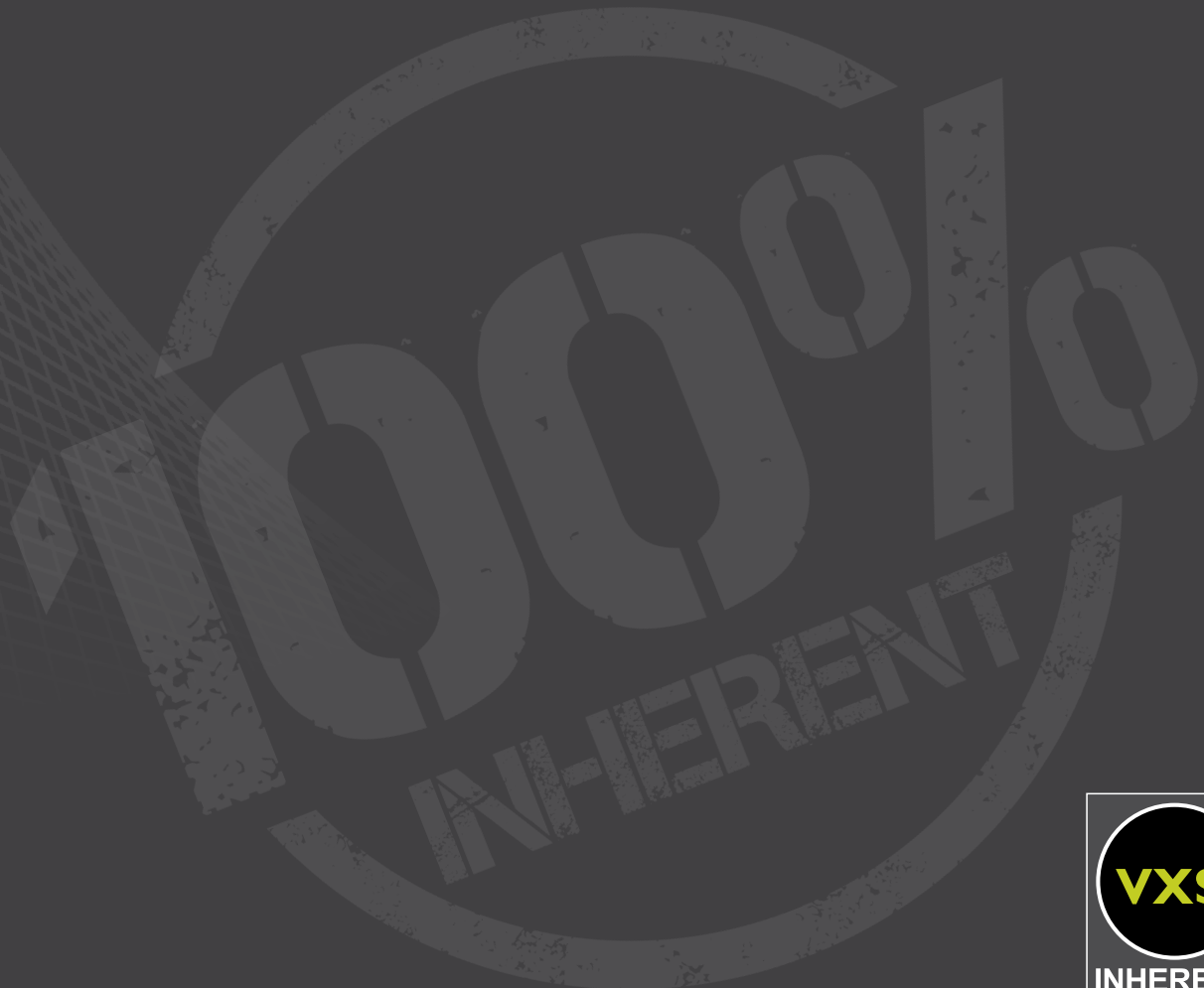




# ProGARM<sup>®</sup>

Protect the BEST

FLAME RESISTANT, ANTISTATIC &  
ARC FLASH GARMENTS



# 5 REASONS TO SPECIFY ProGARM®

-  **SAFETY**  
Inherent, Instant-Extinguishing Properties
-  **COMFORT**  
Soft as Pyjama's and Highly Breathable
-  **QUALITY**  
Lifetime Seam Guarantee
-  **DURABLE**  
Colour Fast with less than 3% Shrinkage
-  **DESIGN**  
Superb Wearer Acceptance

## FLAME RESISTANT, ANTISTATIC & ARC FLASH GARMENTS

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ISO 9001  
Quality Assured



Article 11B Quality  
Management System



# Protecting people's lives working in Hazardous Environments

We consider that there is no more important goal for our company than to offer garments which offer the ultimate protection from the risks and hazards in which the wearers have to work.

What offered the ultimate protection yesterday may not be the protection required today.

With this in mind, ProGARM® has developed a reputation for innovative Flame Resistant Garments in designs and fabrics that workers want to wear.

Each product is the result of extensive in-house development in addition to end users who tell us what features are needed to set a good garment apart from the bad. We take these ideas and turn them into reality and into quality safety garments available for dispatch to you at short notice.

Every detail of a ProGARM® garment is carefully considered—from the super soft VXS+ fabric offering comfort previously unheard of in Flame Resistant fabrics to the zippers, the reflective tapes and even the threads. ProGARM® is the brand you and your workforce need for consistent, reliable protection day-in and day-out.

## ProGARM® QUALITY – THE FACTS



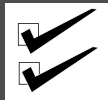
### DEVELOPMENT

We listen carefully to you, our customer and wearer of the ProGARM® garments to take your comments and suggestions into new garment styles and ranges.



### ISO 9001 & ARTICLE 11B

ProGARM® is ISO9001 and Article 11B certified for production of Category 3 protective clothing. We continuously assess our systems and procedures for improvements.



### PRODUCT TESTING

In addition to wearer trials on garments we also test seams, components and fabrics in the laboratories in order to ensure ongoing performance.



### DURABILITY

Looked at from a distance our garments could look similar to others. Take a closer look and you can see great differences in construction and components we use for increased garment lifetime.



### MATERIALS

The VXS+ fabric blend and quality assured route is the cornerstone of the ProGARM® product range with each fabric selected for performance in comfort, protection and washing performance.



### OWN DESIGNS

Developing our own designs means we've analysed the garments for areas that can be improved. It also means we're flexible and able to accommodate any special requirements you may have.



### SEAM GUARANTEE

ProGARM® garments offer a seam guarantee on the structural seams of the garments – another symbol of unparalleled commitment to quality and customer satisfaction.



### SIZES & COLOURS

The size range is one of the largest in the industry with sizes upto 60" chest held in stock and the ability to bespoke special sizes, so you can protect every one of your workforce with the same style.

## OTHER ProGARM® BRANDS



### VXS+ INHERENT FABRIC

Quality Assured brand of Fabric for ultimate Performance Quality and Comfortability.



### 100% INHERENT

Inherent VXS+ Fabric guarantees Flame Resistant Protection throughout the lifetime of the fabric.

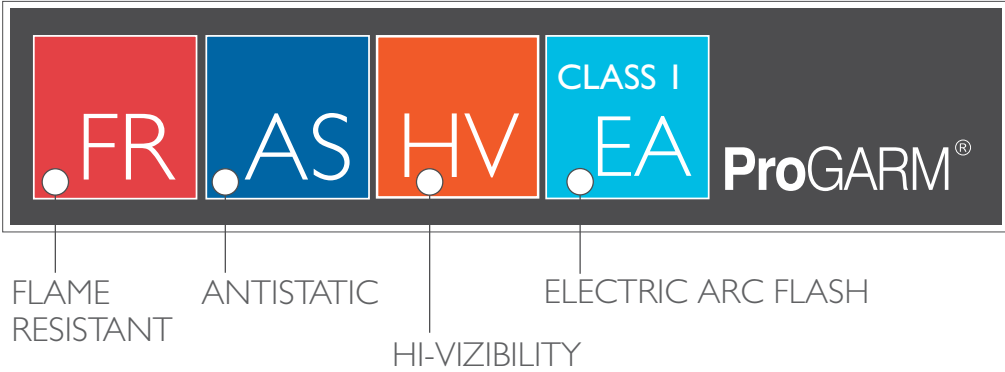
### ThermSAFE™

### ThermSAFE™ COMPONENTS

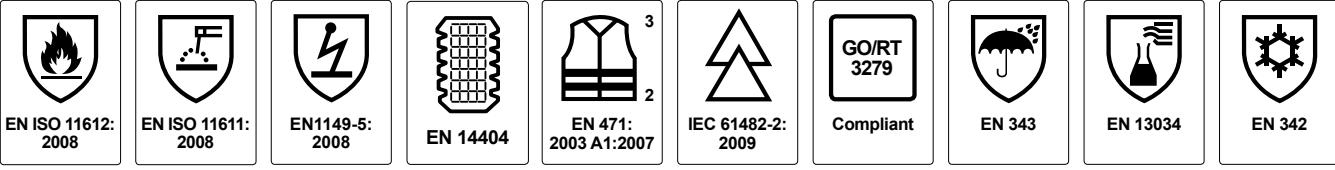
Product testing down to the components of the garment including zippers and buttons.

## ProGARM® VISUAL ARM LOGO SYSTEM

The ProGARM® logos on the arm of each garment provide a visual reference to ensure you can quickly identify whether the correct garment is being worn.



## EN STANDARDS



See pages 50-57 for a full explanation of EN Standards



## VXS<sup>+</sup> INHERENT FABRIC

### A High Performance and Uniquely Balanced Blend of Fibres for Ultimate Comfort

For many years, wearers of Flame Resistant Garments have had the discomfort of heavyweight cotton drill fabrics that are uncomfortable to wear and shrink extensively with washing. With the introduction of ProGARM<sup>®</sup> VXS<sup>+</sup> fabric, wearers can now **benefit** from:



### INHERENT PROTECTION

– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric.



### INSTANT EXTINGUISHING PROPERTIES

– for ultimate protection against flame hazards



### GREAT COMFORT

– breathable, soft to wear, fantastic touch



### HIGHLY DURABLE

– colour fast with less than 3% washing shrinkage



### INSTANT EXTINGUISHING PROPERTIES

The blend and composition of the VXS<sup>+</sup> fabrics offer outstanding performance against traditional treated cotton and even more expensive aramid blends of fabrics. Watch the videos on the ProGARM<sup>®</sup> website or request a visit from one of our sales representatives to see how quickly these fabrics instantly extinguish when the ignition source is removed.



### GREAT COMFORT

Using advanced textile technologies we now incorporate the VXS<sup>+</sup> blend of fabric into all our garments to increase the comfort of the garment for the wearer using fibres like Modacrylics, Cotton, Viscose, Carbon and Lycra<sup>™</sup> – the result – garments wearers want to work in and your assurance of protection at all times.



### HIGHLY DURABLE

Excellent colour fastness and appearance is a key features of the VXS<sup>+</sup> fabrics along with low shrinkage levels and minimum pilling. The majority of fabrics have been tested to 50 industrial washes with some of the top performers being subjected to further Tunnel Drying before being retested and passing the flame resistant tests 'after washing'. Further tests include fading and strength in the warp & weft.

**Specify ProGARM<sup>®</sup> VXS<sup>+</sup> Fabrics**

## INHERENT OR TREATED FABRICS?

Inherent Fabrics give peace of mind and ultimate protection. Unlike Chemically Treated fabrics, their flame resistant properties do not wash out giving protection to the wearer throughout the life of the garment. Other features include improved comfort levels and reduced shrinkage.

## CORE PRODUCT OR BESPOKE?

Whilst the core ProGARM<sup>®</sup> product range is featured here, other styles can be individually created and adapted to suit the requirements of our customers.

- Realistic lead times
- Stock holding options
- CE certification management

## VXS<sup>+</sup><sup>®</sup> QUALITY ASSURED ROUTE

VXS<sup>+</sup><sup>®</sup> is a fibre we use throughout many of our garments.

From Spinner to Weaver or Knitter and Garment Manufacturer, the VXS<sup>+</sup><sup>®</sup> Quality Assured Route guarantees a superior and safe finished article.

