Shared Learning

everyone home safe every day

UPDATED - Welding Garments Information

Issued to: **Network Rail line managers, safety professionals and accredited contractors**

Ref: NRL24-04

Date of issue: 19/04/2024

Location: National

Contact: PPE Governance Mailbox

Overview / Underlying causes

Following examination of some NR supplied welding and grinding PPE garments it was found they did not meet the approved specifications for NR staff conducting these activities.

Investigations found that some garments were marked ARC Flash PPE and being used for welding activities.

PPE Garments with ARC Flash Labels are for Distribution & Power Plant Staff and other staff who access traction and HV non-traction locations according to the task. These Garments do not provide the full Levels of Protection for all those undertaking Welding & Grinding Activities.

The PPE Governance Panel has agreed some interim steps for short term supply of necessary Welders and Grinders garments.

The following are currently the PPE products that must be procured for use:

- NWR001W - Hi Vis Welding Protection Flame Retardant Waterproof Windproof breathable jacket.
- NWR002W - Hi Vis Welding Protection Flame Retardant Waterproof Windproof breathable trouser.
- NWR003W - Hi Viz WELDERS Flame Retardant COVERALL . NOTE: Limited immediate stock in all sizes is available to order through the punchout system.

Stocks are being checked and delivery times will be notified asap.

Investigations identified that incorrect PPE for welding/grinding had been mistakenly ordered through the Punchout system and staff had received ARC Flash Protective Garments not welding specific.

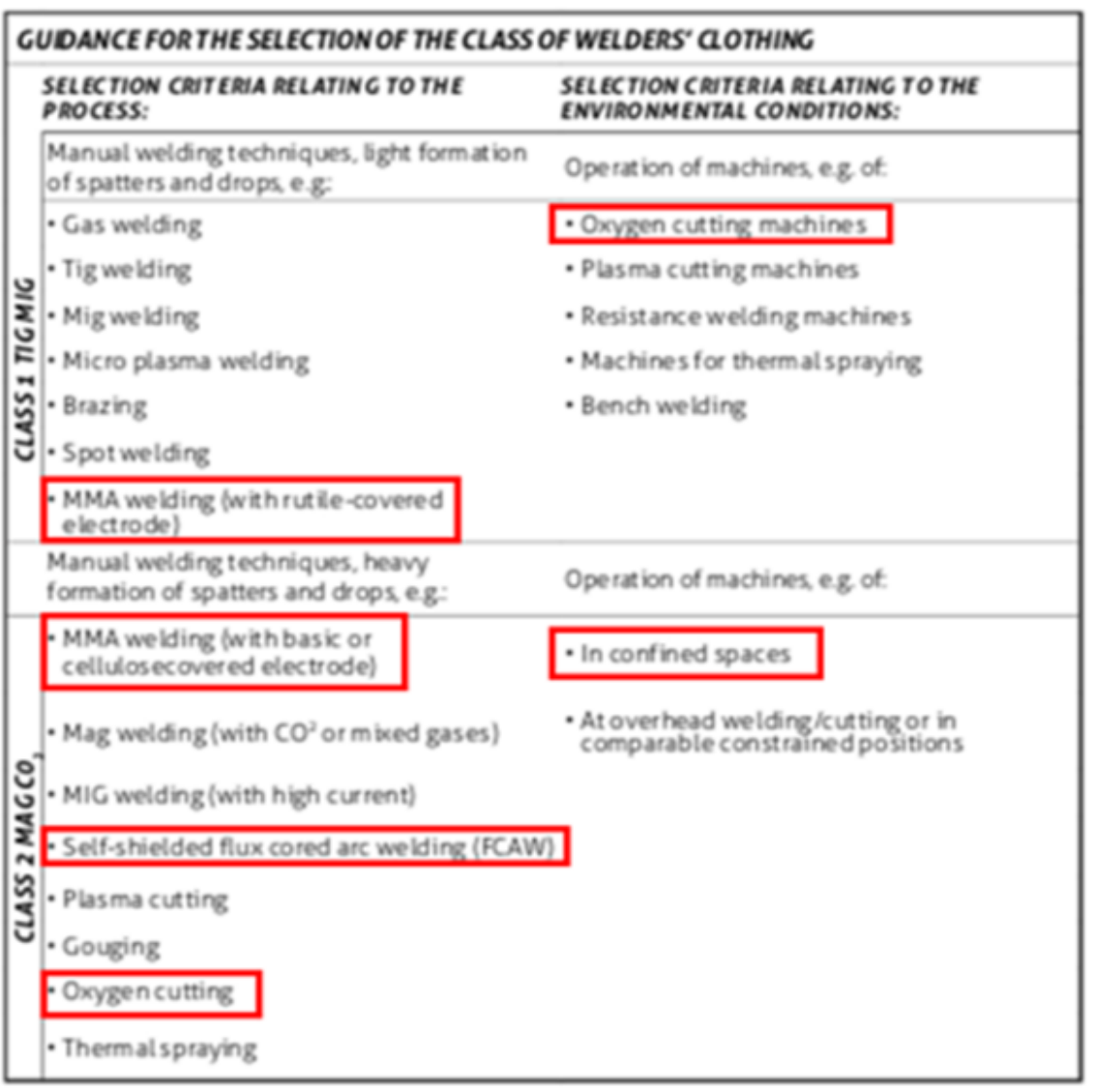
Arc Flash garments must be worn by staff accessing traction and HV non-traction locations in line with the requirements of NR/L3/MTC/RCS0216/DP01.
These activities are not the same as arc welding and the clothing does not provide protection from welding such as molten splashes and hot works.

