 FR Underwear
FR underwear



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.

TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
26.8 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 2



EN ISO 11612:2008
A1 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 26.8 cal/cm²
Class 2

QUICK DETAIL OVERVIEW

Available colours

■ Royal

Product code

RO12180

Fabric weight

Jacket: 320g/m² + 185 g/m²

Sizing

UK 36 - UK 56
EU 46 - EU 66



Concealed non-metallic YKK central zipper

Triple stitched

KEY FEATURES



Treated FR fabric



Concealed non-metallic central YKK zipper



Triple stitched



Visible safety standards



3 pockets

FEATURES & BENEFITS

- Extra high collar > For additional protection
- Concealed non-metallic YKK central zipper > Easy to open and close
- 2 Internal pockets > Stow away your goods
- 2 Chest pockets > Easy to reach storage space
- Pen pocket on left sleeve > Always keep a pen on you
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



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Related products



RO25100 FR Underwear
FR underwear



RO12285
Multi Protector trousers
Multi Protector Double Layer Arc Flash Trousers

Flame retardant underwear as third layer to get a stunning 51.9 cal/cm² protection!



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 3**
26.8 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 2



EN ISO 11612:2008
A1 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 26.8 cal/cm²
Class 2

QUICK DETAIL OVERVIEW

Available colours

■ Royal

Product code

RO12285

Sizing

UK 30 - UK 46
EU 46 - EU 66

Fabric weight

Trousers: 320g/m² + 185 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

*Flame retardant underwear
as third layer to get a stunning
51.9 cal/cm² protection!*

KEY FEATURES



Treated FR fabric



Concealed non-metallic central YKK zipper



Triple stitched



Visible safety standards



Knee pad pockets



6 pockets

FEATURES & BENEFITS

- 2 Large cargo pockets > Extra storage compartments
- 2 side pockets > Easy to access
- Knee pad pockets > Tightly secure your knee pads
- Central non-metallic YKK zipper > Easy to open and close
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- After washing, tumble dry at 50°C to avoid excessive shrinkage.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO12180 Multi Protector jacket
Multi Protector double layer arc flash jacket



RO25120 - FR Underwear
FR underwear



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.

TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 3**
26.8 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 13034:2005
A1:2009 Type 6



EN 1149-5:2008



EN ISO 11611:2007
A1 Class 2



EN ISO 11612:2008
A1 B1 C2 D0 E3 F1



IEC 61482-2:2009
ATPV 26.8 cal/cm²
Class 2

QUICK DETAIL OVERVIEW

Available colours

■ Royal

Product code

RO12385

Sizing

UK 30 - UK 46
EU 46 - EU 66

Fabric weight

Bib: 320g/m² + 185 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

*Flame retardant underwear
as third layer to get a stunning
51.9 cal/cm² protection!*

KEY FEATURES



Treated FR fabric



Concealed non-metallic central YKK zipper



Triple stitched



Knee pad pockets



6 pockets

FEATURES & BENEFITS

- 2 Large cargo pockets > Extra storage compartments
- 2 side pockets > Easy to access
- Knee pad pockets > Tightly secure your knee pads
- Central non-metallic YKK zipper > Easy to open and close
- Non-metallic YKK zippers > Durable for long time use



Triple stitched



Knee pad pockets

FABRIC INFORMATION

Fabric composition

FLC320: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)



Logo

Certified for logo applications

Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- After washing, tumble dry at 50°C to avoid excessive shrinkage.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



**RO12180
Multi Protector jacket**
Multi Protector double layer arc flash jacket



RO25120 - FR Underwear
FR underwear



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



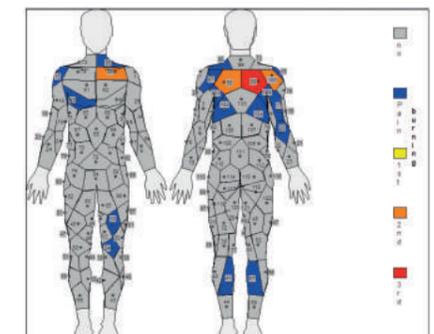
No matter the weather. MULTI PROTECTOR ALL WEATHER

When we developed Multi Protector, we had no idea what we were leading ourselves into...an industry first in terms of offering 7 EN standards.

Available in a jacket and BIB combination this range offers the highest resistance to water but yet remains highly breathable. Multi Protector All Weather still achieves Class 2 for the welding standard EN ISO 11611, again the highest possible!

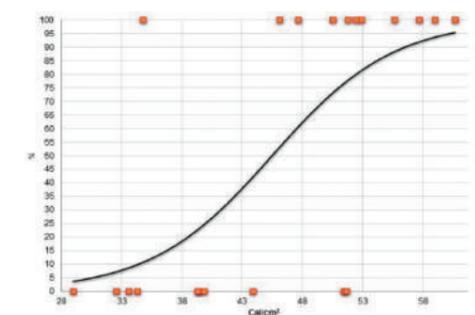
Already described as an uncomparable fabric, the ROOTS Multi Protector became even more unrivalled with its EN 343 (3/3) certificate.

Results: Body burn prediction



The All Weather Multi-Protector has achieved a remarkable body burn prediction of mere 3.5%.

Calorific rating Multi-Protector All Weather



ATPV (Arc Thermal Performance Value)
45.6 cal/cm²



TICKING ALL BOXES

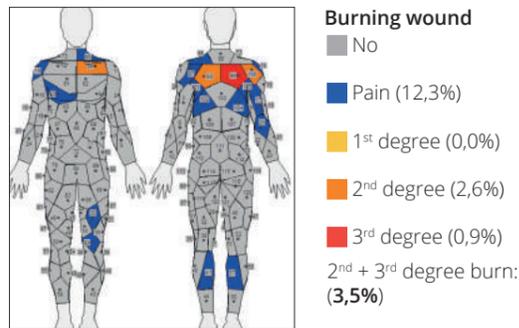
PROTECTION LEVEL: ARC 4	BODY BURN INJURY PREDICTION
45.6 cal/m²	3.5%

Above shown is the ATPV value. Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS

 EN 343:2003 + A1:2017 3/3	 EN 1149-5:2008	 EN ISO 11611:2015 A1 A2 Class 1
 EN ISO 11612:2015 A1 A2 B2 C1 D0 E3 F1	 IEC 61482-2:2009 ATPV 45.6 cal/cm ² Class 2	 EN 13034:2005 A1:2009 Type PB(6)

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Orange

Product code	Sizing
RO13340	S - 4XL

Fabric weight

Parka: 320 g/m² + 185 g/m²

KEY FEATURES

 Treated FR fabric	 Reflective elements	 Triple stitched
 Double radio loops	 Concealed central YKK zip	 Visible safety standards
 8 pockets		

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed central zip > With added velcro closure
- 2 Radio/gas detector loops > Keep your instruments within reach
- 2 Front pockets > Extra front storage space
- Pen pocket on left sleeve > Always keep a pen on you
- Sturdy zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320WP: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320 g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification




1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing
UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



**RO13350
All Weather Trousers**
Multi Protector all weather trousers



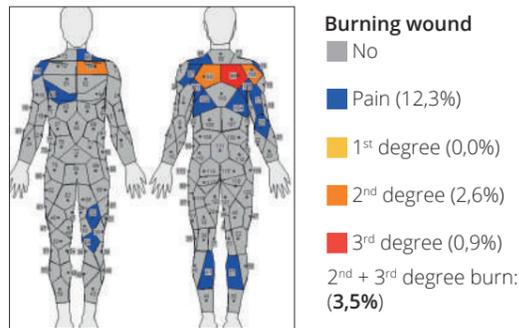
TICKING ALL BOXES

PROTECTION LEVEL: ARC 4 45.6 cal/m² <small>Above shown is the ATPV value.</small>	BODY BURN INJURY PREDICTION 3.5% <small>Body burn prediction of 2nd + 3rd degree burns.</small>
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EN SAFETY STANDARDS

EN 343:2003 + A1:2017 3/3	EN 1149-5:2008	EN ISO 11611:2015 A1 A2 Class 1
EN ISO 11612:2015 A1 A2 B2 C1 D0 E3 F1	IEC 61482-2:2009 ATPV 45.6 cal/cm ² Class 2	EN 13034:2005 A1:2009 Type PB(6)

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Orange

Product code	Sizing
RO13350	S - 4XL
Fabric weight	
Trousers: 320 g/m ² + 185 g/m ²	

KEY FEATURES

Treated FR fabric	Reflective elements	Triple stitched
Double radio loops	Concealed central YKK zip	5 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Non-metallic zip > Sturdy and easy to open and close
- 2 Side pockets > Ambidextrous storage space
- 2 Back pocket > Extra rear storage
- Cargo pocket on left leg > Additional storage compartment
- Rule pocket on right leg > Ideal space for a rule
- Zipper on bottom leg > Makes it easier to get into your boots
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

FLC320WP: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320 g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification

- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- After washing, tumble dry at 50°C to avoid excessive shrinkage.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



**RO13340
All Weather Parka**
Multi Protector all weather parka



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.



Two large chest pockets



Reflective elements

TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 4**
45.6 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
3.5%

Body burn prediction of 2nd + 3rd degree burns.

EN SAFETY STANDARDS



EN 343:2003
+ A1:2017 3/3



EN 1149-5:2008



EN ISO 11611:2015
A1 A2 Class 1



EN ISO 11612:2015
A1 A2 B2 C1 D0 E3 F1

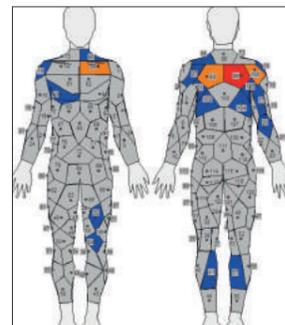


IEC 61482-2:2009
ATPV 45.6 cal/cm²
Class 2



EN 13034:2005
A1:2009 Type PB(6)

Body burn injury prediction



Burning wound

- No
 - Pain (12,3%)
 - 1st degree (0,0%)
 - 2nd degree (2,6%)
 - 3rd degree (0,9%)
- 2nd + 3rd degree burn:
(3,5%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Navy
- Orange

Product code

RO13360

Sizing

S - 4XL

Fabric weight

Bib: 320 g/m² + 185 g/m²

KEY FEATURES



Treated FR fabric



Central non-metallic zip



Two side pockets, two back pockets



Ruler pocket on right leg



Flame retardant retroreflective tape



7 pockets

FABRIC INFORMATION

Fabric composition

FLC320WP: 80% cotton / 19% polyester / 1% antistatic
FLA185: 100% cotton

Fabric weight

320 g/m² + 185 g/m²

FR Fabric Type

Treated

Additional certification



1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Related products



**RO13340
All Weather Parka**
Multi Protector all weather parka

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Central non-metallic zip > Easy to open and close
- Two large chest pockets > Double the storage space
- Two side pockets, two back pockets > Double storage with easy access
- Cargo pocket on left leg > Extra storage with easy access
- Ruler pocket on right leg > Always space for a ruler
- Non-metallic YKK zippers > Durable for long time use

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



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RO17095HVF
Kermel® Textreme Hi-Vis
Ladies coverall

RO17195HV
Kermel® Textreme
Hi-Vis Jacket

RO17295HV
Kermel® Textreme
Hi-Vis Trousers



RO16090HV
Kermel® Textreme
Hi-Vis coverall

Breakthrough safety

KERMEL TEXTREME

At ROOTS we pride ourselves with the levels of safety we can achieve with our multitude of ranges made up from a multitude of our own treated fabrics. One thing, however, has been a challenge for us since the beginning, achieving comparable levels of safety with an inherent FR fabric. This is much easier said than done and although we had some decent results with some fabrics we never felt that they were of the ROOTS quality that we strive for. That was until we got in touch with Kermel®. Kermel® is the leader in the production of aramid fibres for apparel that protects against heat, flame and electric arc. Having a history with making suits that have long been worn and trusted by firefighters, law enforcement and members of the armed forces has given Kermel® the extra experience and know how to create exactly what we were looking for: the best inherent FR fabric available.

A very special product range within the Kermel portfolio

Kermel® fabrics boast some of the best protection levels available on any inherent FR garment on the market.

The fabrics have also been tested for both industrial and domestic laundry according to the ISO 6330:2012 and ISO 15797:2002. All this testing leads to our ROOTS Kermel® garments being a durable powerhouse when it comes to long-lasting protection that one can rely on.

On top of the many safety standards, Kermel® has also earned the OEKOTEX standard 100 label. The OEKOTEX 100 label is a certificate for a high standard of human-ecological requirements given out by OEKOTEX as an independent party.

RATED FOR RAIL.

Britain's railway system is one of the safest and most intensively used rail networks in the world. This good safety performance is achieved by the high industry standards that the British railway has set in place, this high bar for safety also applies to the standards required for the workwear used on the railside.

We meet these high industry standards with our ROOTS Kermel® inherent FR offering which is rated for railway work in accordance to the UK Rail Industry Standard RIS-3279-TOM / GORT 3279. This standard is based on the EN ISO 20471:2013 of which garments have to comply to at least



class 2. The aim of this is to ensure that workers both on and near the tracks are highly visible and easy to spot for not only trains but any other traffic as well. With ROOTS Kermel® not only having an incredibly impressive performance against ARC and heat but also a very good colour fastness even after 100 washes, Kermel® has proven itself to be a perfect marriage for any railside work.

ENVIRONMENTAL AWARENESS.

Sustainable workwear is something we are striving to achieve for many years now and it was of high importance that our inherent FR offering would be environmentally responsible as well. Because let's not forget that the world's second most harmful industry to the environment is the textile industry, the first most harmful being the oil industry. This dubious honour is thanks to the vast amounts of water pollution, CO2 and other waste that is the result of the process of creating a piece of clothing. Change is necessary and Kermel® is the partner helping us make that change.



Something we are very proud of is the high-visibility garments (as offered in your HV yellow / dark blue clothing) retains its color retention (high visibility is guaranteed) during 100 industrial washing cycles when washing at 75°C and tunnel drying at 155°C.



