



ProGARM[®]
PROTECTING LIVES

LIGHTWEIGHT COLLECTION

**ARC FLASH &
FLAME RESISTANT
GARMENTS**

TRUST THE ARC FLASH SPECIALISTS
WWW.PROGARM.COM



7 REASONS TO CHOOSE PROGARM® TODAY

01

WE'RE THE ARC FLASH SPECIALISTS

We are 100% focused on Arc Flash and flame resistant clothing. When the lives of your team are at risk, isn't it better to trust a specialist?

02

INHERENT PROTECTION

Our unique VXS+ fabric is 100% inherent. This means the very fibres provide flame resistant protection for the life of the garment.

03

DURABILITY MATTERS

We're so confident that our Arc Flash garments last up to 70% longer than other leading brands that we provide a Lifetime Seam Guarantee.

04

QUALITY ASSURANCE

We hold ISO 9001 for Quality Management and Module D accreditation for our supply chain, demonstrating our absolute commitment to production quality at every stage.

05

SAFETY ON THE BUTTON

Our anti-static ThermSAFE™ components (such as buttons and zips) are made from military-grade polymers, tested to keep working even after an arc flash incident.

06

PRACTICALLY PERFECT

Soft fabrics and handy pockets are for more than just style; your team are far more likely to wear the right PPE if they're comfortable and the garments are practical while working.

07

WE KEEP INNOVATING

As the industry leaders in innovation, we're always working to make good things better and are constantly working on the next generation of Arc Flash protection. Constant innovation keeps us well ahead of the pack.

EN STANDARDS AT A GLANCE

You can find more detailed information regarding the above EN standards at the back of the brochure.



RIS-3279

Rail industry standard -
high visibility clothing

Page: 115



EN 1149-5

Protective clothing –
electrostatic properties

Page: 115



EN 61482-2

Protective clothing against the thermal
hazards of electric arc

Page: 116



EN ISO 11611

Protective clothing for use in
welding and allied processes

Page: 117



EN ISO 20471

High visibility clothing - testing
methods and requirements

Page: 118



EN ISO 14116

Protection against heat &
flame - limited flame spread

Page: 118



EN ISO 11612

Clothing to protect
against heat and flame

Page: 119



EN 13034

Protective clothing
against liquid chemicals

Page: 120



EN 342

Protective clothing –
protection against cold

Page: 120



EN 14404

Personal protective
equipment, knee protectors for
work in the kneeling position

Page: 121



EN 343

Protective clothing –
protection against rain

Page: 121

ARC FLASH PROTECTION: THE NEXT CHAPTER

We're pioneers and we're trailblazers.

I know we are leading the industry with our exciting new ranges and safety innovations.

BLAZING A TRAIL

Specialising in arc flash protection drives us to innovate faster than any generalist PPE supplier and focus 100% on bringing you the best in arc flash protection.

YOUR TEAM DEPEND ON US

To protect them when they need us. That's why we never compromise on safety. On innovation. On comfort, quality or durability. Our garments provide the best possible protection; everyday practicality and comfort.

BUSINESSES DEPEND ON US

We're trusted by some of the UK's largest brands to keep their teams safe.

HOW CAN YOU TELL IF YOU'VE GOT THE BEST?

We take such pride in our work that we're massively proud to put our name on it. If you want the best, it will say ProGARM® on the label.

TALK TO ME

We maintain our industry leading position throughout Europe because we are always listening. If there's something – anything - you want to say, please do get in touch.

Stay safe and don't compromise.



TONY ARNETT
Managing Director

A close-up, slightly angled shot of a dark blue, textured fabric, likely a safety garment. A white dashed line runs diagonally across the frame. A white rectangular label is attached to the fabric, featuring the word 'ProGARM' in a bold, white, sans-serif font.

YOU CAN DEMAND THE BEST

The safety of your team is paramount, and we provide the ultimate flame resistant protection against the life-threatening arc flash risks they face every day.

To stay safe, your team need to wear the right protection. That's why we invest heavily in making our clothes comfortable and practical too. That way they will be happy to wear them.

DEMAND THE BEST IN SAFETY AND PROTECTION

All our protective garments conform to UK and EU PPE regulation and display the correct care labels to guarantee certification and traceability.

Often exceeding industry and EN standards, we're always researching and testing materials and designs to lead the way in arc flash protection.

DEMAND THE BEST IN QUALITY, DURABILITY AND VALUE

Our high-quality materials and durable designs mean our garments last up to 70% longer than other brands, providing outstanding value for money.

We have had these trousers for over 6 months and they are still going strong.

Before, we had to replace trousers nearly every three weeks.

DEMAND THE BEST IN COMFORT AND INNOVATION

To make sure your colleagues wear the PPE you provide – and wear it correctly – our specialist in-house team has researched and designed both male and female ranges with practicality and wearer comfort in mind.

Breathable, soft to the touch and versatile with useful pockets and design features to suit wearer needs. That's why some of the world's largest businesses rely on us to deliver the protection and comfort their team needs, day in and day out.



TWO TONE COLOUR COLLECTION



✓ **INHERENT PROTECTION**

Flame resistant properties last the lifetime of the fabric and do not wash out

✓ **GREAT COMFORT**

Breathable, soft to wear and fantastic to the touch

✓ **INSTANT EXTINGUISHING PROPERTY**

Ultimate protection against flame and Arc Flash hazards

✓ **HIGHLY DURABLE**

Colourfast with less than 3% washing shrinkage*

*Only applicable for woven fabrics



TROUSER

SIZES

TR259M Male: 30"-52" Regular | 30-44" Tall
TR259F Female: 8-18 Regular

More sizes & fits are available but are not stocked.
Leadtimes will apply.

TR259

- ✓ Waistband with concealed swivel front fastening
- ✓ Navy slanted hip pockets to minimise visible dirt in high traffic area
- ✓ FR Spiral zip for increase strength
- ✓ Gusset for ease of movement
- ✓ Combat pocket style with phone pocket on left hand side as worn
- ✓ Ruler and Tool pockets behind side seam on right hand side as worn
- ✓ Concealed D-ring to inner pocket
- ✓ Top loading reinforced kneepad pocket with positional bar tacks
- ✓ Pre-bent knees for ease of movement
- ✓ Triple needle stitching
- ✓ Reinforced hems
- ✓ 5 wide belt loops
- ✓ Large back belt loop to prevent belt from rising
- ✓ SafetylCON™ with ELIM rating
- ✓ FR Industrial wash reflective tape

PRODUCT INFORMATION

COLOUR: HV Yellow / Navy

FABRIC SPECIFICATION:

ProGARM VXS+ Ripstop Stretch - 265gsm

PRODUCT CARE:     

EN STANDARDS

	
EN ISO 11612: 2015	EN ISO 1149-5: 2018
A1, B1 C1, F1	Pl. 5:2018 Pl. 3:2004 Charge Decay

	
EN 61482-2: 2020	EN ISO 20471: 2013 + A1:2016
APC 1 ELIM=8cal/cm²	Class 1


EN 13758-2:2003 + A1:2006
UPF 40+

BOX TEST

4KA
APC 1

ARC RATING

8 CAL
ARC 2

APC1 & APC2
COLLECTION

GEN 2
COLLECTION

GORE-TEX®
COLLECTION

NAVY COLOUR
COLLECTION

HI-VIS ORANGE
COLLECTION

HI-VIS YELLOW
COLLECTION

TWO TONE COLOUR
COLLECTION

BASELAYERS
COLLECTION

SUSTAINABLE
COLLECTION

HEAD
PROTECTION

OTHER
ACCESSORIES



6460

COVERALL

SIZES: S-4XL Reg leg (31"/80cm)
M-2XL Tall leg (33"/85cm)

PRODUCT INFORMATION

COLOUR: Navy/HV Yellow

FABRIC SPECIFICATION:
VXS+ 160W 160g/m² Woven
Inherent Fabric

PRODUCT CARE:



- ✓ Mandarin collar // Maximum neck protection
- ✓ Kneepad pockets // Wear with kneepads for extra comfort
- ✓ Vertical zip chest pockets // Accessible when wearing a harness
- ✓ Expandable ankle opening with zippers // Easy removal
- ✓ SafetyICON™ on arm // Visual EN Norm icon system
- ✓ 5cm heat applied reflective tape // Lighter weight
- ✓ Combat pocket on leg plus sleeve pocket // Ample space
- ✓ Cuff tabs with Velcro® brand fasteners // Close fit around
- ✓ Side access pockets // With entry inside coverall
- ✓ ThermSAFE™ plastic FR zippers // CE Certified
- ✓ Internal elastic 2 point adjustable waistband // Ensures close fit
- ✓ Triple stitched side seams // Lifetime quality assurance
- ✓ Easy-Stretch™ side panels // Maximum wear comfort

