



STEWARDSHIP / **KNOWLEDGE** / INNOVATION / EXCELLENCE

The Micronclean SKIEs initiative - at the very heart of everything we do at Micronclean



GUIDE TO CURRENT PPE/ WORKWEAR STANDARDS



STANDARDS GUIDE

KEY TO SYMBOLS

WELDING SPATTER



BS EN 11611: 2007 Protective clothing for use in welding and allied processes.

This standard specifies two classes with specific performance requirements:

Class 1

Manual welding techniques with light formation of spatter and drops such as gas welding, TIG welding, spot welding and machines engaged in oxygen cutting, plasma cutting.

Class 2

Manual welding techniques with heavy formation of spatter and drops such as MMA welding, MAG welding, manual plasma cutting or working in confined or constrained spaces and overhead welding and cutting.

Garment Shown

Coverall made with Phoenix FR



Fabric

- Phoenix FR
- 100% FR Cotton

Approved to

- EN ISO 11611:2007 Class 1 A1
- EN ISO 11612:2008 A1, B1, C1, F1

MOLTEN METAL



BS EN 11612: 2008 Protective clothing - clothing to protect against heat and flame.

This standard also includes garments that are designed to protect against the risk of exposure to molten metal splash.

Code A1 Limited flame spread to outer surface

Code A2 Limited flame spread to edge

Code B Convective heat

Code C Radiant heat

Code D Molten aluminium splash

Code E Molten iron splash

Code F Contact heat

All garments shall meet the requirements of A1 and/or A2. In addition all garments shall meet at least one heat transmission test either code B or code C.

Molten metal protective garments shall meet code D and/ or code E. Within code D and E there are three levels of performance based on the mass of molten metal that the material is exposed to during testing with Level 1 being the lowest mass and Level 3 being the highest.

Garment Shown

Coverall made in Zeus FR



Fabric

- Zeus FR
- 75% FR Cotton / 25% Polyester

Approved to

- EN ISO 11611:2007 Class 1 A1
- EN ISO 11612:2008 A1, B1, C1, F1

ELECTRIC ARC FLASH



IEC 61482-2:2009 Protective clothing against the thermal hazards of an electric arc - requirements

IEC 61482-2 is the overall standard that covers protective clothing against the thermal arc hazards of an electric arc. The IEC 61482-2 standard also covers various aspects of the garment design. Compliance with this standard is a requirement for selling garments with arc flash protection within the EU.

Within the standard there are two methods for testing the clothing these being:

EN 61482-1-1:2009 Test method - determination of the arc rating (ATPV or EBT)

EN 61482-1-2:2007 Test method - determination of arc protection class (Box test)

Class 1 - 4kA

Class 2 - 7kA

Garments can be certified according to both test methods or to one of them.

Garment Shown

Coverall made from Nomex® Comfort Ripstop



Fabric

- 95% Nomex® / 5% Kevlar / 2% P140 anti-static

Approved to

- EN ISO 11612:2008 A1 B1 C1
- IEC 61482-2:2009 Class 1 4kA / ATPV = 7.6cal/cm²
- EN 1149-5:2008 (EN 1149-3:2004)



STANDARDS < GUIDE

KEY TO SYMBOLS

HIGH VISIBILITY



EN ISO 20471:2013 High visibility clothing - test methods and requirements

There are many situations where high visibility clothing is a requirement but the two most common are:

Railway workers

A background colour of fluorescent orange is used for railway work as specified in Railway Group Standard GO/RT 3279. All clothing shall meet at least Class 2 garments as set out in the standard.

Road workers

The Code of Practice to the New Roads and Street Works Act 1991 as modified in 2002 requires Class 2 or 3 garments for road work. Class 3 clothing should be worn on dual carriageway roads with a speed limit of 50mph or above.

Quick Guidelines

The exact requirements are carried within the standard but as a quick guide:

Class 1: Most trousers and small waistcoats

Class 2: Standard waistcoats, 'pilot' jackets, polo shirts and t-shirts

Class 3: Larger jackets, coveralls and jacket/trouser combinations

Garment Shown

Hi-vis Coverall



Fabric

- 85% Polyester / 15% Cotton

Approved to

- EN ISO 20471:2013 Class 3
- GO/RT 3279

ANTI-STATIC



EN 1149-5:2008 Protective clothing - Electrostatic properties - Part 5: Material performance and design requirements

This standard specifies material and design requirements for electrostatic dissipative protective clothing to avoid discharges. Additional requirements may be required in oxygen rich environments and the standard does not covers mains voltages.

It is important that you are properly earthed when using safety apparel with electrostatic properties. This is ensured by using appropriate anti-static approved safety footwear.

Garment Shown

Cleanroom Coverall



Fabric

- 98% polyester filament yarn
- 2% anti-static grid

Approved to

- EN 1149-5:2008

MULTI-PROTECTION



In many industry sectors it is recognised that garments with only a single protective property are not sufficient. For instance an employee in manufacturing may have a requirement for protection from arc flash or hot metal and still comply with High Visibility requirements.

To meet this need, we have a range of fabrics which give the wearer protection against several hazards in one garment.

CARE OF PROTECTIVE CLOTHING

All protective clothing must be kept in a clean condition in order to function correctly. For instance, if molten metal clothing is not cleaned frequently it will become impregnated with sweat, dust, oils etc. This will seriously affect its ability to protect against splashes of molten metal. Alternatively, the High Visibility performance of a garment will be affected by any soiling on the surface, and the wearer may be at risk.

Micronclean would recommend regular cleaning by us to ensure that the garment has the intended life and remains fit for purpose throughout its life. For instance, incorrect washing and drying will permanently damage the fluorescent material and the retro-reflective tape on a High Visibility garment and shorten its life.

Through our ProTrack system we automatically track garment life and any repairs so that we can advise you of any problems, advise on alternative garments that might be more suitable and minimise your total costs.

GARMENT RANGE

All garments shown are available ex-stock from Micronclean. To see our full range of garments and PPE please visit:

micronclean.com



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For more information about our SKIEs initiative, please ask for a copy of our SKIEs brochure.

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