Colour retention after 100 industrial washing cycles

A guaranteed color retention with 100 washing cycles on this HV cloth, that's unique! Virtually all other garments are certified on washing 5 times on the basis of domestic washing most of the time.

In turn this means that the Textreme fabric being safe during the entire lifespan of the cloth, the actual cost of ownership becomes low because the lifespan of the cloth is extended.



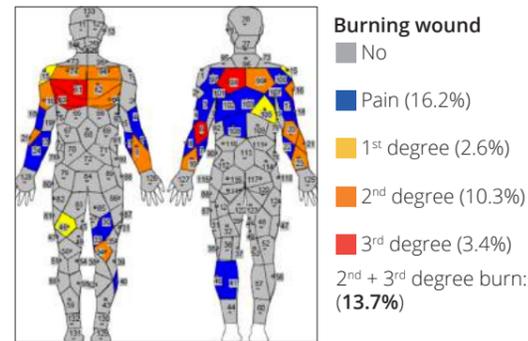
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
9.1 cal/m²	13.7%
Above shown is the ATPV value.	Body burn prediction of 2 nd degree burns.

EN SAFETY STANDARDS

 EN 1149-5:2008	 EN ISO 11612:2015 A1 B1 C1 D0 E0 F1	 EN ISO 11611:2015 Class 1 A1
 IEC 61482-2:2009 ATPV 9.1 cal/cm ² + Class 1	 EN 13034:2005 +A1:2009 Type 6	 EN ISO 20471:2013 Coverall = 3
 RIS-3279-TOM Issue 1 2016		

Body burn injury prediction



Above shown body burn scores are without FR underwear.
 Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Hi-vis Orange/Navy
- Hi-vis Yellow/Navy

Product code	Sizing
RO16090HV	UK 36 - UK 56 EU 46 - EU 66
Fabric weight	Inside leg length
Textreme: 320 g/m ² Kermel Alpha: 230 g/m ²	Short: 29" Regular: 31" (standard size) Tall: 33"

KEY FEATURES

 Inherent fabric	 Highly visible fabric and tape	 Double stitched FR reflective tape for reinforcement
 Radio loops	 YKK zipper	 Extra comfort with 2-tier kneepad pockets
 Certified for 100 washing cycles	 8 pockets	

FEATURES & BENEFITS

- Flame retardant retroreflective tape** > Stay visible in any situation
- Extremely high visibility fabric** > Visibility taken to extremes
- Central nylon zip with press studs** > Easy to open and close
- Two chest pockets** > Double storage space, secure closure
- Two radio / gas detector loops** > Keep your instruments within reach
- Two side pockets with trouser access** > Doubling leg storage
- Two back pockets** > Ambidextrous rear storage space
- Pen pocket on left sleeve** > Keep an easily reachable pen on you
- Rule pocket on right leg** > Keep your ruler within reach
- 2-tier knee pockets** > Tightly secure your knee pads
- Mandarin styled collar** > For better neck protection
- Adjustable cuffs** > Ensuring proper tightness of the sleeves
- Non-metallic YKK zippers** > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
 31% pes / 28% modacryl / 20% aramid/ 20% CV FR / 1% antistatic

Kermel Alpha 4975
 50% kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

320 g/m² + 230 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

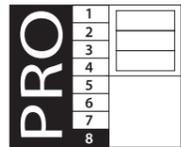
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Kneepads

Related products



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
9.1 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
13.7%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



EN 1149-5:2008



EN ISO 11612:2015
A1 B1 C1 D0 E0 F1



EN ISO 11611:2015
Class 1 A1



IEC 61482-2:2009
ATPV 9.1 cal/cm² +
Class 1



EN 13034:2005 +A1:2009
Type 6

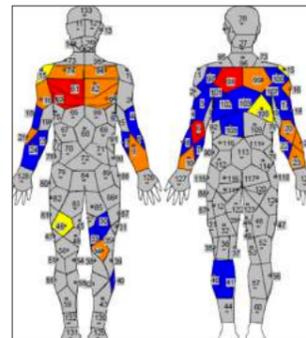


EN ISO 20471:2013
Jacket + Trouser = 3
Jacket = 2
Trouser = 1



RIS-3279-TOM
Issue 1 2016

Body burn injury prediction



Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

Hi-vis Orange/Navy Hi-vis Yellow/Navy

Product code

RO16190HV

Sizing

UK 26 - UK 56
EU 36 - EU 66

Fabric weight

Textreme: 320 g/m²
Kermel Alpha: 230 g/m²

KEY FEATURES



Inherent fabric



Highly visible fabric and tape



Double stitched FR reflective tape for reinforcement



Radio loops



YKK zipper



Certified for 100 washing cycles



5 pockets

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% pes / 28% modacryl / 20% aramid / 20% CV FR / 1% antistatic
Kermel Alpha 4975
50% kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

320 g/m² + 230 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Related products



RO16290HV
Hi-Vis Trousers
Kermel® Textreme Hi-Vis Trousers

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Extremely high visibility fabric > Visibility taken to extremes
- Central nylon zip with press studs > Easy to open and close
- Two chest pockets with flap > Double storage space, secure closure
- Two radio / gas detector loops > Keep your instruments within reach
- Two side pockets with trouser access > Doubling leg storage
- Pen pocket on left sleeve > Keep an easily reachable pen on you
- Mandarin styled collar > For better neck protection
- Adjustable cuffs > Ensuring proper tightness of the sleeves
- Non-metallic YKK zippers > Durable for long time use

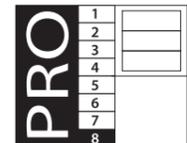
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care





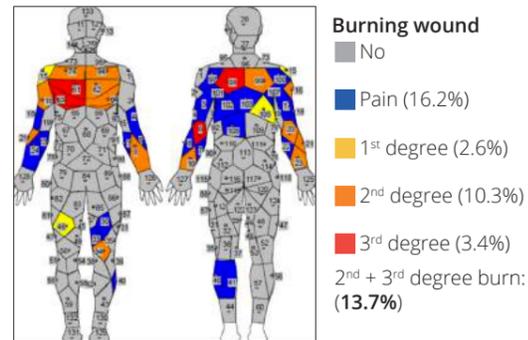
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
9.1 cal/m²	13.7%
Above shown is the ATPV value.	Body burn prediction of 2 nd degree burns.

EN SAFETY STANDARDS

 EN 1149-5:2008	 EN ISO 11612:2015 A1 B1 C1 D0 E0 F1	 EN ISO 11611:2015 Class 1 A1
 IEC 61482-2:2009 ATPV 9.1 cal/cm ² + Class 1	 EN 13034:2005 +A1:2009 Type 6	 EN ISO 20471:2013 Jacket + Trouser = 3 Jacket = 2 Trouser = 1
 RIS-3279-TOM Issue 1 2016		

Body burn injury prediction



Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours



Product code	Sizing
RO16290HV	UK 28 - UK 38 EU 44 - EU 56
Fabric weight	Inside leg length
Textreme: 320 g/m ² Kermel Alpha: 230 g/m ²	Short: 29" Regular: 31" (standard size) Tall: 33"

KEY FEATURES

 Inherent fabric	 Highly visible fabric and tape	 Double stitched FR reflective tape for reinforcement
 Certified for 100 washing cycles	 YKK zipper	 5 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Extremely high visibility fabric > Visibility taken to extremes
- Two back pockets > Ambidextrous rear storage space
- Rule pocket on right leg > Keep your ruler within reach
- 2-tier knee pockets > Tightly secure your knee pads
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% pes / 28% modacryl / 20% aramid/ 20% CV FR / 1% antistatic

Kermel Alpha 4975
50% kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

320 g/m² + 230 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

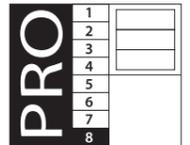
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO16190HV
Kermel® TextremeTwo-tone Hi-Vis Jacket



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
9.1 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN ISO 20471:2013
Class 1



EN 1149-5:2008



EN ISO 11611:2015
A1 Class 1



EN ISO 11612:2015
A1 B1 C1 D0 E0 F1



IEC 61482-2:2009
ATPV 9.1 cal/cm²
Class 1



EN 13034:2005
A1:2009 Type PB [6]



RIS-3279-TOM
Issue 1 2016
(Orange/Navy only)

QUICK DETAIL OVERVIEW

Available colours

Hi-vis Yellow/Navy Hi-Vis Orange/Navy

Product code

RO16395HV

Sizing

UK 30 - UK 50
EU 50 - EU 70

Fabric weight

BiB: 320 g/m² + 230 g/m²

Inside leg length

Short: 29"
Regular: 31" (standard size)
Tall: 33"

KEY FEATURES



Inherent FR fabric



Highly visible



Rule pocket



Triple stitched



Knee pad pockets



Certified for 100 washing cycles



6 pockets

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% pes / 28% modacryl / 20% aramid/ 20% CV FR / 1% antistatic

Kermel Alpha 4975
50% kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

320 g/m² + 230 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 Side swing pockets > With easy trouser access
- 2 Hip patch pockets > With additional rule pocket on right leg
- 2 Back pockets > Ambidextrous rear storage space
- Knee pad pockets > Tightly secure your knee pads
- Non-metallic YKK zippers > Durable for long time use

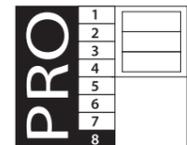
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO16190HV
Kermel® TextremeTwo-tone Hi-Vis Jacket



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

PROTECTION LEVEL: ARC 2 9.1 cal/m ²	BODY BURN INJURY PREDICTION 13,7%
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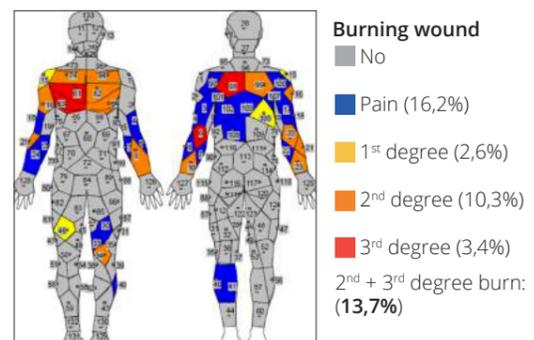
Above shown is the ATPV value.

PROTECTION LEVEL: ARC 3 31.8 cal/m ²	Reaches an ARC rating of 31.8 cal/cm ² when combined with our ROOTS baselayer underwear!
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Above shown is the ATPV value.

EN SAFETY STANDARDS

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
■ Orange	■ Yellow
Product code	Sizing
RO17095HVF	8 - 22
Fabric weight	
Coverall:	320 g/m ²

KEY FEATURES

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible
- Central zipper & top press studs > Easy to open and close
- 2 Chest pockets with zip > Double storage, secure closure
- 2 Back pockets > Great storage
- 2 Cargo pockets > Storage for all your appliances
- 2 Side pockets with trouser access > Easy to reach storage
- Pen pocket with flap on left sleeve > Keep your pen in place
- Knee pad pockets > Place for your kneepads
- Ladies fit > Tailored to womens measurements
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition	Product care instructions
Textreme 89416 31% PES / 28% Modacrylic / 20% Aramid / 20% CV FR / 1% Antistatic	Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.
Fabric weight	FR Fabric Type
320 g/m ²	Inherent
Additional certification	Logo
	Certified for logo applications

Please visit www.roots-original.com/certificates to download all relevant certificates.

Related products

	ROPB1000 FR underwear - Long sleeves shirt		ROPB2000 FR underwear - Long John's
			RO8008 - Kneepads Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

PROTECTION LEVEL: ARC 2
9.1 cal/m²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
13,7%

Body burn prediction of 2nd & 3rd degree burns.

PROTECTION LEVEL: ARC 3
31.8 cal/m²

Above shown is the ATPV value.

Reaches an ARC rating of 31.8 cal/cm² when combined with our ROOTS baselayer underwear!

EN SAFETY STANDARDS



EN ISO 20471:2013 Class 3 (fabric 100 washing cycles)



EN 1149-5:2008



EN ISO 11611:2015 A1 Class 2 (A1 = 100 washing cycles)



EN ISO 11612:2015 A1 B1 C1 D0 E1 F1 (A1=100 washing cycles)



IEC 61482-2:2009 Class 1 / ATPV 9.1 cal/cm²

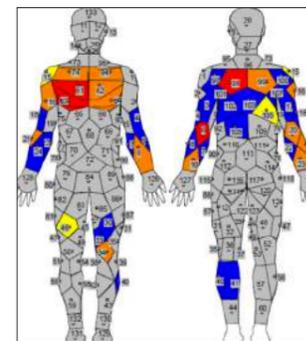


EN 13034:2005 + A1:2009 Type 6



RIS-3279-TOM Issue 1 2016 (fabric 100 washing cycles)

Body burn injury prediction



- Burning wound**
- No
 - Pain (16,2%)
 - 1st degree (2,6%)
 - 2nd degree (10,3%)
 - 3rd degree (3,4%)
 - 2nd + 3rd degree burn: (13,7%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/learn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

Orange Yellow

Product code

RO17190HVF

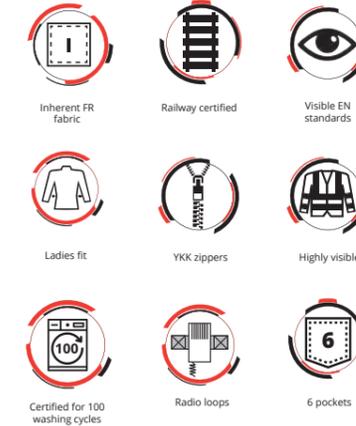
Sizing

8 - 22

Fabric weight

Jacket: 320 g/m²

KEY FEATURES



FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible
- Central zipper w/ press studs at top > Easy to open and close
- 2 Chest pockets with zip > Double storage, secure closure
- 2 Back pockets > Great storage
- Pen pocket with flap on left sleeve > Keep your pen in place
- Ladies fit > Tailored to womens measurements
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% PES / 28% Modacrylic / 20% Aramid / 20% CV FR / 1% Antistatic

Fabric weight

320 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

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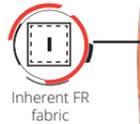
Related products



ROPB1000
FR underwear - Long sleeves shirt



RO17295HVF - Trousers
Textreme Hi-Vis Trousers - Ladies Fit



TICKING ALL BOXES

PROTECTION LEVEL: ARC 2
9.1 cal/m²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
13,7%

Body burn prediction of 2nd & 3rd degree burns.