Investigations also found non-compliant PPE have been purchased outside of the Company Governance process i.e. local PPE supplier, potentially due to the short-term delays / difficulties in receiving garments through the PPE ordering system. However, this is not the correct procurement process and had resulted in substandard PPE garments being provided.

Further work is being done by our supplier to produce Circa 500 Coveralls to the required specifications which should be ready for distribution in 6 to 10 weeks we will keep you and the Area H&S Safety Representatives informed of progress.

Staff attending Welding discipline training must wear the correct levels of PPE which includes having Coveralls.

The Garment Labelling can be confusing. A copy of the guidance is provided below, please ensure that you or your line manager understands the specification required and that the correct garments are ordered.



GUIDANCE FOR THE SELECTION OF THE CLASS OF WELDERS' CLOTHING

	SELECTION CRITERIA RELATING TO THE PROCESS:	SELECTION CRITERIA RELATING TO THE ENVIRONMENTAL CONDITIONS:
CLASS 1 TIG MIG	Manual welding techniques, light formation of spatters and drops, e.g.:	Operation of machines, e.g. of:
	• Gas welding	• Oxygen cutting machines
	• Tig welding	• Plasma cutting machines
	• Mig welding	• Resistance welding machines
	• Micro plasma welding	• Machines for thermal spraying
	• Brazing	• Bench welding
	• Spot welding	
	• MMA welding (with rutile-covered electrode)	
CLASS 2 MAG CO_2	Manual welding techniques, heavy formation of spatters and drops, e.g.:	Operation of machines, e.g. of:
	• MMA welding (with basic or cellulosecovered electrode)	• In confined spaces
	• Mag welding (with CO^2 or mixed gases)	• At overhead welding/cutting or in comparable constrained positions
	• MIG welding (with high current)	
	• Self-shielded flux cored arc welding (FCAW)	
	• Plasma cutting	
	• Gouging	
	• Oxygen cutting	
	• Thermal spraying	

See the classification table for ISO11611 for welding activities.

PERFORMANCE LEVELS

According to the performance requirements, EN ISO 11611 distinguishes between 2 classes of protection.

Class 1 – Protection against low risks

Specifies requirements for welding techniques and situations that cause the least amount of metal splash and low radiant heat.

Class 2 – Protection against higher risks

Specifies the requirements for welding techniques and situations causing more metal splash and higher radiant heat.

ISO11612 requirements have the classifications to meet heat resistance

PERFORMANCE LEVELS

The performance of garments meeting the EN 11612 standard is given by 6 indices.

A: Flame-spread behaviour – A1 (on face) and/or A2 (on edge)

B: Resistance to convective heat – B1 to B3

C: Resistance to radiant heat – C1 to C4

D: Resistance to molten aluminium splash – D1 to D3

E: Resistance to molten metal splash – E1 to E3

F: Contact heat resistance – F1 to F3

Key message

- All Staff in the Welding and Grinding community must order and purchase garments that are approved for use for NR Staff by the PPE Governance Panel. Use the C&P Punchout system when ordering.
- Only approved PPE obtained through the NR Procurement System will conform to all the specifications, and sub-categories, required for the different types of Welding carried out within Network Rail.
- PPE that has not been approved by the PPE Governance panel may not meet all the specifications required and could cause harm to the wearer.

Part of our group of Safety Bulletins

Safety Alert | Safety Bulletin | Safety Advice | Shared Learning