

## Technical Sheet

# YSL VizLite™ 306

## Flame Retardant Fluorescent Yellow / Silver Reflective Material



### Product Information

YSL VizLite™ 306 Flame Retardant Fluorescent Yellow / Silver Reflective Material is intended for use on Flame retardant PPE clothing such as High Visibility Warning clothing and Fire Fighting clothing to enhance visibility in low light and night time conditions and to meet the requirement for heat resistance.

### Design Features

YSL VizLite™ 306 Flame Retardant Fluorescent Yellow / Silver Reflective Material is constructed as follows:

Silver reflective element - a layer of microscopic glass beads bonded onto a polymer substrate applied to the centre of the Fluorescent yellow flame retardant Aramid (Nomex™™) backing.

Fluorescent yellow element – contains a bonded layer of microscopic clear resin, to give excellent wash capability and flame retardation.

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

### Product Performance and Certification

This product is certified by SATRA and Bureau Veritas CP in the United Kingdom to EN471:2003 (High Visibility Clothing) and ANSI/ISEA 107 (High Visibility Safety Apparel) performance levels and EN469:2005 Protective Clothing for Fire Fighters. However the following should be noted:

YSL VizLite™ 306 Flame Retardant Fluorescent Yellow/ Silver Reflective Material is not for use on EN471 High Visibility Garments as the silver reflective component is not 50mm as required by the standard.

If this material is to be used on ANSI 107:2004 garments the reflective element must be a minimum of 25mm wide for class 1. a minimum of 35 mm wide for class 2 and a minimum 50 mm for class 3.

### Performance Levels

#### EN471:2003 and ANSI/ISEA 107-2004 (High Visibility Warning Clothing)

YSL VizLite™ 306 Flame Retardant Fluorescent Yellow / Silver Reflective Material -

- The central silver reflective element meets and exceeds the levels of brightness required under EN 471:2003 and ANSI 107-2004 (Level 2) when new and after test exposure (EN 471:2003 clause 6.2) and Clause 8 of ANSI 107:2004
- The central silver reflective element meets and exceeds the levels of brightness required under EN 471:2003 and ANSI 107-2004 (Level 2) after 50 domestic wash cycles at 60°C, 30 domestic wash cycles at 90 °C, 10 Industrial Wash (ISO 15797:2002 Drying procedure A), 30 Dry clean cycles
- The Fluorescent Yellow element meets the requirements for new background material for chromaticity and minimum luminance (EN 471:2003 + A1:2007 Clause 5.1 ) after Xenon test (5.2) and after exposure to heat 180° C for 5 minutes
- The central silver reflective element measures 1.9cm for 5 cm wide material and 2.5cm for 7.5cm wide material
- YSL VizLite™ 306 Fabric Is non-orientation sensitive



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### Performance Levels EN469:2005 Protective Clothing for Fire Fighters.

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- Meets the requirements for limited flame spread for new material and after 50 wash cycles at 60°C annex B.3.1.
- Meets the minimum performance for Heat Resistance (180°C for 5 mins) annex B.3.1 after 50 wash cycles at 60°C
- The central silver reflective element meets and exceeds the minimum retro reflective performance requirements of EN469:2005 annex B.3.1. after 50 wash cycles at 60°C
- The central silver reflective element meets and exceeds the minimum retro reflective performance after Heat exposure (180°C for 5 mins) annex B.3.1.
- The VizLite™ 306 Fabric meets and exceeds the requirements of NFPA 1971: 2007 for Heat resistance after washing—260°C for 5 mins ) after 50 wash cycles at 60°C

### Product Application

Retro-Reflective warning garments are mainly used in environments where the wearer is working alongside vehicles. These garments improve visibility of the wearer and thus reduce the risk of being struck by a vehicle e.g. highways, railway lines, airports, warehouses, dockyards.

YSL VizLite™ 306 Fabric is recommended when these garments also require flame and heat resistance e.g. Fire fighting clothing, turn out gear, jackets, trousers, coveralls, waistcoats, uniforms and flame resistant PPE. It is also suitable for use on accessories such as armbands, belts, gloves etc

### Sewing

- YSL VizLite™ 306 Fabric can be applied direct to fabric panels before a garment is sewn together.
- Stitching should be at a distance of 3mm from the edge of reflective material to reduce fraying.
- Where separate pieces of YSL VizLite™ 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/m<sup>2</sup> needle size NM80 -90 is recommended. For substrates greater than 250g/m<sup>2</sup> 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 2-3mm above the width of the reflective fabric. This will decrease the chance of Puckering



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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.
- YSL VizLite™ 306 fabric should be stored in an area that is cool, dry and with low humidity.
- Precautions should be taken to protect the material from coming into contact with perspiration, strong acids, or compounds containing high levels of sulphur or chlorine. Contamination by these substances may affect the aesthetic appearance of the YSL VizLite™ 306 fabric.
- During Transportation and Shipping it is best to keep an ambient condition.

### Handling

- YSL VizLite™ 306 fabric should be handled carefully in hot and humid conditions.
- The area in which the materials are handled may need the use 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

YSL VizLite™ 306 fabric is designed to be washed at 60° C in a Domestic wash, up to a maximum 50 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

- YSL VizLite™ 306 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 alkalis immediately with plenty of clean water.
- Dispose any material that comes into contact with 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

- The YSL VizLite™ 306 material is suitable for Industrial laundry methods up to a maximum 10 cycles.
- The YSL VizLite™ 306 material is suitable for dry cleaning up to a maximum of 30 times before retro-reflectivity values are affected.

### Drying

- Line drying is the preferred method of drying.
- Do not dry in conditions exceeding 75° C.



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### Maintenance issues

The YSL VizLite™ 306 fabric 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.

High Visibility Warning clothes should be inspected regularly and maintained in good condition. Any signs of wear and tear may affect the performance of the garment in relation to EN 471 or ANSI/ISA.

### Product Disposal

The YSL VizLite™ 306 fabric can be disposed of on the garment. The product can be incinerated in a commercial or industrial facility or sent to a landfill site.

### General Safety Information

#### Visibility Limits of YSL VizLite™ 306 fabric

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.

The YSL VizLite™ 306 fabric is tested for performance during exposure to rainfall, and exceeds the requirements of EN 471 and ANSI/ISA. Brightness levels will return after the material dries out.

The retro-reflective qualities can also be diminished by the wearer depending on issues such as the line of sight, other equipment and obstacles in the working environment, and not wearing the garment fastened. The wearer should be aware of these limitations and take the necessary action.

### 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.



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