PROTECTION LEVEL: ARC 3
31.8 cal/m²

Above shown is the ATPV value.

Reaches an ARC rating of 31.8 cal/cm² when combined with our ROOTS baselayer underwear!

EN SAFETY STANDARDS



EN ISO 20471:2013
Class 3 (fabric 100 washing cycles)



EN 1149-5:2008



EN ISO 11611:2015
A1 Class 2 (A1 = 100 washing cycles)



EN ISO 11612:2015
A1 B1 C1 D0 E1 F1 (A1=100 washing cycles)



IEC 61482-2:2009
Class 1 / ATPV 9,1 cal/cm²

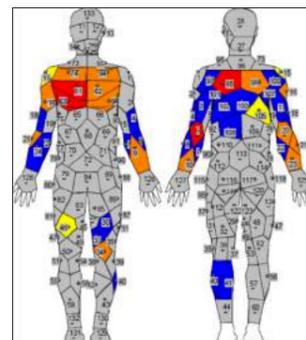


EN 13034:2005 + A1:2009
Type 6



RIS-3279-TOM
Issue 1 2016 (fabric 100 washing cycles)

Body burn injury prediction



Burning wound

- No
 - Pain (16,2%)
 - 1st degree (2,6%)
 - 2nd degree (10,3%)
 - 3rd degree (3,4%)
- 2nd + 3rd degree burn: (13,7%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Orange
- Yellow

Product code

RO17295HVF

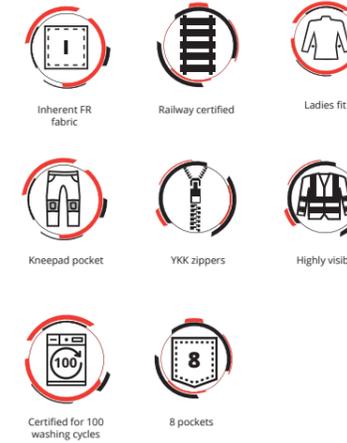
Sizing

8 - 22

Fabric weight

Trousers: 320 g/m²

KEY FEATURES



FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible
- Central zipper & top press studs > Easy to open and close
- 2 Chest pockets with zip > Double storage, secure closure
- 2 Back pockets > Great storage
- 2 Cargo pockets > Storage for all your appliances
- 2 Side pockets with trouser access > Easy to reach storage
- Pen pocket with flap on left sleeve > Keep your pen in place
- Knee pad pockets > Place for your kneepads
- Ladies fit > Tailored to womens measurements
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% PES / 28% Modacrylic / 20% Aramid / 20% CV FR / 1% Antistatic

Fabric weight

320 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

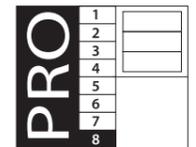
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



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Related products



RO17195HVF
Hi-Vis Jacket
Textreme Hi-Vis Jacket - Ladies Fit

ROPB2000
FR underwear - Long John's



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.



TICKING ALL BOXES

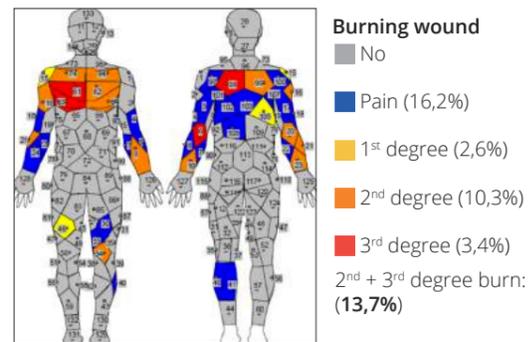
PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
9.1 cal/m²	13,7%
<small>Above shown is the ATPV value.</small>	<small>Body burn prediction of 2nd & 3rd degree burns.</small>

PROTECTION LEVEL: ARC 3	<i>Reaches an ARC rating of 31.8 cal/cm² when combined with our ROOTS baselayer underwear!</i>
31.8 cal/m²	
<small>Above shown is the ATPV value.</small>	

EN SAFETY STANDARDS

EN ISO 20471:2013 Class 3 (fabric 100 washing cycles)	EN 1149-5:2008	EN ISO 11611:2015 A1 Class 2 (A1 = 100 washing cycles)
EN ISO 11612:2015 A1 B1 C1 D0 E1 F1 (A1=100 washing cycles)	IEC 61482-2:2009 Class 1 / ATPV 9.1 cal/cm ²	EN 13034:2005 + A1:2009 Type 6
RIS-3279-TOM Issue 1 2016 (fabric 100 washing cycles)		

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
Inside leg length	Sizing
Short: 29"	UK 36 - UK 56
Regular: 31" (standard size)	EU 46 - EU 66
Tall: 33"	
Fabric weight	Product code
Coverall: 320 g/m ²	RO17095HV

KEY FEATURES

Inherent FR fabric	Railway certified	Visible EN standards
Kneepad pocket	YKK zippers	Highly visible
Radio loops	Certified for 100 washing cycles	12 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible
- Central zipper & top press studs > Easy to open and close
- 2 Chest pockets with zip > Double storage, secure closure
- 2 Back pockets > Great storage
- 2 Side pockets with trouser access > Easy to reach storage
- Pen pocket with flap on left sleeve > Keep your pen in place
- Knee pad pockets > Place for your kneepads
- 2 Cargo pockets > Storage for all your appliances
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% PES / 28% Modacrylic / 20% Aramid / 20% CV FR / 1% Antistatic

Fabric weight

320 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

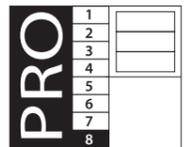
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets.
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
9.1 cal/m²	13,7%

Above shown is the ATPV value.

Body burn prediction of 2nd & 3rd degree burns.

PROTECTION LEVEL: ARC 3

31.8 cal/m²

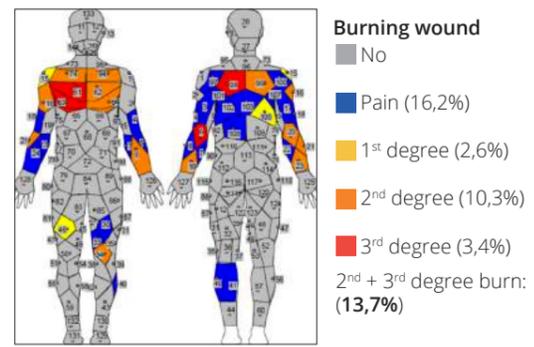
Above shown is the ATPV value.

Reaches an ARC rating of 31.8 cal/cm2 when combined with our ROOTS baselayer underwear!

EN SAFETY STANDARDS

EN ISO 20471:2013 Class 3 (fabric 100 washing cycles)	EN 1149-5:2008	EN ISO 11611:2015 A1 Class 2 (A1 = 100 washing cycles)
EN ISO 11612:2015 A1 B1 C1 D0 E1 F1 (A1=100 washing cycles)	IEC 61482-2:2009 Class 1 / ATPV 9.1 cal/cm2	EN 13034:2005 + A1:2009 Type 6
RIS-3279-TOM Issue 1 2016 (fabric 100 washing cycles)		

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
■ Orange	■ Yellow
Product code	
RO17190HV	
Fabric weight	
Jacket:	320 g/m ²
Sizing	
UK 36 - UK 58	
EU 46 - EU 68	

KEY FEATURES

Inherent FR fabric	Railway certified	Highly visible
Visible EN standards	Radio loops	Certified for 100 washing cycles
5 pockets		

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible
- Central nylon zip, press studs at the top > Secure closure
- Chest pocket with flap > Easy to reach and open
- 2 Lower zippered patch pockets > Ambidextrous pocket space
- Side hand warmer access > Keep your hands warm
- Pen pocket on left sleeve > Keep an easily reachable pen on you
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
31% PES / 28% Modacrylic / 20% Aramid / 20% CV FR / 1% Antistatic

Fabric weight

320 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

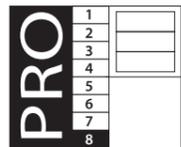
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



ROPB100
FR underwear - Long sleeves shirt



RO17295HV
Textreme Hi-Vis Trousers

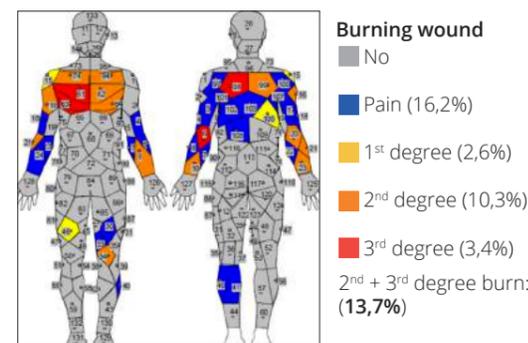
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2 9.1 cal/m² <small>Above shown is the ATPV value.</small>	BODY BURN INJURY PREDICTION 13,7% <small>Body burn prediction of 2nd & 3rd degree burns.</small>
PROTECTION LEVEL: ARC 3 31.8 cal/m² <small>Above shown is the ATPV value.</small>	<p>Reaches an ARC rating of 31.8 cal/cm² when combined with our ROOTS baselayer underwear!</p>

EN SAFETY STANDARDS

EN ISO 20471:2013 Class 1 (fabric 100 washing cycles)	EN 1149-5:2008	EN ISO 11611:2015 A1 Class 2 (A1 = 100 washing cycles)
EN ISO 11612:2015 A1 B1 C1 D0 E1 F1 (A1=100 washing cycles)	IEC 61482-2:2009 Class 1 / ATPV 9.1 cal/cm ²	EN 13034:2005 + A1:2009 Type 6
RIS-3279-TOM Issue 1 2016 (fabric 100 washing cycles)		

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
■ Orange	■ Yellow
Inside leg length	Sizing
Short: 29"	UK 28 - UK 50
Regular: 31" (standard size)	EU 44 - EU 68
Tall: 33"	
Fabric weight	Product code
Trousers: 320 g/m ²	RO17295HV

KEY FEATURES

Inherent FR fabric	Railway certified	Highly visible
Kneepad pocket	Certified for 100 washing cycles	8 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible
- 2 Back pockets > Double storage
- 2 Side swing pockets with trouser access > Easy to reach
- 2 Cargo pockets > Storage for all your appliances
- Knee pockets > Place for your kneepads
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Textreme 89416
 31% PES / 28% Modacrylic / 20% Aramid / 20% CV FR / 1% Antistatic

Fabric weight

320 g/m²

FR Fabric Type

Inherent

Additional certification



Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

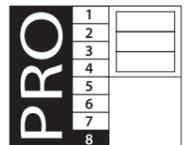
Product care instructions

Fabrics are fit for 100 cycles domestic laundry (ISO 6330 - 60°C) and 100 cycles industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO17195HV Hi-Vis Jacket
 Textreme Hi-Vis Jacket



ROPB2000
 FR underwear - Long John's



RO8008 - Kneepads
 Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
 For use with ROOTS trousers for improved fit without compromising protection.



Most powerful lightweight aramid **KERMEL® ALPHA**

All of the ROOTS fabrics in this catalogue are own developments. The health and safety of every person wearing ROOTS personal protective equipment is our top priority. Basically, ROOTS is under the impression that most Flame Retardant fabrics on offer are simply not good enough.

With Kermel® however, the other major player in the aramid market, the above is not the case. Kermel® produces outstanding FR fibres of which superb inherent fabrics are being constructed. Kermel® offers an unknown comfort to that in comparison of other leading inherent aramid fabric manufacturers. Other important properties from Kermel® are in relation to electric arc flash with very good results.

It is a common known fact that aramids shrink dramatically during a flash fire situation. This means that the fabric comes tight against the skin or under garments which causes relatively high body burns. Independent results prove that the shrinkage of the Kermel® Alpha is minimal. Although the body burn prediction is significantly higher than for example, the ROOTS Flamebuster2, you must keep in mind that the weight of the Kermel® is only 230 g/m². From that perspective the outcome is actually very good in like for like comparison. ROOTS strongly recommends to wear flame retardant underwear underneath the Kermel® Alpha range.

Kermel® is a responsible company regarding the protection of the environment:

- For many years now, Kermel® has been sorting its waste in order to optimise collections and recycling through established organisations;
- Kermel® has set up a partnership arrangement to collect up and recycle its waste products from the manufacturing process;
- In 2004, with the support of the Alsace Region, Kermel® made Clean Technology investments to handle VOCs (volatile organic compounds) in order to maintain air quality.





TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
9.3 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**
23.9%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



IEC 61482-2:2009
ATPV 9.3 cal/cm² Class 1



EN 1149-5:2018



EN ISO 11611:2015
Class 1 A1 A2
(A1 = 50 washing cycles)

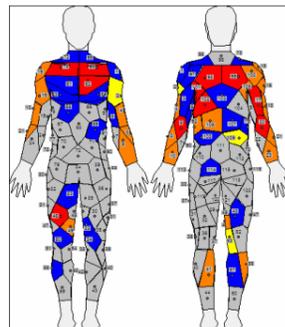


EN ISO 11612:2015
A1 A2 B1 C1 D0 E0 F1
(A1 = 50 washing cycles)



EN 13034:2005
+ A1:2009 Type 6

Body burn injury prediction



Burning wound

- No
- Pain (20,4%)
- 1st degree (2,7%)
- 2nd degree (14,2%)
- 3rd degree (9,7%)

2nd + 3rd degree burn:
(23,9%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Navy ■ Orange

Product code

RO15095

Sizing

UK 36 - UK 56
EU 46 - EU 66

Fabric weight

Coverall: 230 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES



Inherent FR fabric



Rule pocket



Double radio loops



Extra comfort with 2-tier kneepad pockets



7 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Central nylon zipper with studs at the top > Secure closure
- 2 chest pockets with zippers > Double storage, secure closure
- 2 radio / gas detector loops > Keep your instruments within reach
- 2 side pockets with trouser access > Double storage, easy access
- 2 back pockets with flap > Double storage with easy access
- Pen pocket on left sleeve > Always have a pen in reach
- Rule pocket on right leg > Keep your ruler in eachv
- Knee pockets > Place for your kneepads
- Possibility to place shoulder pads > Lessen the strain on the shoulders, extra comfort for scaffolders
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Kermel Alpha 4975 - 50% Kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

230 g/m²

FR Fabric Type

Inherent

Logo

Certified for logo applications

Industrial laundry

Fabric meets the industrial wash programme

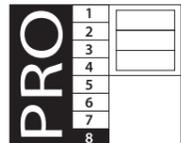
Product care instructions

Fabrics are fit for domestic laundry (ISO 6330 - 60°C) and industrial laundry (ISO 15797 - 75°C). To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.

TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**

9.3 cal/m²

Above shown is the ATPV value.

**BODY BURN INJURY
PREDICTION**

23.9%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



IEC 61482-2:2009
ATPV 9.3 cal/cm² Class 1



EN 1149-5:2018



EN ISO 11611:2015
Class 1 A1 A2
(A1 = 50 washing cycles)

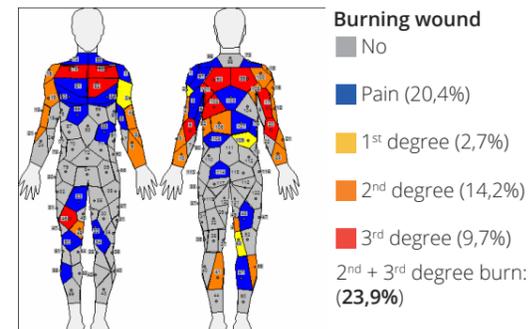


EN ISO 11612:2015
A1 A2 B1 C1 D0 E0 F1
(A1 = 50 washing cycles)



EN 13034:2005
+ A1:2009 Type 6

Body burn injury prediction



Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

Orange Navy

Product code

RO15190

Fabric weight

Jacket: 230 g/m²

Sizing

UK 32- UK 58
EU 42 - EU 68

KEY FEATURES



FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed central zip > With additional velcro closure
- 2 Large zipped chest pockets > For additional storage space
- Pen pocket on left sleeve > Always keep a pen on you
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Kermel Alpha 240 - 50% Kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

230 g/m²

FR Fabric Type

Inherent

Additional certification



- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- After washing, tumble dry at 50°C to avoid excessive shrinkage.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO15290
Kermel Nordic Trousers
Kermel Nordic Trousers



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 2**
9.3 cal/m²

Above shown is the ATPV value.

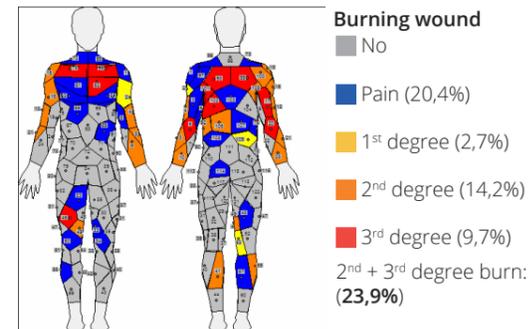
**BODY BURN INJURY
PREDICTION**
23.9%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS

IEC 61482-2:2009 ATPV 9.3 cal/cm ² Class 1	EN 1149-5:2018	EN ISO 11611:2015 Class 1 A1 A2 (A1 = 50 washing cycles)
EN ISO 11612:2015 A1 A2 B1 C1 D0 E0 F1 (A1 = 50 washing cycles)	EN 13034:2005 + A1:2009 Type 6	

Body burn injury prediction



Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

Orange Navy

Product code

RO15290

Sizing

UK 28 - UK 52
EU 44 - EU 70

Fabric weight

Trousers: 230 g/m²

Inside leg length

Short: 29"
Regular: 31"
Tall: 33" (standard size)

KEY FEATURES

Inherent FR fabric	Reflective elements	Triple stitched
Knee pad pockets	4 pockets	

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 Side swing pockets > Ambidextrous and easy to reach space
- 2 Hip patch pockets > With rule pocket on the right leg
- Knee pad pockets > Tightly secure your knee pads
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

Kermel Alpha 240 - 50% Kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic

Fabric weight

230 g/m²

FR Fabric Type

Inherent

Additional certification

1. Oeko-Tex Standard 100
2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO15190
Kermel Nordic Jacket
Kermel Nordic Jacket



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.

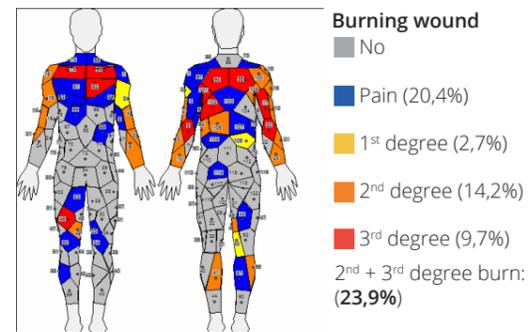
TICKING ALL BOXES

PROTECTION LEVEL: ARC 2	BODY BURN INJURY PREDICTION
9.3 cal/m²	23.9%
Above shown is the ATPV value.	Body burn prediction of 2 nd degree burns.

EN SAFETY STANDARDS

 IEC 61482-2:2009 ATPV 9.3 cal/cm ² Class 1	 EN 1149-5:2018	 EN ISO 11611:2015 Class 1 A1 A2 (A1 = 50 washing cycles)
 EN ISO 11612:2015 A1 A2 B1 C1 D0 E0 F1 (A1 = 50 washing cycles)	 EN 13034:2005 + A1:2009 Type 6	

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours	
■ Navy	■ Orange
Product code	Sizing
RO15390	UK 36 - UK 60 EU 46 - EU 70
Fabric weight	Inside leg length
BiB: 230 g/m ²	Short: 29" Regular: 31" Tall: 33" (standard size)

KEY FEATURES

 Inherent FR fabric	 Reflective elements	 Lightweight
 Rule pocket on right leg	 Knee pad pockets	 Triple stitched
 5 pockets		

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Large Chest pocket > Chest storage with easy access
- 2 Side swing pockets > With trouser access
- 2 Hip patch pockets > Easy to reach storage space
- Rule pocket on right leg > Always space for a ruler
- Knee pad pockets > Space for your knee pads
- Garment fit for industrial laundry > Tested according ISO 15797
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition	
Kermel Alpha 240 - 50% Kermel aramid / 25% modacryl protex / 24% tencel / 1% antistatic	
Fabric weight	FR Fabric Type
230 g/m ²	Inherent
Additional certification	Logo
 1. Oeko-Tex Standard 100 2. AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)	Certified for logo applications
Please visit www.roots-original.com/certificates to download all relevant certificates.	

- Product care instructions**
- To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.
1. Always launder with coverall zippers closed.
 2. Remove all tools from pockets
 3. Rinse properly after wash.
 4. Never wash flame retardant clothing with detergents containing bleach.
 5. After washing, tumble dry at 50°C to avoid excessive shrinkage.
 6. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO15190
Kermel Nordic Jacket
Kermel Nordic Jacket



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



RO1512

Stormbuster Classic
Waterproof Coverall



For when it gets serious. **STORMBUSTER**

As you'd expect from a coverall trusted by professionals worldwide the Stormbuster Classic Waterproof range meets all the criteria to protect you in the most demanding situations.

Every component is designed for performance. The material for this garment is tested in accordance with the IEC 61482-1-1 which resulted in a calorific rating of (ATPV) 25.9 cal/cm²! So you can focus on your work without having to worry about whether or not you are protected.

It redefines comfort and offers versatile solutions for every day irritations.

The Stormbuster redefines comfort and offers versatile solutions for everyday irritations that one normally had to take for granted.

E.g. we redesigned all basic characteristics for a coverall in this class with direct input from professionals in the Wind Power industry. In some areas, it almost goes without saying, a specially designed waterproof hood to be worn underneath any hard hat alleviating the traditional annoyance and safety concerns of an obstructed view.



The ultimate coverall, For when it gets serious.

As you'd expect from a coverall trusted by professionals worldwide the RO1512 Stormbuster Classic Waterproof Coverall meets all the criteria to protect you in the most demanding situations. Every component is designed for performance.

The material for this garment is tested in accordance with the IEC 61482-1-1 which resulted in a calorific rating of (ATPV) 25.9 cal/cm²! So you can focus on your work without having to worry about whether or not you are protected.

The RO1512 redefines comfort and offers versatile solutions for everyday irritations that one normally had to take for granted. We redesigned all basic characteristics for a coverall in this class with direct input from professionals in the Wind Power industry. In some areas, it almost goes without saying, a specially designed waterproof hood to be worn underneath any hard hat alleviating the traditional annoyance and safety concerns of an obstructed view.



FEATURES & BENEFITS

Our design focus is the safety of your workforce. That's paramount. This also means that the garment you wear should not annoy you with little disturbances that may jeopardise your safety and the safety of everyone around you. Our garments offer far more comfort than most other competing products. The RO1512 has abounding safety and comfort features that were engineered to reduce fatigue, enhance visibility, control comfort, and much more! No matter the task, the RO1512 is up to it!

1 RO1511



WATERPROOF HOOD*
Specially designed waterproof hood for use underneath any hard hat, alleviating the traditional annoyance and safety concerns of a 'blocked view'

2



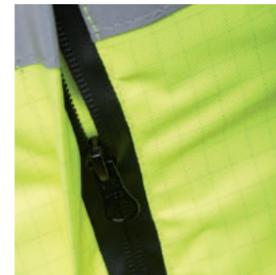
VENTING ZIPPERS
Waterproof zippers for regulating cold / warm air. This ventilation is cleverly positioned under the armpits. That way you get the most comfort

3 RO1513



NEOPRENE CUFFS*
Waterproof cuffs made from neoprene to prevent water leakage whilst working overhead.

4



CONCEALED TROUSER
Concealed trouser access with waterproof zipper.

5



CARGO POCKETS
Oversized cargo pockets on thigh, accessible when wearing a fall arrest harness.

6



OVERSIZED KEVLAR KNEEPOCKETS
durable knee pockets that last a lifetime

7



EASY ACCESS SAFETY BOOTS
Concealed zipper in legs for easy access with safety boots.

AVAILABLE COLOURS



The RO1512 Stormbuster Classic Waterproof coverall is available in two colour options; a full yellow hi-vis and full orange hi-vis complying with the high visibility GO/RT 3279 safety standard. This standard is a UK only standard that ensures the sufficiency

of visibility of those who work on or near the rail trackside.

ACCESSORIES

RO1506	Jacket winter liner
RO1516	Trousers winter liner
RO1511	Hood with liner
RO1513	Waterproof cuffs per pair
RO1514	Replacement liner for hood RO1511

*Accessories are sold separately



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
25.9 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 343:2003
+ A1:2007 3/3



EN 1149-5:2008



EN ISO 14116:2008
Index 3/50H/40



EN 13034:2005
+ A1:2009 Type 6



EN ISO 20471:2013
Class 3



GO/RT 3279
(Orange only)

QUICK DETAIL OVERVIEW

Available colours

■ Hi-Vis Yellow ■ Hi-Vis Orange

Product code

RO1512

Sizing

S - 6 XL

Fabric weight

Coverall: 435 g/m²

KEY FEATURES



Treated fabric



Optional detachable hood available



Windproof



Triple stitched



Waterproof



Double radio loops



8 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Concealed central zip > Sturdy and waterproof
- Chest pocket > Extra storage compartment
- 2 oversize cargo pockets > Storage for all your appliances
- 2 radio loops > Keep your instruments within reach
- Waterproof zip under armpit > Extra ventilation
- Waterproof concealed trouser access > Easy access with zip
- Optional detachable hood > Designed to be worn under a helmet
- Neoprene cuffs > Shapes to your wrist, keeps water from seeping in
- Two zips on bottom leg > Makes it easier to put on your boots
- Non-metallic YKK zippers > Durable for long time use
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm²

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO1511
Optional hood with liner
Waterproof and designed to be worn under a hard hat.



RO1513 - Waterproof cuffs
Separate waterproof neoprene replacement cuffs



RO1514 - Replacement liner for hood
Separate replacement liner for the RO1511 hood.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
25.9 cal/cm²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



EN 343:2003
+ A1:2007 3/3



EN 1149-5:2008



EN ISO 14116:2008
Index 3/50H/40



EN 13034:2005
+ A1:2009 Type 6

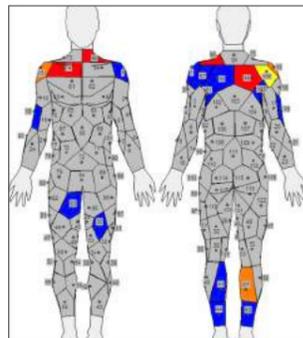


EN ISO 20471:2013
Class 2



GO/RT 3279

Body burn injury prediction



Burning wound

- No
 - Pain (9,6%)
 - 1st degree (0,9%)
 - 2nd degree (1,8%)
 - 3rd degree (2,6%)
- 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Hi-Vis Yellow/Navy
- Hi-Vis Orange/Navy

Product code	Sizing
RO1517	XS - 6XL

Fabric weight

Parka: 250 g/m² + 185 g/m²

KEY FEATURES



Treated fabric



Detachable hood



Waterproof



2 radio / gas detector loops



Highly visible



Windproof



7 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 radio / gas detector loops > Chest storage with easy access
- 2 chest pockets > Double the storage space
- 2 front pockets > Ambidextrous rear storage space
- Detachable hood > Always space for a ruler
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm²

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



**RO1537
Classic Waterproof Trousers**
Stormbuster Classic Waterproof Trousers.



**RO1527
Classic Waterproof Bib**
Stormbuster Classic Waterproof Bib



Comes with a detachable winter liner!