**That's why we say...**

SPECIFY  
ProGARM<sup>®</sup>





## INTERNAL ELASTICATED WAISTBAND

IMPROVED FIT FOR COMFORT AND SAFETY



## THERMSAFE™ PLASTIC POPPERS

NON SPARK FR HIGH GRADE PLASTIC FOR LONGEVITY



## THERMSAFE™ PLASTIC ZIPPERS

NON SPARK WITH FR NYLON 6.6 FOR SAFETY AND LONGEVITY

## GAS MONITOR LOOP

SECURE LOCATION POINT FOR GAS MONITOR OR OTHER PORTABLE ITEMS



## THREE NEEDLE SEAMS

SEAM GUARANTEE FOR ASSURANCE OF QUALITY

## INTERNAL KNEEPAD POCKETS

FOR WEARER COMFORT AND PROTECTION



## DOUBLE STITCHED REFLECTIVE TAPE

INCREASES THE LIFETIME OF TAPE ON GARMENT BY SECURE STITCHING

## 'EASY ARM' PANEL

IMPROVES GARMENT COMFORT BY ALLOWING GREATER ARM STRETCH



## ARM IDENTIFICATION

INSTANT VISUAL ICONS FOR GARMENT CERTIFICATION STANDARDS



## ADJUSTABLE VELCRO® CUFFS

CLOSE WRIST FIT FOR COMFORT AND SAFETY WHEN WORN WITH GLOVES







# ProGARM®






## TWO TONE COLLECTION



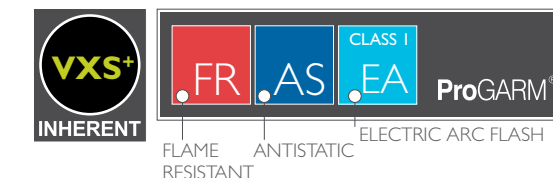
100%  
INHERENT

## ProGARM® 5816 FR AS EA TROUSER

### PRODUCT EUROPEAN NORMS

 EN ISO 11612: 2008 A1, B1, C1, E1	 EN ISO 11611: 2007 Class 1, A1	 EN 1149-5: 2008 Pl. 5:2008 Pl. 3:2004 Charge Decay	 IEC 61482-2: 2009 Class 1 ATPV<9.0 cal/cm²	 Fabric tested to BS EN 13034: 2005
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### FABRIC GARMENT MARKINGS



### PRODUCT SPECIFICATION

Best selling work trousers featuring the VXS+ 300g/m² Inherent fabric in stylish Two-Tone design for improved visibility.

- Two-Tone design with contrast stitching,
- 50mm reflective tape with double stitching,
- Internal kneepad pockets,
- Combat pocket on right leg with flap
- Mobile phone pocket
- Side access pockets with flaps
- Extra wide belt loop at rear,
- ThermSAFE™ plastic zipper,
- Two rear pockets with Easy Seal flaps,
- Triple stitched side seams for strength.
- Reinforced Crutch

**Sizes:** 30"- 52" **REG LEG** (32"/81cm)  
30"- 44" **TALL LEG** (34"/86cm)  
32"- 42" **SHORT LEG** (30"/76cm)

**Colour:** Navy/Yellow  
**Code:** 5816

### ProGARM® VXS+ 300/340W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Combat pocket on right leg with phone pocket.



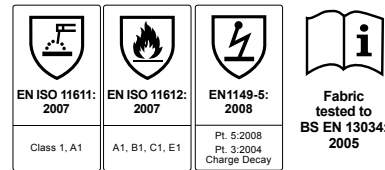
Two-Tone leg design for increased visibility.



Wide rear belt loop restricts excess belt movement.

# ProGARM® 5808 FR AS JACKET

## PRODUCT EUROPEAN NORMS



## PRODUCT SPECIFICATION

Best selling flame resistant Jacket featuring VXS<sup>+</sup> 300g/m<sup>2</sup> fabric and Two-Tone design with reflective tape. Ideal for drivers or personnel requiring a two part set - see also 5816 Trousers.

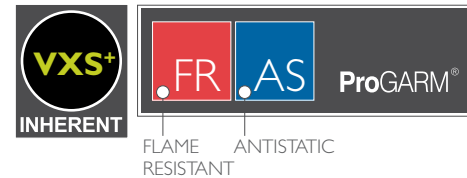
- Mandarin Collar for protection
- Easy seal chest pocket flaps - no metal, but secure
- Gas monitor loop on front breast
- Arm logo for quick visual guide for garment protection level
- Double stitched 50mm FR AS reflective tape on arms and shoulder
- Phone pocket on sleeve
- Velco cuff-tabs for close fix
- Side pockets with flaps
- ThermSAFE™ zipper with protection flap
- Extended back
- Triple stitched side seams for strength

**Sizes:** S - 4XL  
**Colour:** Navy/Yellow  
**Code:** 5808

## ProGARM® VXS<sup>+</sup> 300/340W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage

## FABRIC GARMENT MARKINGS



Adjustable waist fastening for improved fit.



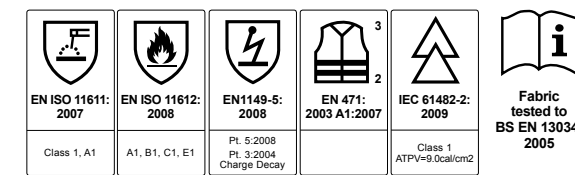
Double stitched reflective tape on HV yellow shoulders.



Gas monitor loop on left chest.

# ProGARM® 6444 FR AS HV EA COVERALL

## PRODUCT EUROPEAN NORMS



## PRODUCT SPECIFICATION

Premium quality coverall in VXS<sup>+</sup> super soft fabric 300g/m<sup>2</sup>/340g/m<sup>2</sup> designed to offer protection to workers in Petrochemical, Utility and associated industries.

- EN471 Class 3 Hi-Vizibility certified
- Two tone design with contrast stitching
- Mandarin collar for protection
- Zipped chest pockets with flaps
- Gas monitor loop on front breast
- Arm logo for quick visual guide for garment protection level
- Internal elastic waistband
- Velcro cuff-tabs for close fix
- Covered side access pockets with flaps
- Internal kneepad pockets
- Two tone leg design
- FR AS reflective tape

**Sizes:** 38" – 60" REG LEG (31"/80cm)  
 40" – 52" TALL LEG (33"/85cm)  
 Short Leg version by rehemming  
**Colour:** Navy/Yellow  
**Code:** 6444

## ProGARM® VXS<sup>+</sup> 300/340W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage

## FABRIC GARMENT MARKINGS



Adjustable cuff with Velcro® fastening.



Features fluid repellent coating on fabric.



Upgraded to now include ThermSAFE™ plastic componentry.





# ProGARM®





## SINGLE COLOUR COLLECTION



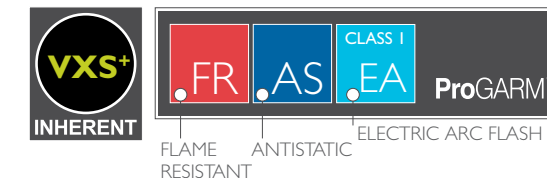
100%  
INHERENT

## ProGARM® 7638 FR AS EA TROUSER

### PRODUCT EUROPEAN NORMS

 EN ISO 11611: 2008 Class 1, A1	 EN ISO 11612: 2008 A1, B1, C1	 EN 1149-5: 2008 Pt. 5:2008 Pt. 3:2004 Charge Decay	 IEC 61482-2: 2009 Class 1 E <sub>arc</sub> =8.7 cal/cm²
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### FABRIC GARMENT MARKINGS



### PRODUCT SPECIFICATION

Superior quality trouser in VXS+ 250g/m² Inherent FR fabric with antistatic featuring new 'smart fit' design for improved comfort.

- Combat pocket on leg with flap
- Mobile phone pocket
- Side access pockets
- Extra wide belt loop at rear
- ThermSAFE™ plastic zipper
- Internal kneepad pockets
- Triple stitched side seams for strength.

**Sizes:** 30"- 52" **REG LEG** (32"/81cm)  
32"- 44" **TALL LEG** (34"/86cm)  
32"- 42" **SHORT LEG** (30"/76cm)

**Colour:** Navy  
**Code:** 7638



### ProGARM® VXS+ 250W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Visual arm logo for easy FR properties identification.



Large rear belt loop prevents work belts riding waistband.



Combat pocket on right leg with phone pocket.

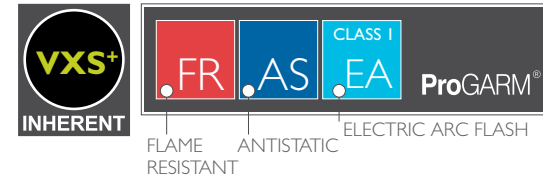


# ProGARM® 5850 FR AS EA JACKET

## PRODUCT EUROPEAN NORMS

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## FABRIC GARMENT MARKINGS



## PRODUCT SPECIFICATION

Well designed jacket featuring VXs+ 250g/m² Inherent fabric, reflective tape and the easy-stretch arm panel for comfort.

- Mandarin collar design for protection
- Chest pocket with zip
- Gas monitor loop on front chest
- Arm logo for quick visual guide for garment protection level
- Double stitched 50mm FR AS reflective tape
- Velcro fastening cuffs for close fit
- Side pockets
- Plastic zipper with protection flap
- Extended back
- Triple stitched side seams

**Sizes:** S - 4XL  
**Colour:** Navy  
**Code:** 5850

## ProGARM® VXs+ 250W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Visual arm logo for easy FR properties identification.



Napoleon style pocket with zipper.



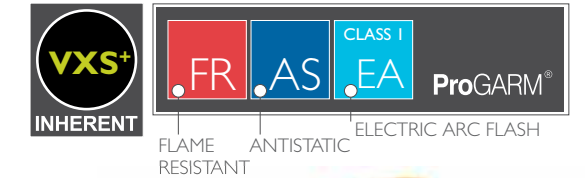
Double stitched reflective tape for longevity.

# ProGARM® 6100 FR AS EA COVERALL

## PRODUCT EUROPEAN NORMS

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## FABRIC GARMENT MARKINGS



## PRODUCT SPECIFICATION

Best selling coverall featuring VXs+ 250 FR fabric and offering increased vizibility using reflective tape on arms, legs and shoulders.

- Easy Arm design for comfort
- Chest pockets with flaps
- Gas monitor loop on left chest pocket
- Two rear pockets with flaps
- Two side pockets with access to base layer
- Action back for improved comfort
- Adjustable cuffs with Velcro fastening tabs
- Internal kneepad pockets
- FR AS 50mm wide reflective tape
- Internal waistband adjustment with 2 point fastening
- Triple stitched side seams in contrast stitching
- ThermSAFE™ plastic zipper

**Sizes:** S - 4XL, **REG LEG** (31"/80cm)  
M - 2XL **TALL LEG** (33"/85cm)  
**Colour:** Navy, Orange  
**Code:** 6100

## ProGARM® VXs+ 250W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Internal kneepad pocket to fit ProGARM® 2240 kneepad.



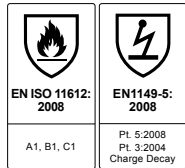
Radio loop on front of pocket.



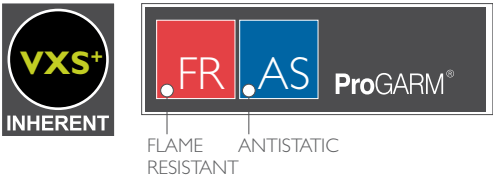
Internal waistband adjustment for improved fit.

# ProGARM® 5630 FR AS SWEATSHIRT

## PRODUCT EUROPEAN NORMS



## FABRIC GARMENT MARKINGS



## PRODUCT SPECIFICATION

High quality sweatshirt featuring arm panel design with pocket and made using VXS+ 330g/m<sup>2</sup> fabric for maximum comfort and performance.

- Brushed inner for warmth
- Stretch collar and hem
- Long sleeves and stretch cuffs
- Concealed arm pocket for mobile phone
- Generous sizing

**Sizes:** S - 4XL  
**Colour:** Navy  
**Code:** 5630

## ProGARM® VXS+ 330J INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Innovative arm pocket with flap.



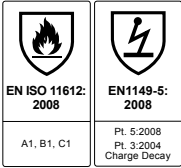
Twin needle stitch on neckline.



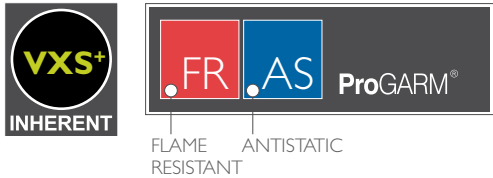
VXS+ fabric featuring brushed fleece inner for warmth.

