



### VizLite® Tapes Summary of Certification and Standards



NFPA 1977 NFPA 2112 NFPA 1971

### NFPA 1971:2013: Standard on Protective Ensemble for Structural Fire Fighting

NFPA 1971 covers the design, labelling, testing and performance requirements, and user instructions for protective ensembles used in structural fire fighting applications.

### NFPA 1977:2016: Standard on Protective Clothing and Equipment for Wildland Fire Fighting

NFPA 1977 covers the design, labelling, testing and performance requirements, and user instructions for protective clothing and equipment used in wildland fire fighting applications.

### NFPA 2112:2012: Standard on Flame-Resistant Garments for Protection of Industrial Personnel against Flash Fire

NFPA 2112 outlines the design, testing, and performance requirements for garments used by industrial personnel for flash fire or short-duration thermal exposure hazards.



EN 61482-1-1 EN 61482-1-2 ASTM F1959

#### **ARC CERTIFICATION**

#### IEC 61482-2 / EN 61482-1-1 Open Arc and/or IEC 61482-1-2 (box method)

IEC 61482-2 is the European equivalent to ASTM F1506 for the thermal hazards of an arc flash. The standard includes requirements for material testing and additional information for garments constructed from compliant materials. This is required for selling garments for arc flash protection in the EU.

#### IEC 61482-1-1: 2009 Method A

These arc flash tests determine the Arc Rating (ATPV or EBT) of a fabric or a multi-layer combination of fabrics. Prior to testing, samples are laundered five times using ISO Method 6330. For compliance with IEC 61482-2 and to obtain CE Marking, both fabrics and garments must be arc tested. IEC 61482-1-1 Method A is identical to ASTM F1959, with the exception of different laundry preconditioning requirements.

### ASTM F1959- Arc rating per F1506 Woven, Knits or Non-woven: Standard Test Method for Determining the Arc Rating of Materials for Clothing

The Arc Flash Testing for Rain wear and Laminated Fabric determines the Arc Rating (ATPV and Ebt) of rain wear or laminated fabric. Before testing, samples are laundered three times and dried once in accordance with AATCC TM 135.



ANSI 107 EN ISO 20471

#### EN ISO 20471:2013: High Visibility Clothing

The European standard which determines performance for retro-reflective materials used in high visibility clothing

### ANSI/ISEA 107-2015: American National Standard for High Visibility Safety Apparel and Accessories

ANSI/ISEA 107 provides design requirements and minimum performance criteria for high visibility apparel used by end users in low visibility work environments such a construction workers, first responders, and utility workers.



BS EN 469: 2005: Protective clothing for firefighters. Performance requirements for protective clothing for fire fighting.

EN ISO 14116:2008: Protective clothing. Protection against flame. Limited flame spread materials, material assemblies and clothing.

EN 469 EN ISO 14116 EN ISO 11611 EN ISO 11612 EN ISO 11611:2015: Protective clothing for use in welding and allied processes.

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





The STANDARD 100 by OEKO-TEX® is a worldwide consistent, independent testing and certification system for raw, semi-finished, and finished textile products at all processing levels, as well as accessory materials used. Only the products where all components comply with the strict specification and contain no concentrates of harmful substances which are detrimental to health can carry the Oeko-Tex label.

## 200

#### ECONOMY - FIRST QUALITY REFLECTIVE MATERIAL

YSL⊜ VizLite® 200 is a poly/cotton based reflective material that is a cost effective solution for commodity garments such as high visibility vests and trousers. It meets and exceeds all the requirements for EN20471:2013 & ANSI 107:2010 with a good wash performance. Conforms to Oeko-Tex® standard 100 product class I and meets the human-ecological requirements of that standard.

A cost effective solution, ideal for Traffic Management and Construction high visibility garments.



ANSI 107 EN ISO 20471







**201** 

#### PREMIUM - SUPERIOR PERFORMANCE REFLECTIVE MATERIAL

YSL⊜ VizLite® 201 is specifically constructed to look brighter and offers our highest levels of reflectivity. It exceeds all of the legal requirements of EN20471:2013

& ANSI 107:2010. Conforms to Oeko-Tex® standard 100 product class I and meets the human–ecological requirements of that standard.

• Ideal for premium high visibility garments where looks are as important as performance and only the best will do.



ANSI 107 EN ISO 204







**205IW** 

#### REFLECTIVE MATERIAL FOR INDUSTRIAL WASH

YSL⊜ VizLite® 205 IW offers all of the reflectivity performance, with added benefit of being our toughest performer when it comes to washing. Exceeds all of the legal requirements of EN471:2013 & ANSI 107:2010. Conforms to Oeko-Tex® standard 100 product class I and human–ecological requirements of that standard.