TICKING ALL BOXES

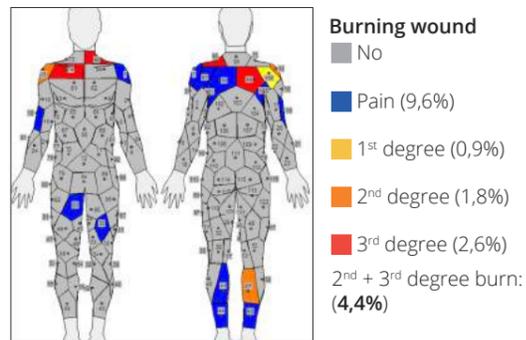
PROTECTION LEVEL: ARC 3 25.9 cal/m²	BODY BURN INJURY PREDICTION 4.4%
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Above shown is the ATPV value. Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS

 EN 343:2003 + A1:2007 3/3	 EN 1149-5:2008	 EN ISO 14116:2008 Index 3 /50H/40
 EN 13034:2005 + A1:2009 Type 6	 EN ISO 20471:2013 Class 2	 GO/RT 3279 (Orange/Navy only)

Body burn injury prediction



Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Orange/Navy
- Yellow/Navy

Product code	Sizing
RO1547	XS - 4XL
Fabric weight	
Jacket:	435 g/m ²

KEY FEATURES

 Treated fabric	 Double radio loops	 Detachable hood
 Windproof	 Waterproof	 3 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Detachable FR winter liner > Stay warm and extra protected
- 2 radio/gas detector loops > Keep your instruments within reach
- 2 Back pockets with flap > Great rear storage
- 2 Side pockets with trouser access > Easy access on both sides
- Non-metallic YKK zippers > Durable for long time use
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm²

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

- Always launder with coverall zippers closed.
- Remove all tools from pockets
- Rinse properly after wash.
- Never wash flame retardant clothing with detergents containing bleach.
- Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO1537
Classic Waterproof Trousers
Stormbuster Classic Waterproof Trousers.



RO1527
Classic Waterproof Bib
Stormbuster Classic Waterproof Bib



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
25.9 cal/cm²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



EN 343:2003 + A1:2007
3/3



EN 1149-5:2008



EN ISO 14116:2008
Index 3/50H/40



EN 13034:2005 +
A1:2009 Type 6

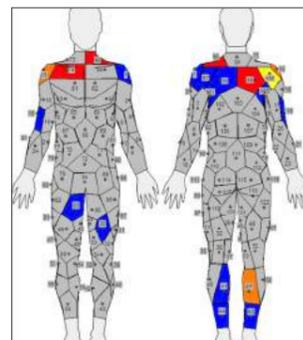


EN ISO 20471:2013
Class 1



GO/RT 3279

Body burn injury prediction



Burning wound

- No
 - Pain (9,6%)
 - 1st degree (0,9%)
 - 2nd degree (1,8%)
 - 3rd degree (2,6%)
- 2nd + 3rd degree burn:
(4,4%)

Above shown body burn scores are without FR underwear.
Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Hi-Vis Yellow/Navy
- Hi-Vis Orange/Navy

Product code	Sizing
RO1537	XS - 4XL
Fabric weight	
Trousers:	435 g/m ²

KEY FEATURES



Treated fabric



Reflective elements



Windproof



Waterproof



5 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 side pockets > Double storage with easy access
- 2 back pockets > Rear storage space
- 2 cargo pockets > Spacious and easy to reach storage compartment
- Non-metallic YKK zippers > Durable for long time use
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm²

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO1517
Classic Waterproof Jacket
Stormbuster Classic
Waterproof jacket.



RO1507 - ROOTS Belt
For use with ROOTS trousers for improved fit without compromising protection.



TICKING ALL BOXES

PROTECTION LEVEL: ARC 3
25.9 cal/cm²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



EN ISO 20471:2013
Class 2



EN 1149-5:2008



EN ISO 14116:2008
Index 3/50H/40



EN ISO 13034:2005
+ A1:2009 Type 6

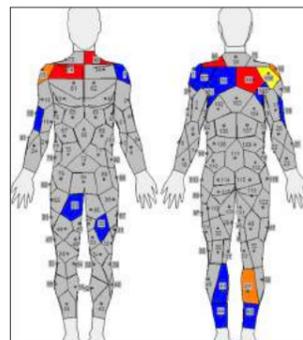


EN 343:2003
+ A1:2007 3/3



GO/RT 3279

Body burn injury prediction



Burning wound

- No
 - Pain (9,6%)
 - 1st degree (0,9%)
 - 2nd degree (1,8%)
 - 3rd degree (2,6%)
- 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Orange/Navy
- Yellow/Navy

Product code

RO1527

Sizing

XS - 4XL

Fabric weight

BIB: 435 g/m²

KEY FEATURES



Treated fabric



Waterproof



Highly visible



Windproof



7 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Central zip with flap > Sturdy and easy to use
- Two front pockets with flap > Easy access storage
- Two side pockets with flap > Double the storage
- One back pocket > Rear storage space
- Two cargo pockets > Space for all your appliances
- Adjustable straps > Adjust to get a perfect fit
- Non-metallic YKK zippers > Durable for long time use
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm²

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO1517
Classic Waterproof Jacket
Stormbuster Classic
Waterproof jacket.



EN SAFETY STANDARDS



EN 343:2003
+ A1:2007 3/3



EN 1149-5:2008



EN ISO 14116:2008
Index 3 /50H/40



EN 13034:2005
+ A1:2009 Type [PB6]



EN SAFETY STANDARDS



EN 343:2003
+ A1:2007 3/3



EN 1149-5:2008



EN ISO 14116:2008
Index 3 /50H/40



EN 13034:2005
+ A1:2009 Type [PB6]

QUICK DETAIL OVERVIEW

Available colours

Orange/Navy Yellow/Navy

Product code **Sizing**

RO1557 S - 4 XL

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight **FR Fabric Type**

250 g/m² + 185 g/m² Treated

Additional certification **Logo**



Certified for logo applications

- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

QUICK DETAIL OVERVIEW

Available colours

Navy

Product code **Sizing**

RO1558 S - 4 XL

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight **FR Fabric Type**

250 g/m² + 185 g/m² Treated

Additional certification **Logo**



Certified for logo applications

- Oeko-Tex Standard 100
- AS/NZ 4399:1996 Sun protective clothing UPF 50+ (Excellent Protection)

Please visit www.roots-original.com/certificates to download all relevant certificates.

Stormbuster Classic accessories

When ROOTS first produced FR jackets several years ago, we supplied the outer shell together with a separately bagged detachable winter liner as one item. In the past few years we have seen an immense growth of market share in this product range.

Due to the growing numbers we also were asked the question for different winter liners as our wearers work in a variety of environments, each with different risk levels, but also with different levels of temperatures.

ROOTS customers now have the choice to purchase a varied range of interactive liners depending on their working environment. In order to advance to the customers' demands ROOTS decided to develop a series of winter liners that fit our Stormbuster Waterproof range as well as the Multi Protector All Weather range. Apart from the variety of jackets and body warmers, we also included a jacket with a stunning arc rating of 25.9 cal/cm2.



HAVE A BUZZING QUESTION?
Get in contact, we'd love to help you.
Call our hotline: +31(0)10 2955 955
or message us at info@roots-original.com



RO1501



NON FR JACKET / DETACHABLE LINER

Details: NON FR, Polyester
Sizing: XS - 6XL
Colours: Black

RO1505



NON FR JACKET / DETACHABLE LINER

Details: NON FR, 100% Cotton
Sizing: XS - 4XL
Colours: Black

RO1502



FR JACKET / DETACHABLE LINER

Details: Polyester
Sizing: XS - 6XL
Colours: Navy

EN safety standard:
 EN ISO 14116:2008 Index 1/25H/60

RO1503



FR JACKET / DETACHABLE LINER

Details: Cotton
Sizing: XS - 4XL
Colours: Black

EN safety standard:
 EN ISO 11612:2008 A1 B1 C1 D0 E1 F1
 EN 342:2004 Icler = 0.36 (B) X 2 X



Detachable hood



Highly visible

TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
25.9 cal/cm²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



EN 343:2003 + A1:2007 3/3



EN 1149-5:2008



EN ISO 14116:2008 Index 3/50H/40



EN 13034:2005 + A1:2009 Type 6

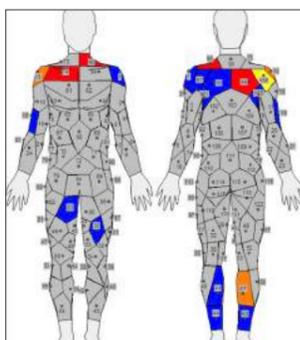


EN ISO 20471:2013 Class 2



GO/RT 3279

Body burn injury prediction



Burning wound

- No
- Pain (9,6%)
- 1st degree (0,9%)
- 2nd degree (1,8%)
- 3rd degree (2,6%)
- 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

- Hi-Vis Orange
- Hi-Vis Yellow

Product code **Sizing**

RO4517 XS - 6XL

Fabric weight

Parka: 250 g/m² + 185 g/m²

KEY FEATURES



Treated fabric



Detachable hood



Waterproof



2 radio / gas detector loops



Highly visible



Windproof



7 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- 2 radio / gas detector loops > Chest storage with easy access
- 2 chest pockets > Double the storage space
- 2 front pockets > Ambidextrous rear storage space
- Detachable hood > Always space for a ruler
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm²

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care





Highly visible

Waterproof

Windproof

Comes with a fixed winter liner!

TICKING ALL BOXES

PROTECTION LEVEL: ARC 3
25.9 cal/m²

Above shown is the ATPV value.

BODY BURN INJURY PREDICTION
4.4%

Body burn prediction of 2nd degree burns.

EN SAFETY STANDARDS



EN 343:2003 + A1:2007 3/3



EN 1149-5:2008



EN ISO 14116:2008 Index 3 /50H/40



EN 13034:2005 + A1:2009 Type 6

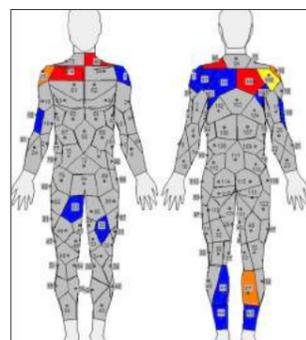


EN ISO 20471:2013 Class 2



GO/RT 3279 (Orange only)

Body burn injury prediction



Burning wound
 ■ No
 ■ Pain (9,6%)
 ■ 1st degree (0,9%)
 ■ 2nd degree (1,8%)
 ■ 3rd degree (2,6%)
 2nd + 3rd degree burn: (4,4%)

Above shown body burn scores are without FR underwear. Visit www.roots-original.com/burn-injury-predictions for more information.

QUICK DETAIL OVERVIEW

Available colours

■ Hi-Vis Orange ■ Hi-Vis Yellow

Product code

RO4547

Sizing

S - 6XL

Fabric weight

Bomber: 435 g/m²

KEY FEATURES



Treated fabric



Double radio loops



Detachable hood



Windproof



Waterproof



3 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Fixed FR winter liner > Stay warm and extra protected
- 2 radio/gas detector loops > Keep your instruments within reach
- 2 Back pockets with flap > Great rear storage
- 2 Side pockets with trouser access > Easy access on both sides
- Non-metallic YKK zippers > Durable for long time use
- Fabric tested > According to IEC 61482-1-1 result ATPV 25.9 cal/cm2

FABRIC INFORMATION

Fabric composition

SBCWP: 99% cotton / 1% antistatic
 FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Treated

Additional certification



Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Logo

Certified for logo applications

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets
3. Rinse properly after wash.
4. Never wash flame retardant clothing with detergents containing bleach.
5. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
35.2 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN343:2003 +
A1:2007 3/2



EN 1149-5:2008



EN ISO 11611:2015
A1 Class 2



EN ISO 11612:2015
A1 B1 C1 D0 E3 F1



IEC 61482-2:2009
ATPV 35.2 cal/cm²
Class 2



EN 13034:2005 +
A1:2009 Type 6



EN ISO 20471:2013
Class 3

QUICK DETAIL OVERVIEW

Available colours

Hi-Vis Yellow/Navy

Product code

RO2512

Sizing

XS - 4XL

Fabric weight

Coverall: 435 g/m²

KEY FEATURES



Inherent fabric



2 Radio loops



Waterproof



Waterproof Zip under armpit



Reflective elements



8 pockets

FEATURES & BENEFITS

Flame retardant retroreflective tape > Stay visible in any situation

Two Napoleon pockets with zip > Easy access and extra storage

Waterproof zip under arm pit > For ventilation

Front Pockets > Double storage space

Two back pockets > More storage

Two cargo pockets > Extra Storage

2 radio / gas detector loops > Keep your instruments within reach

2 tier knee pockets > Place for your kneepads

Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

SBXWP: 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Inherent

Additional certification



Oeko-Tex Standard 100

Logo

Certified for logo applications

Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 3
35.2 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN343:2003 +
A1:2007 3/2



EN 1149-5:2008



EN ISO 11611:2015
A1 Class 2



EN ISO 11612:2015
A1 B1 C1 D0 E3 F1



IEC 61482-2:2009
ATPV 35.2 cal/cm2
Class 2



EN 13034:2005 +
A1:2009 Type 6



EN ISO 20471:2013
Class 3

QUICK DETAIL OVERVIEW

Available colours

Hi-Vis Yellow/Navy

Product code

RO2517

Sizing

XS - 4XL

Fabric weight

Parka: 435 g/m²

KEY FEATURES



Detachable hood



2 Radio loops



High visibility



Inherent fabric



Waterproof



4 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Central zip with velcro closure > Easy to open and close
- 2 Napoleon pockets with zip > Double storage space
- 2 Front pockets with flap > More storage
- Detachable hood > Swiftly transform your parka
- Inner Pocket > Safely tuck away your goods
- Two radio / gas detector loops > Keep your instruments within reach
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

SBXWP: 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Inherent

Additional certification



1. Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO2527
Bib
Stormbuster Xtreme
Waterproof Bib



TICKING ALL BOXES

**PROTECTION LEVEL:
ARC 3**
35.2 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 343:2003 +
A1:2007 3/2



EN 1149-5:2008



EN ISO 11611:2015
A1 Class 2



EN ISO 11612:2015
A1 B1 C1 D0 E3 F1



IEC 61482-2:2009
ATPV 35.2 cal/cm²
Class 2



EN 13034:2005 +
A1:2009 Type 6



EN ISO 20471:2013
Class 2

QUICK DETAIL OVERVIEW

Available colours

Hi-Vis Yellow/Navy

Product code

RO2527

Sizing

XS - 4XL

Fabric weight

Bib: 435 g/m²

KEY FEATURES



Inherent fabric



Waterproof



High visibility



Zipper at bottom legs



7 pockets

FEATURES & BENEFITS

- Flame retardant retroreflective tape > Stay visible in any situation
- Adjustable knee pockets > Place for you kneepads
- Front pocket with flap > More storage
- Two front pockets > Double storage space
- Two back pockets with reflective piping > Large extra storage
- Two cargo pockets on sides > Storage for all your appliances
- Zipper at bottom legs > Sturdy concealed non metallic zipper
- Non-metallic YKK zippers > Durable for long time use

FABRIC INFORMATION

Fabric composition

SBXWP: 60% modacrylic / 33% cotton / 5% nylon / 2% antistatic
FLA185: 100% cotton

Fabric weight

435 g/m²

FR Fabric Type

Inherent

Additional certification



1. Oeko-Tex Standard 100

Please visit www.roots-original.com/certificates to download all relevant certificates.