# ProGARM® 5280 FR AS POLO SHIRT

## PRODUCT EUROPEAN NORMS



## FABRIC GARMENT MARKINGS



## PRODUCT SPECIFICATION

Quality long sleeve polo shirt featuring VXS+ 210g/m<sup>2</sup> Pique knit fabric with anti-static fibre and soft finish.

- Stretch cuffs
- Knitted collar
- Concealed stud placket
- Rib knit collar with tipping
- Generous sizing

**Sizes:** S - 4XL  
**Colour:** Navy  
**Code:** 5280

## ProGARM® VXS+ 210P INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Plastic popper fastenings and rib tipping on collars.



Enclosed fastenings on placket.

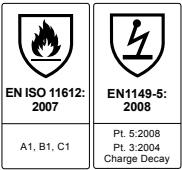


Visual EN symbol identification symbol.

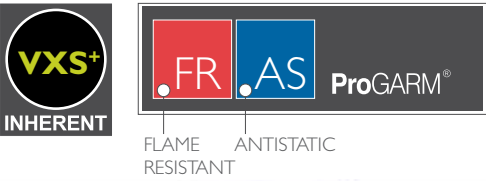


# ProGARM® 5896 FR AS LAB COAT

## PRODUCT EUROPEAN NORMS



## FABRIC GARMENT MARKINGS



## PRODUCT SPECIFICATION

Warehouse/Lab coat constructed using VXS+ 300g/m<sup>2</sup> Inherently FR and antistatic fabric. Ideal for visitors or warehouse staff requiring additional protection.

- Contrast stitching
- Three front pockets
- Side pleats for improved fit
- Adjustable fastening on cuff
- Covered stud front

**Sizes:** S - 4XL  
**Colour:** Navy  
**Code:** 5896

## ProGARM® VXS+ 300W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Formal work collar for smart appearance.



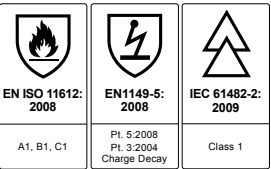
Breast pocket and two side pockets with contrast stitching.



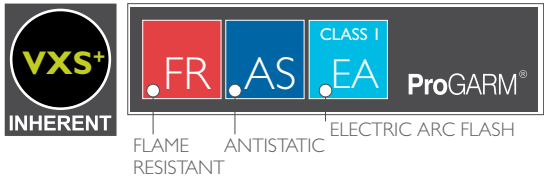
Covered stud front.

# ProGARM® 1100 FR AS EA SHIRT

## PRODUCT EUROPEAN NORMS



## FABRIC GARMENT MARKINGS



## PRODUCT SPECIFICATION

New to the ProGARM® range - smart, flame resistant and antistatic workshirt in VXS+ 170g/m<sup>2</sup> fabric certified to offer protection to IEC61482 for Arc Flash Protection.

- Soft fabric with unique weave
- Formal collar with stiffeners
- Two chest pockets with buttons
- Button front and cuffs
- Generous sizing

**Sizes:** 38" - 54"  
**Colour:** Navy  
**Code:** 1100

## ProGARM® VXS+ 170W ANTISTATIC FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Formal collar with stiffeners.



Button front for smart appearance.



Single cuffs with button fastening.



# ProGARM®

## HI-VIZ YELLOW COLLECTION

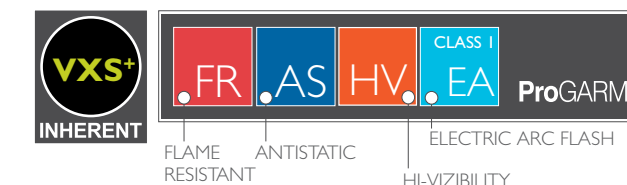


## ProGARM® 7418 FR AS HV EA TROUSER

### PRODUCT EUROPEAN NORMS

EN ISO 11611: 2008	EN ISO 11612: 2008	EN 1149-5: 2008	EN 471: 2003 A1:2007	IEC 61482-2: 2009
Class 1, A1	A1, B1, C1, E1	Pl. 5:2008 Pl. 3:2004 Charge Decay		Class 1 E <sub>arc</sub> = 8.7 cal/cm²

### FABRIC GARMENT MARKINGS



### PRODUCT SPECIFICATION

Stylish combat trouser featuring VXS+ 250g/m² Inherent fabric, offering Hi-Vizibility EN471 Class 2 conformance. This model also now upgraded to offer Arc Flash Protection.

- Two hip pockets with flaps
- Combat pocket on leg
- Mobile phone pocket
- Rear pockets with flaps
- 70 mm FR AS reflective tape
- ThermSAFE™ jean button
- Triple stitched side seams for strength
- ThermSAFE™ plastic zipper

**Sizes:** 30" - 52" **REG LEG** (32"/81 cm)  
30" - 44" **TALL LEG** (34"/86 cm)  
32" - 42" **SHORT LEG** (30"/76 cm)

**Colour:** Hi-Viz Yellow  
**Code:** 7418



### ProGARM® VXS+ HVY 250W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Ultra-soft and durable VXS+ woven fabric.



Featuring the NEW ThermSAFE™ button.



7cm wide reflective tape achieves Class 2 EN471.



# ProGARM® 7480 FR AS HV EA COVERALL

## PRODUCT EUROPEAN NORMS

Class 1, A1	A1, B1, C1	Pt. 5:2008 Pt. 3:2004 Charge Decay		Class 1 E <sub>arc</sub> =8.7 cal/cm²

## FABRIC GARMENT MARKINGS

					ProGARM®
	FLAME RESISTANT	ANTISTATIC		ELECTRIC ARC FLASH HI-VIZIBILITY	

## PRODUCT SPECIFICATION

New style coverall featuring VXS+ 250g/m<sup>2</sup> antistatic fabric and offering increased vizibility using reflective tape on arms, legs and shoulders.  
Now certified to the requirements of IEC61482 Arc Flash Protection.

- Easy Stretch arm design for comfort
- Chest pockets with flaps
- Gas monitor loop on left chest pocket
- Two rear pockets with flaps
- Two side pockets with access to base layer
- Action back for improved comfort
- Adjustable cuffs with Velcro fastening tabs
- Internal kneepad pockets
- FR AS 50mm wide reflective tape to Class 3
- Internal waistband adjustment with 2 point fastening
- Triple stitched side seams for strength
- ThermSAFE™ plastic zipper

**Sizes:** S - 4XL, **REG LEG** (31"/80cm)  
M - 2XL **TALL LEG** (33"/85cm)

**Colour:** Hi-Viz Yellow  
**Code:** 7480

## ProGARM® VXS+ HVY 250W INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Featuring the NEW ThermSAFE™ Zipper.



Genuine FR Velcro® as featured on all ProGARM® garments.



Double stitched reflective tape to Class 3 pattern.

# ProGARM® 5625 FR AS HV EA SWEATSHIRT

## PRODUCT EUROPEAN NORMS

A1, B1, C1	Pt. 5:2008 Pt. 3:2004 Charge Decay		Class 1

## FABRIC GARMENT MARKINGS

					ProGARM®
	FLAME RESISTANT	ANTISTATIC		ELECTRIC ARC FLASH HI-VIZIBILITY	

## PRODUCT SPECIFICATION

Featuring improved weight VXS+ 350g/m<sup>2</sup> Jersey knit fabric with brushed inner for warmth. Ideal garment to compliment the 5285 Polo Shirt for additional winter warmth.

- Stretch collar and hem
- Long sleeved and stretch cuffs
- Concealed arm pocket for mobile phone
- 50mm FR AS reflective tape

**Sizes:** S - 4XL  
**Colour:** Hi-Viz Yellow  
**Code:** 5625

## ProGARM® VXS+ HVY 350J INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Twin needle neckline with stretch neckline.







Stretch cuff with Lycra®.




Heat Applied Tape free of seam for additional comfort.

PRODUCT EUROPEAN NORMS

 EN ISO 11612: 2008 A1, B1, C1	 EN 1149-5: 2008 Pl. 5:2008 Pl. 3:2004 Charge Decay	 EN 471: 2003 A1:2007	 IEC 61482-2: 2009 Class 1
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FABRIC GARMENT MARKINGS



FR

FLAME  
RESISTANT

AS

ANTISTATIC

HV

ELECTRIC ARC FLASH  
HI-VIZIBILITY

EA

CLASS 1

ProGARM®

PRODUCT SPECIFICATION

Premium quality long sleeved polo shirt in VXS+ 210g/m² Pique knit fabric for ultimate comfort and breathability.

- Contrast Grey Collar
- Knitted Collar and Cuffs
- Long Sleeves
- ThermSAFE™ plastic popper fastenings
- 50 wash, 50mm Reflective tape

**Sizes:** S - 4XL  
**Colour:** Hi-Viz Yellow  
**Code:** 5285

ProGARM® VXS+ HVY 210P INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Ultra-soft and durable VXS+ pique fabric.



ThermSAFE™ plastic poppers and contrast grey collar.



Rib knit cuff with Lycra® for comfort and close fit.







# ProGARM®

## HI-VIZ ORANGE COLLECTION



## ProGARM® 4616 FR AS HV EA TROUSER

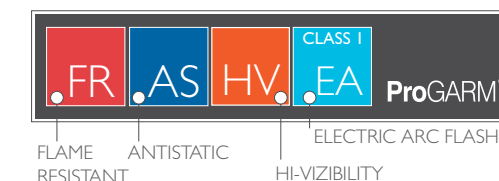
### PRODUCT EUROPEAN NORMS

EN ISO 11611: 2008	EN ISO 11612: 2008	EN1149-5: 2008	EN 471: 2003 A1:2007	GO/RT 3279	IEC 61482-2: 2009
Class 1, A1	A1, B1, C1, E1	Pt. 5:2008 Pt. 3:2004 Charge Decay		Compliant Issue 7 AM001	Class 1

### FABRIC



### GARMENT MARKINGS



### PRODUCT SPECIFICATION

Unique development featuring VXS+ Hi-Viz Orange 360g/m<sup>2</sup> fabric. Designed for workers on or near the trackside requiring garments certified to GO/RT 3279.

- Two hip pockets with flaps
- Combat pocket on leg with phone pocket
- Rear pocket with flap
- 50mm FR AS reflective tape with double stitching
- ThermSAFE™ jeans button
- Triple stitched side seams
- ThermSAFE™ plastic zipper

**Sizes:** 32"- 52" **REG LEG** (32"/81cm)  
30"- 44" **TALL LEG** (34"/86cm)  
32"- 42" **SHORT LEG** (30"/76cm)

**Colour:** Hi-Viz Orange  
**Code:** 4616



### PROGARM® VXS+ HVO 360W INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Re-inforced crotch panel for increased strength.



Now upgraded with Arc Flash properties (EA).



Care Labels manufactured in flame resistant material.



# ProGARM® 4608 FR AS HV EA JACKET

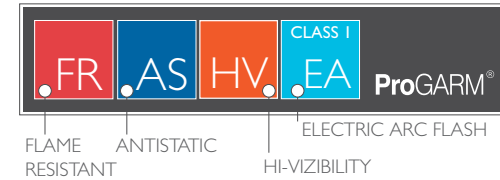
## PRODUCT EUROPEAN NORMS

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## FABRIC



## GARMENT MARKINGS



## PRODUCT SPECIFICATION

Well designed jacket featuring VXS+ Hi-Viz Orange 360g/m<sup>2</sup> fabric and the easy-stretch arm panel for comfort. Designed for workers on or near the trackside requiring garments certified to GO/RT 3279.

- Relaxed collar design for comfort
- Chest pocket with zip
- Gas monitor loops on front chest
- Arm logo for quick visual guide for garment protection level
- Twin bands of double stitched 50mm FR AS reflective tape
- Velcro fastening cuffs for close fit
- Side pockets
- ThermSAFE™ plastic zipper
- Extended back
- Triple stitched side seams

**Sizes:** S - 4XL  
**Colour:** Hi-Viz Orange  
**Code:** 4608



## ProGARM® VXS+ HVO 360W INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Garments can be branded with your company logo.



Featuring ProGARM's three needle seams for strength.



Napoleon style verticle chest pocket with zipper.

# ProGARM® 4690 FR AS HV EA COVERALL

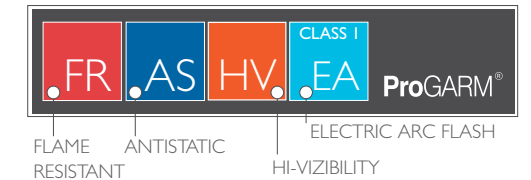
## PRODUCT EUROPEAN NORMS

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## FABRIC



## GARMENT MARKINGS



## PRODUCT SPECIFICATION

New style coverall featuring VXS+ Hi-Viz Orange fabric and offering increased vizibility using reflective tape on arms, legs and shoulders. Meets the requirements of GO/RT 3279.