• Ideal for garments that are expected to undergo industrial washing.



ANSI 107







## **201HE**

#### ELASTIC APPLICATION-REFLECTIVE MATERIAL

YSL⊜ VizLite® 201HE is a heat applied premium reflective film which has a light silver appearance making it ideal for all types of EN ISO 20471 and ANSI 107:2010 garments. It is applied to either a finished garment or cut panels using a heat press. Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard.

• Ideal for next to skin garments and waterproof garments that are constructed from heat sensitive fabrics such as elasticised fabrics.



EN ISO 20471







heat applied

### **201HA**

#### REGULAR TEMPERATURE-REFLECTIVE MATERIAL

YSL SVizLite® 201HA is specifically constructed to look brighter and offers our highest levels of reflectivity. It exceeds all of the legal requirements of EN471:2013 & ANSI 107:2010. Conforms to Oeko-Tex®standard 100 product class I and meets the human-ecological requirements of that standard.

• Ideal for premium high visibility garments where looks are as important as performance and only the best will do.







# **205H**

#### INDUSTRIAL WASH-HIGH REFLECTIVE MATERIALS

YSL VizLite® 205H is a heat applied premium reflective tape which is suitable for garments that require reflective tape that complies to EN ISO 20471:2013 and ANSI 107: 2010 standard. It is applied to either finished garments or cut panels using a heat press. Conforms to Oeko-Tex® standard 100 product class I and meets the human-ecological requirements of that standard.

• Ideal for high visibility garments for use in industrial electrical, power generation or petrochemicals environment, railway etc. Rental garments that require industrial laundry.



ANSI 107 EN ISO 20471









# **201HA/CUT**

SEGMENTED CUT DESIGN - REFLECTIVE MATERIAL

YSL⊜ VizLite® 201 HA / CUT meets and exceed the standards for EN ISO 20471:2013 and ANSI 107:2010. It can be heat applied to garments or cut panels using a heat press. Conforms to Oeko-Tex® standard 100 product class I and meets the human-ecological requirements of that standard.

Ideal for garments that are worn next to skin and need some degree of flexibility and remain breathable such as polo shirts, T-shirts and soft shell jackets.



ANSI 107





# 201HFR/CUT

SEGMENTED CUT DESIGN - REFLECTIVE MATERIAL

YSL⊜ VizLite® 201HFR /CUT is a heat applied premium reflective tape which is suitable for EN469:2007 Fire Retardant garments that require reflective tape that complies to EN ISO 20471:2013 and ANSI 107: 2010 standard. It is applied to either finished garments or cut panels using a heat press. Conforms to Oeko-Tex® standard 100 product class I and meets the human–ecological requirements of that standard.

Ideal for fire retardant waterproof garments such as rain jackets and over trousers for welding and petrochemical industries.



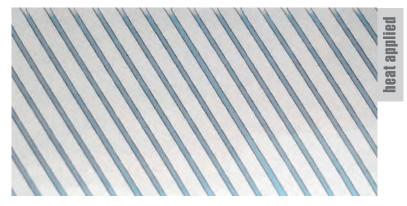
EN 469 ANS



ANSI 107 EN ISO 20471







## **205H/CUT**

SEGMENTED CUT DESIGN - REFLECTIVE MATERIAL

YSL© VizLite® 205H/CUT is a heat applied premium reflective tape which is suitable for garments that require reflective tape that complies to EN ISO 20471 20471:2013 and ANSI 107: 2010 standard. It is applied to either finished garments or cut panels using a heat press. Conforms to Oeko-Tex® standard 100 product class I and meets the human-ecological requirements of that standard.

Ideal for high visibility garments for use in industrial electrical, power generation or petrochemicals environment, railway etc. Rental garments that require industrial laundry.



ANSI 107 EN ISO 2047









## **201HFR**

#### FIRE RETARDANT - REFLECTIVE MATERIAL

YSL© VizLite® 201HFR is a heat applied premium reflective tape which is suitable for EN469:2007 Fire Retardant garments that require reflective tape that complies to EN ISO 20471:2013 and ANSI 107: 2010 standard. It is applied to either finished garments or cut panels using a heat press. Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard.

Ideal for fire retardant waterproof garments such as rain jackets and over trousers for welding and petrochemical industries.





EN 469 ANSI 107 EN ISO 14116 EN ISO 20471 EN ISO 11611







### **301IW**

#### FIRE RETARDANT FOR INDUSTRIAL WASH

YSL⊜ VizLite® 301 IW is a fire retardant reflective material making it ideal for garments used on EN469:2007 and NFPA certified FR garments. It meets and exceeds the reflective requirements of EN ISO 20471:2013 and ANSI 107:2010, also can be industrial laundered which makes it suitable for rental garments. It has a 100% cotton FR treated backing. Conforms to Oeko-Tex® standard 100 product class II and meets the human–ecological requirements of that standard.