Product care instructions

To preserve the fabrics strength and protective capacity, we strongly advice to follow our detailed care instructions.

1. Always launder with coverall zippers closed.
2. Remove all tools from pockets.
3. Rinse properly after wash.
4. Do not iron directly over heat seal logos.



Whenever in doubt or in need of advice, ask your dry cleaner or contact us. We are here to help or visit www.roots-original.com/product-care

Related products



RO8008 - Kneepads
Pair of foam ROOTS knee pads for extra comfort.

RO200350
PU Rainwear Jacket

RO200400
PU Rainwear Trousers



No shoulder seams

EN SAFETY STANDARDS

EN 1149-5:2008	EN ISO 14116:2008 Index 1/5H/40	EN 343:2003 +A1:2007 3/1

KEY FEATURES

Inherent FR fabric	2 Patch pockets	Waterproof
Visible safety standards	Adjustable cuffs	

Adjustable cuffs

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	Sizing
RO200350	S - 4XL

Fabric weight	FR Fabric Type
Jacket: 170 g/m ²	Waterproof

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane

FEATURES & BENEFITS

- High frequency welded seams > Provide better durability
- Fixed hood with drawstrings > Easily adjustable
- Zipper under storm flap > Secured with press studs
- Adjustable press studs on sleeves > For a tighter fit
- 2 Patch pockets > Easy to reach storage space.



Elasticated waist

EN SAFETY STANDARDS

EN 1149-5:2008	EN ISO 14116:2008 Index 1/5H/40	EN 343:2003 +A1:2007 3/1

KEY FEATURES

Inherent FR fabric	Visible safety standards	Waterproof

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	Sizing
RO200400	S - 3XL

Fabric weight	FR Fabric Type
Trousers: 170 g/m ²	Waterproof

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane

FEATURES & BENEFITS

- Elasticated waist > For a comfortable fit
- High frequency welded seams > More durability
- Press studs by the ankles > Secured closure

RO6837
PU Rainwear Hi-Vis Jacket



EN SAFETY STANDARDS



EN 1149-5:2008



EN ISO 14116:2008
Index 1/5H/40



EN 471:2003
+A1:2007



EN 343:2003
+A1:2007 3/1

KEY FEATURES



Inherent FR fabric



Highly visible



Waterproof



Visible safety standards



Adjustable cuffs



2 Patch pockets

FEATURES & BENEFITS

High frequency welded seams > Provide better durability

Fixed hood with drawstrings > Easily adjustable

Zipper under storm flap > Secured with press studs

Adjustable press studs on sleeves > For a tighter fit

2 Patch pockets > Easy to reach storage space.

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	Sizing
RO6837	S - 4XL

Fabric weight	FR Fabric Type
Jacket: 170 g/m ²	Waterproof

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane

RO6544
PU Rainwear Hi-VisTrousers



EN SAFETY STANDARDS



EN 1149-5:2008



EN ISO 14116:2008
Index 1/5H/40



EN 343:2003
+A1:2007 3/1

KEY FEATURES



Inherent FR fabric



Highly visible



Waterproof



Visible safety standards

FEATURES & BENEFITS

Elasticated waist > For a comfortable fit

High frequency welded seams > More durability

Press studs by the ankles > Secured closure

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	Sizing
RO6544	S - 3XL

Fabric weight	FR Fabric Type
Trousers: 170 g/m ²	Waterproof

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane





EN SAFETY STANDARDS



EN 1149-5:2008



EN ISO 14116:2008
Index 1/5H/40



EN 343:2003
+A1:2007 3/1

KEY FEATURES



Inherent FR fabric



Visible safety standards



Waterproof

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	Sizing
RO200500	S - 4XL
Fabric weight	FR Fabric Type
Bib: 170 g/m ²	Waterproof

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane

FEATURES & BENEFITS

Elasticated shoulder straps > With buckled to easily adjust

High frequency welded seams > More durability

Press studs by the ankles > Secured closure



EN SAFETY STANDARDS



EN 1149-5:2008



EN ISO 14116:2008
Index 1/5H/40



EN 343:2003
+A1:2007 3/1

KEY FEATURES



Inherent FR fabric



Waterproof



No shoulder seams



Windproof



Lightweight

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	FR Fabric Type
RO200650	Waterproof
Fabric weight	Sizing
Yellow + Navy: 190 g/m ²	S - 3XL: Yellow
Orange: 210 g/m ²	S - 4XL: Navy + Orange

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane

FEATURES & BENEFITS

High frequency welded seams > Increased durability

Fixed hood with drawstring > Easily adjusted rain protection

Zipper under double storm flap > With press stud fastening

Elasticated lower back > Improved movement

Sleeves with wind cuffs > Protects against wind and rain

Press stud adjustments by the ankles > Secure leg closure



EN SAFETY STANDARDS



EN 1149-5:2008



EN ISO 14116:2008
Index 1/SH/40



EN 471:2003
+A1:2007
(Orange & Yellow only)



EN 343:2003
+A1:2007 3/1

KEY FEATURES



Inherent FR fabric



Highly visible



Waterproof



Visible safety standards



Adjustable cuffs



2 Patch pockets

FEATURES & BENEFITS

High frequency welded seams > Provide better durability

Fixed hood with drawstrings > Easily adjustable

Zipper under storm flap > Secured with press studs

Adjustable press studs on sleeves > For a tighter fit

2 Patch pockets > Easy to reach storage space.

QUICK DETAIL OVERVIEW

Available colours

Yellow Orange Navy

Product code	Sizing
RO6817	S - 4XL

Fabric weight	FR Fabric Type
Jacket: 170 g/m ²	Waterproof

Fabric composition

Microflex FR - 50% polyamide / 50% polyurethane



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2

18.2 cal/cm²

Above shown is the ATPV value.

EN SAFETY STANDARDS



IEC 61482-2:2009
ATPV 18.2 cal/cm²
Class 1



EN 1149-5:2008



EN ISO 11611:2015
A1 Class 2



EN ISO 11612:2015
A1 B2 C2 D0 E1 F2



EN ISO 13034:2005 +
A1:2009 Type PB[6]

KEY FEATURES



2 Napoleon pockets and side pockets



Visible safety standards

QUICK DETAIL OVERVIEW

Available colours

Grey/Black

Product code	Sizing
RO37760	XS - 6XL

Fabric weight	
Softshell:	350 g/m ²

FEATURES & BENEFITS

Modern cut for improved wearer fit > Optimum fit

Stand up collar design for professional look > For a professional look

2 Napoleon pockets with zip > Double the storage space

2 vertical side pockets with zip > Ambidextrous storage space

Extended back > Optimum fit

Non-metallic YKK zippers > Durable for long time use

Chevron reflective tape for more ease of movement



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
18.2 cal/cm²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN ISO 20471:2013 + A1:2016 Class 3 RWS



EN 1149-5:2008



EN ISO 11611:2015 A1 Class 2



EN ISO 11612:2015 A1 B2 C2 D0 E1 F2



IEC 61482-2:2009 ATPV 18.2 cal/cm² Class 1



RIS-3279-TOM Issue 1 2016



EN 13034:2005 + A1:2009 Type PB[6]

KEY FEATURES



Napoleon pocket



Highly visible



Visible safety standards

QUICK DETAIL OVERVIEW

Available colours

Orange

Product code **Sizing**

RO37890HV XS - 6XL

Fabric weight

Softshell: 350 g/m²

FEATURES & BENEFITS

- Modern cut > For improved wearer fit
- Flame retardant reflective tape > Stay visible in any situation
- Stand up collar design for professional look > Extra neck protection
- Napoleon pockets with YKK zip > Easy to reach storage
- 2 Vertical side pockets with YKK zip > Ambidextrous storage
- Front chest pocket with YKK zip > Convenient storage compartment
- Extended back > Optimum fit, better movement
- Non-metallic YKK zippers > Durable for long time use



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
18.2 cal/cm²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN ISO 20471:2013 + A1:2016 Class 2



EN 1149-5:2008



EN ISO 11611:2015 A1 Class 2



EN ISO 11612:2015 A1 B2 C2 D0 E1 F2



IEC 61482-2:2009 ATPV 18.2 cal/cm² Class 1



EN 13034:2005 + A1:2009 Type PB[6]

KEY FEATURES



Napoleon pocket



Highly visible



Visible safety standards

QUICK DETAIL OVERVIEW

Available colours

Yellow/NAVY

Product code **Sizing**

RO37790HV XS - 6XL

Fabric weight

Softshell: 350 g/m²

FEATURES & BENEFITS

- Modern cut > For improved wearer fit
- Flame retardant reflective tape > Stay visible in any situation
- Stand up collar design for professional look > Extra neck protection
- 2 Napoleon pockets with zip > Double storage within close reach
- 2 Vertical side pockets with zip > Easy to reach storage space
- Extended back > Optimum fit, better movement
- Non-metallic YKK zippers > Durable for long time use



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
11,9 cal/m²

Above shown is the EBT50 value.

EN SAFETY STANDARDS



EN ISO 11612:2015
A1 B1 C1 D0 E0 F1
(A1=50 washing cycles)



EN 1149-5:2008



IEC 61482-2:2009
EBT50 11.9 cal/cm²

KEY FEATURES



Treated fabric



Hydrophilic



Anti-bacterial

FEATURES & BENEFITS

Flat stitching > provides more comfort

Loose fit > moves freely

Antibacterial > Keep bacteria at bay

Hydrophilic > Repels water

QUICK DETAIL OVERVIEW

Available colours

■ Navy

Product code	Sizing
RO26100	XS - 4XL

Fabric weight

Sweater: 365 g/m²

Fabric composition

FR Sweater 365 - 60% modacrylic protex C / 38% viscose sofresh / 2% Antistatic



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 1
4.8 cal/cm²

Above shown is the EBT50 value.

EN SAFETY STANDARDS



IEC 61482-2:2009
EBT50 4.8 cal/cm²
Class 1



EN 1149-5:2008



EN ISO 11612:2015
A1 B1 C1 D0 E0 F1

KEY FEATURES



Inherent FR fabric



Antibacterial



Lightweight

FEATURES & BENEFITS

Collar with three buttons > Optimum fit

Antibacterial > Keep bacteria at bay

Hydrophilic > Hydrophilic

QUICK DETAIL OVERVIEW

Available colours

■ Black ■ Red ■ Green ■ Royal ■ Navy

Product code	Sizing
RO25300	XS - 6XL

Fabric weight

Shirt: 210 g/m²

Fabric composition

FR Underwear 211 - 60% modacrylic protex C / 38% viscose sofresh / 2% Antistatic



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
8.6 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN ISO 11612:2015
A1 B1 C1 D0 E0 F0



EN 1149-5:2018



IEC 61482-1-1:2009
8.6 cal/m²



IEC 61482-2:2009
Class 1

KEY FEATURES



Inherent FR fabric



Visible EN standards

QUICK DETAIL OVERVIEW

Available colours

Navy

Product code **Sizing**

ROPB5000 S - 3XL

Fabric weight

Poloshirt: 220 g/m²

Fabric composition

60% Protex/ 38% cotton / 2% Beltron

FEATURES & BENEFITS

- Pique knit construction, > Very comfortable and light
- concealed 3 button placket, > For a smarter look
- FR knitted cuffs > Extra protection and comfort
- FR knitted collar with double raised rib detail > Professional look
- Visible FR standards transfer > Easily identify the standards



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 1
6.2 cal/m²

Above shown is the ATPV value.

EN SAFETY STANDARDS



EN 1149-5:2008



RIS-3279-TOM
Issue 1:2016



EN ISO 11612:2015
A1 B1 C1 D0 E0 F0



EN ISO 20471:2013
Class 3



IEC 61482-2:2009
Class 1
IEC 61482-1-1:2009
ATPV 6.2 cal/cm²

KEY FEATURES



Inherent FR fabric



Highly visible



Railway certified

Also available as ladies fit!

QUICK DETAIL OVERVIEW

Available colours

Hi-Vis Orange

Product code **Sizing**

Ladies: ROPB7000F Ladies: 8 - 20
Men's: ROPB7000 Men's: S - 4XL

Fabric weight

Poloshirt: 230 g/m²

Fabric composition

Protal 3@ - 33% modacrylic, 20% viscose 10% cotton, 3% Nylon, 32% polyester, 2% carbon

FEATURES & BENEFITS

- Pique knit construction, > Very comfortable and light
- Vizlite reflective tape > Stay visible in any situation
- Inherently flame retardant > Never loses its FR properties
- Twin needle stitching at neck, sleeves & hem > For a comfortable fit
- FR knitted collar with double raised rib > For a professional look
- Concealed 3 button placket > For a smarter look
- Set in sleeve design > Optimum fit
- Elasticated knitted FR cuffs > Shapes to your wrist

Why you should consider arc flash rated underwear.