EN STANDARDS

EN ISO 11612: 2015	EN 1149-5: 2018	EN ISO 20471: 2013 + A1:2016	IEC 61482-2: 2018
A1, B1, C1, F1	Pt. 5:2018 Pt. 3:2004 Charge Decay	Class 3	APC 1 ELIM=5cal/cm ² EBT50=5.8cal/cm ²

BOX TEST



ARC RATING



FABRIC



PROVISIONAL DATASHEET



Vertical chest pockets for use with a harness



Internal elasticated waistband for improved fit



Combat pocket on right leg with phone pocket

IMPROVED

6461

COVERALL

SIZES: S-4XL Reg leg (31"/80cm)
M-2XL Tall leg (33"/85cm)

PRODUCT INFORMATION

COLOUR: Navy/HV Yellow

FABRIC SPECIFICATION:
ProGARM VXS+ 200W 200gms
Twill Woven Inherent Fabric

PRODUCT CARE:



- ✓ Mandarin collar // Maximum neck protection
- ✓ Kneepad pockets // Wear with kneepads for extra comfort
- ✓ Vertical zip chest pockets // Accessible when wearing a harness
- ✓ Expandable ankle opening with zippers // Easy removal
- ✓ SafetyICON™ on arm // Visual EN Norm icon system
- ✓ 5cm heat applied reflective tape // Lighter weight
- ✓ Combat pocket on leg plus sleeve pocket // Ample space
- ✓ Cuff tabs with Velcro® brand fasteners // Close fit around
- ✓ Side access pockets // With entry inside coverall
- ✓ ThermSAFE™ plastic FR zippers // CE Certified
- ✓ Internal elastic 2 point adjustable waistband // Ensures close fit
- ✓ Triple stitched side seams // Lifetime quality assurance
- ✓ Easy-Stretch™ side panels // Maximum wear comfort

EN STANDARDS

EN ISO 11612: 2015	EN 1149-5: 2018	EN ISO 20471: 2013	IEC 61482-2: 2018
A1, B1, C1, F1	Pt. 5:2008 Pt. 3:2004 Charge Decay	Class 3	APC1 EBT50=8cal/cm² ELIM=6.1cal/cm²

BOX TEST



ARC RATING



FABRIC



CV210

COVERALL

SIZES

CV210M Male: XS-4XL Short | Regular | Tall

CV210F Female: 6-24 Short | Regular | Tall

FEATURES & BENEFITS

- ✓ GEN 2 improved fit and ergonomics
- ✓ Two front chest pockets secured with Velcro® and zip closure
- ✓ Ergonomic shaped elbows
- ✓ Hip pockets and side access
- ✓ External knee pad pockets
- ✓ Pre-bent knees for easy bending
- ✓ Navy hem to show less dirt
- ✓ Two radio loops on the chest
- ✓ Mandarin collar shape
- ✓ Crotch gusset for extra movement
- ✓ Combat bellow pockets with concealed hook & loop flap closure
- ✓ Concealed D-Ring to inner pocket
- ✓ Action back to allow for extra movement and comfort
- ✓ Fixed elasticated waistband for better fit
- ✓ Cuff adjustment
- ✓ Triple stitch structural seams
- ✓ Leg zip opening to allow getting the coverall on with boots
- ✓ Bellow back pockets with flap closure
- ✓ FR Spiral zip for increase strength
- ✓ Triple needle stitching
- ✓ Safety/CON with ELIM rating
- ✓ FR industrial wash 100x reflective tape

PRODUCT INFORMATION

COLOUR: HV Yellow / Navy

FABRIC SPECIFICATION:

Assembly "ND305" - 305gms assembly

Outer Layer: 190gms inherent FR ripstop modacrylic cotton, nylon, para-aramid blend

Lining: 115gms inherent FR plain weave meta & para-aramid, FR viscose

PRODUCT CARE:     

EN STANDARDS

 EN ISO 11612: 2015 A1, B1, C1, F1	 EN 1149-5: 2018 Pt. 5:2018 Pt. 3:2004 Charge Decay	 EN 61482-2: 2020 APC 2 ELIM=17cal/cm²	ARC RATING 17CAL 7KA APC 2	
 EN 13034:2005 +A1:2009 Type PB (6)	 EN ISO 11611: 2015 Class 1, A1	 EN ISO 20471: 2013 +A1:2016 Class 3 (Male) Class 2 (Female)		 EN 13758-2:2003 +A1:2006 UPF 40+



HI VIS YELLOW COLLECTION



✓ INHERENT PROTECTION

Flame resistant properties last the lifetime of the fabric and do not wash out

✓ GREAT COMFORT

Breathable, soft to wear and fantastic to the touch

✓ INSTANT EXTINGUISHING PROPERTY

Ultimate protection against flame and Arc Flash hazards

✓ HIGHLY DURABLE

Colourfast with less than 3% washing shrinkage*

*Only applicable for woven fabrics



T-SHIRT

SIZES

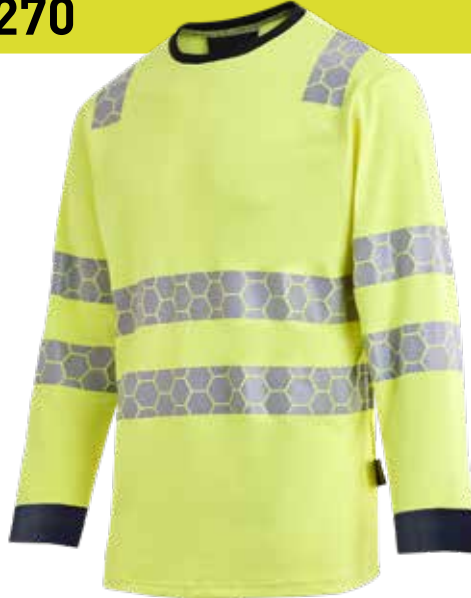
TS270M Male: XS-4XL

TS270F Female: 8-18 Regular

More sizes & fits are available but are not stocked.

Leadtimes will apply.

TS270



- ✓ Round contrast colour neck rib knit
- ✓ Breathable with good moisture management
- ✓ Knitted cuffs
- ✓ Generous fit
- ✓ FR HEX Heat applied stretch reflective tape, over the shoulder and two torso bands for added visibility
- ✓ SafetyICON™ with High visibility class and ELIM rating
- ✓ Increase colour fastness and improved durability
- ✓ Over 8 cal ELIM

PRODUCT INFORMATION

COLOUR: HV Yellow

FABRIC SPECIFICATION:

ProGARM VXS+ Inherent FR and ARC knitted interlock fabric - 225gsm

PRODUCT CARE:

EN STANDARDS

 EN ISO 11612: 2015 A1, B1 C1, F1	 EN 1149-5: 2018 Pt. 5:2018 Pt. 3:2004 Charge Decay		
 EN ISO 20471: 2013 +A1:2016 Class 3 Male Fit Class 2 Female Fit	 EN 61482-2: 2020 APC 1 ELIM = 8.3cal/cm²	 EN 13758-2:2003 +A1:2006 UPF 40+	BOX TEST 4KA APC 1
			ARC RATING 8.3 CAL ARC 2

TROUSER

SIZES

TR270M Male: 30"-52" Short | Regular | Tall

TR270F Female: 8-18 Regular

More sizes & fits are available but are not stocked.

Leadtimes will apply.

TR270



- ✓ Waistband with concealed swivel front fastening
- ✓ Shaped raised back waistband for comfort when bending
- ✓ Large back belt loop to stop the belt rising
- ✓ 5 Self fabric belt loops
- ✓ Slanted hip pockets
- ✓ Spacious bellow pockets with concealed Velcro® flap closure
- ✓ Bellowed back pocket with contrast bar tacks
- ✓ Concealed Velcro® closure at pocket flap with Hex tab for increase grip and visibility
- ✓ All pockets Velcro® reinforced for durability
- ✓ FR spiral zip for increased strength
- ✓ Gusset for ease of movement
- ✓ Internal knee pad pockets
- ✓ EN Heat seal icons to leg pocket / SafetyICON™ with ELIM rating
- ✓ Triple needle stitching to main seams
- ✓ 70mm HEX FR reflective heat seal tape circling the lower leg

PRODUCT INFORMATION

COLOUR: HV Yellow

FABRIC SPECIFICATION:

ProGARM VXS+ Woven Yarn Dyed Fabric with FC Finish - 260gsm

PRODUCT CARE:

EN STANDARDS

EN ISO 11612: 2015	EN 1149-5: 2018	EN ISO 11611: 2015
A1, A2, B1 C1, F1	Pt. 5:2018 Pt. 3:2004 Charge Decay	Class 1, A1, A2

EN 61482-2: 2020	EN ISO 20471: 2013 + A1:2016	EN 13758-2:2003 + A1:2006
APC 1 ELIM = 8cal/cm²	Class 2	UPF 40+

BOX TEST



ARC RATING



HI VIS ORANGE COLLECTION



✓ INHERENT PROTECTION

Flame resistant properties last the lifetime of the fabric and do not wash out

✓ GREAT COMFORT

Breathable, soft to wear and fantastic to the touch

✓ INSTANT EXTINGUISHING PROPERTY

Ultimate protection against flame and Arc Flash hazards

✓ HIGHLY DURABLE

Colourfast with less than 3% washing shrinkage*

*Only applicable for woven fabrics



HI-VIS ORANGE T-SHIRT

TS240M & TS240F

PRODUCT DESCRIPTION

The TS240 high-visibility t-shirt combines advanced Arc Flash and flame-resistant protection with exceptional comfort for demanding industrial environments. Manufactured from a durable 245gsm double piqué fabric blend of FR polyester, modacrylic, cotton and anti-static fibres, it delivers an 8.1cal protection rating while maintaining breathability and wearer comfort.