- Easy Arm design for comfort
- Chest pockets with flaps
- Gas monitor loop on left chest pocket
- Two rear pockets with flaps
- Two side pockets with access to base layer
- Action back for improved comfort
- Adjustable cuffs with Velcro fastening tabs
- Internal kneepad pockets
- FR AS 50mm wide reflective tape to Class 3
- Internal waistband adjustment with 2 point fastening
- Triple stitched side seams
- ThermSAFE™ plastic zipper

**Sizes:** S - 4XL, **REG LEG** (31"/80cm)  
M - 3XL, **TALL LEG** (33"/85cm)  
**Colour:** Hi-Viz Orange  
**Code:** 4690



## ProGARM® VXS+ HVO 360W INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Class 1 Electric Arc protection visual logo.



GO/RT Tape pattern for trackside workers.

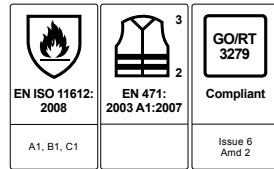


Adjustable wrist strap with Velcro® fastening.



# ProGARM® 5288 FR HV POLO SHIRT

## PRODUCT EUROPEAN NORMS



## FABRIC



## GARMENT MARKINGS



FLAME RESISTANT  
HI-VIZIBILITY

## PRODUCT SPECIFICATION

Unique blend of VXS+ 265g/m<sup>2</sup> fabric developed to meet the requirements of workers on or near the trackside requiring garments certified to GO/RT 3279.

- Concealed stud front plauette
- Contrast knitted collar with tipping
- 50mm reflective tape
- Elasticated rib knit cuffs

**Sizes:** S - 3XL  
**Colour:** Hi-Viz Orange  
**Code:** 5288



## ProGARM® VXS+ HVO 265P INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Contrast collar with tipping for improved appearance.



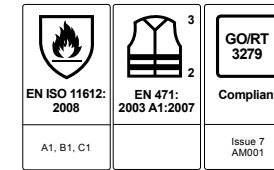
Tape free seams for flexibility when worn.



Unique blend of VXS+ Fabric achieving GO/RT 3279 requirements.

# ProGARM® 5648 FR HV SWEATSHIRT

## PRODUCT EUROPEAN NORMS



## FABRIC



## GARMENT MARKINGS



FLAME RESISTANT  
HI-VIZIBILITY

## PRODUCT SPECIFICATION

Unique blend of VXS+ 430g/m<sup>2</sup> fabric developed to meet the requirements of workers on or near the trackside requiring garments certified to GO/RT 3279.

- Stretch collar and hem in contrast colour
- Long sleeved and stretch cuffs
- Concealed arm pocket
- 50mm reflective tape

**Sizes:** S - 3XL  
**Colour:** Hi-Viz Orange  
**Code:** 5648



## ProGARM® VXS+ HVO 430K INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



Grey contrast rib collar with twin needle stitching.



FR visual arm logo and contrast grey stretch cuff.



Innovative arm pocket with flap.





# ProGARM®

## WINTER GARMENTS COLLECTION



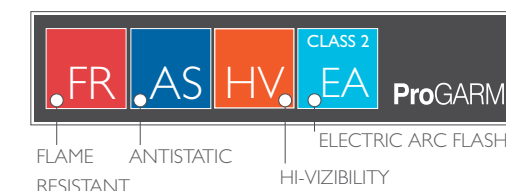
100%  
INHERENT

## ProGARM® 4252 TOTAL PROTECT JACKET

### PRODUCT EUROPEAN NORMS

EN ISO 11611: 2007	EN ISO 11612: 2007	EN 1149-5: 2008	EN 13034 2005	EN 471: 2003 A1:2007	IEC 61482-1-2: 2007	EN 343 2003 + A1:2007	EN 14058
Class 2, A1	A1, B2, C2, F1	Pl. 5:2008 Pl. 3:2004 Charge Decay	Type PB (B) +A1:2009	Class 3	Class 2		

### GARMENT MARKINGS



### PRODUCT SPECIFICATION

High specification Multi-Norm Jacket offering a multitude of EN Standards including ARC Flash Protection to Class2 EN61482-I-2. Two layer fabric with waterproof membrane and antistatic yarn. This garment also features a removable hood and a separate winter lining is also available, which can be removed for the warmer months without reducing the Class 2 Arc Protection.

- Two-Tone design to EN471 Class 3
- Branded zipper
- Storm flap & velcro fastening
- Two side pockets & map pocket
- Wrist adjusters
- Arm pocket with flap
- Double stitched reflective tape
- Neck adjuster tab
- Internal Pocket



Quilted Liner also available. Note, this item is not necessary to meet the requirements of Class 2 Electric Arc protection – it is an additional layer for warmth. Please request further information from our sales office.

**Sizes:** M - 3XL

**Colour:** Hi-Viz Yellow/Navy

**Code:** 4252



### ProGARM® INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Three-part hood for close fit with draw cord adjustments.



Napoleon style vertical chest pocket under Velcro® fastened storm strips.



Interactive zipper takes extra winter liner for warmth.



# ProGARM® 4252 TOTAL PROTECT JACKET

## PRODUCT EUROPEAN NORMS

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## PRODUCT SPECIFICATION

High specification Multi-Norm Jacket offering a multitude of EN Standards including ARC Flash Protection to Class2 EN61482-1-2. Two layer fabric with waterproof membrane and antistatic yarn. This garment also features a removable hood and a separate winter lining is also available, which can be removed for the warmer months without reducing the Class 2 Arc Protection.

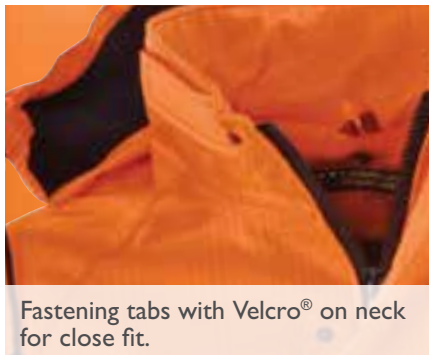
- Two-Tone design to EN471 Class 3
- Branded zipper
- Storm flap & velcro fastening
- Two side pockets & map pocket
- Wrist adjusters
- Arm pocket with flap
- Double stitched reflective tape
- Neck adjuster tab
- Internal Pocket

Quilted Liner also available. Note, this item is not necessary to meet the requirements of Class 2 Electric Arc protection – it is an additional layer for warmth. Please request further information from our sales office.

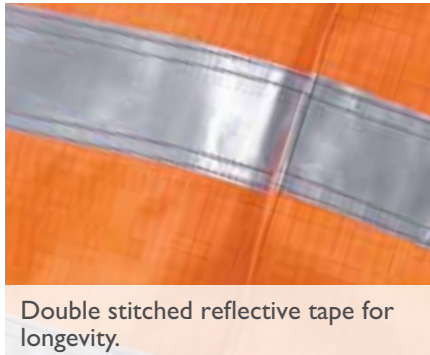
**Sizes:** M - 3XL  
**Colour:** Hi-Viz Orange  
**Code:** 4252

## ProGARM® INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Fastening tabs with Velcro® on neck for close fit.



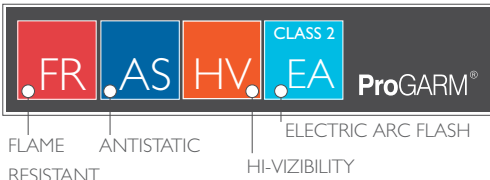
Double stitched reflective tape for longevity.



Double front pockets with Velcro® fastening flaps.



## GARMENT MARKINGS



# ProGARM® 5790 FR AS EA FLEECE JACKET

## PRODUCT EUROPEAN NORMS

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## PRODUCT SPECIFICATION

New to the range, this fleece jacket features VXS+ 300g/m<sup>2</sup> antistatic fabric and offers Class I Arc Flash protection. Designed in conjunction with the 5808 jacket as a liner for additional warmth in the cooler months.

- ThermSAFE™ plastic zipper with storm flap
- Pull cord waist adjustment with toggles
- Two front pockets with zip closures
- Elasticated cuffs
- Internal pocket with velcro fastening
- Visual Arm Logo for EN standard identification

**Sizes:** S - 4XL  
**Colour:** Navy  
**Code:** 5790

## ProGARM® VXS+ 300F INHERENT FABRIC

- ✓ **INHERENT PROTECTION** – this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES** – for ultimate protection against flame hazards
- ✓ **GREAT COMFORT** – breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE** – colour fast with less than 3% washing shrinkage



Elasticated cuffs.

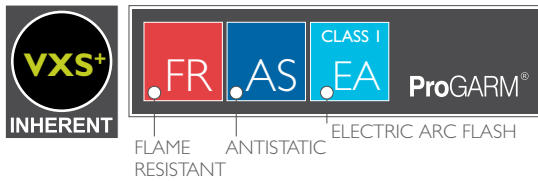


Featuring the New ThermSAFE™ plastic zippers.










Visual arm logo for easy FR properties identification.

## FABRIC GARMENT MARKINGS



# ProGARM® 4280 TOTAL PROTECT SALOPETTES

## PRODUCT EUROPEAN NORMS

 EN ISO 11611: 2007	 EN ISO 11612: 2007	 EN 1149-5: 2008	 EN 13034: 2005	 IEC 61482-1-2: 2007	 EN 343: 2003 + A1:2007	 EN 14058
Class 2, A1	A1, B2, C2, F1	Pl. 5:2008 Pl. 3:2004 Charge Decay	Type PB (6) +A1:2009	Class 2		

## PRODUCT SPECIFICATION

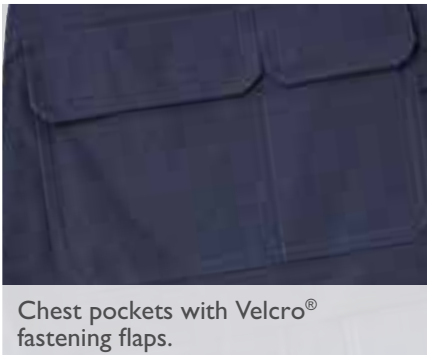
Hi-Specification Multi-Norm Salopettes with a multitude of EN standards including ARC Flash Protection to Class2 EN61482-1-2. Two layer fabric with waterproof membrane for ultimate protection from the elements. Designed to be worn with a Jacket - our reference 4252.

- Branded zipper
- Shoulder straps with adjustable buckles
- Phone pocket
- Side Pockets
- Double stitched reflective tape
- Pocket on Chest

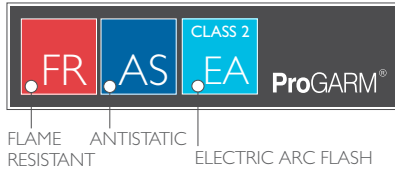
**Sizes:** M - 3XL  
**Colour:** Navy  
**Code:** 4280

## ProGARM® INHERENT FABRIC

- ✓ **INHERENT PROTECTION**  
– this fabric does not depend on chemical treatments and the flame resistant properties last the lifetime of the fabric
- ✓ **INSTANT EXTINGUISHING PROPERTIES**  
– for ultimate protection against flame hazards
- ✓ **GREAT COMFORT**  
– breathable, soft to wear, fantastic touch
- ✓ **HIGHLY DURABLE**  
– colour fast with less than 3% washing shrinkage



## GARMENT MARKINGS



# ProGARM®

## ACCESORIES AND OTHER GARMENTS





# ProGARM® 2660 ARC FLASH HELMET

## PRODUCT SPECIFICATION

Manufactured using Modified High Impact Polyamide the ProGARM® Safety Helmet protects the head against injuries caused by falling objects, electric shock by preventing shock current flow through the head and also against electric arc and molten metal splashes. Developed as safety personnel equipment for live working with electrical connections.

