

Technical Sheet

VizLite™ 310 CP Yellow FR Reflective Material

Product Information

VizLite™ 310 CP Flame Retardant Reflective Material is intended for use on Flame retardant PPE clothing such as Fire Fighting clothing to enhance visibility in low light and night time conditions and to meet the requirement for heat resistance and limited flame spread.

Design Features

VizLite™ 310 CP Flame Retardant Reflective Material is constructed of a layer of microscopic clear glass beads bonded onto a 100% cotton backing with a Proban treatment.

When a beam of light from an oncoming vehicle meets the yellow reflective material, the light reflects back to the light source and enhances the visibility of the wearer to the vehicle driver.

Product Performance and Certification

This product is certified by Centro Tessile Cotoniero e Abbigliamento Laboratory in Italy to the following.

Retro-reflective Performance

EN ISO 20471:2013/A1:2016

VizLite 310 CP Flame Retardant Fluorescent Reflective Material –

- Colour performance requirements for new material with combined performance.
- Colour after xenon test.
- Colour performance requirements after washing (30 cycles 60° C tumble dry max 60°C
- Colour performance requirements after dry cleaning (25 cycles with perchloroethylene)
- Retro reflective performance requirements of new material with combined performance
- Retro reflective performance after abrasion, flexing, folding at cold temperatures, exposure to temperature variation, washing (30 cycles at 60°C), dry cleaning (25 cycles) and influence of rainfall.

EN 469:2005+A1:2006 – Protective clothing for firefighting

- Retro-reflective performance requirements as received and after Resistance to heat (180°C) and after 5 cycles 60°C
- Retro-reflective performance requirements after oven treatment (180°C), after 30 cycles at 60°C washing and oven treatment (180°C)
- Limited flame spread (as received and after 30 cycles washing 60°C)

EN ISO 14116:2008 – Clothing to protect against heat and flame, Limited flame spread materials, material assemblies and clothing

- Limited flame spread – Procedure A - Surface ignition (index 3 before and after 30 cycles washing cycles 60°C)

EN 15384:2020 – Protective clothing for firefighters – Laboratory test method and performance requirements for wildland clothing

- Limited flame spread – Surface ignition as received and after 30 cycles washing 60°C with tumble dry at max 60°C
- Heat resistance at a temperature of 180°C as received and after 30 cycles washing 60°C with tumble dry at max 60°C
- Retroreflective and /or fluorescent performance

EN ISO 11611:2015 – Protective clothing for use in welding and allied processes

- Limited flame spread – surface ignition (level A1 as received and after 30 cycles washing 60°C with tumble dry at max 60°C 5

EN ISO 11612:2015 – Clothing to protect against heat and flame

- Heat resistance at a temperature of 180°C as received and after 30 cycles washing 60°C with tumble dry at max 60°C
- Limited flame spread – Surface ignition as received and after 30 cycles washing 60°C with tumble dry at max 60°C

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EN ISO 1149-5:2018 – Electrostatic properties – Part 5: Material performance and design requirements

- Electrostatic requirements
- Electrostatic properties – Part 3. Test method for measurement of charge decay according to EN1149-3:2005 test method 2 – induction charging after 30 cycles at 60°C with tumble dry at max 60°C

Ecological Performance

VizLite™ 310 CP have been certified by Shirley Technologies in the England to STANDARD 100 by OEKO TEX, product class III have shown that the above mentioned goods meet the human-ecological requirements of the standard presently established for products without direct contact with skin.

The certified articles fulfil the requirements of Annex XVII of REACH (incl. the use of azo-dyes, nickel, etc. as well as the American requirement regarding total content of lead in children's articles (CPSIA)

Product Application

VizLite™ 310 CP Fabric is recommended for use on garments that require flame and heat resistance such as Firefighting clothing, turn out gear, Trousers, boiler suits and flame resistant PPE.

VizLite™ 310 CP Fabric meets the requirements of EN20471:2013 for combined performance and is recommended for use in High Visibility garments as an additional trim alongside the specified amount of compliant VizLite™ 301 IW Fire Retardant Silver Material.

VizLite™ 310 CP Fabric is not recommended for use in Heavy wear environments and is not suitable for industrial laundry.

Product Usage

Cutting

- Suitable for cutting by hand (using very sharp cutting tools) or by guillotine
- Cuts should be made from the reflective surface.

Recommended Fabrics

- Flame Retardant Fabrics e.g., Aramid
- Not suitable for stretchy fabrics such as Lycra or those containing Lycra as results can be poor.
- All substrate materials should be chosen based on suitability for intended use and laundry properties

Sewing

- VizLite™ 310 CP Fabric can be applied direct to fabric panels before a garment is sewn together.
- Stitching should be at a distance of 2mm from the edge of reflective material to reduce fraying.
- Where separate pieces of reflective material meet on a garment, care should be taken to match the visible appearance.
- Any variations in appearance however will not affect the retro-reflective properties of the reflective material.