Designed in high-visibility orange, the garment features FR HEX stretch reflective tape across the shoulders and torso for enhanced visibility. An improved fit and logo-friendly chest area make the TS240 ideal for modern utility and infrastructure workforces.

PRODUCT DETAILS

FITS: Male & Female

MALE SIZES: XS, S, M, L, XL, 2XL, 3XL, 4XL (TS240M)

FEMALE SIZES: 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 (TS240F)

More sizes & fits are available
but are not stocked. Leadtimes will apply.

COLOUR: HV Orange with Reflective Tape



BOX TEST ARC RATING FABRIC



EN STANDARDS

 EN ISO 11612: 2015 A1, B1, C1, F1	 EN 1149-5: 2018 Pt. 5:2018 Pt. 3:2004 Charge Decay	 EN 61482-2: 2020 APC1 ELIM = 6.8cal/cm² EBT50 = 8.1cal/cm²	 EN ISO 20471: 2013+AI:2016 Class 3 Male Fit Class 2 Female Fit	 RIS 3279 Compliant Issue 2	 EN 13758-2:2003 +A1:2006 UPF 40+
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HI-VIS ORANGE T-SHIRT

TS240M & TS240F

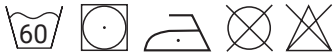
FEATURES & BENEFITS

- ✓ Round contrast collar
- ✓ Ribbed cuff for added comfort
- ✓ Chest suitable for profiling and customer logos
- ✓ Improved fit
- ✓ FR HEX heat applied stretch reflective tape, over the shoulder and two torso bands for added visibility
- ✓ SafetyICON with high visibility class and ELIM rating
- ✓ Fabric tested after 50x wash/dry cycles at 75°C and tumble dried

FABRIC SPECIFICATION:

- ✓ Weight: 245gsm
- ✓ Blend: Polyester FR, Modacrylic, Cotton, Anti-static
- ✓ Knit: Double Pique

PRODUCT CARE:



Round contrast collar



FR HEX heat applied stretch reflective tape



Chest suitable for profiling and customer logos



4616-ARA

LIGHTWEIGHT TROUSER

SIZES: 30" - 52" Reg leg (32"/81cm)
32" - 44" Tall leg (34"/86cm)
30" - 42" Short leg (30"/76cm)



Combat pocket on right leg with SafetyICON™ EN Standard identification



Reinforced crotch panel



Triple stitched side seams

NEW

4614-ARA

LIGHTWEIGHT LADIES TROUSER

SIZES:
8-16 Reg leg (30"/76cm)



- ✓ Combat pocket with flap // Safe storage space
- ✓ Kneepad pockets // Wear with kneepads for extra protection
- ✓ Mobile phone pocket // Keeps your phone safe
- ✓ Side access pockets with flaps // Protects from debris entry
- ✓ Extra wide belt loop at rear // Prevents belt riding up
- ✓ ThermSAFE™ plastic FR zipper // CE Certified
- ✓ SafetyICON™ on leg pocket // Visual EN Standard icon system
- ✓ Rear pockets with flap // Secure storage space
- ✓ Triple stitched side seams // Lifetime quality assurance
- ✓ Reinforced crotch // Improved longevity
- ✓ ThermSAFE™ jeans button // Jeans style fastening
- ✓ 5cm FR AS reflective tape // Double stitched for longer life

PRODUCT INFORMATION

COLOUR: HV Orange

FABRIC SPECIFICATION:
ProGARM VXS+ Inherent Woven Fabric, HV Orange - 240gms

PRODUCT CARE:



EN STANDARDS

EN ISO 11612: 2015	EN 1149-5: 2018	EN 61482-2: 2020	EN ISO 11611: 2015	EN ISO 20471: 2013 + A1:2016	Compliant
A1, B1, C1, F1	Pt. 5:2018 Pt. 3:2004 Charge Decay	APC 1 ELIM 6.2 cal/cm² ATPV 6.67 cal/cm²	Class 1, A1	Class 1	Issue 2

BOX TEST



ARC RATING



FABRIC



4693

COVERALL

SIZES:

S-4XL Reg leg (31"/80cm)
M-2XL Tall leg (33"/85cm)

Double stitched
ThermSAFE™ reflective
tape for longevity



Back pockets
for secure
storage



Vertical
chest
pockets with
grab tabs for
easier
opening

4694

LADIES COVERALL

SIZES:

8-16 Reg leg (29"/75cm)



Cut in a
specific
women's fit

- ✓ Mandarin collar // Maximum neck protection
- ✓ Kneepad pockets // Wear with kneepads for extra comfort
- ✓ Chest pockets // Secure storage
- ✓ Gas monitor loop // Secure fixing point
- ✓ SafetyICON™ on arm // Visual EN Norm icon system
- ✓ 5cm FR AS reflective tape // Double stitched for longer life
- ✓ Phone pocket on sleeve with flap // Safe and secure
- ✓ Cuff tabs with VELCRO® brand fasteners // Close fit around wrists
- ✓ Side access pockets with flaps // With entry inside coverall
- ✓ ThermSAFE™ plastic FR zippers // CE Certified
- ✓ Internal elastic 2 point adjustable waistband // Ensures close fit
- ✓ Double stitched side seams // Lifetime quality assurance
- ✓ Easy-Stretch™ side panels // Maximum wear comfort

PRODUCT INFORMATION

COLOUR: HV Orange

FABRIC SPECIFICATION:
ProGARM VXS+ Inherent Woven
Fabric, HV Orange - 240gms

PRODUCT CARE:



EN STANDARDS

EN ISO 11612: 2015	EN 1149-5: 2018	EN 61482-2: 2020	EN ISO 11611: 2015	EN ISO 20471: 2013+A1:2016	Compliant
A1, B1, C1, F1	Pl. 5:2018 Pl. 3:2004 Charge Decay	APC 1 ELIM = 6.2cal/cm² ATPV = 6.7cal/cm²	Class 1, A1	Class 3	Issue 2

BOX TEST



ARC RATING



FABRIC



SINGLE COLOUR COLLECTION



✓ **INHERENT PROTECTION**

Flame resistant properties last the lifetime of the fabric and do not wash out

✓ **GREAT COMFORT**

Breathable, soft to wear and fantastic to the touch

✓ **INSTANT EXTINGUISHING PROPERTY**

Ultimate protection against flame and Arc Flash hazards

✓ **HIGHLY DURABLE**

Colourfast with less than 3% washing shrinkage*

*Only applicable for woven fabrics



T-SHIRT

SIZES

TS221M Male: S-4XL

TS221F Female: 6-24 Regular

More sizes & fits are available but are not stocked.

Leadtimes will apply.

