



Scotchlite™

Reflective Material

8986 Fluorescent red-orange Flame Resistant Fabric

8987 Fluorescent lime-yellow Flame Resistant Fabric

Technical Data Sheet

August 1998

Description

3M™ Scotchlite™ Reflective Material - 8986 Fluorescent red-orange Flame Resistant Fabric and 3M™ Scotchlite™ Reflective Material - 8987 Fluorescent lime-yellow Flame Resistant Fabric consist of exposed, wide angle retroreflective lenses bonded to a durable flame-resistant backing (94% polyester, 6% nylon tricot knit).

Retroreflective Performance

The coefficient of retroreflection (R_A) is measured by methods traceable to either of the following retroreflective intensity testing procedures:

- ASTM E809 and E810 (R_A)
- CIE 54: 1982 (R')

The R_A values were measured at the listed specific entrance and observation angles.

Entrance angle	Observation angle	Typical R_A	Minimum R_A
-4.0°	0.2°	175	138

Color

Product Number	Daytime Color	Reflected Color
8986	Fluorescent red-orange	White
8987	Fluorescent lime-yellow	White

Physical Performance

Scotchlite reflective material - 8986 fluorescent red-orange flame resistant fabric and Scotchlite reflective material - 8987 fluorescent lime-yellow flame resistant fabric meet the following performance tests:

Fluorescence: NFPA 1971 Standard, 1997 Edition: sections 6-46, 5-1.22

Flame Resistance: Federal Test Method Standard 191A, Method 5903.1: 6" char length, 2 second after flame

Wet Reflectivity: NFPA 1971 Standard, 1997 Edition: sections 6-46 (per EN 471 Annex A), 5-1.22

Performance

While use of 3M™ Scotchlite™ Reflective Material enhances visibility, no reflective material can guarantee absolute visibility, particularly in adverse weather conditions. Performance will vary depending upon actual use, exposure conditions and maintenance. Users should test reflective material to satisfy conformance to their own requirements.

Application Instructions

Whenever two or more pieces of Scotchlite reflective material - 8986 fluorescent red-orange flame resistant fabric or Scotchlite reflective material - 8987 fluorescent lime-yellow flame resistant fabric are

used together on a single surface or as a set, they should be matched to ensure uniform daytime color and nighttime or low-light reflectivity. Recommended for application on medium to heavy weight fabrics. Do not apply to stretchable materials.

Cutting: Hand-cut, die-cut or guillotine.

Sewing: Sew in place using a lockstitch with no more than 12 stitches per inch (2.54 cm), and not less than 5/64" (2 mm) from the edge of the reflective fabric. Use appropriate thread for flame resistant applications.

Care and Maintenance Instructions

Important: Test each application according to appropriate care instructions required for the finished product. Actual life of 3M™ Scotchlite™ Reflective Material - 8986 Fluorescent red-orange Flame Resistant Fabric and 3M™ Scotchlite™ Reflective Material - 8987 Fluorescent lime-yellow Flame Resistant Fabric depends on cleaning method and wear conditions.

Do not presoak

Wash: Machine wash warm, 40°C (105°F)



Bleach: Do not bleach



Dry: Tumble dry low. On fire garments: hang to air



dry, away from direct sunlight.

Iron: Use cool iron, 110°C (230°F)



Dry-clean: Dry-clean, Perchloroethylene



Product Availability

Scotchlite reflective material - 8986 fluorescent red-orange flame resistant fabric and Scotchlite reflective material - 8987 fluorescent lime-yellow flame resistant fabric are available in rolls with the following standard widths and roll lengths:

Units	Width	Width Tolerance	Standard Roll Length
inches	<6"	± 1/32"	100 yd.
inches	6" ≤ w < 36" ≥ 36"	0" to + 1/8" + 1/8" to + 1/4"	100 yd. (> 12" = 50 yd.)
mm	< 150 mm	± 1 mm (std) ± .5 mm (special)	100 m
mm	150 mm ≤ w < 900 mm ≥ 900	0 mm to + 4 mm + 3 mm to + 7 mm	100 m (> 300 mm = 50 m)

Order and Product Information

To order 3M™ Scotchlite™ Reflective Material Products contact 3M Personal Safety Products Department Customer Service at 800-328-7098 Ext. 2.

Storage and Shelf Life

Store in a cool, dry area and use within two years after date of receipt. Store rolls in their original shipping cartons. Return partially used rolls to the carton or suspend horizontally through the core. Cut sheets should be stored flat.

Important Notice to Purchaser:

3M makes the following limited warranty in place of any others, express or implied, including any implied warranties of MERCHANTABILITY or fitness for a particular purpose or any implied warranty commonly found in the industry: 3M shall replace or, at its option, refund the price paid for any 3M™ Scotchlite™ Reflective Material or other 3M reflective products (“Products”) which at the time of shipment to 3M’s purchaser do not meet 3M’s published Product specifications.

Because of the unlimited variety of potential applications for Products, BEFORE production use, the converter or end product manufacturer must determine that the Products are suitable for the intended use and are compatible with other component materials. Purchaser is solely responsible for determining the proper amount and placement of Products. While reflective Products enhance visibility, no reflective product can ensure visibility or safety under all possible conditions. **Neither 3M nor any 3M authorized 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 asserted.**



**Personal Safety Products Department
3M Safety and Security Systems Division**

3M Center, Building 225-4N-14
St. Paul, MN 55144-1000
800-328-7098 Ext. 2

3M Canada

PO Box 5757
London, Ontario, Canada N6A 4T1
800-364-3577

3M Mexico

Avenida Santa Fe #55
Col.Santa Fe, CP01210
Delegacion Alvaro Obregon
Telephone: 270-21-62
Fax: 270-22-94



10% post-consumer waste paper
Printed in the USA.
© 3M 1998 75-0500-1160-2