- There are 3 standards related to the ProGARM® Arc Flash Helmet.
- EN397
  - EN50365
  - EN166
  - EN61482-1-2 Protection against the Thermal Hazards of an Electric Arc

## PRODUCT DESCRIPTION

**Size:** 223x310x200mm  
**Material:** Modified High Impact Polyamide  
**Lifetime:** 5 Years  
**Colours:** White (other colours available)

### The helmet shell is manufactured in compliance with:


- EN 397: 2012 Industrial Safety Helmets
- EN 50365, Electrically Insulating Helmets for use on low voltage installations
- Temperature Range: -30°C to +50°C
- Head Circumference Adjustment: 53-63cm
- Electrical Insulation: 1000v
- Class 0
- Live Working Symbol: (Two Triangles)
- Resistance to Molten Metal Splash MM
- Resistance to Lateral Strain LD

## ProGARM® FACE SHIELD SPECIFICATIONS

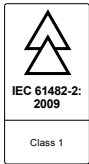
- Size:** One Size  
**The face shield is manufactured in compliance with:**
- EN166:2001 Personal Eye Protection
  - EN61482-1-2 Arc Flash Box Test
- Other Faceshield Features:**
- UV Protection for VVI Visor
  - Optical Class 2
  - Medium Energy Impact Strength B
  - Resistance to Electric Arc 8
  - Parameters of Electric Arc 4kA/0,5s; 135kJ/m - Class I
  - Protection against the particles of Liquid Metal 9
  - Resistance to damage caused by small particles K
  - Resistance to fogging N

### Testing & Certification Information

The Face shield is tested in accordance with EN 166, and also tested for Arc Flash in accordance to GS-ET-29. The IEC61482-1-2 Box Test is applied to the Face Shield. GS-ET-29 is a "supplementary requirements for the testing and certification of face shields for electrical works".



## PRODUCT EUROPEAN NORMS



## PRODUCT EUROPEAN NORMS



Complies with EN14404 when worn with a ProGARM® Garment

## PRODUCT SPECIFICATION

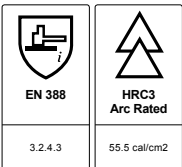
The ProGARM® Gel Kneepad is designed for use with our range of Flame Resistant Clothing. The notched front allows optimal adjustment to the knee for maximum comfort and the excellent absorption characteristics of the high grade cellular rubber provides high levels of comfort through excellent absorption properties. Washable up to 90°C and can be dry cleaned to allow kneepad to remain in the garment.

**Sizes:** 80 x 60 x 60 cm  
**Colour:** Black  
**Code:** 2240



# ProGARM® 2678 ARC FLASH GLOVES

## PRODUCT EUROPEAN NORMS



## PRODUCT SPECIFICATION

High performance Kevlar lined leather glove with 100% waterproof and windproof lining to keep hands warm and dry. Insulation made with FR Nomex. Arc Rated 55.5cal/cm2 (HRC3).

**Sizes:** L, XL  
**Colour:** Tan  
**Code:** 2678



# ProGARM® 3700 BALLISTIC TROUSER

NOTE: THIS PRODUCT IS NOT FLAME RESISTANT

## PRODUCT SPECIFICATION

Featuring nylon ballistic panels for protection against sharp objects. Ideal garment for Refuse Collectors, Waste Disposal companies, Glass Factories, Security Companies and Public Authorities.

- Reinforced hem
- Two rear pockets, one with flap
- Combat leg pocket with phone pouch
- YKK Branded Zipper
- Extra wide belt loops
- Double Reflective Leg Banding with twin needle stitching
- Twin Needle stitch detail
- Key Loop on front belt loop
- Wide Size Range

**Sizes:** 28" - 54" **REG LEG** (32"/81cm)  
30" - 44" **TALL LEG** (34"/86cm)  
32" - 42" **SHORT LEG** (30"/76cm)

**Colour:** Navy Blue, Bottle Green, Orange/Navy  
**Code:** 3700

## ProGARM® POLYCOTTON/BALLISTIC FABRIC

**Ballistic Nylon Fabric**  
**Anti-Pierce Protection** – tough, nylon flexible fabric, tested for resistance to needle penetration

**Polycotton Fabric**  
**Lightweight & Breathable** – soft to handle, good to wear  
Reactive Dyed - for superb colour fastness

*Note:*  
This garment does not conform to EN471 Hi-Vizibility Standards



Plastic key loop on waistband.



Double stitched reflective tape for product life longevity.



MOD Ballistic material for superior anti-cut protection.

# ProGARM® 3750 REFLECTIVE TROUSER

NOTE: THIS PRODUCT IS NOT FLAME RESISTANT

## PRODUCT SPECIFICATION

Featuring nylon ballistic panels for protection against sharp objects. Ideal garment for Refuse Collectors, Waste Disposal companies, Glass Factories, Security Companies and Public Authorities.

- Reinforced hem
- Two rear pockets, one with flap
- Combat leg pocket with phone pouch
- YKK Branded Zipper
- Extra wide belt loops
- Double Reflective Leg Banding with twin needle stitching
- Twin Needle stitch detail
- Key Loop on front belt loop
- Wide Size Range

**Sizes:** 28" - 54" **REG LEG** (32"/81cm)  
30" - 44" **TALL LEG** (34"/86cm)  
32" - 42" **SHORT LEG** (30"/76cm)

**Colour:** Navy Blue, Bottle Green  
**Code:** 3750

## ProGARM® POLYCOTTON FABRIC

**Polycotton Fabric**  
**Lightweight & Breathable** – soft to handle, good to wear  
Reactive Dyed - for superb colour fastness

*Note:*  
This garment does not conform to EN471 Hi-Vizibility Standards



Plastic key loop on waistband.



ProGARM® jeans style button fastening.



Double stitched reflective tape for product life longevity.





# ProGARM®

## ARC FLASH EXPLAINED AND EUROPEAN NORMS



## ARC FLASH – IEC61482 EXPLAINED



### IEC61482

**Protective Clothing against the Thermal Hazards of an Electric Arc.**

This is the Standard to which we design and test our garments to for Arc Flash Protection.

### TEST METHODS:

There are two Test Methods commonly referred to:

**1. ATPV (Arc Thermal Protection Value) Method IEC61482-I-1**

**2. Box Test Method IEC61482-I-2**

The Box Test method gives a Test Result of 4Ka (Class 1) or 7Ka (Class 2). The ATPV method gives a Calorific Value for the each garment and in this way, layered garment systems can be built up with testing results that correspond directly to your Arc Flash Risk Assessments.



ATPV Testing. Before, during and after.

### VXS+ FABRICS & ELECTRIC ARC

The most popular VXS+ 250W fabric offers a value of 8.7cal/cm<sup>2</sup> providing outstanding protection in comparison to many more expensive aramid blends whilst also offering the benefits of vastly superior breathability and comfort. And with an increase in fabric weight a value of 12cal/cm<sup>2</sup> can be achieved providing further protection against second degree burns.

The Stoll Curve is the boundary that indicates how much radiant heat is required to inflict second degree burns. The higher the Delta value, then the lower the chance of the wearer suffering second degree burns. The higher the value, the better the protection offered.



## FLASH FIRE PROTECTION

VXS<sup>+</sup> fabrics provide superior protection against body burns as the result of exposure to Flash Fires. Here are some simple facts relating to Flash Fires versus Fires:

As a result, the protection that a garment offers across the initial 3 seconds during which the wearer would suffer burns is critical.

In line with commitment to continuous development, some VXS<sup>+</sup> fabrics have been tested to 4 seconds in comparison to Aramid blends of fabric and can be demonstrated to offer superior protection.

What's more, with the properties of VXS<sup>+</sup> being inherent, then protection is continued despite the number of washes or laundry cycles.

Specify ProGARM® VXS+ fabrics



Flash Fire testing ProGARM® VXS® Inherent fabric. Flame exposure time four seconds.

## ARC FLASH – IEC61482 TEST DATA

## ARC FLASH FABRIC AND GARMENT TEST RESULTS



BOX TEST  
FABRIC RESU

GARMENT CERTIFIED



OPEN ACCESS  
FABRIC RESISTANCE

GARMENT CERTIFIED

HI-VIZ YELLOW GARMENTS		BOX TEST FABRIC RESULT	GAR RESULT	OPEN ARC FABRIC RESULT	GAR RESULT
7480	Coverall	Class I 4kA	Yes	Ebt: 8,7 Cal/cm²	Yes
7418	Trouser	Class I 4kA	Yes	Ebt: 8,7 Cal/cm²	Yes
5625	Sweatshirt	Class I 4kA	Yes	-	-
5825	Polo Shirt	Class I 4kA	Yes	-	-
HI-VIZ ORANGE COLLECTION					
4608	Jacket	Class I 4kA	Yes	-	-
4616	Trouser	Class I 4kA	Yes	-	-
4690	Coverall	Class I 4kA	Yes	-	-
SINGLE COLOUR COLLECTION					
6100	Coverall	Class I 4kA	Yes	Ebt: 8,7 Cal/cm²	Yes
5850	Jacket	Class I 4kA	Yes	Ebt: 8,7 Cal/cm²	No
7638	Trouser	Class I 4kA	Yes	Ebt: 8,7 Cal/cm²	Yes
1100	Shirt	Class I 4kA	Yes	–	–
NAVY/YELLOW COLLECTION					
6444	Coverall	Class I 4kA	Yes	ATPV: 9.0 Cal/cm²	Yes
5808	Jacket	Class I 4kA	No	ATPV: 9.0 Cal/cm²	No
5816	Trouser	Class I 4kA	Yes	ATPV: 9.0 Cal/cm²	Yes
MID LAYER COLLECTION					
5280	Polo Shirt	Class I 4kA	No	-	-
5630	Sweatshirt	Class I 4kA	No	-	-
OUTERWEAR					
4252	Winter Jacket	Class 2 7kA	Yes	-	-
5790	Fleece	Class I 4kA	Yes	-	-

## INDEPENDENT LAB TESTING

All fabrics within the ProGARM® VXS® range are extensively tested before being released to market and as part of the requirements to achieve EN certification. These tests include pilling, abrasion, tear, tensile, colour retention, wash performance and weight in addition to the flame performance tests that are required. As a further step we also test garments and fabrics on the market to ensure that the ProGARM® products remain at the cutting edge.



Not all fabrics are alike...  
Specify ProGARM® VXS® fabric



TRIED AND TESTED

Ensuring that garments perform wash after wash is an essential part of the criteria when developing a new garment and garments have undergone wash trials at several commercial laundry companies on behalf of customer's requirements. The wash characteristics of the fabric is of key importance with particular emphasis on colour fastness, tear and tensile strengths, pilling resistance and dimensional change (shrinkage).

Our top selling fabric has been certified to EN11612 after 50 industrial wash cycles at 75°C and Tunnel Drying at 150°C for 5 minutes according to ISO 15797:2004.

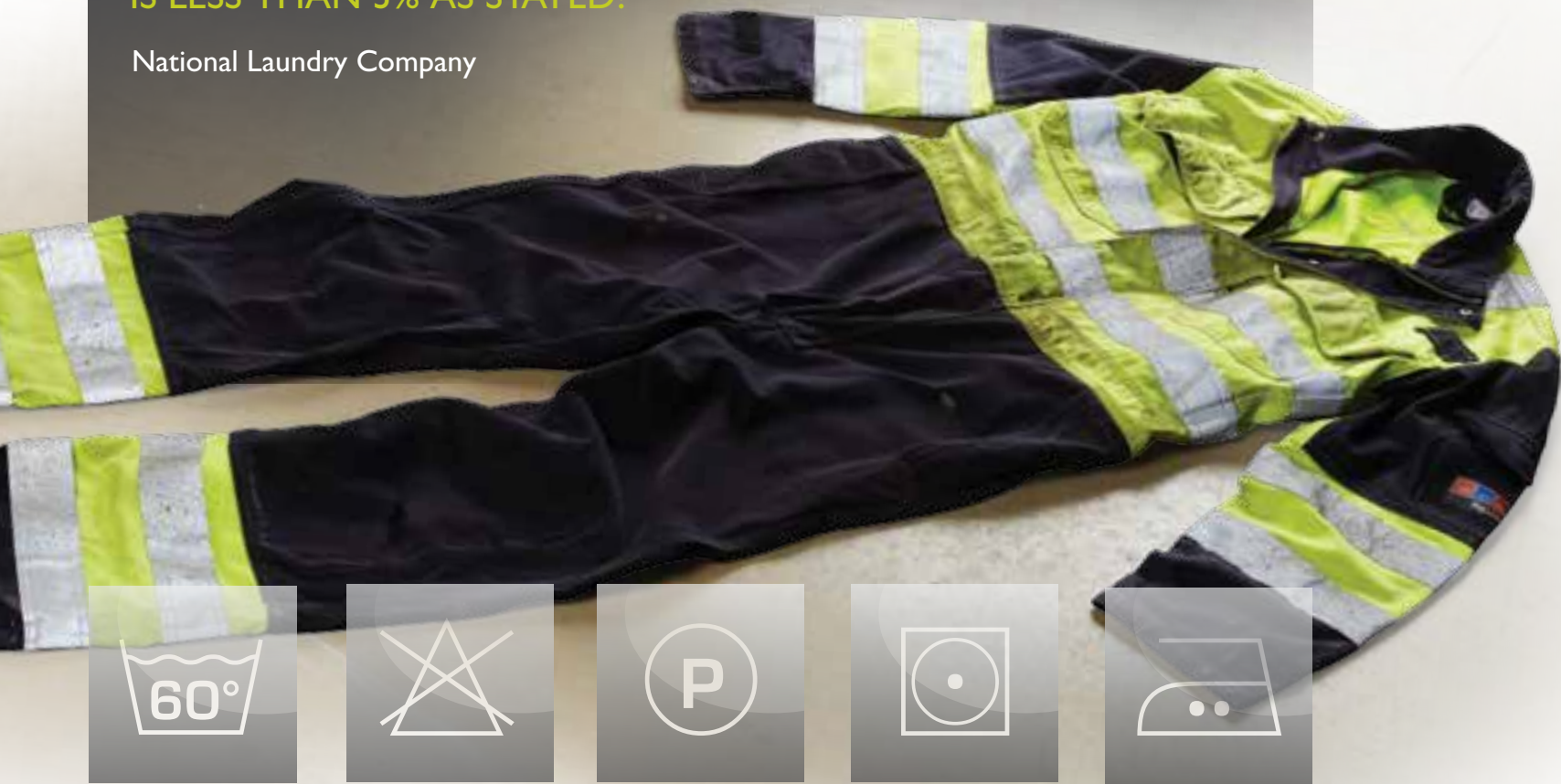
In addition to this, the componentry of each garment is key and with this in mind, we use branded reflective tapes from brand names including 3M. All test reports on our garments are performed after defined wash cycles in accordance with the EN norm, and in the case of some of our ThermSAFE™ reflective tapes, the testing is performed after 50 industrial wash cycles and drying procedures.