TS221



- ✓ Round contrast colour neck rib-knit
- ✓ Breathable with good moisture management
- ✓ Open cuffs
- ✓ Generous fit
- ✓ SafetyICON™ with ELIM rating
- ✓ Increase colour fastness and improved durability

PRODUCT INFORMATION

COLOUR: Navy

FABRIC SPECIFICATION:

ProGARM VXS+ Inherent Jersey Fabric - 170gsm

PRODUCT CARE:     

EN STANDARDS

 EN ISO 11612: 2015 A1, B1 C1, F1	 EN 1149-5: 2018 Pt. 5:2018 Pt. 3:2004 Charge Decay	 EN 61482-2: 2020 APC 1 ELIM $\leq 4.1 \text{ cal/cm}^2$	 EN 13758-2:2003 +A1:2006 UPF 40+
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BOX TEST

 4KA APC 1

ARC RATING

 4 CAL ARC 1

ARC RATED SWITCHING SUIT WITH PYRAD® TECHNOLOGY BY GORE-TEX LABS



ARC RATED PROTECTION



LIGHTWEIGHT



BREATHABLE



COMFORT FIT

**FIND YOUR SIZE GUIDES
ON PAGE 112**





*Arc-rated PYRAD® technology by
GORE-TEX LABS delivers advanced
thermal protection in an
ultra-lightweight, single-ply laminate.*

*Designed for flexibility, breathability,
and comfort, it supports mobility,
reduces fatigue, and is available in a
wide range of inclusive fits.*

ARC 4 SWITCHING JACKET

WITH PYRAD® TECHNOLOGY BY GORE-TEX LABS

9505M & 9505F

- ✓ Shaped high collar for extra neck protection
- ✓ Chest suitable for profiling and customer logos
- ✓ FR Spiral zip for increase strength
- ✓ SafetyICON with ELIM rating
- ✓ FR HEX Heat applied reflective tape for added visibility
- ✓ Adjustable cuff tabs
- ✓ Internal zipped napoleon pocket
- ✓ Storm flap for windproofing
- ✓ Lightweight PYRAD® Technology by GORE-TEX Labs

PRODUCT DETAILS

FITS: Male & Female
MALE SIZES: S-5XL (9505M)
FEMALE SIZES: 6-24 (9505F)
COLOUR: Grey

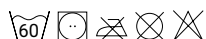
FABRIC

SPECIFICATION:
 Weight: 320gsm
 Pyrad® Technology
 by GORE-TEX Labs



PRODUCT CARE:

- ✓ Washing Temperature: 60°C
- ✓ Drying Temperature: up to 60°C
- ✓ Do not iron
- ✓ Do not dry clean
- ✓ Do not use bleach



MATCHING PRODUCTS

DUNGAREE:
 9515M & 9515F

HOOD:
 9501 - One size



EN STANDARDS



BOX TEST



ARC RATING



ARC 4 SWITCHING DUNGAREE

WITH PYRAD® TECHNOLOGY BY GORE-TEX LABS

9515M & 9515F

- ✓ Easily adjustable braces using 260°C heat resistant buckles
- ✓ Studs side opening for easier donning and doffing
- ✓ Adjustable waist band using 260°C heat resistant buckles
- ✓ Shaped knee panelling
- ✓ Leg opening with FR spiral zip, adjustable leg hem
- ✓ SafetyICON with ELIM rating
- ✓ FR HEX Heat applied reflective tape for added visibility
- ✓ Lightweight PYRAD® Technology by GORE-TEX Labs

PRODUCT DETAILS

FITS: Male & Female
LENGTHS: Short | Regular | Tall
MALE SIZES: S-5XL (9515M)
FEMALE SIZES: 6-24 (9515F)
COLOUR: Grey

FABRIC

SPECIFICATION:
 Weight: 320gsm
 Pyrad® Technology
 by GORE-TEX Labs



PRODUCT CARE:

- ✓ Washing Temperature: 60°C
- ✓ Drying Temperature: up to 60°C
- ✓ Do not iron
- ✓ Do not dry clean
- ✓ Do not use bleach



MATCHING PRODUCTS

JACKET:
 9505M & 9505F

HOOD:
 9501 - One size



EN STANDARDS



BOX TEST



ARC RATING



ARC 4 SWITCHING HOOD

WITH PYRAD® TECHNOLOGY BY GORE-TEX LABS

9501

FEATURES & BENEFITS

Assembly of hood, visor and helmet have been independently tested to:

- ✓ EN166:2002
- ✓ GS-ET-29:2011 (APC 2)
- ✓ ASTM F2178

VISOR

- ✓ Premium anti-fog coated highlight transparent Arc Flash protective shield, colour grey, meeting NFPA 70E, ASTM F2178 (40cal), ANSI Z87.1

HELMET

- ✓ Manufactured from high quality strong ABS material, up to 20% lighter than most other helmets, features Dry-Tech sweatband for maximum comfort and an adjustable ratchet, meeting EN 397 (LD, MM, -40°C), EN50365, ANSI/ISEA Class 3

PRODUCT DETAILS

FITS: One size

COLOUR: Grey

FABRIC

SPECIFICATION:

Weight: 320gsm
Pyrad® Technology
by GORE-TEX Labs



PRODUCT CARE:

- ✓ Washing Temperature: 60°C
- ✓ Drying Temperature: up to 60°C
- ✓ Do not iron
- ✓ Do not dry clean
- ✓ Do not use bleach



MATCHING PRODUCTS

JACKET:

9505M & 9505F

DUNGAREE:

9515M & 9515F



EN STANDARDS



BOX TEST



ARC RATING





Image:

9501

Arc 4 Switching Hood

9505

Arc 4 Switching Jacket

9515

Arc 4 Switching Dungaree

ProGARM®
PROTECTING LIVES

USEFUL INFORMATION

**MADE TO
PERFORM...
EVEN
IN THE
WASHING
MACHINE**

TRIED AND TESTED

It's essential to us that you have absolute confidence in your garments and know they'll continue to perform and keep your team safe, long after purchase.

To achieve EN certification, we extensively wash-test all our VXS+ fabrics before releasing them to market, paying close attention to colour fastness, how tear and tensile strength is affected, pulling resistance and dimensional change or shrinkage.

And, because our VXS+ fabrics are 100% inherent, they are arc flash and flame resistant for the life of the garment; protection doesn't wash out like it will with treated garments. In fact, we regularly test other garments and fabrics on the market to ensure our products remain at the forefront of arc flash protection.





DON'T JUST TAKE OUR WORD FOR IT

Our garments have undergone wash trials at several commercial laundry companies on behalf of customers, so that they can see how our garments perform. In every case, our garments have passed those rigorous tests with flying colours.

Many of our fabrics have been certified to EN11612 after 50 industrial wash cycles, as specified in ISO 15797:2017. This involves being washed at 75°C and tunnel dried at 150°C for five minutes.

Many aramid fabrics are sensitive to high pH values in detergents and are more susceptible to colour change during industrial laundry.

However, our VXS+ fabric dye processes mean they're easier to wash and dry at home or through industrial laundry, extending the lifespan of the garment with low shrinkage and maintained hi-vis and brand standards.

INDUSTRIAL WASHING PROCEDURE ACCORDING TO ISO 15797		VXS+ 300W 300G/M2	ARAMID FABRIC
WASHING (75°C) AND TUMBLE DRYING (80°C)		COLOUR FASTNESS AFTER INDUSTRIAL WASHING (ISO 105 A02)	
INITIAL		5	5
25X		4-5	1-2
50X		3-4	1

Colour performance is measured on a level of 1 to 5 (with 5 being the maximum.)
Note: Garments should be washed according to the care label.

As part of our commitment to quality, ongoing performance and customer confidence, we rigorously test reflective tapes and components (such as zips and press studs) too.

If you intend to commercially wash your ProGARM® garments, we're happy to talk with your laundry partner so that we're all confident in the processes they're using and that your team remains protected.

EN STANDARDS AROUND GARMENT WASHING METHODS

EN ISO 6330: 2012 DOMESTIC

TEXTILES – DOMESTIC WASHING AND DRYING
PROCEDURES FOR TEXTILE TESTING

This international standard defines the washing and drying procedures for textiles being washed at home with consideration for wash loads, drying procedures, chemicals and detergents and many other variables. The standard was reviewed in 2012, after 10 years of amendments with industry influencers, to ensure the standard was based on global practices.

All our garments meet or exceed this standard, with many fabrics and accessories in our collection also tested to the Industrial Wash standard EN ISO15797 – see below.

EN ISO15797: 2017 INDUSTRIAL

TEXTILES – INDUSTRIAL WASHING AND FINISHING
PROCEDURES FOR TESTING OF WORKWEAR

This international standard defines the suitability of textiles for industrial washing, factoring in industrial washing machinery, larger wash loads, more demanding wash detergents, eight washing procedures (with hotter and tougher temperatures) and for two drying procedures including tunnel drying with temperatures up to 150°C. Some fabrics and accessories within our range meet this standard for industrial washing in accordance with the correct procedures. For more information, please ask your ProGARM® representative.

IMPORTANT CHANGES REPLACE THE PPE DIRECTIVE WITH AN EU REGULATION

Past issues of our catalogue provide information relating to Personal Protective Equipment (PPE) and the European Directive that regulates it, 89/686/EU.

On 21 April 2016, the PPE Directive was converted to a regulation (completely effective from 21 April 2018) with increased scope for the type of products and processes covered. It also now applies to the whole supply chain and not just the product manufacturer.

This places stronger obligations on manufacturers to regulate and audit their supply chain, which is something we at ProGARM® had already been doing for years.

The definition of PPE has also been expanded to be "Equipment designed and manufactured to be worn or held by a person for protection against one or more risks to that person's health or safety."

Certificates for existing PPE items remain valid until 21 April 2023, but all new PPE items need to be certified under the new regulation from 21 April 2018. Category 3 PPE items need to be recertified before 21 April 2023.