• Ideal for highvisibility garments for use in industrial electrical, power generation or petrochemicals environment, railway etc. Rental garments that require industrial laundry.



NFPA 1977

NFPA 2112





EN 469 ANSI 107 EN ISO 14116 EN ISO 20471 EN ISO 11611







302

#### FIRE RETARDANT FOR INDUSTRIAL WASH

YSL⊜ VizLite® 302 is an inherent fire retardant reflective material making it ideal for garments used on FR garments and Fire Fighters clothing. This product meets and exceeds the reflective requirements for EN ISO 20471:2013 and ANSI 107:2010. It has a high performance in laundry. The product has an Aramid backing. Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard.

Ideal for industrial laundry rental garments for the garments certified EN469:2007 and NFPA standards such as Fire Fighter turnout gear.



NFPA 2112



EN 469 ANSI 107 EN ISO 14116 EN ISO 20471







# 305

#### FIRE RETARDANT TRIPLE TRIM



NFPA 1971





EN ISO 11611

EN ISO 14116 EN ISO 20471





YSL VizLite® 305 Flame Retardant Fluorescent Yellow / Silver Reflective Material is constructed of a silver reflective element applied to the centre of the Fluorescent yellow flame retardant backing. The central silver element meets and exceeds the reflective requirements and the Fluorescent Yellow element meets the requirements for chromaticity of both ISO 20471: 2003 and ANSI 107:2010. It Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard.

• Ideal for fire fighting garments that are certified to EN469:2007 and NFPA standards.

## 306

#### FIRE RETARDANT TRIPLE TRIM FOR INDUSTRIAL WASH

YSL VizLite® 306 Flame Retardant Fluorescent Yellow / Silver Reflective Material is constructed of a silver reflective element applied to the centre of the Fluorescent yellow flame retardant Aramid backing. The central silver element meets and exceeds the reflective requirements and the Fluorescent Yellow element meets the requirements for chromaticity of both ISO 20471: 2013 and ANSI 107:2010. Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard.

♠ Ideal for fire fighting garments that are certified to EN469:2007 and NFPA standards that require industrial laundry.







NFPA 2112

EN ISO 14116 EN ISO 20471 EN ISO 11611 EN ISO 11612







retardant

310

#### FIRE RETARDANT REFLECTIVE YELLOW / ORANGE

YSL State 10 Certified EN 469:2007. The fabric is constructed of a layer of microscopic clearglass beads bonded onto a 100% cotton backing with Proban teatment. YSL⊜ VizLite® 310 reflective, flame retardant tape is recommended for use on garments that require flame and heat resistance such as fire fighting clothing. Conforms to Oeko-Tex® standard 100 product class II and meets thehuman-ecological requirements of that standard.

• Ideal to be used on flame resistance garments.







## 305K

#### PERFORATED FIRE RETARDANT TRIPLE TRIM



NFPA 2112

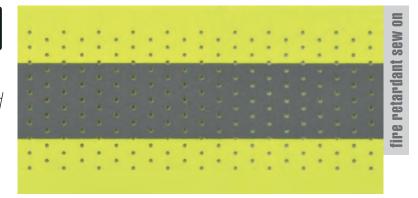
NFPA 1971



EN ISO 11611

EN ISO 14116 EN ISO 20471





constructed of a silver reflective element applied to the centre of the Fluorescent yellow flame retardant backing. The central silver element meets and exceeds the reflective requirements and the Fluorescent Yellow element meets the requirements for chromaticity of both ISO 20471: 2003 and ANSI 107:2010. It Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard. It is a perforated fabric with some degree of flexibility and remains breathable.

YSL VizLite® 305K Perforated Flame Retardant Fluorescent Yellow / Silver Reflective Material is

• Ideal for fire fighting garments that are certified to EN469:2007 and NFPA standards.

## 306K

#### PERFORATED FIRE RETARDANT FOR INDUSTRIAL WASH

YSL VizLite® 306 K Flame Retardant Fluorescent Yellow / Silver Reflective Material is constructed of a silver reflective element applied to the centre of the Fluorescent vellow flame retardant Aramid backing. The central silver element meets and exceeds the reflective requirements and the Fluorescent Yellow element meets the requirements for chromaticity of both ISO 20471: 2013 and ANSI 107: 2010. Conforms to Oeko-Tex® standard 100 product class II and meets thehuman-ecological requirements of that standard. It is a perforated fabric with some degree of flexibility and remains breathable.