As arc flash awareness has risen, managers have sought the most effective ways their companies can comply to in-house standards, local regulations, and industry best practices. The cost of PPE has been a topic of interest in the business side of the companies, and many have had to take a hard look at best-performing PPE and the cost of implementation of the PPE, and then decide how they can get the most bang for their buck.

Many companies have felt that arc rated daily wear was not the best approach due to the high cost of having workers in the arc rated gear all day, but over time many of those companies have switched to arc rated daily wear for electricians, line technicians and anyone exposed to potential arc flash work conditions on a regular basis. The reason for this change in approach was that the specialty PPE for arc flash such as a flash suit or a coverall was not getting used, due to discomfort of the suit, inconvenient location of the gear, or lack of worker awareness of the need.

As companies have switched to daily wear, another issue has arisen. Twenty years ago, all electrical workers were typically wearing cotton short-sleeved t-shirts in warmer weather and only donned long-sleeved shirts for certain job applications. Arc flash exposure was an afterthought at most companies. Today the wearing of flammable undergarments is still prevalent, but many of the garments are partially or completely made of wicking materials like polyester and polyethylene. This change in common clothing from ignitable, non-melting natural fibers to more blended ignitable and meltable fiber garments has increased the risk of burns for electrical workers wearing them under their arc rated PPE.

For this reason, more employers are now providing arc rated t-shirts for non-electrical work to be worn underneath PPE.

- There are several benefits to providing arc rated t-shirts:
1. Eliminates the risk of melting fibers in undergarments, putting the company out of compliance of the best practices
 2. Eliminates the risk of ignition of an undergarment in unexpected arc flashes or arc flashes having greater energy than predicted by the arc flash study
 3. Provides additional protection to the worker in the field with little additional PPE requirements (2 layers can double or triple the arc rating of the garment system; see manufacturer data)
 4. Reduces chance of ignition in arc flashes in higher voltages and higher voltage arc flashes, especially in a contact event; these arc flashes are likely to travel UNDER the arc rated garment in what is called a "tracking arc flash" and can more easily ignite the under layer than a common arc flash can

We now see about 25% of the utility companies in the US and about 10% of the industrial companies using arc rated t-shirts as part of their electrical safety program. With the dual value of prevention of ignition and melting under arc rated gear, and the ease of ensuring compliance, more companies are considering adding arc rated t-shirts to their clothing programs.



Hugh Hoagland

Hugh Hoagland has done over 90% of the world's arc testing through his company ArcWear.com (www.arcwear.com) at the Kinectrics High Current lab in Toronto, Canada. His training company e-Hazard.com (www.e-hazard.com) produces training materials on electrical safety, and he is a sought-after speaker internationally on the subject of arc flash and PPE.



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
4.8 cal/m²

Above shown is the EBT50 value.

EN SAFETY STANDARDS



IEC 61482-2:2009
EBT50 4.8 cal/cm²
Class 1



EN 1149-5:2008



EN ISO 11612:2015
A1 B1 C1 D0 E0 F1

QUICK DETAIL OVERVIEW

Available colours

■ Grey

Product code

Men's shirt: RO25100
Men's long john's: RO25120

Sizing

XS - 6XL

Fabric weight

Shirt: 210 g/m²
Long john's: 210 g/m²



TICKING ALL BOXES

PROTECTION LEVEL:
ARC 2
4.8 cal/m²

Above shown is the EBT50 value.

EN SAFETY STANDARDS



IEC 61482-2:2009
EBT50 4.8 cal/cm²
Class 1



EN 1149-5:2008



EN ISO 11612:2015
A1 B1 C1 D0 E0 F1

QUICK DETAIL OVERVIEW

Available colours

■ Grey

Product code

Ladies shirt: RO25200
Ladies long john's: RO25220

Sizing

XS - 6XL

Fabric weight

Shirt: 210 g/m²
Long john's 210 g/m²

The perfect ladies fit!



No shoulder seams

EN SAFETY STANDARDS



IEC 61482-2:2009
Class 1



EN 1149-5:2008



EN ISO 11612:2015
A1 B1 C1 D0 E0 F0

QUICK DETAIL OVERVIEW

Available colours

■ Black

Product code

Shirt: ROPB1000
Long john's: ROPB2000

Sizing

XS - 6XL

Fabric weight

Shirt: 210 g/m²
Long john's 210 g/m²

On all ROOTS ranges CALORIFIC RATINGS

The move towards calorific ratings ATPV, EBT and HAF

The open arc test gives a calorific rating to the level of protection that wearers can expect from a garment, or from layered clothing systems.

Before a garment is tested and rewarded with an IEC61482-2 standard, the fabric needs to be tested. The minimum requirement for achieving a calorific rating is a total of 7 shots on 3 different panels (see photograph of test cradle), which means that in total 21 pieces of fabric are tested. After the fabric test, the next stage is a garment test before the certificate and rating can be rewarded. Note; fabric rating below 4 cal/cm² ATPV or EBT results automatically in a fail and cannot be certified.

Electric arc rating can be of two types:

- ATPV: This is 50% probability of second degree burn wound in the 8kA test on a flat panel.
- EBT: This is the 50% probability of a 1"crack in the material in the 8kA test on a flat panel.

ATPV is defined as the arc energy required causing the onset of second-degree burn, represented in calories per square centimetre (cal. p/cm²). This rating is the result of testing procedure that measures the amount of thermal protection an FR fabric would give a wearer if the person were exposed to an electric arc.

Alternatively, the material may have an EBT (Energy Break-open Threshold) rating. EBT is defined as the average of the 5 highest incident energy exposure values below the Stoll curve where the specimen did not exhibit break-open. EBT is reported when ATPV cannot be measured due to the FR fabric breaking open.

Another parameter that is measured during the open arc test is the HAF value (Heat Attenuation Factor), meaning the percentage of heat blocked by the fabric that follows from the reached result in ATPV/EBT. It gives a very good idea of the level of protection that a garment, or a number of layers offer.

ATPV/EBT & HAF Ratings

The table shows all the ROOTS ranges with the ATPV/EBT ratings. The ratings listed are either ATPV or EBT. It is always the lowest of the two scores that is mentioned within the certificate. If an EBT is mentioned instead of the ATPV it means that the fabric broke open at that score. The ATPV rating for that fabric was higher than the EBT. If the ATPV is mentioned instead of the EBT it means that the maximum ATPV rating was reached before the fabric could break open.

How to use the table:

Although we did not test all the varieties in layers (over 100 possibilities) it is relatively easy to make your own 'on-the-safe-side' calculation. For example, if you wish to wear underwear below Flamebuster 350, this results in a total arc protection of at least 12.9 Cal (8.1 + 4.8).

Another example;

Full Option Waterproof combined with winter liner for waterproof results in 49.0 Cal Protection (25.9 + 23.1). Last example: Multiprotector + Multiprotector waterproof + winter liner results in 78.9 Cal protection (10.2 + 45.6 + 23.1).

The aforementioned calculation of layered protection are on the very safe side because an actual test of multiple fabrics would result in a significantly higher score due to the multiple layers of air in between fabrics working as an insulator.

In the near future customers can expect that ROOTS will add more and more tests of layering systems. The choice for these tests will be based on market demands.

Product Range	Fabric reference	Fabric weight	IEC 61482-1-1		IEC 61482-1-2	
			ATPV (cal/cm ²)	E _{BT50} (cal/cm ²)	Class 1 (4 kA)	Class 2 (7 kA)
Arc	ROPB5000	220 g/m ²		9.2		
	ROPB7000	230 g/m ²		6.2		
Arcbuster	FLC440	440 g/m ²	18.0		Class 1 (4 kA)	
Flamebuster	FLA185 + FR winter liner + FLA185	370 g/m ²	23.1			
	FLC205	205 g/m ²	5.4			
	FLC250	250 g/m ²	6.5			
	FLC350	350 g/m ²	8.1		Class 1 (4 kA)	
Flamebuster2 / Multi Protector	FB2 250	250 g/m ²	10.1		Class 1 (4 kA)	
	FLC320	320 g/m ²	10.2		Class 1 (4 kA)	
	FLC320 + FR Underwear	530 g/m ²		37.6		
	FLC320 + FLC320	640 g/m ²	45.6			
	FLC320 + FLC320 + FR Underwear	850 g/m ²	61.4			
FLC320 + FR Underwear + FR Underwear	740 g/m ²	53.2				
FR Sweatshirt	FR Sweatshirt	365 g/m ²		11.9		
FR Underwear	FR Underwear	210 g/m ²		4.8	Class 1 (4 kA)	
Inherent - ROOTS	Kermel Alpha 4975	230 g/m ²	9.3		Class 1 (4 kA)	
	Textreme 89416	320 g/m ²	9.1		Class 1 (4 kA)	
	Textreme 89416 + Protal1 Q6350	540 g/m ²	31.8			
Multi Protector All Weather	FLC320WP + FLA185	505 g/m ²	45.6			Class 2 (7 kA)
Multi Protector Arc	FLC320 + FLA185	505 g/m ²	26.8			Class 2 (7 kA)
	FLC320 + FLA185 + FR Underwear	715 g/m ²	51.9			
Stormbuster Classic Waterproof	SBCWP + FLA185	435 g/m ²	25.9			
	SBCWP + FLA185 + Xtreme 310	745 g/m ²	45.4			
	SBCWP + FLA185 + Xtreme 310 + FR Underwear	955 g/m ²	60.2			
Stormbuster Invincible Waterproof	SBIWP + FLA185	460 g/m ²	20.2		Class 1 (4 kA)	
Stormbuster Xtreme Waterproof	SBXWP + FLA185	435 g/m ²	35.2			Class 2 (7 kA)
	SBXWP + FLA185 + FR Underwear	645 g/m ²	48.9			
	SBXWP + FLA185 + Xtreme 310 + FR Underwear	955 g/m ²	61.2			
Xtreme	Xtreme 170	170 g/m ²		4.7		
	Xtreme 250	250 g/m ²		7.4	Class (4 kA)	
	Xtreme 250 + FR Underwear	460 g/m ²	15.8			
	Xtreme 310	310 g/m ²		9.6	Class (4 kA)	
Softshell	Xtreme 310 + FR Underwear	520 g/m ²	20.7			
	FR Softshell	350 g/m ²	18.2		Class (4 kA)	
	FR Softshell + FR Underwear	560 g/m ²	37.4		Class (4 kA)	



**EVERY
STEP
COUNTS**

There's more to safety shoes,
than just good shoes.

The ROOTS mission statement ensures that we treat safety with the greatest respect. Although we find ourselves in a highly competitive market, we never lose sight of the fact that our wearers work in difficult environments. ROOTS uses state-of-the-art technology and high quality materials for all of its products, never compromising on the performance or safety levels of our products. Our mission pushes us to continuously seek for innovative and cutting edge technologies to make our products even better. This has led to revamping our footwear collection which is evident throughout these pages.

OUR FOOTWEAR COLLECTION



Renewed
Iowa

Renewed
Mohawk

Renewed
Cheyenne

Cherokee

Apache

New
Jumano

We know YOUR BUSINESS

For 15 years, we have challenged the market with products of which we have the absolute conviction it will outperform other offerings on every level. This mission began with ROOTS flame retardant workwear and shortly after translated into our footwear collection. Through years of experience footwear is by no means a blind spot in our knowledge. More importantly, we are constantly speaking with our wearers to give us feedback to further enhance our products so we remain to walk our talk.

The footwear in this catalogue was initially designed with the offshore oil & gas worker as point of departure. However, feedback from the market quickly taught us that our footwear was being worn in much more industries than originally designed for. For example, it became clear that our shoes needed better properties for protection against electro static discharges. Also, research led towards foot support improvements that reduces fatigue from being constantly on your feet.

Hence, we are introducing ROOTS Support Structure, an inlay sole system that ensures the most comfortable support depending on your foot type.

In addition to the new features, our footwear remains to tick all boxes:

- Superb slip resistance (o.b.m. and water on steel plates),
- Light weight against fatigue (long enduring shifts),
- Ankle support and heel fixation (to prevent ankles from dislocation)
- Improved insulation properties of the sole (to prevent cold from reaching the wearers foot for as long as possible)
- Safely discharges build up electro static energy
- Above average durability
- Enhanced foot support (ROOTS Support Structure)
- SATRA certified slip resistance for Kennedy grating and scaffolding boards - both in wet and dry conditions.

Designed for PERFORMANCE

An unprecedented amount of innovation went into redesigning and developing our renewed footwear. Every component of our footwear serves a unique function that optimizes performance and comfortability, reducing fatigue.

Our ROOTS Support Structure inlay soles have been engineered to anatomically enhance the foot climate. The inlay soles are tailored to three predominant foot types with each a different curvature of cushioning that helps prevent injuries and fatigue by relieving muscles, joints, and pressure points.

In the early design phases of re-engineering our footwear it became evident through research that our boots needed better protective properties for safely discharging electrostatic energy to minimize the risk of building up an extensive amount of energy which leads to an amplified danger of explosion and increased risk of damaging sensitive electronics. To achieve this, we closely liaised with industry leading professionals to engineer our footwear so it meets the protective ESD properties our wearers expect.

The production of our footwear remains entirely in Europe. This leverages a better, flexible and more reliable supply chain. The impeccable craftsmanship that goes into our footwear ensures the product to be what we envisioned from the beginning. Comfortable footwear that does not compromise on any safety property our wearers rely.

On the next page you will find product features that are relevant for our renewed Iowa, Mohawk, Cheyenne, and the new Jumano.



Breathable 3D lining



Breathable and durable 3D lining
This lining ensures constantly dry feet, thanks to instantaneous absorption of sweat and its immediate release. The material has an exceptional resistance to wear and abrasion.

Easy access pull zipper



The 'drill head' shaped zipper puller is designed to use i.c. with gloves making it easier and faster to pull on/off the boots.

