

Safety Advice - High Visibility Jackets Explained – BS EN 471 -2003

Introduction

I have been asked to give safety advice on high visibility PPE and if there are any associated dangers when worn open or unzipped by the waste collection operatives employed by Uttlesford District Council.

In order to do this I have put together this advice document which you are now reading.

Report

All High Visibility garments falls within 3 categories and 3 levels – The categories designate the area of coverage, whilst the levels indicate how reflective or high visibility the garment actually is when worn.

- Category = Areas covered (Usually 1 lowest – 3 highest)
- Level = How reflective – retro reflective performance – Level 2 is the industry standard in the EU and UK (Level 1 or 3 will not be encountered)
- Colours will be yellow, orange or red – reflective strips generally silver or glass coloured

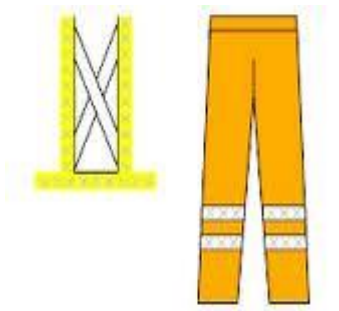


- **Class 3 – Whole upper body and arm coverage**
- Provides highest level of visibility and reflect ability
- Will be Level 2 reflective performance
- Can be worn on its own
- Can be worn with reflective trousers (Class1) for enhanced visibility.
- Must be worn by operatives operating on or nearby motorways (M11) or designated fast road (A120)
- Generally UDC personnel are not called to operate on these roads. Our highways maintenance teams wear Class 3, with Class 1 trousers, although there is no legal requirement to do so
- Some long sleeved polo shirts if made with the correct material and if fitted with the correct reflective strips qualify as Class 3 (But will not be weather proof)



- **Class 2 – Waist coat**

- Provides intermediate level of visibility and reflective ability
- Will again be Level 2 reflective performance
- Can be worn on its own
- Remains Class 2 even if worn with reflective trousers (Class 1) for enhanced visibility
- Provided UDC operatives are not working on motorways or fast road provides the maximum level of visibility required under EN 471
- Some short sleeved polo shirts if made from the correct material and if fitted with the correct reflective strips qualify as Class 2



- **Class 1 – Over trousers or Reflective bib**

- Provides the lowest level of visibility and reflective ability
- Will again be Level 2 reflective performance
- Usually worn when being seen is an advantage
- May or may not be hi visibility material – but must have reflective strips to qualify as Class 1 high – visibility
- Often worn with Class 3 or Class 2 to enhanced visibility
- Must not be worn on its own as a hi visibility solution
- Only Class 1 trousers are issued to UDC operatives
- Some are made from high visibility material (Highway maintenance) others are not (Waste operatives – some are blue with reflective strips)
- UDC operatives are instructed **not** to use Class 1 trousers as a high visibility solution on their own

To check to see if a garment is EN 471-2003 compliant simply, look at the label inside –



- The label will show the type of garment it symbolises – Here its a waist coat (Therefore it will be Class 2)
- The first number shown to the right of this image at shoulder height designates the Class (Class 2)
- The second number shown below at waist height is the retro reflective performance, which in the UK and EU will always be 2
- Above the image is the CE logo to show garment is approved for use in the EU
- Below the image is the EN number (EN 471 for Hi Vis, sometimes appears as EN 471 – 2003, which is the year regulation came into force)

Note - If the image and numbering don't make sense or, if there are no CE or EN numbers shown, this may indicate that the item does not comply with the regulations and could be a counterfeit produce. They are out there.

Comments of UDC high visibility garments

Waste services operatives are issued with Orange Class 2 waste coats which comply with EN 471 – 2003.

There is no requirement for Class 3 high visibility jackets as no staff work on motorways or fast roads within this authority.

Most operatives are issued with at least one set of Class 1 over trousers which can be worn with Class 2 waist coats if desired and enhances visibility and reflect ability. Some of these over trousers are made from high visibility materials, whilst others are not (blue for example).

There is no requirement for the reflective waste coat to be worn zipped up or closed during normal operating procedures (see below)

Safety implications of wearing unzipped or open Class 2 waist coats.



Visibility

- There are some slight advantages to wearing the waist coats zipped or closed during windy conditions, as the waist coat could blow away from the front of the wearer and show more to the rear
- Operatives work vicinity of a highly visible refuse lorry, with lights and hazards flashing continually
- Operative can see to their front as they work and generally would be able to see if anything is coming towards them
- Waste operatives unlike highways maintenance spend only a brief amount of their time actually standing in the road or highway
- Operatives in waste services perform a highly physical role and must be allowed the discretion to vent excess heat by wearing their high visibility tabards/waist coats open
- Any additional risks caused by wearing unzipped or open are minimal

Entanglement

- There are no additional risk of entanglement in the rear loading hoists of the refuse lorries by wearing Class 2 PPE open
- The Class 2 tabards and waist coats issued by UDC are made of 3 pieces of material held in place at the shoulders and sides by Velcro
- The garment is designed to come apart if entangled in machinery (waste hoist) or if hooked by a passing vehicle, or some other entanglement

In 2012 there was an incident when a waste operative was entangled in a hoist and deposited into the rear of an operating waste lorry. Luckily on this occasion the driver who was very alert, shut down operations and no one was injured.

Following the accident investigation it was found that the waste operative's high visibility Class 3 jacket which was zipped up had become entangled in the hoist, which had lifted him into the waste crusher.

Following a re assessment of the Hazards and risks the Orange 3 piece Class 2 waist coats/tabards were provided as PPE.

Worn open or closed the garment will tear apart at the Velcro seams if entangled (for which it is designed). The garment is far more likely to entangle if worn closed, than if worn open.

Although there maybe a slight reduction of the high visibility and reflective ability of the Class 2 garment if worn open on a windy day. EN 471 – 2003 does not stipulate that the garment must be worn zipped, or closed up. There is no legal requirement to wear the waist coats/tabards zipped up or closed.

In fact the dangers of entanglement in the lifting machinery to the rear of the waste Lorries in my opinion far outweigh the dangers of an operative being run over by a passing car or lorry.

Therefore I believe that the wearing of Class 2 High Visibility Tabards/waist coats unzipped or open is acceptable. In fact as an observation, apart from the drivers who may still wear Class 3 High Visibility jackets that were issued to them, any waste loading operatives who may have been previously should not wear a Class 3 jackets when loading or unloading the waste bins.

In my opinion the wearing of our high visibility class 2 tabards/waistcoats as issued by this authority when worn open and unzipped, does not increase the dangers or risks to the wearer of being involved in a road traffic collision to any higher level even to start me thinking there may be cause for concern.

In fact I believe the benefits of the garments being worn open, for entanglement safety issues, far outweighs any minimal increase of risks faced by the operative of a traffic collision quite significantly.

Closing summary

- Class 2 waist coats/tabards meet EN 471 – 2003
- UDC issued Class 2 tabards are 3 piece and designed to tear apart if caught or entangled
- There is no legal requirement for our Class 2 garments to be worn zipped up or closed
- Class 3 jackets should not be worn by loaders zipped up or otherwise because they do not come apart if entangled or caught
- Class 1 over trousers should not be worn alone
- Some high visibility and reflective polo shirts (long or short sleeved) can qualify as Class 2 or Class 3 High Visibility PPE

This report is submitted as observations and my safety advice to Uttlesford District Council.

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