

PPE for Rail Operatives



The rail industry faces a unique set of occupational hazards, and in order to provide a safe, efficient and sustainable rail service to the public, rail workers themselves must be protected from the various on-track risks that they're routinely exposed to. Hi-visibility protective apparel has played a crucial role in keeping workforces safe and functional for decades, with its introduction to the rail industry dating back to 1964. The use of fluorescent colour and reflective tape was, and still is, viewed as the most effective way of improving worker visibility in all lighting and weather conditions. As such, it is a mandatory requirement for any individual working on UK railways to wear suitable, hi-vis workwear that conforms to EN ISO 20471 performance standards.

Background

Looking to safeguard the 100,000 employees across the sector, the Rail Safety and Standards Board (RSSB) recently published its refreshed Health and Safety Strategy, which reviews the next five years for the rail industry and places workforce wellbeing and safety at the forefront of its scheme. In line with this, decision makers are presented with an opportune time to review the current condition (and future specification) of hi-visibility garments in use across the UK's rail network.

In sight and on track

Between moving trains and potential arc flash explosions, it's clear why so much emphasis is placed on the safety of individuals working on or nearby train lines. Railway workers must be visible and protected from head to toe at all times and hi-vis jackets, trousers and polo shirts are designed accordingly to mitigate risks by incorporating the correct colour, placement and retro-reflection of hi-vis materials.

The fluorescent fabric in hi-vis clothing holds its own set of standards that apply to UK rail specifically. RIS-3279-TOM is a regulation applicable to hi-visibility orange garments only and is the minimum standard for protective clothing used in UK rail. The use of fluorescent orange clothing offers improved contrast in both rural and urban environments and helps to avoid confusing train drivers by removing the ambiguity of yellow and green colours, which are associated with train signalling. As such, the precise colour of orange fabric must meet a luminance factor of at least 0.4, with fluorescent and reflective areas of garments also meeting a Class 2 standard at minimum.



Where some may misunderstand the significance of these design details, Network Rail, in March 2023, released a comprehensive PPE policy for its workforce, covering the specification, issue and use of its orange hi-visibility uniforms. The guidance document lists a number of requirements to ensure employees are suitably equipped for their roles, whilst also reviewing the fit and functionality of its hi-vis workwear.

Outdoor clothing for example, must conform to [BS EN 343:2019](#) - an international standard which measures the waterproofness and breathability of weather dependent garments, such as insulated parkas and storm coats.

Both users and employers must also observe the wash lifecycle of garments, whereby after multiple washes fluorescent fabric begins to lose its colour and reflective stripes become less visible. Hi-vis garments must be replaced when they are no longer compliant, and in an environment where clothing can often become unclean, garment durability is key. Manufacturers wash test hi-vis products to ensure a minimum of 25 washes or more.



See [OnSite Support Laundry Solutions](#).

The size and fit of hi-visibility protective clothing is also critical to user safety and comfortability. Where an improperly sized or poorly fitted garment may restrict user movement, reduce productivity and heighten risk, a suitably equipped workforce can further reduce the risk of accidental slips, trips and falls - a common injury risk across the rail sector. With correctly fitted, performance-driven garments, employers can effectively support a wearer's health and wellbeing whilst protecting them from more obvious operational risks.

As the rail industry continues to develop its strict health and safety standards, hi-vis workwear and protective apparel continues to evolve with it. Hi-vis garment design teams remain innovating and with that, decision makers across the rail sector must be proactive in their education, selecting the most suitable hi-visibility clothing for on-site operatives. Because when it comes to rail safety, there's no room for complacency.



Railway Group Standard – High Visibility Clothing (RIS-3279-TOM)

What is RIS-3279-TOM?

RIS-3279-TOM (formerly GO-RT 3279) is a high visibility standard that only applies to the rail industry in the UK, as opposed to the EU-Wide nature of other EN standards. The aim is to ensure that rail workers on or near the trackside are sufficiently visible to trains approaching at speed or any other traffic.

Summary of the standard

High visibility clothing is the fundamental principle behind the UK Rail Industry Standard. This is based on the European Norm EN 20471:2013, and garments must comply to Class 2 High Visibility, the middle of a three class range. The standard states the following: 'high visibility clothing worn by people on the lineside or on or near the line should conform to a single standard for the colour and luminance of background material and that this standard will accord with the detail contained within EN 20471:2013 +A1:2016 high visibility clothing – Test methods and requirements (ISO 20471:2013).'

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 as laid out in EN 20471. However, there is no tolerance for the luminance factor.

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

Mentioned in RIS-3279-TOM 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.

OnSite Support hold a certificate of validation from the Railway Industry Supplier Qualification Scheme. Supplier ID 1988.



We hope this article has provided some clarity on the UK's standards of PPE for rail operatives.

References

RIS-3279-TOM Issue 2 is the Rail Industry Standard for Hi-Vis Clothing.

<https://www.rssb.co.uk/standards-catalogue/CatalogueItem/RIS-3279-TOM-Iss-2>

<https://www.iso.org/standard/42816.html>

<https://www.rssb.co.uk/standards-catalogue/CatalogueItem/RIS-3279-TOM-Iss-2>

<https://www.gov.uk/government/statistics/rail-factsheet-2023/rail-factsheet-2023#:~:text=approximately%20100%2C000%20people%20employed%20in,Annual%20Report%20and%20Accounts%202023>)

<https://www.rssb.co.uk>

<https://publications.rssb.co.uk/story/rail-health-and-safety-strategy-2024-2029/page/1>

<https://knowledge.bsigroup.com/products/protective-clothing-protection-against-rain?version=tracked>

<https://publications.rssb.co.uk/story/rail-health-and-safety-strategy-2024-2029/page/10/3>

NB

The Road Industry Standard for Hi-Vis Clothing is detailed in

'The Red Book' - Safety at Street Works and Road Works A Code of Practice

<https://assets.publishing.service.gov.uk/media/5a7d8038e5274a676d532707/safety-at-streetworks.pdf>