If you intend to commercially wash these garments, we are happy to discuss this with your laundry partner in order that the quality, benefits and flexibility of wearing ProGARM® Flame Resistant garments can be fully realised.

Protect the BEST - Specify ProGARM®

“THE ProGARM® FR GARMENTS ARE OUTSTANDING – WE HAVE WASHED THEM 50 TIMES INCLUDING PUTTING THEM THROUGH THE TUNNEL DRYER AND SHRINKAGE IS LESS THAN 3% AS STATED!”

National Laundry Company



ThermSAFE™ COMPONENTS

Every component within a ProGARM® garment is carefully selected and tested to ensure that the performance of the finished garment is not affected by an inferior component. The ThermSAFE™ brand of components gives you confidence that we have tested and approved each item for use in flame resistant garments and in the heavy work environments and washing cycles it will undergo during its lifetime.



ThermSAFE™ Zippers

Our plastic zippers feature 6mm moulded plastic teeth using FR Nylon 6.6 grade material for heat resistance for 5 minutes at 185°C according to ISO 17493. The permanent FR polyester tape also meets the same FR requirements.



ThermSAFE™ Poppers

These plastic poppers are made using a special blend of polymers to ensure that they do not fail to function after exposure to heat. We have independently tested this unique popper and now feature it on the majority of our coveralls and jackets to cover the zipper in use.



ThermSAFE™ Reflex Tape

Our most popular tape is tested to 50 x 60° washes and performs well in industrial washing environments. We also offer an industrial wash tape tested to higher standards of washing and drying cycles should this be required in any garments.



ThermSAFE™ Buttons

This jeans button is made using a special blend of polymers to ensure that it does not fail to function after exposure to heat. We have independently tested this unique button and now feature it on the majority of our workwear trousers.



ThermSAFE™ Thread

Some Flame Resistant garment manufacturers of Arc Flash protective garments use Non-Aramid threads in their main structural seams. With ThermSAFE™ threads we offer Aramid threads that will not melt below 265°C offering you maximum protection.



ThermSAFE™ Velcro®

We've avoided inferior products and only use genuine Velcro® in our garments for maximum lifetime and 'grab'! This special Velcro is also Flame Resistant and in laboratory trials has been tested to not present any danger in antistatic environments.



# PPE DIRECTIVE AND CARE LABELS

**Personal Protective Equipment** is equipment that protects the wearer against one or more health or safety risks in the work environment. In order to sell personal safety equipment in the EU, compliance with 89/686/EG, the European Directive that regulates PPE products, is obligatory. This Directive regulates requirements concerning the function, marking, technical documentation and also the CE marking process.

In accordance to the Directive, personal protective equipment is divided into three categories as follows:

**CATEGORY 1** – Protective equipment of simple design where the user can assess the protection level. This PPE does not require certification by an external body.

**CATEGORY 2** – Protective equipment that is neither simple nor complex and protects against medium risks. This PPE requires assessment by an external body but is not subject to an EC quality assurance system.

**CATEGORY 3** – Protective equipment of complex design that protects the wearer against dangers to life or serious permanent injury, where the user cannot detect the risk in time. This PPE must be certified by an external inspection body and is subject to an EC quality assurance system. Items in this category carry a 4 digit number after the CE marking which indicates that the independent body regularly checks the PPE for continuous conformity.

Protective equipment in categories 2 and 3 are Type Approved by a notified body and adapted to the majority of different harmonised standards. In order to sell PPE products, they must be CE marked. The CE mark means that a product is Type Approved and complies with the requirements that have been set for personal protective equipment in the Directive 89/686/EG and therefore can be sold in all EU and ESS countries. All of ProGARM®'s PPE products comply with the requirements that are set in accordance with the Directive.

## Please Note:

Any garments correctly certified and CE marked should display the relevant symbol for the standards. Some manufacturers claim that the garment meets requirements but only the fabric and not the complete garment may be certified. This is clear by the Care Label of the garment which will not show the EN symbol but may simply note in text the standard to which the fabric conforms.

All ProGARM® garments are fully certified to the standards for which we claim and a sample Care Label is shown below.

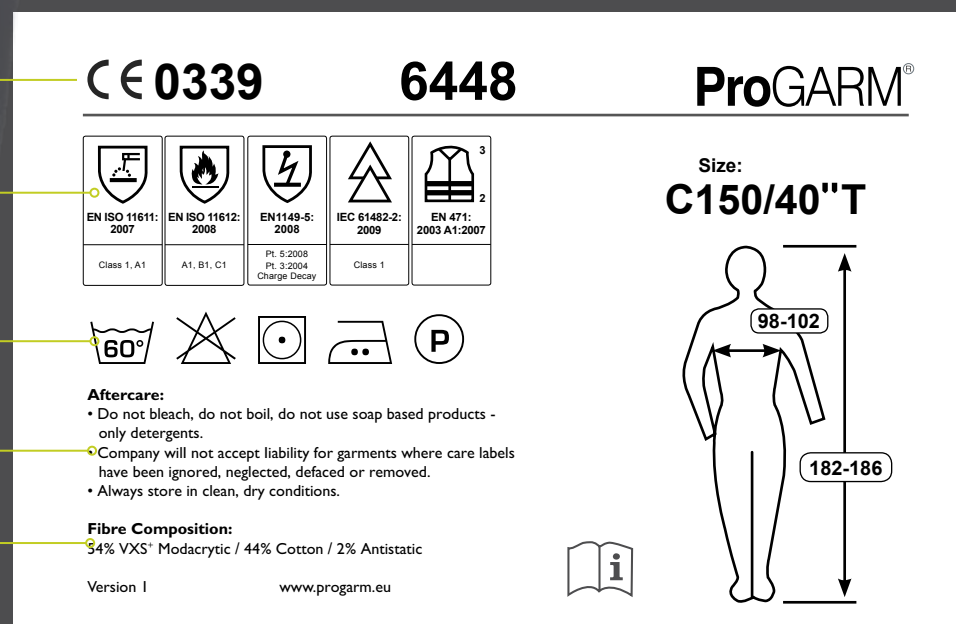
CE marking

EN Standards to which the garment meets

Clear Wash Care Symbols

Wash Care Instructions

Fabric Compositions



Care Label in each garment showing clearly to which standards the garment is certified

# EN NORMS

## EN Norms and Protection Overview

The Protective Clothing produced under the ProGARM® brand is designed specifically for working in environments where Heat, Flame, Low Light, Open Arc, Chemicals or Static Hazards are all Hazards that may be encountered.

In order to ensure that the garments protect in these environments, each article is certificated and produced in accordance with a European Standard. The requirements of these standards ensure that the design, materials used and performance after washing are maintained and reach minimum the requirements.

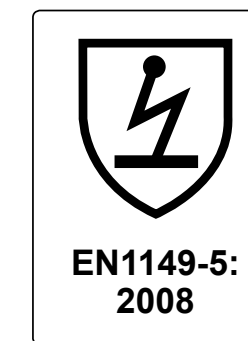
When new EN Norms become available, through a policy of continuous improvement, ProGARM® ensure that garments are certified to the most recent standard. An example of this is the EN ISO 11612 standard which superseded EN531, the previous standard for Heat & Flame Protection. The new EN Norm checks that the garment design requirements along with more stringent testing procedures for fabrics and garment ensure that a vastly superior level of protection is offered to the wearer.

Not only do ProGARM® garments meet these requirements but in many case they exceed what is required.

We have listed here the most popular EN Norms that relate to the garments we offer in our collection, with an explanation of some of the technical jargon that is important. For the actual standards themselves, the relevant BSI document should be referred to and these are available for purchase from BSI British Standards Institute <http://shop.bsigroup.com> or other similar websites.

For further information on EN Norms and an explanation of how these fit into your work environments, or for an assessment of your current garments, please contact our Sales Office.

Protect the BEST™ – Specify ProGARM®



## EN 1149-5:2008 Protective Clothing with Electrostatic Properties

### About this EN Norm:

This is the European Standard for garments that protect against electrostatic discharge in areas where there is a risk of explosion (ATEX Environments) such as petrochemical refineries and fuel distribution companies.

Annex II, art. 2.3. of the ATEX directive 99/92/CE concerning the protection of workers likely to be exposed to the risk of explosive atmospheres says: "Workers must be provided with appropriate working clothing consisting of materials which do not give rise to electrical discharges that can ignite explosive atmospheres". The outer fabric of these garments are therefore made from antistatic materials and components.

Under the scope of the PPE manufacturers Directive 89/686/CE a series of EN standards have been developed relating to electrostatic properties. We note the key parts of these standards as follows that relate to the protective garments that ProGARM® Produce.

### EN 1149-5:2008 Performance Requirements

Antistatic PPE is certified to EN 1149-5 as this standard covers the performance requirements of the garments and refers to the choice of 2 different test methods (EN 1149-1 or EN 1149-3).

### EN 1149-1:2006 Measurements of Surface Resistivity

This test method is most appropriate for materials for which the electrostatic dissipative behavior is based on surface conductivity (for instance containing surface conductive yarns or a homogenous conductive outside PVC coating layer). This method is not appropriate for core conductive fibres.

### EN 1149-3:2004 Measurements of Surface Resistivity

This test method is referenced for materials for which the electrostatic dissipative behavior is based on core conducting fibres but can also be used for surface conducting materials

In the EN 1149 series, there is also an EN 1149-2 (measurement of the electrical resistance through a material; the vertical resistance) which is used as a test method in EN ISO 11611 (welders clothing) and which is also mentioned in Annex H of EN 469:2005. A further part of EN 1149 is under development which will cover the testing of the fully garment - this part of the standard is EN 1149-4.





IEC 61482-2 Protective Clothing against the Thermal Hazards of an Electric Arc

ProGARM® produces safety garments that protect workers against the Thermals Hazards of an Electric Arc. Each garment style is carefully designed to offer the maximum protection whilst ensuring comfort and outstanding durability. As Arc Flash garments come under the requirements of Catagory 3 Protective Clothing, these garments are manufacturer under Article 11B Quality Control Procedures.

What is an Electric Arc?

Electric Arc and the arc flash created is an extremely dangerous and least understood hazard of electricity. It occurs as a result of extreme discharges of voltage or electrical current from equipment including switchgear, transformers and heavy electrical equipment. The arc generates a high level of energy for a very short span of time (upto 1 second). The intense heat can create temperatures as high as 19,000°C and it also produces electric shock, force and large quantities of thermal radiant energy.

