



Selection and Use of High Visibility Clothing for Non-Professional Use

BS EN 1150 sets the standard that high visibility clothing needs to meet to ensure that the wearer is clearly visible to motorists against the background in ALL weather and lighting conditions (bright daylight as well as rain, mist, dusk and night-time). To achieve this, clothing must have a combination of fluorescent material for daytime visibility and reflective material for night-time and low light conditions.

The requirements of BS EN 1150 have been agreed by panels of experts in all the countries of the EEC to be the MINIMUM design and performance requirements that are needed to achieve this and for that reason this standard applies only to clothing for non-professional use. For clothing that is worn in the course of a trade or profession (e.g. at road works) there is a higher standard, BS EN 471 which the clothing MUST meet to comply with Health and Safety legislation. These two standards also ensure that clothing is reasonably durable and does not fade or suffer a loss of reflectivity after washing or a short period of use.

It is important to understand that retroreflective products work by reflecting light back towards the light source (the headlights of an approaching vehicle driver) so, to the person buying or wearing a reflective garment, the retroreflective bands will usually just appear a dull silver/grey irrespective of whether their reflectivity is excellent or non-existent. The wearer may therefore believe that he is clearly visible to traffic at night when in fact he is not and instances have been found where the reflectivity of a "high visibility" garment has been no better than white tissue paper!

Private users are free to buy and wear garments of a lower standard than BS EN 1150 if they wish, but need to be aware that they are choosing to operate below what is considered to be the minimum safe level of conspicuity in traffic. Not only are they taking an unnecessary risk with their own lives and those of other road users, but if they were unfortunate enough to be involved in a traffic accident, they could find they have invalidated or reduced their insurance cover by contributing to the accident.

Products that do not meet the requirements of BS EN 1150 may be significantly cheaper than those that do and, on the shelf, may look perfectly OK. However, the average buyer has no way of knowing if a garment will:

- Reflect brightly enough at night and in poor lighting.
- Suffer a serious reduction in reflectivity in rain, when the fabric it is wet
- Fade and lose its fluorescence after a short time in sunlight or after washing
- Suffer cracking of the plastic materials when folded/creased repeatedly or at low temperatures

Buying a garment that has been tested and approved under BS EN 1150 provides assurance on all these points and many more.

HOW TO TELL IF A GARMENT COMPLIES WITH BS EN 1150

The key thing to look for is the product label. To comply with the standard the garment MUST have a permanent label that states the following:

- That the garment complies to BS EN 1150
- The name of the manufacturer (or the manufacturer's agent)
- The type or model code for the garment
- The size of the garment (giving the height of the wearer, not just Small, Medium or Large)
- Basic washing/dry cleaning instructions (and the number of cycles through which the garment will retain compliant fluorescent/reflective performance)

IF A GARMENT IS NOT LABELLED IN THIS WAY, IT DOES NOT COMPLY WITH THE STANDARD IRRESPECTIVE OF ANY OTHER CLAIMS THAT MAY BE MADE.

The design, specification, testing and certification needed to achieve standard compliance is expensive, so if a manufacturing company has made that investment, why would it not advertise the fact on its product? Buyers should be highly suspicious of any advertising that makes broad claims of standard compliance that is not repeated in detail on the product labelling.

In addition the standard requires that a garment MUST be supplied with an information sheet which includes detailed instructions for the use, washing/cleaning, care and storage of the garment.

Unfortunately, despite the best endeavours of Trading Standards, there have been an increasing number of instances of clothing being falsely labelled as complying to the standard when it does not. In order to achieve compliance a garment must have been type tested and approved under BS EN 1150 by the British Standards Institute or an equivalent Notified Body (an independent laboratory authorised to test under the EEC Directive on Personal Protective Equipment). Retailers who are offered garments as compliant, can and should therefore request copies of the relevant test certification (and check that it relates to the current product) if they are in any doubt as to a supplier's claims

For individual private buyers, cases of false labelling are more difficult to detect but there are some basic physical aspects of a garment's design that can be checked by a quick visual inspection before buying.

- Even for a small adult (158cm tall – 5ft 2in) a garment must incorporate a total of at least 0.32 m² of visible fluorescent material and 900 cm² of visible reflective material. In terms of sheets of A4 paper, that is equivalent to about 5 sheets of fluorescent and 1½ sheets of reflective material.
- These materials can be applied as a number of bands or panels but these must be distributed reasonably evenly around the whole garment.
- Fluorescent material can be yellow, green, orange, red or pink (including a combination of these)
- No piece of fluorescent material can be less than 50 mm (2 inches) wide *
- No piece of reflective material can be less than 25 mm (1 inch) wide*
- No single piece of reflective material can be smaller than 25 square centimetres in area which is equivalent to a strip about 1inch x 4 inches or a 2 inch square*
- If a garment has sleeves, there must be at least one reflective panel/band on each sleeve.

** Note: A garment may have smaller pieces of fluorescent or reflective material than specified above (forming piping, logos and pull tabs etc.) but these cannot be included in the required minimum total material areas required by the standard.*

This is only a guide to some of the simpler requirements of the standard and full copies of BS EN 1150 (and BS EN 471) can be purchased from BSI at www.bsi-global.com/en/Shop/. Also advice on compliance is available to retailers and Trading Standards from the Retroreflective Equipment Manufacturers Association (REMA) on 07921 365333 and info@rema.org.uk