

FIRE

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Focus on
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May 2019

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Fire Service Game of Thrones

FIRE investigates who's really in charge of fire and rescue services and asks whether a National Fire Service would solve the problem

Barriers for Change

Police and crime commissioners have their work cut out in gaining control of fire: why should they even bother?

Lessons from Sri Lanka

FIRE asks what lessons UK emergency services can take away from the heinous attacks in Sri Lanka

The life of a Bristol Uniform



Have you ever wondered how PPE is made, what incidents it might have attended in its lifetime and how many times it has been repaired or cleaned? **Philip Tasker** from Bristol Uniforms follows the life of a firefighter's PPE

A life in uniform



Firefighter Jack Jenkinson in his uniform

When donning your PPE for the first time, you probably do not put a huge amount of thought into how it is made, or comprehend the journey it will go in its lifetime.

Products 7226060026 (structural trouser) and 7244920057 (structural jacket) started life two years ago. They belong to Jack Jenkinson, a retained firefighter from Saxilby Fire Station and were procured in 2016 by Lincolnshire Fire and Rescue Service through the Central PPE and Clothing Contract (CPCC) – a national procurement programme for firefighter clothing that saves FRSs time and money thanks to its simplified procurement process and volume discounts.

Jack's structural fire coat and trouser began as a two-dimensional design, created by Bristol's specialist technical designers using the very latest Computer Aided Design (CAD) software.

His PPE style is based on Bristol's latest lightweight and ergonomic XFlex design. It has curved seams that follow the body's curves, as well as under arm gussets and three dimensional articulated elbows and knees, which allow maximum movement and flexibility. It utilises cutting-edge fabric technology, consisting of a Hainsworth Pbi TITAN1260 outershell, a GORE-TEX® Crosstech® Fireblocker moisture barrier and a Hainsworth Eco-Dry Active thermal lining – all of which protect and prevent Jack from overheating.

Prior to manufacture, Jack was 'sized up'. We have a vast range of different sizes for both male and female firefighters and the most appropriate size was chosen by trying on example garments. This is a tried and tested method of sizing, which is very accurate and ensures the PPE fits, and is comfortable and safe.

His PPE was manufactured in Bristol and is made up of 182 individual pieces of fabric – all cut using state-of-the-art machinery housed in Bristol's purpose built Central Cutting Unit. These pieces of fabric were then expertly sewn together and labelled by Bristol's trained machinists. Jack's PPE bears the CE0086 certification mark, proving it has been certified and complies with European PPE

“We have a duty of care to protect our firefighters and their PPE is critical to our success”

Julia Skinner, Contracts Manager, Lincolnshire Fire and Rescue Service

“It’s really comfortable to wear and feels light and durable... I feel safe in it: protected from heat and flames, and don’t feel restricted at all when wearing it”

Firefighter Jack Jenkinson, Lincolnshire Fire and Rescue Service



Firefighters tackle a car fire in Lincolnshire

regulations, and has a unique bar code, allowing us to call up manufacturing and aftercare information very easily. For example, we know that Jack’s PPE was made using nine different types of fabric, approximately ten metres in length, all of which can be tracked back to the exact roll and batch it came from.

Jack’s PPE took approximately nine weeks to manufacture, and was only the start of its journey. It was delivered to Saxilby Fire Station in October 2016. It is always exciting to get new kit and trying it on can be fun as firefighters have to carry out numerous ‘exercises’ to check there are no gaps and the PPE fits correctly. It can, however, seem a bit odd as no kit is the same, and can take a bit of getting used to. Jack’s kit fitted well on first try, he recalls: “When I first got the kit it fitted well but was quite stiff; I was slightly worried, but in actual fact I broke it in very quickly! The kit was also different to our previous issue and it did take a little while to get used to the new checked design and pockets on the tunic.”