What is the Risk?

In any situation where your employees are working with electricity, an arc flash can occur and as such the maximum energy of default circuits in any electrical installation must be able to be determined. The risks of an electric arc exposure are:

- Electrocution – potentially fatal
- Extremely high levels of Radiant Heat
- Secondary Fire or Explosions – ignition to the surroundings
- 1st, 2nd or 3rd Degree burns – 3rd Degree burns cause permanent damage

IEC 61482-2:2009 Performance & Design Requirements

Performance requirements for materials and design requirements for garments, plus Marking and User Information.

This part of IEC 61482 is applicable to protective clothing used in work if there is an electric arc hazard. This standard specifies requirements and test methods applicable to materials and garments for protective clothing worn by electrical workers to protect them against the thermal hazards of electric arc based on relevant general properties of the textiles, tested with selected textile test methods, and one of the Test Methods as defined below.

IEC 61482-1-1:2009 ‘Open Arc’ Test Method

‘Open Arc’ test method (ATPV test and garment test). This replaces IEC 61482-1:2002. The ‘Open Arc’ test method is the same as the original North American method for measuring the Arc Thermal Performance Value (ATPV), as used in ASTM F1959. Materials or assemblies are given an ATPV value, expressed in kilojoules per square metre (kJ/m2), which can be converted into the familiar cal/cm2.

Or

IEC 61482-1-2:2007 ‘Box Arc’ Test Method

‘Box Arc’ test method (Fabric classification and garment test). The ‘Box arc’ test method is based on the original European method described in ENV

50354, with a heat transfer measurement. Materials or assemblies are classified as Class 1 (4 kA) or Class 2 (7kA). During this test, a fabric sample is exposed to an electric arc produced by a 4kA or 7kA short circuit. In the test, the arc does not last any longer than 500 ms. The amount of heat transmitted through the sample is measured during and after the test. On the basis of the resulting data and a STOLL curve, the length of time it would take to cause the onset of second-degree burns is subsequently determined. Samples are also assessed for after-flaming, hole formation, melting, etc.

Garment Testing & Fabric Testing

Is is important to note that not only the fabric should be tested for conformance to the Arc Flash Standard, but also the complete garment or garment assembly itself. The garment test is not testing for energetic value but is testing to ensure that the garment structure remains intact after the arc exposure and that components such as zippers and buttons are still functional and do not contribute further injury to the wearer by melting or heat transfer.

Limitations of Use

With arc protection, the environmental conditions and the risks at the working site shall be regarded. For example a test under the standard using a 4 kA test current (Class 1) subjects the garment/fabric to an incident energy of 135 kJ/m2 ± 56 kJ/m2 (3.2 ± 1.2 cal/cm2) over a 500 ms exposure at 18-28°C at 45-75% RH. If the working environment deviates from this temperature/humidity range the level of protection may be reduced. Exposure to higher incident energies or longer duration arcs may result in the garment providing insufficient protection. Therefore Risk Assessments should be conducted prior to live working.

For full body protection, the protective clothing shall be worn in the closed state and other suitable protective equipment (e.g. helmet with protective face screen, protective gloves and footwear (boots) shall be used. No garments such as shirts, undergarments or underwear should be used which melt under arc exposures - e.g. made of polyamide, polyester or acryl fibres. For maximum protection against Arc Flash Exposure garments should be worn as part of a layering system i.e. in conjunction with a shirt or other undergarment.

Repair Instructions

Warning: tears to arc flash certified garments should not be repaired by the user; a flammable (not flameproof) thread or heat-reactivable piece likely to melt would be very dangerous in the event of exposure to flame. Should there be any need to repair a garment, please contact ProGARM® for details on how this is best undertaken.



EN ISO 11611 Protective Clothing for Welding and Allied Processes

ProGARM® produces safety garments that is certified in accordance with this EN Norm and is designed to protect workers in welding processes. Parts of this EN Standard are also used in conjunction with the Arc Flash Standard for which ProGARM® have built an enviable reputation for high performance garments.

About this EN Norm:

Within this EN Norm is a series of tests - the most important of which are described in ISO 6942, ISO 9150, ISO 15025 and EN 1149-2. ISO 11611 has two classes - if the fabric passes all the tests, it is designated as Class 1 and if the fabric receives a Class 2 rating for the ISO 6942 and ISO 9150 tests, it is designated as Class 2. Class 1 - Lower Hazard Welding Applications Class 2 - Higher Hazard Welding Applications

Explaining the different tests

**ISO 6942:** This is a test method for assessing fabrics and fabric combinations exposed to radiant heat. In this test, a fabric sample is exposed to radiant heat (infrared rays). The temperature on the reverse (unexposed) side of the sample is registered using a calorimeter. Subsequently, the length of time the sample the sample can remain exposed

before its temperature rises by 24°C is measured. This test is also used for EN 531C and has two different classes as follows: Class 1 temperature increase occurs after ≥ 7 seconds Class 2 temperature increase occurs after ≥ 16 seconds. **ISO 9150:** Determining the behaviour of fabrics when exposed to small spatters of molten metal. In this test, droplets of molten metal are spattered on a vertically suspended fabric sample. The number of droplets it takes to cause an increase in temperature of 40°C on the reverse side of the sample is determined. This test also has two classes as follows: Class 1 ≥ 15 droplets of molten metal Class 2 ≥ 25 droplets of molten metal. **ISO 15025:** Test method for limited flame spread. The test consists of applying a flame to a fabric sample for 10 seconds. To pass the test, the after flame & smoulder times and formation of holes must be within the tolerances (set in the standard). This test is also used for EN 531A. The application of a flame can take place in two ways: in procedure A (leads to Class A1), the flame is applied horizontally (similarly to EN 470 and EN 531) in procedure B (leads to Class A2), the flame is applied laterally. **EN 1149-2:** This is a test method for measuring the electrical resistance of a fabric sample and determining whether an electrical charge passes through the sample from the outside to the inside. For further information on this EN Norm please refer to the EN 1149 section.

Typical Examples of Processes versus Class of Clothing	
Criteria for choice on the basis of the type of process	Criteria for choice on the basis of the type of work
CLASS 1 Manual welding operations during which small amounts of spatter or droplets of molten metal are formed - Gas welding - TIG welding - MIG welding - Micro plasma welding - Soldering brass - Spot welding - Shielded electrode MMA welding	CLASS 1 Operating machines, e.g. - Oxygen cutting machines - Plasma cutting machines - Resistance pressure welding machines - Thermal spraying - Welding tables
CLASS 2 Manual welding operations during which large amounts of spatter or droplets of molten metal are formed, e.g.: - MMA welding (using alkaline or cellulose electrodes) - MAG welding (with CO2 or mixed gasses) - MIG (high-voltage) welding - Flux-cored arc welding - Plasma cutting - Gouging - Oxygen cutting - Thermal spraying	CLASS 2 Operating machines, e.g.: - In enclosed spaces - When welding/cutting operations require reaching above head height or take place in comparable difficult positions



EN471  
Hi-Vizibility Warning Clothing

This EN Norm specifies the requirements for clothing designed to emphasize the wearer's presence visibly in order to make the wearer more noticeable in hazardous situations during the day and at night (illumination in car headlights).

The contents of this EN Norm

This standard's icon is a safety vest placed under two numbers that represent the X and Y values. The top value (X) indicates the garment's class (1 to 3). Class 1 is the least visible and Class 3 the most visible. The lower value (Y) specifies the quality of the reflective strips (1 or 2) incorporated in the garment. The Y value indicates how well the reflective strip reflects. ProGARM® only uses reflective tape that has the highest Y value of 2.

The X and Y values

The X value is derived from the number of square metres of fluorescent fabric and the number of square metres of reflective strip incorporated in a garment.

	Class 1	Class 2	Class 3
Fluorescent material	0,14	0,50	0,80
Reflective material	0,10	0,13	0,20
Combined material	0,20		

Class 1: not suitable for working on public highways  
Class 2: for roadwork with traffic travelling at a maximum speed of 50 km/hour  
Class 3: for roadwork with traffic travelling at higher permissible speeds

The fluorescent fabric must encircle the torso, sleeves and trouser legs. And the difference in surface area between the front and back may be a maximum of 40% – 60%. The reflective strip must be 50 mm wide and the space between 2 reflective strips must be at least 50 mm. The distance from 'the end' of the garment (e.g. the end of a trouser leg) to the reflective strip must also be at least 50mm. Reflective strips can be positioned in a variety of different ways; a number of examples are given in Appendix A.

The NEW EN ISO 20471 EN Norm

At the time of this brochure going to print, the new EN Norm to replace this standard has been announced – EN ISO 20471. For further information on any new elements of this EN Norm, please enquire with our sales office.



EN ISO 14116 Protection against  
Heat & Flame, Limited Flame Spread

This standard replaces the withdrawn EN533 standard. As a general rule, ProGARM® do not produce garments in accordance with this European Norm as in our view they are not Flame Resistant Fabrics as we understand them which is fabrics where no melting or hole formation takes place. However, they do have uses in some outerwear such as Hi-Viz winter jackets and waistcoats and these garments are generally worn over other protective garments that meet the requirements of the EN ISO 11612 Heat & Flame Standards or other EN Norms.

Clothing manufactured to the standard is made from flame retardant materials so that if the material comes into contact with a flame, it will only continue to burn for a limited amount of time. After removal from the flame, the material will stop burning. Clothing in the category should not be worn to protect against convective heat, radiant heat, molten metal or similar higher risk hazards.

The contents of this standard

For fabrics, this standard only has a flame spread test and the test results are given as Index values as detailed below. The number of wash cycles and the washing method used to achieve the stated index value are also given under the EN Norm pictogram. E.g. "25H" indicates 25 domestic wash cycles (this can also be indicated as "I" for industrial wash cycles or "C" for chemical cleaning such as Dry Cleaning). The "60" represents the laboratory washing temperature in degrees C. There are also requirements in this standard for the seam strength to be tested and for tests to ensure flame retardancy of the garment's seams.

Different tests, codes

Index 1: No flaming to the top or side edge, no flaming debris and no afterglow shall spread from the carbonized area to the undamaged area. Hole formation is possible under this Index. These fabrics should not be worn next to the skin. An example of a fabric in the category would be an FR polyester which will meet the requirements but will always form a hole.

Index 2: No flaming to the top or side edge, no flaming debris and no afterglow shall spread from the carbonized area to the undamaged area. No hole formation possible with this Index. The requirements are the same as Index 3 but no maximum afterflame time is specified.

Index 3: Requirements are the same as Index 2, but the Afterflame time of each individual specimen should not exceed 2 seconds.



EN ISO 11612 Clothing to protect against Heat & Flame

ProGARM® produces garments to protect wearers against heat & flame in accordance with this European Norm. This standard replaces the withdrawn EN531 standard and shows our continuous commitment to offer garments certified to the latest specifications. About this EN Norm:

The requirements apply to clothing intended for a wide range of application which offer limited flame spread and provide protection against various hazards including Radiant Heat, Convective Heat and splatters of Molten Metal. The pictogram is the same as the withdrawn EN531 standard. There are several fabric tests within this EN Norm and the results of the tests are represented by the pre-fix letters A, B, C, D, E and F. A number after these letters indicates the performance of the fabric within this test. If a (0) is shown, then the fabric has not been tested or does not achieve the lowest value attainable with the test.

Fabric Requirements

General Requirement : The mechanical strength and heat resistance at a temperature of 180°C: the material shall not ignite or melt and shall not shrink by more than 5%.

Explaining the different Tests and Codes

Letter A (EN 15025)

This test consists of applying a flame to a fabric sample for 10 seconds. To pass the test, the after flame & smoulder times and formation of holes must be within the tolerances within the standard. The application of a flame can take place in two ways:  
Code Letter A1 Surface Ignition, ISO 15025 A

Procedure A (leads to Class A1), the flame is applied horizontally (similarly to EN470 and EN531)

- No specimen shall give flaming to the top or either side edge
- No specimen shall give hole formation
- No specimen shall give flaming or molten debris
- The mean value of after flame time shall be ≤ 2s
- The mean value of afterglove time shall be ≤ 2s

Code Letter A1 Edge Ignition, ISO 15025 B

Procedure B (leads to Class A2), the flame is applied laterally.