CE

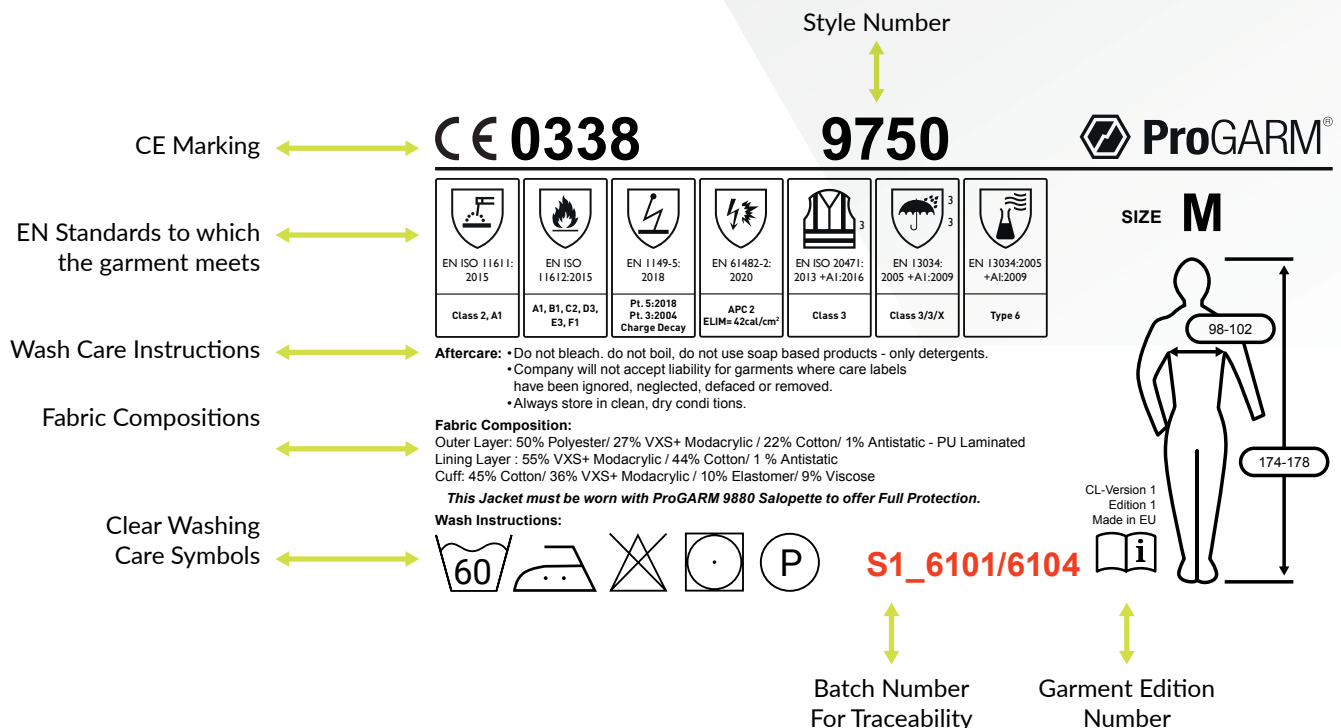
All our products comply with the requirements of the PPE Directive or with the new PPE Regulation as applicable.

When purchasing any arc flash or other protective clothing, always check that the finished garment has been tested.

Any garment correctly certified and CE marked should also display the relevant visual symbol for the standard with which it complies, such as the arc flash EN Standard symbol.

Where the fabric has been tested, but not the finished garment, the relevant EN Standard symbols will be missing from the garment label and replaced with text detailing the standard to which only the fabric has been tested.

All our garments are fully certified to the standards displayed on them. (An example care label is shown below.)



BRANDING & GARMENT ALTERATIONS

BRANDING RECOMMENDATIONS

We recommend using flame resistant heat transfers or flame resistant embroidery threads for branding on any of our Arc Flash and flame resistant garments to ensure compliance with the original CE certification. We also take care when adding branding to hi-vis garments, that large logos don't reduce the surface area of the back-ground material as specified in EN20471 and EN471.



FLAME RESISTANT HEAT TRANSFERS

Heat applied transfers contain a flame resistant component and have been tested and certified to the EN11612 Heat & Flame European Standard. Transfers are easy to apply using an industrial heat press and can be printed in any Pantone® colour for exact replication of your company logo or brand. We can pre-order bulk quantity transfers and apply them to your garments quickly before dispatch.



FR EMBROIDERY THREADS

Standard embroidery threads are usually polyester blends which burn, melt and drip when exposed to flame, so using this type of thread on embroidered designs poses a serious risk. We always use military grade meta-aramid flame resistant threads when applying emblems to any of our garments.

GARMENT ALTERATIONS

All our products are stocked for fast delivery, but we can make alterations providing they don't compromise the conformity of the garment. We can shorten and re-hem trousers or some coveralls for example. For special sizes, or more detailed alterations, please contact our Customer Service Team to discuss how we can help and the typical delivery times and minimum order quantities.

HOW PROGARM® PROTECTS YOUR TEAM AND EN STANDARDS

Our protective clothing is designed specifically for working in environments where heat, flame, low light, open arc, chemicals or static electricity are all potential hazards.

To ensure our garments protect in these environments, each item is certified and manufactured to a European Standard. These standards ensure that the design, materials used and performance after washing are maintained and reach minimum requirements.

ALWAYS AHEAD OF THE GAME

When new - often more stringent - EN Standards are made available, we ensure our garments are certified to meet or exceed these requirements.

WE'RE HERE TO HELP

Read on for information about the most relevant EN Standards that relate to the garments in our collection, together with some explanatory notes. We've done our best to ensure the information in this section is correct at the time of going to print - May 2021. For the exact wording and terminology of the standard, please refer to the relevant British Standards Institute (BSI) document available to purchase from the BSI or other sellers online.

To discuss the implications of these EN Standards for your business, or for an assessment of your current garments, please get in touch to speak to a specialist in your sector.





RIS-3279-TOM



EN1149-5

PROTECTIVE CLOTHING WITH ELECTROSTATIC PROPERTIES

GO/RT 3279 was a high visibility standard that only applied to the rail industry in the UK, as opposed to the EU-wide nature of other EN Standards. It has now been officially replaced by a new Rail Industry Standard (RIS-3279-TOM) which reproduces the content of GO/RT 3279 in its entirety.

The aim of GO/RT 3279 and the new RIS-3279-TOM is to ensure that rail workers on or near the tracks are sufficiently visible to trains approaching at speed or any other traffic.

Stated in the standard is that: 'The colour specific requirements within this standard conform to the range specified within BS EN 20471 clause 5.1.2.'. In order to confine this to a specific orange colour and to prevent the selection of a colour at the red end of the spectrum, the precise chromaticity co-ordinates for the colour are specified as: Fluorescent orange, X:0.588, Y:0.371, with a luminance factor of at least 0.4. The accepted tolerance in colour is laid out in EN 20471. There is no tolerance for the luminance factor.

Also stipulated in the RIS 3279 standard is the need for retro-reflective materials, with photometric and physical performance aligned with EN 20471.

Mentioned in the RIS 3279 standard is the accepted use of a mini vest where the nature of the work being carried out will not obscure the high visibility clothing, and thus reduce the surface area that is visible. The same applies to company logos; these are permitted where they do not compromise the surface area of background colour, and compensation may have to be made for this.

ABOUT THIS EN STANDARD

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 in petrochemical refineries or when fuel is being delivered.

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." As a consequence, the outer fabrics of these garments are made from antistatic materials and components.

Under the scope of the Regulation (EU) 2016/425, a series of EN Standards have been developed relating to electrostatic properties. Key parts of these standards that relate to the protective garments we produce are noted here:

EN1149-5 PERFORMANCE REQUIREMENTS

Antistatic PPE is certified to EN1149-5 as this standard covers the performance requirements of the garments and refers to the choice of two different methods (EN1149-1 or EN1149-3).

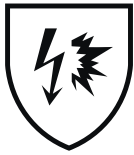
EN1149-1 MEASUREMENTS OF SURFACE RESISTIVITY

This test method is most appropriate for materials for which the electrostatic dissipative behaviour is based on surface conductivity. That is materials containing surface conductive yarns or a homogeneous conductive outside PVC coating layer. This method is not appropriate for core conductive fibres.

EN1149-3 MEASUREMENTS OF CHARGE DECAY

This test method is referenced as the most relevant for materials for which the electrostatic dissipative behaviour is based on core conducting fibres but can also be used for surface conducting materials.

In the EN1149 series there is also EN 1149-2 (measurement of electrical resistance through a material; the vertical resistance) which is also used as a test method in EN ISO 11611 (welders' clothing) and which is also mentioned in Annex H of EN469:2005. A further part of EN1149 is still under development which will cover the testing of the full garment – this part of the standard will be EN1149-4.



