

Technical Bulletin

3M™ Scotchlite™ Reflective Material

Topic:

Care guidelines to reduce staining of 3M™ Scotchlite™ Reflective Material

Background:

This technical bulletin is for global distribution in recognition of the expanding global manufacturing sites of garment and footwear products utilizing Scotchlite reflective material. Please note that marks caused by abrasion, picking, poor stripping of the paper liner, dirt, or oils are not addressed here.

Stains on the surface of reflective material can appear on garments assembled or stored in hot and humid environments. Stains can appear on any exposed silver glass bead material. 3M testing has shown that these stains are caused by the corrosion of the aluminum *between* the glass beads. While this process can cause cosmetic imperfections on the garment surface, the aluminum *behind* the glass beads does not corrode and the reflective performance of the material is not affected.

This type of staining may occur when contaminants come in contact with the reflective surface during the application process and the finished garment is subsequently stored in hot and humid conditions.

The likely sources of contaminants, among others, include:

1. Perspiration, salt water or other chlorine containing compounds.
2. Strong acids or bases (low pH solutions or high alkaline/caustic solutions); or
3. Sulfur containing compounds.

Staining does not indicate that the product is defective.

Care Guidelines:

Care guidelines for handling Scotchlite reflective material in hot and humid environments*

If the reflective surface is affected when used in your application, we make the following recommendations to reduce the possibility of staining:

1. Use air conditioning to cool and dehumidify the manufacturing and storage areas.
2. Do not allow perspiration, sewing machine oils, or other contaminants to contact the reflective surface. All workers handling the exposed reflective material surface should wear gloves. Check that the fabric's additives will not stain the reflective surface.
3. For transfer films, leave the paper liner on the product until the final inspection step. Careful handling must be done to ensure that the paper liner does not fold or otherwise separate from the reflective surface. If this happens, a mark may be left on the reflective surface.

4. For step #3, 3M™ Scotchlite™ Reflective Material – 5807 Custom Cuttable Transfer Film uses a polyester adhesive liner that can be left on during manufacturing without the concern of a mark being left behind.
5. Cover the reflective surface to prevent handling during the manufacturing step. This may be a plastic film or pre-masking tape, depending up the converted part.
6. Ship and store the finished materials in sealed bags with a desiccant.

Recommended Product Choices for Specific Manufacturing Environments:

If the care guidelines are not practical in your situation, we recommend the following 3M™ Scotchlite™ Reflective Material for converting in specific environments:

3M™ Scotchlite™ Reflective Material		
Product Category	Low Humidity<70% RH	High Heat & Humidity>70% RH
Transfer Film	5510, 8710, 8711, 8712, 8725, 8726, 8730	8726
Industrial Wash Performance	5530, 9720, 9740, 9910, 9920	5530, 9720, 9740, 9920
Home Wash Fabrics	8910, 8912, 8925	
Pressure Sensitive Adhesive	8830, 8850	
Prismatic	All High Gloss	All High Gloss
Fire Products	8735, 8935, 8940, 9740	9740

*Stains may appear more often in hot and humid environments.

Important Notice

WARRANTY, LIMITED REMEDY AND DISCLAIMER: 3M warrants that 3M™ Scotchlite™ Reflective Material that is stored, maintained and used in accordance with 3M's written instructions will meet the applicable 3M product specifications. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If any Scotchlite reflective material does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

LIMITATION OF LIABILITY: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract or strict liability.

PRODUCT USE: Because of the variety of factors that can affect the use and performance of Scotchlite reflective material, user is solely responsible for evaluating the product and determining whether it is fit for a particular purpose and suitable for user's method of application. User is solely responsible for determining the proper amount and placement of the product. While reflective products enhance visibility, no reflective product can ensure visibility or safety under all possible conditions. 3M may change the product, specification and availability of the product as improvements are made; therefore, user should contact 3M for latest information before specifying the product.



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