Stitching

- A double lock stitch with a maximum 5 stitches per cm is recommended.
- For substrates up to 250g/m² needle size NM80 -90 is recommended. For substrates greater than 250g/m² a larger needle size would be required.
- A Teflon™ coated needle and Pressure foot is recommended to enable a smooth fabric transition.
- Thread tension should be kept to a minimum.
- Tension on both upper and lower threads must be matched to ensure there is no puckering.
- Thread should be matched to the substrate i.e. Flame retardant.
- All threads should be shrink proof and be suitable for sewing at higher speeds.
- The guide on 2-Needle machines should be set at 2-3 mm above the width of the reflective fabric. This will decrease the chance of puckering by a difference in tension between the reflective fabric and the substrate.

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Storage and shipping

- Rolls should be stored in the packaging they are supplied in.
- Cut pieces should be stored flat
- Opened rolls should either be stored in their original packaging or suspended by the use of a rod through the middle of the roll.
- VizLite™ 310 CP fabric should be stored in an area that is cool, dry and with low humidity.
- Precautions should be taken to protect the material from encountering perspiration, strong acids, or compounds containing high levels of sulphur or chlorine. Contamination by these substances may affect the aesthetic appearance of the VizLite™ 310 CP fabric.
- During Transportation and Shipping it is best to keep an ambient condition.

Handling

- VizLite™ 310 CP fabric should be handled carefully in hot and humid conditions.
- The area in which the materials are handled may need the need of cooling or dehumidifying equipment to keep the area cool and dry.
- Avoid the contamination of the product with dirt, grease, or solvents as this could produce staining that will affect the retro-reflective qualities of the fabric.

Wash and Care

VizLite™ 310 CP fabric is designed to be washed at 60° C in a Domestic wash, up to a minimum 30 cycles before the retro-reflective qualities are affected. However, the following washing instructions should be closely followed;

- Do not pre-soak
- Do not use a pre-wash program
- Recommended wash program is for coloured clothing wash
- Do not wash at a higher temperature than 60°C
- Recommended wash Temperature is 30-60°C
- Maximum Program time 50 minutes
- Maximum wash time at highest wash temperature 12 minutes
- Domestic washing powders for delicate and coloured fabrics are recommended

Stain removal

- VizLite™ 310 CP material should be tested for wash conditions before using the material. This can be achieved by mixing a solution of detergent and water and applying with a sponge or cloth to the material. For stain removal of grease or mineral oils, use a clean cloth dipped into white spirits. Wipe clean with water afterwards.
- Chemical splashes should be removed with a clean dry cloth.
- Neutralise splashes of strong acid or alkali immediately with plenty of clean water
- Dispose any material that encounters toxic or harmful substances in a safe and responsible manner.

Do not use the following types of products to clean/treat stains on this garment;

- Heavy duty products or stain removal products with a high alkaline content.
- Micro-emulsions or high ph.-products
- Bleaches
- Aromatic solvents

The use of the above will affect the lifespan of the retro-reflective material.

Ironing

- Iron on reverse of material if possible
- Iron using medium heat setting.
- Do not use steam

Specialist cleaning and dry cleaning

- VizLite™ 310 CP fabric is not suitable for Industrial laundry methods
- VizLite™ 310 material is suitable for dry cleaning up to 25 times

Drying

- Line drying is the preferred method of drying
- Do not dry in conditions exceeding 70° C

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Maintenance issues

VizLite™ 310 CP fabric's retro-reflective properties will be affected by any of the following treatments;

- Coating or spraying the garment with oils, protective waxes, paints, or inks.
- Application of products such as leather spray or waxes.
- Harsh physical application of abrasive wire brushes or sand paper.

General Safety Information

Visibility Limits of VizLite™ 310 CP fabrics

There are various uncontrollable environmental factors that will affect visibility; these include smoke, hail, snow, mist, dust, and fog. Fog, smoke, mist, and dust can all affect the dispersal of light from headlights and retro reflective performance.

Important notice to Purchaser / Converter / Wearer

Because of the unlimited variety of potential applications for products, BEFORE product use the converter and/ or product manufacturer must determine that the products are suitable for the intended use and are compatible with other component materials. The Purchaser is solely responsible for determining the proper amount and placement of products. While reflective products enhance visibility, no reflective product can ensure visibility on safety under all possible conditions. Neither Viz Reflectives or any Viz Reflectives authorised converter shall be liable for any incidental, special or consequential damages relating to the use or inability to use the products regardless of legal theory used.