EN 61482-2

PROTECTIVE CLOTHING AGAINST THE THERMAL HAZARDS OF ELECTRIC ARC

We produce garments that protect workers against the thermal 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 Category 3 Protective Clothing, these garments are manufactured under Module D Quality Control Procedures.

WHAT IS AN ELECTRIC ARC?

Electric arc, and the arc flash created, is an extremely dangerous and perhaps the least understood electrical hazard. They occur 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 (up to 1 second). The intense heat can create temperatures of more than 19,000°C and it also produces electric shock, extraordinary force and large quantities of thermal radiant energy.

WHAT IS THE RISK?

Anywhere your employees are working with electricity, an arc flash can occur. To ensure adequate protection, you must be able to determine the maximum energy of default circuits in any electrical installation. The risks of an electric arc exposure are significant and potentially fatal through:

- Electrocution
- 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

BS EN 61482-2:2020 PERFORMANCE AND DESIGN REQUIREMENTS

The standard outlines the performance requirements for materials and design requirements for garments, as well as the external marking of garments and other user information that should be made available to wearers. All ProGARM® arc flash protective garments carry prominent external markings to indicate that is the case.

The standard also specifies the 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. There are two main ways to test a garment's ability to protect a worker from the dangers of an arc flash.

BS EN IEC 61482-1-1:2019 'OPEN ARC' TEST METHOD

The 'Open Arc' test method (ATPV test and garment test) 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 ELIM, ATPV or EBT value, expressed in kilojoules per square metre (kJ/M2), which can be converted into the familiar Cal/cm².

BS EN 61482-1-2:2014 'BOX ARC' TEST METHOD

The 'Box Arc' test method (Fabric classification and garment test) 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) (APC 1 or APC 2 if certified to BS EN 61482-2:2020).

During this test, a fabric sample is exposed to an electrical arc produced by a 4kA or 7kA short circuit. In the test, the arc does not last any longer than 500ms. 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 2nd degree burns is determined. Samples are also assessed for after-flaming, hole formation, melting.

GARMENT TESTING AND FABRIC TESTING

It is important to note that not only should the fabric be tested to make sure it conforms to the Standard, but also the complete garment or garment assembly. The garment test is not testing for energetic value but to ensure the garment structure remains intact after the arc exposure and that components such as zips, press studs and buttons are still functional and don't cause 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 need to be considered. For example, a test under the standard using a 4kA test current (Class 1) subjects the garment/fabric to an incident energy of 135kJ/m² +/-56 KJ/m² (3.2 +/-1.2 Cal/cm²) over a 500ms exposure at 18-28°C and at 45-75% relative humidity (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 also result in the garment providing insufficient protection. Therefore it's essential to conduct comprehensive risk assessments before live working.

For full body protection, the protective clothing needs to be worn fully fastened and closed and other suitable protective equipment (e.g. helmet with protective face screen, protective gloves and boots) should be used. No garments, such as shirts, undergarments or underwear, should be used which melt under arc exposures – e.g. those made of polyamide, polyester or acrylic fibres. For maximum protection against arc flash exposure, multiple flame-resistant garments should be worn in layers.

REPAIR INSTRUCTIONS

WARNING: tears to arc flash certified garments should not be repaired by the user. A flammable (not flame proof) thread or non-heat-proof element likely to melt would be extremely dangerous in the event of exposure to flame. Should there be any need to repair a garment, please contact us for guidance and safety advice.



EN ISO 11611

PROTECTIVE CLOTHING FOR WELDING AND ALLIED PROCESSES

All of our safety garments are certified in accordance with this EN Standard and are 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® has an enviable reputation for high performance garments.

ABOUT THIS EN STANDARD

Within this EN Standard 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. If the fabric also 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. The length of time the sample can remain exposed before the temperature on the unexposed side 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 more than 7 seconds.

CLASS 2 - Temperature increase occurs after more than 16 seconds.

ISO 9150: Determines 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 more than 15 droplets of molten metal.

CLASS 2 more than 25 droplets of molten metal.

ISO 15025: This is the test method for limited flame spread. This test involves applying a flame to a fabric sample for 10 seconds. To pass the test, the after flame and smoulder times, together with the 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 Standard please refer to the EN1149 section earlier in this section.

TYPICAL EXAMPLES OF PROCESSES AND WHICH CLASS OF GARMENT MIGHT BE MOST RELEVANT

CRITERIA FOR CHOICE BASED ON THE TYPE OF PROCESS

CLASS 1

Manual welding operations during which small amounts of spatter or droplets of molten metal are formed such as:

- Gas welding
- TIG welding
- MIG welding
- Micro plasma welding
- Soldering brass
- Spot welding
- Shielded electrode MMA welding

CLASS 2

Manual welding operations during which large amounts of spatter or droplets of molten metal are formed such as:

- 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

CRITERIA FOR CHOICE BASED ON THE TYPE OF WORK

CLASS 1

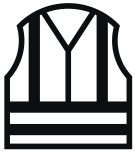
Operating machines such as:

- Oxygen cutting machines
- Plasma cutting machines
- Resistance pressure welding machines
- Thermal spraying
- Welding tables

CLASS 2

Operating machines such as:

- In enclosed spaces
- When welding/cutting operations require reaching above head height or take place in comparable difficult positions



EN ISO 20471

HIGH VISIBILITY CLOTHING

This international standard specifies the requirements for clothing designed to emphasise 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). It has replaced EN 471 which has now been withdrawn.

THE CONTENTS OF THIS EN STANDARD

This standard's icon is a safety vest placed adjacent to a number which represents the design classification of the garment. The classification is 1, 2 or 3 where Class 1 provides the minimal level of visibility and class 3 provides the highest level prescribed by the standard.

THE CLASSIFICATION

The classification 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		

EN ISO 20471 provides the following guidance on risk factors and selection of clothing:

RISK LEVEL	FACTORS RELATED TO THE RISK LEVEL		RISK LEVEL
	VEHICLE SPEED	TYPE OF ROAD USER	
HIGH RISK ISO 20471 CLASS 3	> 60 km/hr	PASSIVE	High Day & Night Visibility 3600 (visible from all sides) Design for form recognition Encircling the torso Quantity and Quality for day & night
HIGH RISK ISO 20471 CLASS 2	≤ 60 km/hr	PASSIVE	
HIGH RISK ISO 20471 CLASS 1	≤ 30 km/hr	PASSIVE	

The fluorescent fabric must encircle the torso, sleeves and trouser legs with at least 40%, or the minimum required area, of fluorescent material present on the front of the garment (and on the back of the garment). The reflective strips must be 50mm wide and the space between 2 reflective strips must be at least 50mm. 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; Class 3 garments must cover the wearer's torso and have either reflective strips about the sleeves or full length trouser legs.



EN ISO 14116

PROTECTION AGAINST HEAT & FLAME, LIMITED FLAME SPREAD

This standard replaces the withdrawn EN533. While the standard does deal with the issue of flame resistance to some extent, it is arguably more suited to outerwear that would usually be worn over other protective garments. For this reason ProGARM® has opted to meet EN11612 which offers a higher standard of protection.

Clothing manufactured to this 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 this 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 Standard 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 Celsius. There are also requirements in this standard for the seam strength to be tested and for tests to ensure the flame retardant properties of the garment's seams meet the requirements.

DIFFERENT TESTS, CODES

Index 1: No flaming to the top or side edge, no flaming debris and no afterglow shall spread from the carbonised 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 this 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 carbonised 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 Standard. This standard replaces the withdrawn EN531 standard and shows our continuous commitment to offer garments certified to the latest specifications.

ABOUT THIS EN STANDARD

The requirements apply to clothing intended for a wide range of applications which offer limited flame spread and provide protection against various hazards including radiant heat, convective heat, contact heat and splatters of molten metal. There are several fabric tests within this EN Standard 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 afterflame and 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, ISO15025 A

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

- No specimen shall permit any part of the lowest boundary of any flame to reach the upper or either vertical edges
- No specimen shall give hole formation of 5mm or greater in any direction, except for an inter-lining that is used for specific protection other than heat and flame protection
- No specimen shall give flaming or molten debris
- The mean value of afterflame time shall be < 2s
- The mean value of afterglow time shall be < 2s

CODE LETTER A1 EDGE IGNITION, ISO15025 B

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

- No specimen shall permit any part of the lowest boundary of any flame to reach the upper or either vertical edges
- No specimen shall give flaming or molten debris
- The mean value of afterflame time shall be < 2s
- The mean value of afterglow 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 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.



EN 13034

PROTECTIVE CLOTHING AGAINST LIQUID CHEMICALS

ProGARM® produces garments to protect wearers against liquid chemicals in accordance with this European Standard. 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 EN 13034 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 (see Product Matrix on page 102). Clothing in this category provides limited protection against small splatters 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 use 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 STANDARD

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 H_2SO_4 30%, Sodium Hydroxide NaOH 30%, O-xylene undiluted and 1-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.