The new kit was welcomed by Jack and his fellow firefighters though, he explains: “It’s really comfortable to wear and feels light and durable. The additional pockets also mean it’s more practical and we can carry extra equipment like a dust mask and ear plugs. I feel safe in it: protected from heat and flames, and don’t feel restricted at all when wearing it.”

For the last two years Jack and his PPE have seen a lot of action and attended a whole host of different incidents. Latest figures (Fire Brigade Union, 2019) show that more than 45,000 people in the UK were rescued by firefighters from April 2017 to March 2018, but that less than ten per cent of these rescues took place at fire related emergencies. In Lincolnshire in particular, only 28 of 560 rescues were fire related – that is just five per cent. This trend is obvious when talking to Jack, who confirms that fire-related incidents are much less common than people think and that non-fire related incidents make up the majority of his call outs.

Saxilby has a population of approximately 4,000 people and it lays to the north of Lincoln. Common call outs include road traffic collisions (RTCs): ranging from a minor shunt on the high street to a major pile up on the nearby A57. Whilst attending serious RTCs, Jack has to secure the scene, and in serious incidents free trapped people from vehicles – working closely with other emergency services to help save lives.

Another common call out he gets is to properties where a fire alarm has been triggered. Jack and his colleagues attend these incidents and check the building for fire and smoke and if no trace is found, try and determine what could have triggered the alarm.

Whilst major building fires are uncommon, he does attend car fires – for example, where a car has been

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Julia Skinner, Contracts Manager, Lincolnshire Fire and Rescue Service



Bristol machinist



Jack Jenkinson
on a call out

abandoned and set alight, or there has been some kind of mechanical fault that has caused a fire. In addition, he gets called to boat fires on the nearby Fosdyke Canal and River Till, and small fires in the home, such as chimney or cooking fires, the latter of which often involves hot fat. Sometimes bonfires can get out of hand and often in these scenarios only Jack and his watch are able to get them back under control or put them out.



Water rescue is also a big part of Jack's job, which can be anything from rescuing a member of the public or pet dog that has slipped and fallen into the River Till, or a cat who has got stuck in a drain pipe.

The list is endless, but Jack also works in the community, attending homes, schools and businesses to talk about fire prevention and what to do and how to survive if caught in a fire.

Inevitably, as a firefighter goes about their job, their kit gets dirty and in the case of fires, will be exposed to toxic or hazardous materials. Cleaning of PPE is a hot topic in the UK, with the FBU providing practical information and advice on how to reduce the threat of contaminants, which includes ensuring PPE is properly cleaned and in good condition before use. Calls for international standards to ensure professional cleaning and repair of PPE are also gaining momentum across the world and currently, the British Standards Institute is working towards the development of a national standard (BS 8617).

Jack's kit has so far been washed and decontaminated three times by Bristol's in-house managed services team. On each occasion, our delivery driver collected Jack's PPE and transported it to our eastern Service Centre in Rainham Essex for thorough cleaning and inspection, and then returned it back to Saxilby Fire Station – all within seven days. Because his PPE is relatively new, it has not required any repairs to date. We always check though and sometimes repairs are required to ensure that the PPE remains protective and fit for purpose.

Jack will continue to use his kit for years to come. The expected life span of PPE is approximately eight to ten years, but with regular washing and repair it could be more. At Bristol we either donate used PPE to charity or it is recycled. We have also recently donated lots of kit to Triple9 who upcycle it and make wash bags, wallets, purses, tote bags, and much, much more – selling it to raise money for The Fire Fighters Charity.

From start to finish, PPE goes on an impressive journey in its lifetime. Every step of the way we are there to ensure it remains fit for purpose and keeps individual firefighters safe and protected from everyday hazards they face.

Julia Skinner, Contracts Manager at Lincolnshire Fire and Rescue Service, and responsible for purchasing Jack's PPE, said: “We have a duty of care to protect our firefighters and their PPE is critical to our success. Our firefighters have their kit for up to ten years and attend hundreds, if not thousands, of incidents during its lifetime. So it's vital that it's comfortable, protective, and will stand the test of time.”