



Technical Data Sheet

Scotchlite™

Reflective Material

SOLAS Grade 6750I

Technical Data Sheet

May 2000

Description

3M™ Scotchlite™ Reflective Material - SOLAS (Safety of Life at Sea) Grade 6750I is intended for reflectorizing SOLAS life support equipment such as life vests, jackets, or other fabrics. It conforms to Marine Equipment Directive 96/98/EC and International Maritime Organization resolution. It is approved by the U.S. Coast Guard to meet 46CFR Part 164, Subpart 164.018 for Type I and Type II retroreflective material used to enhance nighttime visibility of life-saving equipment. It is specifically intended for application to flexible coated fabrics by means of sewing. Scotchlite reflective material - SOLAS grade 6750I is a silver, flexible high intensity reflective material with a sewable backing. It has an encapsulated lens optical design for high retroreflectivity over a wide range of entrance angles, whether dry or wet.

Scotchlite reflective material - SOLAS grade 6750I has a SOLAS I print and a European mark of conformance, which consists of a ship's wheel and a certification number.

Retroreflective Performance

The values in the following table are the minimum coefficients of retroreflection (R_A) determined as the average of readings taken as the material is rotated about its reference axis. The coefficient of retroreflection is measured in accordance with CIE Publication No. 54 (TC-2.3), 1982, using CIE Standard Illuminant A. The entrance and observation angles are in the same plane. Scotchlite reflective material - SOLAS grade series 6750I maintains at least 90% of the table values when totally wet.

Entrance Angle ¹	Observation Angle ²				
	0.1	0.2	0.5	1.0	2.0
β_1 ($\beta_2=0$)	0.1	0.2	0.5	1.0	2.0
5	180	175	72	14	2.5
30	140	135	70	12	2.0
45	85	85	48	9.4	1.0

¹Entrance (Incidence) Angle: The angle from the illumination axis to the reference axis. The reference axis is an axis perpendicular to the retroreflective surface

²Observation (Divergence) Angle: The angle between the illumination axis and the observation axis.

Performance

The durability of Scotchlite reflective material - SOLAS grade 6750I will depend upon actual use, exposure conditions, and maintenance. Maximum durability can be obtained when sewn onto life-saving equipment substrates in accordance with recommended application procedures and not subjected to continuous exterior exposure. Reduction in durability will occur where the usage requirements are particularly severe, such as work life jackets and rubber rafts that are used to maintain harbor facilities, coastal waterways and industrial equipment in the water or on docks; life-saving appliances with continuous outdoor exposure; heavy wear and tear; and chemical exposure and washing. Scotchlite reflective material - SOLAS grade 6750I should be inspected on a regular basis to ensure adequate reflectivity and adhesion to the substrate.

Application Instructions

1. Hand cut or die-cut reflective material to desired size. Use sharp dies made of steel or magnesium.
2. Sew in place at least 2mm (5/64") from the edge of the reflective material.

Thread: #69 nylon – Quality Thread & Notions
1-800-521-4308

Stitch: 3/16" (4.75mm) lockstitch, 7-9 stitches/inch.

Note: Do not attach to highly elastic materials.

Process Colors

3M™ Scotchlite™ Reflective Material - SOLAS Grade 6750I material may be screen processed with 3M™ Scotchlite™ Process Colors Series 700 or 900.

Care and Maintenance Instructions

Wash by hand with a sponge or soft cloth using warm water and detergent. Rinse thoroughly. Remove oil and tar with a mild solvent, such as VM & P Naphtha or mineral spirits, followed by warm water and detergent. Rinse thoroughly. Do not machine wash or dry-clean.

Important Notice to Purchaser:

Except where prohibited by law, 3M makes the following limited warranty in place of any others, express or implied, including any implied warranties or conditions of MERCHANTABILITY or fitness for a particular purpose or any implied warranty or condition commonly found in the industry: 3M shall replace or, at its option, refund the price paid to 3M 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 User (which may be a converter or end product manufacturer or others) must determine that the Products are suitable for the intended use and are compatible with other component materials. User 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. **3M shall not be liable in contract or in tort, for any indirect, incidental, special, or consequential damages (including, without limitation, lost profits, goodwill and business opportunity) relating to the use or inability to use the Products.**



Personal Safety Products Department 3M Safety and Security Systems Division

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3M Canada

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800-364-3577

Health and Safety Information

Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet, and/or product label of chemicals prior to handling or use.

Order and Product Information

To order 3M™ Scotchlite™ Reflective Material Products, contact the 3M Personal Safety Products Department Customer Service at 1-800-328-7098, Ext. 2.

Storage and Shelf Life

Store in a cool, dry area and use within one year from date of receipt.

3M Mexico

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