Where certified to EN 13034 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 EN 13034 standard include tests for water 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

This EN standard 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 air temperature lower than -5 °C). The standard does not contain any specific requirements for head, hand or foot protection.

ABOUT THIS EN STANDARD

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.

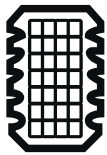
	LIGHT ACTIVITY 115 W/M ²		AVERAGE ACTIVITY 170 W/M ²	
CLO	8H/°C	1H/°C	8H/°C	1H/°C
2.0	1	-23	-18	-31
2.5	-6	-33	-29	-44
3.0	-13	-43	-39	-57

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 wind proofing 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: I_{cler} / I_{cle} , 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 are certified in accordance with the EN 14404 Type 2 standard. This EN Standard relates to trousers and coveralls which offer kneepad pockets to protect the wearer when kneeling.

ABOUT THIS EN STANDARD

EN 14404 only applies in combination with certified kneepads 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 Kneepad has been tested according to and meets the requirements for EN14404 Level 1.

Level 1: This level requires kneepads to provide protection on a surface on which the wearer will not generally risk injury from lying objects more than 1cm 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

PROTECTIVE 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 an optional Rain-tower test, EN 14360 to assess the waterproofness of the whole garment.

The pictogram will have an R if this test has been conducted and an X if it hasn't.

ABOUT THIS EN STANDARD

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 4 classes with 4 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 4 classes for breathability with Class 1 being the lowest and Class 4 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).

SIZE GUIDELINES

POLO SHIRTS, T-SHIRTS, SWEATSHIRTS, JACKETS									
UK	XS	S	M	L	XL	2XL	3XL	4XL	5XL
CHEST TO FIT (INCHES)	34-36	36-38	38-41	41-44	44-46	46-50	50-52	52-56	56-58
CHEST TO FIT (CMS)	85-90	90-95	95-102.5	102.5-110	110-115	115-125	125-130	130-140	140-145
EUR	44-46	46-48	48-52	52-56	56-58	58-62	62-64	64-66	66-68
DE	42-44	44-46	46-50	50-54	54-56	56-60	60-62	62-66	66-68
NL	42-44	44-46	46-50	50-54	54-56	56-60	60-62	62-66	66-68

LADIES POLO SHIRTS									
UK	8	10	12	14	16	18	20	22	24
BUST TO FIT (INCHES)	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50	50-52
BUST TO FIT (CMS)	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130
EUR	44-46	46-48	48-50	50-54	54-56	56-58	58-60	60-62	62-64
DE	42-44	44-46	46-48	48-52	52-54	54-56	56-58	58-60	60-62
NL	42-44	44-46	46-48	48-52	52-54	54-56	56-58	58-60	60-62

WATERPROOF JACKETS									
UK	XS	S	M	L	XL	2XL	3XL	4XL	5XL
CHEST TO FIT (INCHES)	34-36	36-38	38-41	41-44	44-46	46-50	50-52	52-56	56-58
CHEST TO FIT (CMS)	85-90	90-95	95-102.5	102.5-110	110-115	115-125	125-130	130-140	140-145
EUR	44-46	46-48	48-52	52-56	56-58	58-62	62-64	64-66	66-68
DE	42-44	44-46	46-50	50-54	54-56	56-58	58-60	60-62	62-64
NL	42-44	44-46	46-50	50-54	54-56	56-58	58-60	60-62	62-64

WATERPROOF SALOPETTES									
UK	XS	S	M	L	XL	2XL	3XL	4XL	5XL
WAIST TO FIT (INCHES)	35	37	39	41	43	45	47	49	51
WAIST TO FIT (CMS)	89	94	99	104	109	114	119	124	129
INSIDE LEG TO FIT (INCHES)	32	32	32	32	32	32	32	32	32
INSIDE LEG TO FIT (CMS)	81	81	81	81	81	81	81	81	81
EUR	50R	52R	54R	56R	58R	60R	62R	64R	66R
DE	48	50	52	54	56	58	60	62	64
NL	48R	50R	52R	54R	56R	58R	60R	62R	64R

BASELAYERS									
UK	XS	S	M	L	XL	2XL	3XL	4XL	5XL
CHEST TO FIT (INCHES)	34-36	36-38	38-41	41-44	44-46	46-50	50-52	52-56	56-58
CHEST TO FIT (CMS)	85-90	90-95	95-102.5	102.5-110	110-115	115-125	125-130	130-140	140-145
WAIST TO FIT (INCHES)	26.8	29.9	33.1	36.2	39.4	42.5	45.7	48.8	51.9
WAIST TO FIT (CMS)	68	76	84	92	100	108	116	124	132
BODY LENGTH (CMS)	164-172	164-172	172-180	172-180	180-188	180-188	188-196	188-196	188-196

MENS TROUSERS/DUNGAREES (SHORT)													
UK	30"S	32"S	34"S	35"S	36"S	38"S	40"S	42"S	44"S	46"S	48"S	50"S	52"S
WAIST TO FIT (INCHES)	30	32	34	35	36	38	40	42	44	46	48	50	52
WAIST TO FIT (CMS)	75	80	85	87.5	90	95	100	105	110	115	120	125	130
INSIDE LEG TO FIT (INCHES)	30	30	30	30	30	30	30	30	30	30	30	30	30
INSIDE LEG TO FIT (CMS)	76	76	76	76	76	76	76	76	76	76	76	76	76
EUR	44S	46S	50S	51S	52S	54S	56S	58S	60S	62S	64S	66S	68S
DE	22	23	24	25	26	27	28	29	30	31	32	33	34
NL	42S	44S	48S	49S	50S	52S	54S	56S	58S	60S	62S	64S	66S
SE	D84	D88	D92	D94	D96	D100	D104	D108	D112	D116	D120	D124	D128

MENS TROUSERS/DUNGAREES (REGULAR)													
UK	30"R	32"R	34"R	35"R	36"R	38"R	40"R	42"R	44"R	46"R	48"R	50"R	52"R
WAIST TO FIT (INCHES)	30	32	34	35	36	38	40	42	44	46	48	50	52
WAIST TO FIT (CMS)	75	80	85	87.5	90	95	100	105	110	115	120	125	130
INSIDE LEG TO FIT (INCHES)	32	32	32	32	32	32	32	32	32	32	32	32	32
INSIDE LEG TO FIT (CMS)	81	81	81	81	81	81	81	81	81	81	81	81	81
EUR	44R	46R	50R	51R	52R	54R	56R	58R	60R	62R	64R	66R	68R
DE	44	46	48	50	52	54	56	58	60	62	64	66	68
NL	42R	44R	48R	49R	50R	52R	54R	56R	58R	60R	62R	64R	66R
SE	C44	C46	C50	C51	C52	C54	C56	C58	C60	C62	C64	C66	C68

 Available from stock  Available to order

Note: This size chart was correct at the time of going to print.

SIZE GUIDELINES

MENS TROUSERS/DUNGAREES (TALL)													
UK	30" T	32" T	34" T	35" T	36" T	38" T	40" T	42" T	44" T	46" T	48" T	50" T	52" T
WAIST TO FIT (INCHES)	30	32	34	35	36	38	40	42	44	46	48	50	52
WAIST TO FIT (CMS)	75	80	85	87.5	90	95	100	105	110	115	120	125	130
INSIDE LEG TO FIT (INCHES)	34	34	34	34	34	34	34	34	34	34	34	34	34
INSIDE LEG TO FIT (CMS)	86	86	86	86	86	86	86	86	86	86	86	86	86
EUR	44L	46L	50L	51L	52L	54L	56L	58L	60L	62L	64L	66L	68L
DE	90	94	98	102	106	110	114	118	122	126	130	134	138
NL	42L	44L	48L	49L	50L	52L	54L	56L	58L	60L	62L	64L	66L
SE	C144	C146	C150	C151	C152	C154	C156	C158	C160	C162	C164	C166	C168

MENS COVERALLS (SHORT)													
UK	38" S	40" S	42" S	43" S	44" S	46" S	48" S	50" S	52" S	54" S	56" S	58" S	60" S
CHEST TO FIT (INCHES)	36-38	38-40	40-42	42-43	43-44	44-46	46-48	48-50	50-52	52-54	54-56	56-58	58-60
CHEST TO FIT (CMS)	90-95	95-100	100-105	105-107.5	107.5-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150
INSIDE LEG TO FIT (INCHES)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
INSIDE LEG TO FIT (CMS)	75	75	75	75	75	75	75	75	75	75	75	75	75
EUR	48S	50S	54S	55S	56S	58S	60S	62S	64S	66S	68S	70S	72S
DE	24	25	26	27	28	29	30	31	32	-	33	-	34
NL	46S	48S	52S	53S	54S	56S	58S	60S	62S	64S	66S	68S	70S