European leather



The full grain European leather used is made from this chrome free leather, using a thickness of 2mm (standard demand 1.8mm). The leathers in use conform to REACH, which is an integrated system of registration, evaluation and authorisation of chemicals.

Scuff cap



All ROOTS footwear have a directly injected PU scuff/bump cap for more safety and durability.

Composite toe cap



All of our renewed footwear features the ultra thin lightweight composite toe cap which is constructed of multilayer material. It withstands an impact of 200J with a pressure of 15kN. The CONTENDER® toe cap has been designed for enhanced comfort and offers plenty of manoeuvrability. It is 100% non-metallic, and 100% anti magnetic.

Excellent ankle support



Fixation of the heel and supporting the ankle was one of the key points of departure when ROOTS developed the footwear range. The PU rubber collection makes use of a TPU safety structure for increased heel fixation. All boots in the PU/ rubber collection also have extra foam padding inside the leather for additional protection and comfort of the ankle.

Support Structure



The interchangeable ESD insole provides optimum wearing comfort for our safety shoes. The footbed is antibacterial, shock absorbent, and conforms to DIN EN ISO 20345 and DIN EN 61340-4-3 for ESD. The ultra soft anatomically curved PU-foam absorbs all shocks enhancing comfortability.

Non-metallic



The midsole is constructed with a textile that offers superb resistance to penetration complying with EN ISO 20344/345 and EN 12568. Due to its superior lightweight quality and flexibility the midsole increases comfortability owing to better elasticity.

Safety grip sole



Coarse profiled two density outsole gives excellent slip resistance, antistatic properties, and offers great heat resistance. The soft PU core ensures good shock absorption and incredible wearing comfort.

See page 220 for more information



ROOTS strongly believes in value for money at all times. In our opinion that is something different than being 'cheap'.

Our mission statement pushes our company to have the health and safety of the wearer in heart and mind with every product we bring to the market. The PU/rubber range is the result of the wish to bring the very best offshore footwear in the market without compromises to the wearer, but with such a fine durability that it will be worth the investment at the end of the day.

Made in Germany!

FEATURES

Suitable for ESD. Superior slip resistance. Tested for Kennedy grating, and scaffolding boards. And even better support to reduce fatigue. Full of features that help you stay safe, energetic, and keep walking. The renewed Iowa boot is the perfect shoe for you no matter what the situation is.

SPECIFICATIONS

Size range	EU 36 - 48 / UK 3.5 - 13	Boot height	9" - Type C
Toecap	Multi-layer fiber glass 200j	Midsole	Anti-perforation PU S3
Sole	2-density PU	Heat resistance sole	Up to 130°C
Scuff cap	Direct injected PU	ROOTS Support Structure	Yes
Safety Standard	EN ISO 20345:2011 S3 SRC	ESD	Yes



Easy access zip



COMPATIBLE WITH





Made in Germany!

Mohawk is the mid low version of the lowa boot. It embeds the same high quality standards, such as full grain leather, ergonomic anti-fatigue foot bed, Scuff cap, non-metallic midsole, TPU heel safety structure, heat resistant up to 130°C, and is fully compatible with our ROOTS Support Structure for unprecedented support. Also build up electro static energy is safely being discharged. The Mohawk ticks all boxes!

SPECIFICATIONS

Size range	Boot height
EU 36 - 48 / UK 3.5 - 13	6" - form B
Toecap	Midsole
Multi-layer fiber glass 200j	Anti-perforation PU S3
Sole	Heat resistance sole
2-density PU	Up to 130°C
Scuff cap	ROOTS Support Structure
Direct injected PU	Yes
Safety Standard	ESD
EN ISO 20345:2011 S3 SRC	Yes

COMPATIBLE WITH



Made in Germany!

Based on the feedback our of wearers, ROOTS introduces a complete new lower model. As you'd expect from us it is without compromise on any safety standard. The Jumano also offers ESD properties and is suitable for our ROOTS Support Structure.

SPECIFICATIONS

Size range	Shoe type
EU 36 - 48 / UK 3.5 - 13	Lower model
Toecap	Midsole
Multi-layer fiber glass 200j	Anti-perforation PU S3
Sole	Heat resistance sole
2-density PU	Up to 130°C
Scuff cap	ROOTS Support Structure
Direct injected PU	Yes
Safety Standard	ESD
EN ISO 20345:2011 S3 SRC	Yes

COMPATIBLE WITH



All ROOTS footwear in this catalogue has been designed to meet the highest industry standards. In fact, with the PU/rubber range we wanted to go the extra yard for getting the product on the level where ROOTS wishes to be, which is right on the top.

One of the unique selling points f.i. being the directly injected inner sole of this range. The welding boot is a fine result of that challenge we put on ourselves; no compromises! The renewed Cheyenne welding boot also ensures safe discharge of any build-up electro static energy through its ESD-properties.

Made in Germany!

FEATURES

At ROOTS we realize that a happy wearer is important, but buyers and HSE managers also need to have this conviction of value for money and maximum safety.

Apart from all the other features that make this footwear special, the extra properties for the welding boots are:

- Reinforced counter for extra support and durability
- All stitching made of Kevlar®, for ROOTS an obvious choice.
- The positioning of the leather is inverted in order to release molten metal easier from the boot.

The advantages of Kevlar® over 'normal' polyester yarn:

- Kevlar® starts to decompose at 800°C, whereas polyester starts at 485°C
- Kevlar® does not melt.
- Kevlar® is resistant to most acids and bases
- Kevlar® has a good abrasion resistance and an excellent performance against aging.

SPECIFICATIONS

Size range	Boot height
EU 36 - 48 / UK 3.5 - 13	9" - form C
Toecap	Midsole
Multi-layer fiber glass 200j	Anti-perforation PU S3
Sole	Heat resistance sole
2-density PU	Up to 130°C
Scuff cap	ROOTS Support Structure
Direct injected PU	Yes
Safety Standard	ESD
EN ISO 20345:2011 S3 SRC	Yes



COMPATIBLE WITH





We operate in a world where getting the best value for money is in the DNA of the companies we deal with. Just like our coveralls we developed this range with the intention, that there is a need for 'basic' footwear, stripped from all things that could be regarded as 'luxury', but with all major safety and comfort properties 'on board'. Ankle support, slip resistance, S3, non-metallic, lightweight, fine leather quality... all present in the double density PU footwear.

SPECIFICATIONS

Size range	Boot height
EU 38 - 48 / UK 5 - 12	9" - form C
Toecap	Midsole
Multi-layer fiber glass 200j	Texon anti-perforation S3
Sole	Heat resistance sole
Inner sole: Soft PU Outsole: Hard PU	Up to 170°C
Slip resistance modulus	Scuff cap
0,41	Direct injected PU
ROOTS Support Structure	ESD
No	No
Safety Standard	
EN ISO 20345:2011 S3 SRC	

Apache is the 6" version of the Cherokee. Also with a great performance on slip resistance, extremely light weight, heel support and fixation, PU bumper toe cap with an additional scuff cap. Great value for money!

SPECIFICATIONS

Size range	Boot height
EU 38 - 48 / UK 5 - 12	6" - form B
Toecap	Midsole
Multi-layer fiber glass 200j	Texon anti-perforation S3
Sole	Heat resistance sole
Inner sole: Soft PU Outsole: Hard PU	Up to 170°C
Slip resistance modulus	Scuff cap
0,41	Direct injected PU
ROOTS Support Structure	ESD
No	No
Safety Standard	
EN ISO 20345:2011 S3 SRC	

ROOTS SUPPORT STRUCTURE

People's feet are as different as the people themselves. However, according to research there are three predominant foot types; flat, regular, and high. To provide support for any particular foot type we have designed three types of support structures to ensure good foot health and comfort. Each tailored to the different level of arch with cushioning that helps to prevent injuries and fatigue by relieving muscles, joints, and pressure points.

Because not everyone is the same and inferior support can be directly linked to many problems beyond immediate foot discomfort, it is often unnecessary to seek orthopaedic treatment. Our inlay soles can provide help in preventing minor issues becoming orthopaedic problems. We do advise that in case of doubt always seek advice from a treating physician.

ROOTS Support Structure closes the space between the foot profile and the flatbottom of the shoe; by doing so, they have a preventive effect as regards pain and overstrain damages in the area of the knee, foot and hip. They are light, dynamic and provide pleasant support and excellent comfort.



SPECIFICATIONS

Description

- Full length inlay sole, from heel to toe, in three difference arches: low, medium, and high.
- Anatomically shaped footbed allowing natural movement of the foot.
- Certified to be worn with ROOTS footwear.
- Suitable for ESD safety footwear.
- Offers protection against electro static discharges.
- Superior shock absorption, anti-bacterial, and optimal footclimate.

Safety Standards

DIN EN ISO 20345
DIN EN 61340-4-3 ESD

Always the perfect fit

Alongside the new ROOTS footwear and ROOTS Support Structure individual shoe size and foot type can be measured by means of ROOTS' temperature-sensitive device.

In under 3 seconds the correct size and shape will be visually determined!



COMPATIBLE WITH



Low Arch
Support for flat feet and comfortable shock absorption.

RO204080

Medium Arch
For significantly more comfort for medium/regular arches.

RO204081

High Arch
For effective shock absorption if the foot arch is too high.

RO204082

IMPACT GLOVES



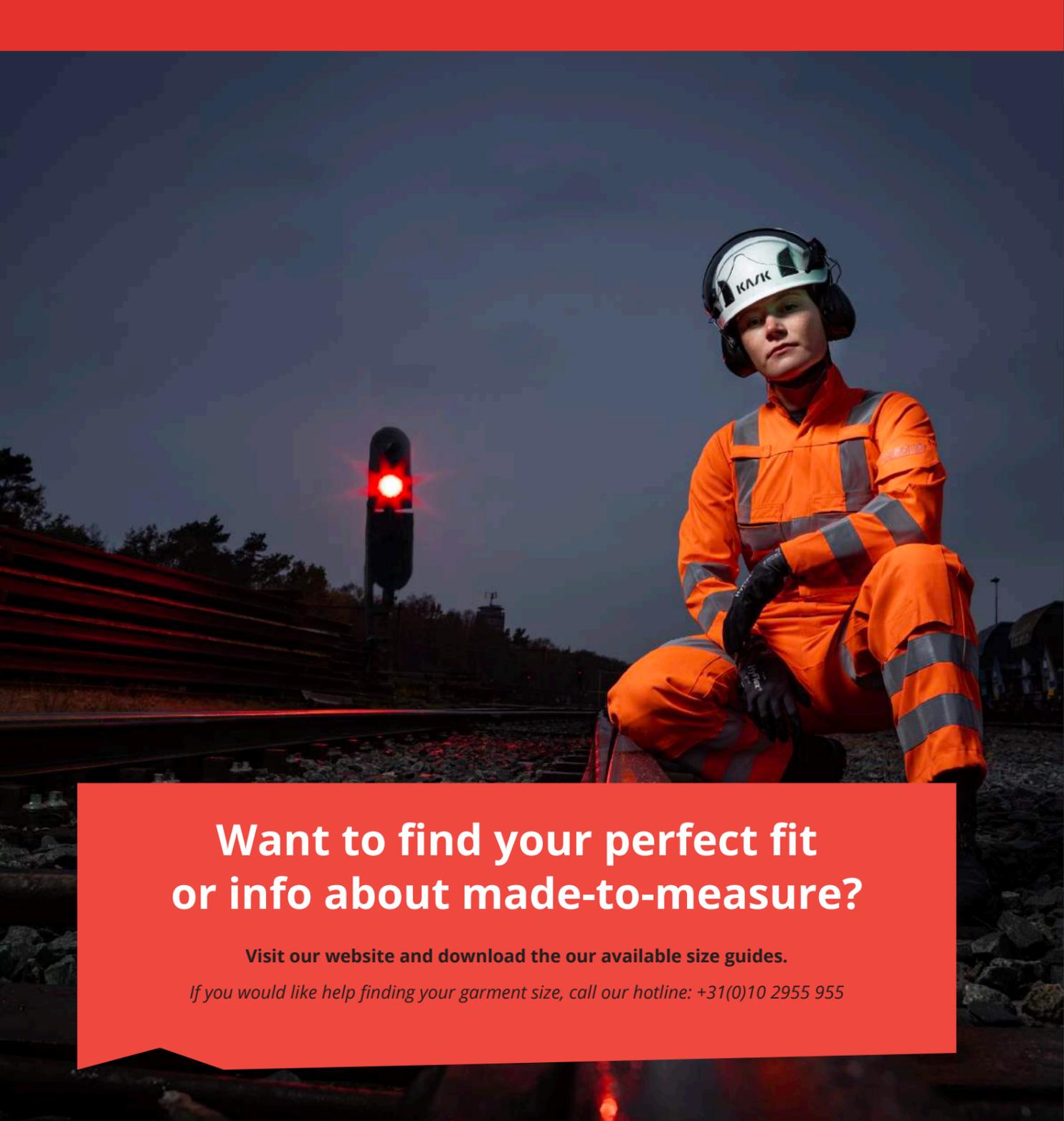
The ROOTS On Impact Rigger gloves protect your hands through ergonomic impact protection while maintaining perfect mobility. Can be used in activities where hand injuries are the result from entrapments. The knitted gloves are made with Spandex on the outside.

This glove meets the highest requirements in terms of tear resistance, durability and protection. It is famous for motor cycle gloves for its protection level, antislip properties and dexterity.

SPECIFICATIONS

Size range	Colour
M - XXL	Red/Green
Dexterity	
Level 5	
Safety standard	
EN 388:2016 (3X22DP) EN 420:2003 + A1:2009	

These gloves are mostly used in > Offshore



Want to find your perfect fit or info about made-to-measure?

Visit our website and download the our available size guides.

If you would like help finding your garment size, call our hotline: +31(0)10 2955 955



Got a buzzing question?

Get in contact with our Customer Service.

Call our hotline: +31(0)10 2955 955

or send us a message at info@roots-original.com



#HeroesofROOTS

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COME HOME SAFE

Contact information

*As specialists in Flame Retardant & Arc Flash protective workwear
we love to help make a complicated topic easy to comprehend.*

Contact us, we'd love to help:

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