



EN471 technical brochure



Everything you need to know about your high visibility garment

What is EN471?

“EN471 specifies requirements for protective clothing capable of signaling the user’s presence visually, intended to provide conspicuity of the user in hazardous situation under any light conditions by day and under illumination by vehicle headlights in the dark. Performance requirements are included for colour and retroreflection as well as for the minimum areas and for the placement of the materials on protective clothing.”



EN471 is a European standard which specifies the *minimum* performance requirements and test methods for professional high visibility clothing to keep you safe and visible day and night.

Who is responsible for the garments?

Duty of care

Under the European Directive 89/656/EEC of 30 November 1989 on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace, employers have a duty of care to provide their employees with protective safety clothing and equipment that is fit for its intended purpose.*

The employer is responsible for your garment to be visible and safe, also during the complete life time of the garment. But of course also the wearer should take responsibility for its own safety.

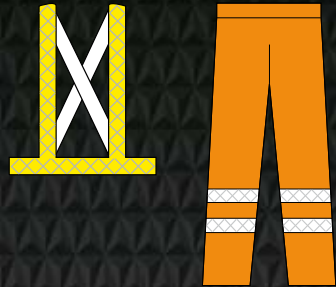
*Article 4 of PPE Directive 89/656/EEC

The three levels of protection:

Class 1

Class 1 defines the lowest visibility level

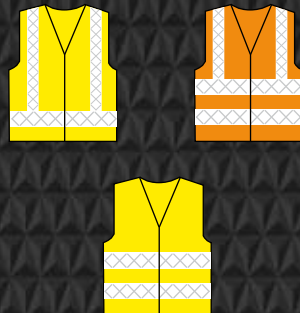
- Fluorescent material $\geq 0,14 \text{ m}^2$
 - Retroreflective material $\geq 0,10 \text{ m}^2$
- Or
- Combined material
Fluorescent reflective $\geq 0,20 \text{ m}^2$



Class 2

Class 2 defines an intermediary visibility level

- 1 horizontal band and 2 shoulder bands or, 2 horizontal bands and 2 shoulder bands or, 2 horizontal bands
- Trousers need 2 horizontal reflective bands circular on each trouser leg
- Bib and brace trousers: 1 horizontal band around the torso, 2 horizontal reflective bands circular on each trouser leg
- Fluorescent material $\geq 0,5 \text{ m}^2$
- Retroreflective material $\geq 0,13 \text{ m}^2$



Required for any person working on or near A and B class roads

Class 3

Class 3 defines the highest level of visibility

- As Class 2 but with full length sleeves with 2 horizontal circular bands on each sleeve
- Fluorescent material $\geq 0,8 \text{ m}^2$
- Retroreflective material $\geq 0,20 \text{ m}^2$



Required for any person working on or near motorways, dual carriage ways or airports

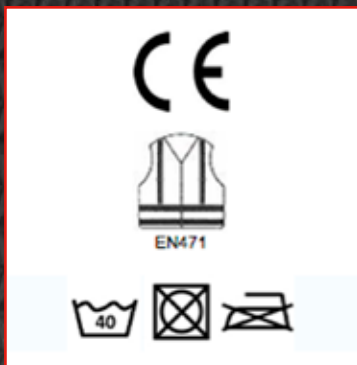
EN471 also gives directions on:

- Where to apply the reflective tape so the contours make it clear that you are a person and not an object
- Abrasion resistance of materials used
- Which fluorescent colors are allowed
- Name and address of manufacturer or his authorized representative
- Info about storage, use, cleaning and maintenance. (manual of use)
- Model description
- Etc., etc.



If you wish to see the complete EN471 regulation please ask your local institute for national standards or your local Reflexite sales representative.

But what do YOU need to know?