MENS COVERALLS (REGULAR)													
UK	38" R	40" R	42" R	43" R	44" R	46" R	48" R	50" R	52" R	54" R	56" R	58" R	60" R
CHEST TO FIT (INCHES)	36-38	38-40	40-42	42-43	43-44	44-46	46-48	48-50	50-52	52-54	54-56	56-58	58-60
CHEST TO FIT (CMS)	90-95	95-100	100-105	105-107.5	107.5-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150
INSIDE LEG TO FIT (INCHES)	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
INSIDE LEG TO FIT (CMS)	80	80	80	80	80	80	80	80	80	80	80	80	80
EUR	48R	50R	54R	55R	56R	58R	60R	62R	64R	66R	68R	70R	72R
DE	48	50	52	54	56	58	60	62	64	65	66	67	68
NL	46R	48R	52R	53R	54R	56R	58R	60R	62R	64R	66R	68R	70R

MENS COVERALLS (TALL)													
UK	38" T	40" T	42" T	43" T	44" T	46" T	48" T	50" T	52" T	54" T	56" T	58" T	60" T
CHEST TO FIT (INCHES)	36-38	38-40	40-42	42-43	43-44	44-46	46-48	48-50	50-52	52-54	54-56	56-58	58-60
CHEST TO FIT (CMS)	90-95	95-100	100-105	105-107.5	107.5-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150
INSIDE LEG TO FIT (INCHES)	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
INSIDE LEG TO FIT (CMS)	85	85	85	85	85	85	85	85	85	85	85	85	85
EUR	48L	50L	54L	55L	56L	58L	60L	62L	64L	66L	68L	70L	72L
DE	98	102	106	110	114	118	122	126	130	132	134	136	138
NL	46L	48L	52L	53L	54L	56L	58L	60L	62L	64L	66L	68L	70L

LADIES TROUSERS/DUNGAREES (SHORT)									
 UK	8S	10S	12S	14S	16S	18S	20S	22S	24S
WAIST TO FIT (INCHES)	30.7	32.7	34.6	36.6	38.6	40.6	42.5	44.5	46.5
WAIST TO FIT (CMS)	78	83	88	93	98	103	108	113	118
HIPS TO FIT (INCHES)	40.6	42.5	44.5	46.5	48.4	50.4	52.4	54.3	56.3
HIPS TO FIT (CMS)	103	108	113	118	123	128	133	138	143
INSIDE LEG TO FIT (INCHES)	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
INSIDE LEG TO FIT (CMS)	70	70	70	70	70	70	70	70	70
 DE	17	18	19	20	21	22	23	24	25
 SE	D17	D18	D19	D20	D21	D22	D23	D24	D25

LADIES TROUSERS/DUNGAREES (REGULAR)									
 UK	8R	10R	12R	14R	16R	18R	20R	22R	24R
WAIST TO FIT (INCHES)	30.7	32.7	34.6	36.6	38.6	40.6	42.5	44.5	46.5
WAIST TO FIT (CMS)	78	83	88	93	98	103	108	113	118
HIPS TO FIT (INCHES)	40.6	42.5	44.5	46.5	48.4	50.4	52.4	54.3	56.3
HIPS TO FIT (CMS)	103	108	113	118	123	128	133	138	143
INSIDE LEG TO FIT (INCHES)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
INSIDE LEG TO FIT (CMS)	75	75	75	75	75	75	75	75	75
 DE	34	36	38	40	42	44	46	48	50
 SE	C36	C38	C40	C42	C44	C46	C48	C50	C52

 Available from stock  Available to order

Note: This size chart was correct at the time of going to print.

SIZE GUIDELINES

LADIES TROUSERS/DUNGAREES (TALL)									
UK	8T	10T	12T	14T	16T	18T	20T	22T	24T
WAIST TO FIT (INCHES)	30.7	32.7	34.6	36.6	38.6	40.6	42.5	44.5	46.5
WAIST TO FIT (CMS)	78	83	88	93	98	103	108	113	118
HIPS TO FIT (INCHES)	40.6	42.5	44.5	46.5	48.4	50.4	52.4	54.3	56.3
HIPS TO FIT (CMS)	103	108	113	118	123	128	133	138	143
INSIDE LEG TO FIT (INCHES)	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
INSIDE LEG TO FIT (CMS)	80	80	80	80	80	80	80	80	80
DE	68	72	76	80	84	88	92	96	100
SE	C136	C138	C140	C142	C144	C146	C148	C150	C152

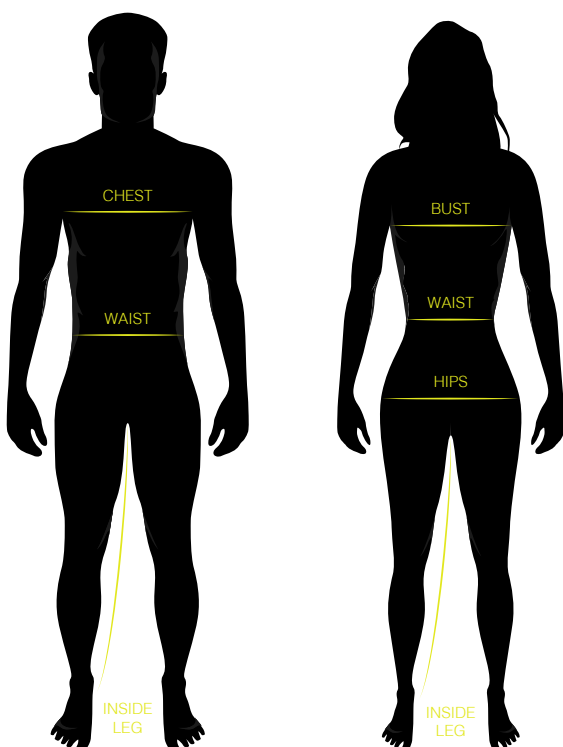
LADIES COVERALLS (SHORT)									
UK	8S	10S	12S	14S	16S	18S	20S	22S	24S
BUST TO FIT (INCHES)	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50	50-52
BUST TO FIT (CMS)	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130
INSIDE LEG TO FIT (INCHES)	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
INSIDE LEG TO FIT (CMS)	70	70	70	70	70	70	70	70	70

LADIES COVERALLS (REGULAR)									
UK	8R	10R	12R	14R	16R	18R	20R	22R	24R
BUST TO FIT (INCHES)	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50	50-52
BUST TO FIT (CMS)	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130
INSIDE LEG TO FIT (INCHES)	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
INSIDE LEG TO FIT (CMS)	75	75	75	75	75	75	75	75	75

LADIES COVERALLS (TALL)									
UK	8T	10T	12T	14T	16T	18T	20T	22T	24T
BUST TO FIT (INCHES)	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50	50-52
BUST TO FIT (CMS)	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130
INSIDE LEG TO FIT (INCHES)	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
INSIDE LEG TO FIT (CMS)	80	80	80	80	80	80	80	80	80

Available from stock
 Available to order

Note: This size chart was correct at the time of going to print.



HOW TO MEASURE AND PICK THE RIGHT SIZE

Chest / Bust measurement

Measure the circumference of your chest/bust below the armpit, measure the widest point.

Example 1: if your chest measures 102cm, for polo shirt the most suitable size would be M.

Example 2: if your bust measures 98cm, for ladies' polo shirt the most suitable size would be 12.

Note: some garments such as Softshell Jackets would have a slim fit and it may be best to pick one size up if you prefer a looser fit.

Waist measurement

Measure tightly around the waist and pick size accordingly, if your measurements fall in-between two sizes, we recommend picking the larger one, remember to check your inside leg measurement.

Hip measurement

Measure tightly around the widest part of the hip, also measure the waist and pick size accordingly. If your measurements fall in-between two sizes, we recommend picking the larger one, remember to check your inside leg measurement.

Inside leg measurement

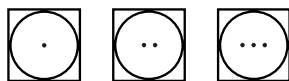
Measure the distance between crotch and ankle and pick size that is the same or slightly longer than your measurement.

PROGARM®

GARMENT CARE INSTRUCTIONS



WASHING TEMPERATURE



TUMBLE DRY SETTINGS

(LOW/MEDIUM/HIGH)



DO NOT TUMBLE DRY



DRY FLAT



DRY CLEANING ALLOWED



DO NOT DRY CLEAN



IRONING ALLOWED

(LOW/MEDIUM/HIGH)



DO NOT IRON



DO NOT BLEACH

**PLEASE REFER TO GARMENT CARE LABEL
FOR WASHING INSTRUCTIONS SYMBOLS**



ProGARM®

PROTECTING LIVES

ProGARM® United Kingdom

Dianthus Business Park, Common Lane,
Newport, Brough,
East Yorkshire,
HU15 2FT

Tel: +44 (0)1482 679600

Email: info@progarm.com

Web: www.progarm.com

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