- No specimen shall give flaming to the top or either side edge
- No specimen shall give flaming or molten debris
- The mean value of after flame time shall be ≤ 2s
- The mean value of afterglove time shall be ≤ 2s

Letter B (ISO 9151)

Convective Heat: determination of the heat transmission when exposed to flames. The sample is held above the flame and the rise in temperature on the topside of the sample is measured with a calorimeter. The length of time the sample can remain exposed before its temperature rises by 24 °C is determined. B1: 4 < 10 seconds, B2: 10 < 20 seconds, B3: 21 seconds and longer

Letter C (ISO 6942)

Exposure to Radiant Heat. In this test, a fabric sample is exposed to radiant heat (infrared rays). The temperature on the reverse (unexposed) side of the sample is registered using a calorimeter. Subsequently, the length of time the sample the sample can remain exposed before its temperature rises by 24°C is measured. The test procedure is the same as ISO 11611, but the classification is different: C1: 7 < 20 seconds, C2: 20 < 50 seconds, C3: 50 < 95 seconds, C4: 95 seconds and longer

Letter D and E (ISO 9185)

D = Aluminium  
E = Molten Iron  
Determining the level of protection against splatters of molten metal. A membrane (with similar properties to human skin) is attached to the reverse of the fabric sample sequentially rising quantities of molten metal (Aluminium or Iron as applicable) are splashed on the sample. The quantity of molten metal which deforms the membrane is determined.

The classification for molten aluminium is:  
D1: 100 < 200 grams, D2: 200 <350 grams, D3: 350 grams and more

The classification for molten iron is:  
E1: 60 < 120 grams, E2: 120 < 200 grams, E3: 200 grams and more

Letter F (ISO 12127)

This is a new test to establish a value for contact heat.

The classification in this respect:  
F1: 5 < 10 seconds, F2: 10 < 15 seconds, F3: 15 seconds and longer

Letter Wnn

This is an optional test for protection against rain. The first "n" refers to the waterproofing class, the second "n" to the water vapour permeability class. Please also refer to EN343 for further information.





EN 13034:2005 Type PB\* [6] Protect Wearers Against Liquid Chemicals

ProGARM® produces garments to protect wearers against liquid chemicals in accordance with this European Norm. These garments are suitable for use in environments where there may be a risk of chemical splashes but where a total chemical barrier is not required - \*PB = Partial Body Protection.

The EN13034 standard specifies the requirements and test methods for Type 6 chemical protection suits for both one-off and multiple use applications. For other related accessories, such as gloves and boots, which are not an integral part of the suit, please refer to the corresponding product standards. Clothing in the category provides limited protection against small spatters or fumes of liquid chemicals. It is usually made of water-repellent, but not completely waterproof materials - within the ProGARM® range of products this is often achieved by the uses of chemical coatings such as Teflon® which repel the contaminants and in order to preserve these properties within the fabric of the garment, special washing and drying instructions should be adhered to.

**About this EN Norm**

The fabric is tested in various ways to determine its tensile strength and resistance to chemicals. In these tests, four different solutions of chemicals (Sulphuric Acid H2SO4 30%, Sodium Hydroxide NaHO 30%, O-xylene undiluted and I-butanol undiluted) are applied to a fabric sample and the quantities of liquid that drip off and penetrate the fabric are measured and analysed must be within the tolerances set within the standard.

One finished product (of each quality) must also be analysed in a 'mannequin' test. During this spray test, the wearer must perform 7 movements (these are described in the standard) and the permeability of the garment to liquid chemicals is subsequently determined. The classes attained in the various tests must be clearly listed in the user instructions for the garment.

ProGARM® garments are Type 6 garments and must undergo the Spray Test in order to display the EN pictogram for the standard on the User Information and garment Care Label. In some of our garments it should be noted that in some instances the fabric has been tested but the garment and seams have not. In this case, this is clearly marked on the Care Label and the EN pictogram is not shown. Other requirements within the EN13034 standard include tests for wear resistance, tear strength, tensile strength and seam strength. If 2 piece garments are to be worn such as a Trouser and Jacket combination it is important to ensure that both garments have been certified as a 'set' for the specified level of protection.

If chemicals are splashed onto a garment, the wearer should immediately move away from the affected area and carefully remove the garment, ensuring that the chemicals or liquids do not come into contact with any part of the skin. The garment must then be cleaned and assessed for future use or taken out of use.



EN 342 Protection against cold

ProGARM® produces garments in accordance with this EN standard which specifies the requirements and test methods for garments and clothing combinations designed to protect the wearer in a cold environment (characterised by a combination of humidity, wind and an air temperature lower than -5 °C). The standard does not contain any specific requirements for head, hand or foot protection.

**About this EN Norm**

This standard's pictogram is an ice-crystal placed alongside three figures that represent the insulation (Clo), air permeability (X) and, if applicable, the water vapour resistance (Y) values. The precise meaning of these values is explained below.

**The Clo, X and Y values**

The Clo value indicates a garment's insulation properties and is a measurement of how long a person can work at a specific temperature when wearing this clothing. It is not a specific class, but can be any value. The table below shows the significance of the Clo value.

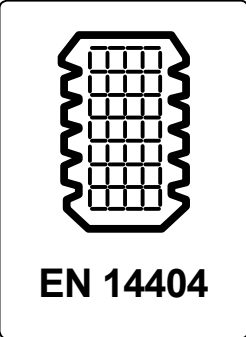
	Light activity 115 W/m2		Average activity 170 W/m2	
Clo	8h / °C	1h / °C	8h / °C	1h / °C
2.0	1	-23	-18	-31
2.5	-6	-33	-29	-44
3.0	-13	-43	-39	-57

The X value indicates a garment's air permeability. The X value has 3 classes (1 to 3). Class 1 garments have the highest air permeability and Class 3 the least. The air permeability is a windproofing measurement, Class 1 is therefore the least windproof and Class 3 the most.

The Y value indicates a garment's water vapour resistance. The Y value also has 3 classes (1 to 3). Class 1 garments have the lowest water vapour resistance and Class 3 garments the highest.

**A more recent version (2004) of EN 342 is now available**

The new version has the following values: Icler / Icle, this is the equivalent of the Clo value and two Y values. The first Y value indicates the air permeability; it is assessed in a different way to the old EN 342, but is still given as Class 1 to 3. The second Y value indicates the garment's waterproofing. Clothing that complies with EN 342 does not necessarily have to be waterproof. This value can therefore sometimes be omitted. This value has 2 classes - 1 and 2. Class 1 is the least waterproof and Class 2 the most. If a garment is waterproof, its breathability must also be tested.



EN 14404 Knee Protection

Personal protective equipment. Knee protectors for work in the kneeling position

ProGARM® produces safety garments that is certified in accordance with the EN 14404 Type 2 standard. This EN Norm relates to trousers and coveralls which offer kneepad pockets to protect the wearer when kneeling.

**About this EN Norm:**

EN 14404 only applies in combination with certified knee pads and a garment that has been assessed. All ProGARM® workwear garments with knee pockets comply with EN 14404 and have been assessed accordingly by a notified body.

The measurements prescribed for kneepads depend on the size of the garment in which they are used. The ProGARM® Gel Foam kneepads is our recommended kneepad for use in our garments to ensure the pad fits the pocket and offers protection for wearers from short to long leg lengths. There are three properties of knee protectors that are tested - these are Penetration Resistance, Force Distribution and Shock Absorption. Two levels of protection can be provided. The ProGARM® Gel Foam Knee Pad has been tested according to and meets the requirements for EN14404 Level 1.

**Level 1:** This level requires knee pads to provide protection on a surface on which the wearer will not generally risk injury from lying objects more than 1 cm high. Penetration resistance of at least 100 N.

**Level 2:** This level requires kneepads to be able to withstand use under heavy conditions, such as kneeling on stones in mines and quarries. Penetration resistance of at least 250 N.



EN 343 Protection against rain

This EN standard specifies the requirements and test methods for materials and the seams of protective clothing that has been designed to give protection against precipitation (i.e. rain, snow), mist and ground moisture. There is also a separate test EN14360 for assessing the waterproofness of the complete finished garments but this test is not included in EN 343.

**About this EN Norm**

This standard's icon shows an umbrella placed under two numbers that represent the X and Y values. The X value indicates the waterproofness and the Y value indicates the water vapour permeability (the garment's breathability).

This standard falls within the scope of 'self-certification'. This means that manufacturers are allowed to certify their own products, which therefore do not need to be assessed by an independent Notified Body. This is because the only risk to the wearer is that he/she might get wet, which is not a life-threatening hazard. If EN 343 is used in combination with other EN standards the whole combination of standards is assessed by the Notified Body

**The X and Y values**

The X value indicates the waterproofness of the garment. There are 3 Classes with 3 being the highest (i.e. the most waterproof) and 1 is the lowest. A specific quantity of pressurised water is applied to the fabric and the respective Class is derived from the amount of pressure the fabric can withstand.

The Y value indicates the breathability of the fabric/s (all the layers used in the article). There are also 3 classes for breathability with Class 1 being the lowest and Class 3 the highest. Wearing Class 1 garments longer than x minutes is not recommended (the length of time the article may be worn (x) is given in the standard in a table).

## REGULAR SIZES

[illegible]

## POLO SHIRTS &amp; SWEATSHIRTS

UK SIZE:	XS		S	M	L		XL	2XL		3XL		4XL		
UK Chest Size: (Inch)	34"	36"	38"	40"	42"	44"	46"	48"	50"	52"	54"	56"	58"	60"
Body Length To Fit: (cm)	170-174	170-174	170-174	174-178	178-182	178-182	178-182	182-186	182-186	182-186	186-190	186-190	186-190	186-190
Chest To Fit: (cm)	86-90	90-94	94-98	98-102	102-106	110-114	114-118	118-123	123-129	129-135	135-141	141-147	147-153	153-159

## TROUSERS

UK SIZE:	28"R	30"R	N/A	32"R	34"R	36"R	38"R	40"R	42"R	44"R	46"R	48"R	50"R	52"R	54"R
Waist (Flat): (cm/Inch)	73/28	78/30	N/A	83/33	88/34	93/36	98/38	103/40	108/42	113/44	118/46	123/48	128/50	133/52	138/54
Leg Length: (cm/Inch)	81/32	81/32	N/A	81/32	81/32	81/32	81/32	81/32	81/32	81/32	81/32	81/32	81/32	81/32	81/32
Body Length To Fit: (cm)	170-174	170-174	N/A	170-174	174-178	178-182	178-182	178-182	182-186	182-186	182-186	186-190	186-190	186-190	186-190
Waist To Fit: (cm)	66-70	70-74	N/A	78-82	82-86	86-90	90-94	94-98	98-102	102-106	106-111	111-117	116-122	122-128	

## TALL SIZES

[illegible]

## TROUSERS

UK SIZE:	28"	30" T	N/A	32" T	34" T	36" T	38" T	40" T	42" T	44" T	46" T	48" T	50" T	52" T
Waist (Flat): (cm/Inch)	78/30	N/A	83/33	88/34	93/36	98/38	103/40	108/42	113/44	118/46	123/48	128/50	133/52	
Leg Length: (cm/Inch)	86/34	N/A	86/34	86/34	86/34	86/34	86/34	86/34	86/34	86/34	86/34	86/34	86/34	
Body Length To Fit: (cm)	178/182	N/A	178-182	182-186	184-188	184-188	184-188	188-192	188-192	188-192	188-192	188-192	186-190	
Waist To Fit: (cm)	70/74	N/A	78-82	82-86	86-90	90-94	94-98	98-102	102-106	106-111	111-117	116-122	122-128	

## SHORT SIZES

EURO SIZE:	D92	D96	D100	D104	D108	D112	D116	D120	D124	D128	D132	D136
TROUSERS												
UK SIZE:	32"S	34"S	36"S	38"S	40"S	42"S	44"S	46"S	48"S	50"S	52"S	54"S
Waist (Flat): (cm/Inch)	83/33	88/34	93/36	98/38	103/40	108/42	113/44	118/46	123/48	128/50	132/52	136/54
Leg Length: (cm/Inch)	76/30	76/30	76/30	76/30	76/30	76/30	76/30	76/30	76/30	76/30	76/30	76/30
Body Length To Fit: (cm)	162-166	162-166	166-170	174-178	174-178	174-178	174-178	174-178	174-178	174-178	174-178	174-178
Waist To Fit: (cm)	78-82	82-86	86-90	90-94	94-98	98-102	102-106	106-111	111-117	116-122	122-128	128-131

**PLEASE NOTE:** Not all Models are available in all sizes. Please refer to Product Information



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Protect the BEST

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POWER GENERATION AND ENERGY

CONSTRUCTION AND UTILITIES

RAIL INDUSTRY AND TUNNELLING

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