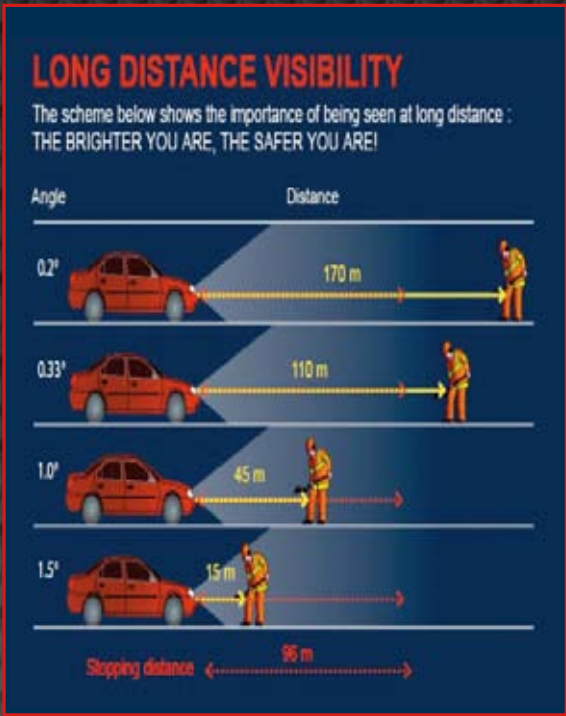
- Do the garments conform to the EN471 Standard?
Check for the CE mark on the label
- Does the garment meet the safety requirements you need to do your job; right fabric, abrasion, being visible in the rain and from a long distance etc.
Check the label and the reflective material
- Do the washing symbols meet your requirements?
Check the washing instructions on the label
- Is the garment the right size?
Check the label

What does EN471 mean for you?

In general, people who wear high-visibility clothing are those who need to be seen and be safe during poor lighting or weather conditions, or in working environments where there is a lot of traffic.

EN471 states "where greater conspicuity is required the higher level of retroreflective material should be used".

When you are working at a busy road you need the highest level of reflective material to keep you visible and safe. Being visible from a long distance gives the driver time to react and keeps you safe.



When you drive 100 km (70 miles)/hour at a distance of 96 meter you only have 3,5 seconds to stop!

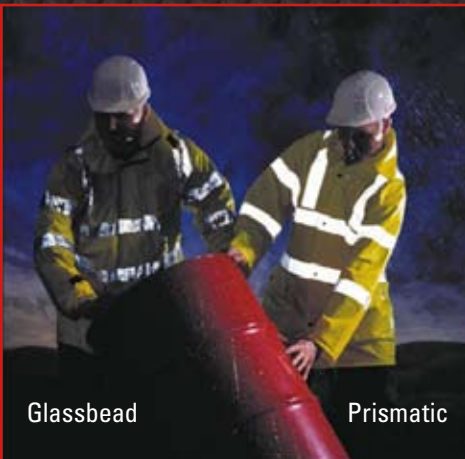
Minimum requirements, what does that mean?

So now you bought an EN471 certified garment and you think you can work safely on the road?

Please be aware that, according to the standard, some parameters of your garment have to meet the minimum requirements only the first time you wear them.

After washing and wearing the quality of the fabric but also of the reflective tape reduces. This will impact the safety of the garment.

To be safe and visible during the complete lifetime of the garment, you need to make sure the reflective tape has the maximum reflective value instead of the minimum.



Glassbead

Prismatic

To be visible and safe **always** choose prismatic reflective materials

Do you work in the rain? Please pay attention!

- Tests prove that after several washes the reflective values of the commonly used grey tape (glass-bead technology) drop dramatically. Especially in the rain.
- EN471 allows a drop in performance of 70% during rainfall! But the risk of an accident does not drop by 70% in rainfall - it increases!

If you wear your washed high visibility garment in the rain, and you don't have prismatic reflective material on your garment, you may not meet the minimum requirements for EN471.

You don't need to take our word for it. If you would like to see a demonstration on how to be safe in the rain please contact your local Reflexite® representative.





Reflective Solutions for:



Vehicle
Conspicuity



High Visibility
Workwear



Maritime
Safety



Traffic
Control

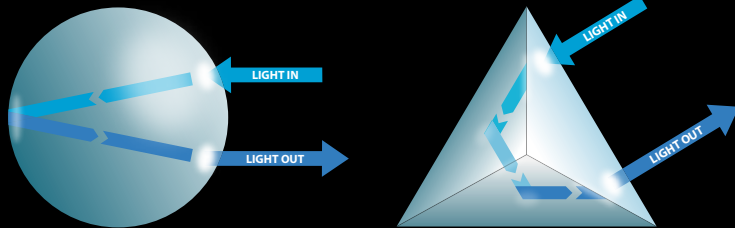


Recreational
safety

Reflexite is totally dedicated to protecting those people who risk their lives every day – driving ambulances, controlling road traffic, ensuring user safety in all areas of activity from the maritime industry to the leisure industry... because their safety depends on their visibility. That's the bright idea Reflexite stays focused on – rain or shine, day and night.

Experience the Reflexite® Difference.

Reflective Technologies



Light strikes each of the three surfaces of the Reflexite® microprism in turn, before returning to its source. The microprism's economical use of surface area delivers the highest standard of reflection.

We provide you with tomorrow's technology today.

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