NFCC
National Fire
Chiefs Council

The professional voice of the
UK Fire & Rescue Service

National Fire Chiefs Council Limited
99 Vauxhall Road
Birmingham
B7 4HW

Firefighters Personal Protective Equipment

Standard, Specification and Requirements

Rescue/Wildland Jacket

Please note that this standard is currently under review by NFCC PPE and Clothing Committee

Collaborative PPE Project - May 2016

SCOPE

Registered office: National Fire Chiefs Council Limited, West Midlands Fire Service HQ, 99 Vauxhall Road, Nechells, Birmingham B7 4HW
Registered in England as Limited Company No. 03677186. Registered in England as Charity No. 1074071.
VAT Registration No. 902 1954 46

SCOPE

This performance specification describes the requirements for a protective rescue jacket for both male and female firefighters.

The rescue jacket should offer the wearer protection from injuries, which could arise through accidents in the working sector for which the clothing is designed.

The rescue jacket is to be appropriately CE marked:

BS ISO 16073:2011; *Wildland firefighting personal protective equipment – requirements and test methods*

BS EN 15614:2007; *Protective clothing for firefighters – Wildland clothing*

BS EN ISO 20471:2013; *High visibility clothing – Test methods and requirements*

BS EN ISO 6350:2005; *Protection against liquid chemical*

PERFORMANCE REQUIREMENTS

Description and Use

Provision of protective rescue jacket that meets the general and specific needs of Fire & Rescue Service (FRS) operational personnel.

The solution must be suited to the range of external firefighting and rescue activities carried out during emergency response and training operations. The product must be of such design, robustness, material and specification to meet the needs of these operations. It should also be simple to clean, repair and maintain.

Modern fire service activity covers a broad range of incidents and as such innovative solutions for PPE can be developed.

The rescue jacket may be the default ‘every day wear’ (not station wear) and be designed to perform and be worn for most interventions. Levels of protection here still exist but are lower than those required in full structural garments. The rescue jacket should be less complex by design and be cheaper and easier to repair.

All test performance data must be submitted with tender document, please indicate compliant and submitted where requested. All documentation to be in English.

Firefighting PPE is designed, following a suitable risk assessment, to protect firefighters from risks that cannot be removed by other means.

One potential emerging risk to firefighter’s health is exposure to contaminants as a result of the incidents that they attend; some of these contaminants may be carcinogenic.

All Contractors should be mindful of these emerging risks and as such ensure that the PPE is designed to be easily cleaned and decontaminated. In addition methods for identifying that the PPE may be contaminated should also be considered when designing the PPE.

	2. BS ISO 16073:2011 and where applicable BS EN 15614:2007 minimum performance requirements	
2.1	Rescue jacket to fully comply with the requirements of BS ISO 16073:2011 and additionally BS EN ISO 6350:2005 **Required:** Independent Certification from an organisation belonging to United Kingdom Accreditation Service (UKAS), or equivalent.	
	Additional Information - Required	
2.2	Clause 4.5.1.2 Face Ignition	
2.3	Clause 4.5.1.3 Edge ignition (optional)	
2.4	Clause 4.5.1.4 Flame behaviour test of the main seams	
2.5	Clause 4.5.2 Heat transfer – Radiant exposure $RHTI_{24}$ ≥ 8 sec Clause 6.3 BS EN 15614:2007 = $RHTI_{24}$ - $RHTI_{12}$ ≥ 4 sec	Preferable meets Clause 6.3 BS EN 15614:2007 = $RHTI_{24}$ ≥11 sec
2.6	Clause 4.5.3 Heat transfer – Flame exposure HTI_{24} ≥ 3.5 sec	
2.7	Clause 4.6.1 Tensile strength ≥ 600 N	
2.8	Clause 4.6.2 Tear Strength ≥ 25 N	
2.9	Clause 4.6.3 Main seam strength ≥ 300 N	
2.10	Clause 4.7.2 Thermal resistance ≤ 0.055 m^2 K/W	
2.11	Clause 4.7.3 Water vapour resistance ≤ 10 m^2 Pa/W	
2.12	Clause 4.8 Dimensional change after cleaning Not exceed 3% in either direction	

2.13	Clause 4.9 Retroreflective/fluorescent performance	
2.14	Clause 4.10– Clothing testing-Test Method EN ISO 13506:2005 4s @ 84kW/m2	Results to be submitted
2.15	Additionally BS EN ISO 6530:2005 Protection against liquid chemical.	
2.16	Additional thermal layers – Solutions for extra thermal protection against cold to be supplied, such as zipped liners	
	3. BS EN ISO 20471:2013 minimum performance requirements	
3.1	Rescue jacket to fully comply with the requirements of BS EN ISO 20471:2013 In achieving this standard polyester or blended polyester must not be used within the outer fabric. Fabric such as a modacrylic should be used. **Required:** Independent Certification from an organisation belonging to United Kingdom Accreditation Service (UKAS), or equivalent.	
	Additional Information - Required	
3.2	Clause 4.1 Types and classes Class 3 – Torso with sleeves	
3.3	Colour – Fluorescent yellow	
	4. General Requirements - Required	
4.1	Compatibility	Must be proven to be compatible with other PPE items recommended in the tender bid (Helmet, Fire Hood, Gloves, Fire Trouser and Fire Boots). Especially the interaction areas such as the glove and the sleeve. Ease to don and doff.
4.2	Role marking and personal identification.	Suggestions for easily interchangeable Rank Markings and personal identification.
4.3	Unique Identification	Details and examples to be submitted and included in pricing schedule. Solution supplied shall be capable of being uniquely identifiable to enable product traceability, such marking may include unique bar-coding and RFIDs tagging.

		Method to be durable taking into account the use of the item and the recommended cleaning procedures. In addition suitable area for wearer to add their details, if required; and for this to be reusable.
4.4	Comfort	Solution to be comfortable to wear for extensive periods of over one hour.
4.5	Equality and Diversity	A broad range of sizes to encompass both male and female wearers and those of differing ethnic backgrounds. A wide size range from at least XXS _ XXXL with a range of heights from at least XS-XT And the ability to make special sizes if required. Examples to be given and indication of timescales
4.6	Decontamination and Cleaning	The solution must be easily decontaminated and cleaned. Expected serviceable life should be indicated and explained.
4.7	Pockets and attachments	Tunic: radio pocket, glove loop, facility for attachment of rank markings, station/ID number. Inner pocket must have facility for attachment of whistle and chain.
4.8	Protection Areas	Elbow and Shoulder. Ideally in the mid layer.
4.9	Collar	Designed so does not ‘create’ a “funnel” effect.
4.10	Anti-wicking	Tunic: hem and Cuffs (cuffing arrangement must be sufficient to prevent any bypass (wicking) to the internal fabric of the sleeve).
4.11	Retro-reflective Tape	Requirements of EN469:2005 Annex B

		Tape should ideally not compromise overall breathability of garments.
4.12	Tunic zip to have a quick release system to allow any internal heat to be released and removal of tunic in emergency situations.	
4.13	Any Velcro closures or attachments must not damage or interfere with other equipment, such as safety harnesses. In addition use of Velcro should be used in such a way that contamination, such as asbestos, is not trapped or attracted.	
4.14	Lifing	Provide information, in addition to care and maintenance instructions, as to the expected life of the rescue jacket. This may be based on number of washes that the rescue jacket maybe subjected to.