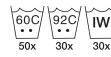
• Ideal for fire fighting garments that are certified to EN469:2007 and NFPA standards that require industrial laundry.



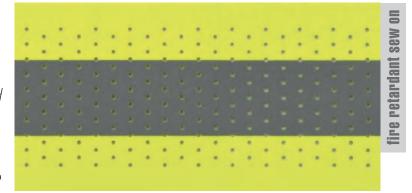
NFPA 2112



EN ISO 14116 EN ISO 20471 EN ISO 11611 EN ISO 11612







### 310CP

#### FIRE RETARDANT REFLECTIVE YELLOW

YSL VizLite® 310CP is a yellow reflective fire retardant material that meets and exceeds the requirements for combined performance for EN ISO 20471 and the protective clothing for Firefighting requirements of EN469:2007 and EN ISO 14116:2015. Conforms to Oeko-Tex® standard 100 product class II and meets the human-ecological requirements of that standard.

• Ideal for FR garments that require a combined performance fabric such as welding trousers and coveralls that protect against hot metal, sparks and open flame.





EN ISO 14116 EN ISO 20471 EN ISO 11611 EN ISO 11612







# PT601/602

PRISMATIC REFLECTIVE VINYL

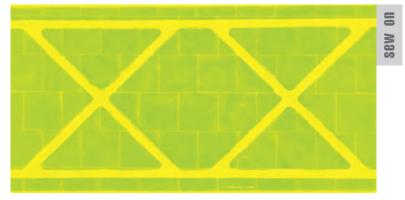
Micro Prismatic vinyl reflective sew on tape certified EN ISO 20471:2013 class2

It makes the wearer highly visible in nighttime, since highly retroreflective micro prisms are formed on flexible, UV-stabilized polymeric film. Colors available: white, fluorescent lime.

(1) Ideal for high visibility garments where looks are as important as performance







# 080/081

REFLECTIVE TWIN TRIM

YSL ⊕ VizLite® 080/081 is a twin trim tape consisting of a combination of two separate materials. A substrate layer, 50mm wide woven 100% polyester with PU coating on reverse and a reflective layer, 20mm wide heat applied reflective material.

(A) Ideal for using on armbands.





091

#### COLOURED REFLECTIVE STITCH-ON TAPE

YSL ® VizLite 091 is intended for non-compliant safety garments and for fashion clothing and sportswear where a reflective effect is required. The reflected light is white, regardless of the colour of the tape. The substrate layer is 70% Polyester and 30% cotton. Available colours: white, yellow, orange and black.

• Ideal for use on non-compliant garments.





# 301P

#### FLAME RETARDANT REFLECTIVE PIPING







77 EN 469 ANSI 12 EN ISO 14116 EN ISO : 71 EN ISO 11611

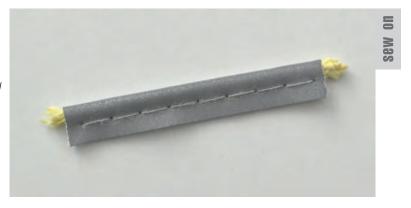




YSL ⊜ VizLite 301P is constructed with a 3 mm diam. aramid core and 20 mm reflective flame-retardant 301 tape. It is certified EN 469 and EN ISO 20471, making it suitable for flame retardant clothing. The finish effect creates a point of difference to your design.

① Ideal for using on garments made with FR treated cotton and aramid fibres.





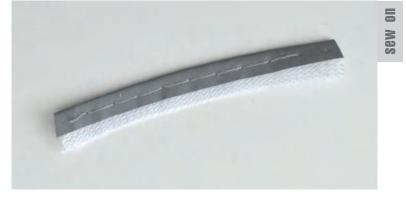
# 801P

PIPING 1.3 x 2.5 cm GREY COLOUR

**YSL VizLite 801P** Piping can be easily incorporated into a design; the finished effect gives a dimension of reflectivity and creates a point of difference to your design, be it clothing, bags or accessories. 801 corded piping is constructed with YSL VizLite 801 reflective tapes.

• Ideal to be incorporated in jackets





## 800

#### TRANSFER FILM

**YSL**  $\oplus$  **VizLite 800** is a semi-finished product composed of non-metallised high-reflectance glass microspheres. The microspheres adhere and are transported on a film or a support in PET / PE. The VizLite 800 transfer film is widely used in the production of reflective thermo-adhesives in different colours, in logos and in the lamination on surfaces of different compositions,

• Ideal for the production of transfer films in different colours.

such as rubber, synthetic leather and fabrics.





the new silver



#### **AUTHORISED DEALER FOR EUROPE**

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