

# EN ISO 20471:2013 FACT SHEET

**SAFE-GUARD**  
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# A guide to explain the main differences between the EN 471 and the new ISO EN 20471.

The norm for High Visibility, EN 471, is one of the most widely known and used norms under the PPE directive. In June 2013, The Official Journal of the European Union published the new standard EN ISO 20471:2013.

This harmonized standard has replaced the former standard EN 471:2004 + A1:2007.

Starting October 2013 all High Visibility products had to be CE marked and certified to ISO EN 20471.

In practical terms, materials manufacturers and Notified Bodies need time to update the required documentation to CE mark to the new norm. It is expected that this process will take some time.

Products that are CE marked to EN 471 or ISO EN 20471 will therefore now co-exist on the market during the years ahead and will only change as manufacturers update their products and documentation to the new norm.



The new norm EN ISO 20471 essentially provides the same level of safety as EN 471, but there are a few important changes which are summarized in the following pages.

## SCOPE

The standard specifies the requirements for high visibility clothing "which is capable of visually signalling the user's presence". The new standard has broadened the usage base and a distinction between different types of risk situations has been made. The defined risk situations will be the basis for which norm is applicable for the user. ISO EN 20471 is applicable to high-risk situations.

## DESIGN

Basics such as the area requirements for background materials, retro reflective materials and combined performance materials with three classes of garments remain unchanged. The main difference is in the specific design requirements. The requirements are now depending on which part of the body the garment is covering, such as torso - for example, vests and tabards; torso and arms - jackets and coats; legs, for instance, waist-band and bib and brace trousers, and shorts; torso and legs - including coveralls with sleeves; and torso, arms and legs - for example, coveralls with sleeves, whereas in the previous version, the type of garment was the basis for the design (jackets, waistcoats etc).

In the new norm, all class 3 garments must cover the torso and have as a minimum either sleeves with retro reflective bands or full length trouser legs with retro reflective bands. This ends the possibility to CE mark sleeveless class 3 garments. If a short sleeve is covering a torso band, retro reflective tape must be fitted on the sleeve.

It is now also possible to CE mark separate garments together (instead of a single garment) to fulfil a requirement for a certain performance class. This is achieved by a so called clothing ensemble: e.g. by certifying jackets and trousers together.

## BACKGROUND MATERIAL, NON-FLUORESCENT MATERIAL

The high visibility colours (fluorescent yellow & orange-red ) with respective colour coordinates and luminance factors remain unchanged, but the background materials must now undergo colour testing also after washing. The testing must be performed after the maximum number of washing cycles according to the care recommendations indicated by the manufacturer, alternatively 5 cycles if such indication is missing. Colourfastness requirements to washing/drying of non-fluorescent background material have been reduced. Adjustments have also been made to the dimensional change requirements of both knitted and woven materials. Mechanical properties are also changed: tensile/bursting strength requirements are reduced as well as tear strength requirements for on laminates/coated materials.

Physiological performance requirements, i.e. water vapour and thermal resistance are now specified in more detail. Tabards and waistcoats are exempt from physiological performance requirements



## REQUIREMENTS FOR RETRO REFLECTIVE MATERIALS

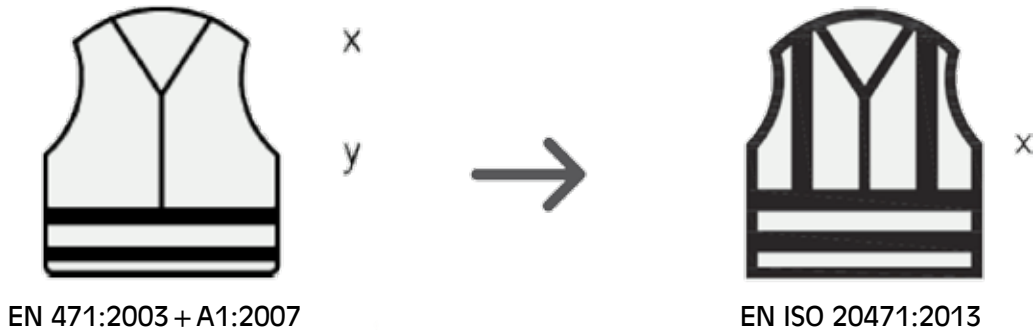
For separate performance material, the weaker performing material corresponding to EN 471 level 1 is now deleted, leaving the former EN 471 level 2 materials as the only option. Test methods for performance after washing now requires each cycle to be a wash and dry cycle.

The requirements for combined performance material remain unchanged and can be used to meet the requirements of the retro-reflective materials on class 1 garments.

## MARKING, CARE LABELLING

Previously, the pictogram and care labelling created a great deal of uncertainty. This is now better defined. The new graphical symbol for High Visibility Clothing has been simplified. After removing the type 1 reflective material from the norm, the figure indicated in the symbol (X) is now indicating the garment class only.

If the maximum number of cleaning cycles is stated in the manufacturer's instructions it shall be related to the component of the high visibility material with the lowest number of washes. The maximum number of washes shall be marked on the garment's permanent label near the graphical symbol below. If such an indication is not given, certification has been granted on testing after 5 washes only. Drying must occur after each washing cycle.



## MANUFACTURER'S INSTRUCTIONS

It is the manufacturer who is responsible for informing the expected life time and limitations of the product. All garments must be marked according to the manufacturers' instructions. A defined explanation to the meaning of the maximum number of cleaning cycles provided with the garment (essentially stating that cleaning is not the only factor related to the life time of the product) must now be included in the information supplied by the manufacturer.

