



Scotchlite™

Reflective Material

9920 Silver Industrial Wash Fabric

Technical Data Sheet

April 2001

Description

3M™ Scotchlite™ Reflective Material - 9920 Silver Industrial Wash Fabric is composed of wide angle, exposed retroreflective lenses bonded with a special polymer layer to a durable 100% polyester cloth backing.

Retroreflective Performance

The coefficient of retroreflection (R_A , in cd/lux/m²) is measured by test 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° | 500 | 330 |
| +5.0° | 0.33° | 330 | 250 |

Color

| Product Number | Daytime Color | Reflected Color |
|----------------|---------------|-----------------|
| 9920 | Silver | White |

Physical Performance

Scotchlite reflective material - 9920 silver industrial wash fabric is certified to meet ANSI/ISEA 107-1999 Level 2 retroreflective performance and EN 471 Class 2 retroreflective performance, and will meet or exceed the following specifications:

- Retroreflectivity:ANSI/ISEA 107-1999
(Initial) Level 2 (Table 5)
EN 471 Class 2 (Table 5)
- Abrasion:EN 530 Method 2
($R_A \geq 100$)¹ 5000 cycles
- Flexing:ISO 7854 Method A
($R_A \geq 100$)¹ 7500 cycles
- Cold Fold:ISO 4675 (-20°C)
($R_A \geq 100$)¹
- Temperature Cycle: . . .12 hours @ (50±2)°C
($R_A \geq 100$)¹ 20 hours @ (-30±2)°C
- Wash:ISO 6330 Method 2A
($R_A \geq 100$)¹ 100 cycles @ 60°C (140°F)
- Industrial Wash:Per product industrial
($R_A \geq 100$)¹ wash guideline using 35# Milnor®, Commercial Program #7 Heavy Soil, (modified using one detergent dose) 40 cycles with Lever Tech® Ultra detergent and Lever Tech® Booster
- Dry-clean:ISO 3175 Method 9.1
($R_A \geq 100$)¹ 50 cycles
- Wet Reflectivity:ANSI/ISEA 107-1999 Annex A
($R_A \geq 100$)¹ EN 471 Annex A

¹ Measured at 0.2° observation angle and 5.0° entrance angle.

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 3M™ Scotchlite™ Reflective Material - 9920 Silver Industrial Wash 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.

Cutting: Die-cutting is recommended, although it can also be hand-cut or guillotined.

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. Thread recommendation: 100% polyester.

Care and Maintenance Instructions

Important: Test each application according to appropriate care instructions required for the finished product. Actual life of Scotchlite reflective material - 9920 silver industrial wash fabric depends on cleaning method and wear conditions. Care label recommendations for home laundering:

Home Wash Guideline

Wash: Machine wash, 60°C (140°F)



Bleach: Only non-chlorine bleach when needed



Dry: Tumble dry low



Iron: Use medium iron, 150°C (300°F)



Dry-clean: Dry-clean, normal cycle



Industrial Wash Guideline – Medium to Heavy Soil

Stain treatment wash processing may reduce the life of Scotchlite reflective material - 9920 silver industrial wash fabric.

Use low- to medium-alkaline, high-surfactant detergents.

Do not use solvenated surfactants.

Do not use chlorine or perborate bleach.

Maximum wash temperature: 75°C (165°F)

Break/suds cycles: Less than 20 minutes total

Tunnel dry: Maximum inlet temperature of 160°C (320°F)

Drying time not to exceed seven minutes

Fabric temperature not to exceed 135°C (275°F)

Tumble dry: Maximum exhaust temperature 90°C (195°F)

Pressing: Do not exceed 150°C (300°F)

Product Availability

3M™ Scotchlite™ Reflective Material - 9920 Silver Industrial Wash Fabric is 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" | 0" to +1/8" | 100 yd. (> 12" = 50 yd.) |
| | ≥ 36" | +1/8" to +1/4" | |
| mm | < 150 mm | ±1 mm (std) ±.5 mm (special) | 100 m |
| mm | 150 mm ≤ w < 900 mm | 0 mm to +4 mm | 100 m (> 300 mm = 50 m) |
| | ≥ 900 mm | +3 mm to +7 mm | |

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 original shipping cartons. Return partially used rolls to carton or suspend horizontally through the core. Cut sheets should be stored flat.

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.**



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75-0500-3137-8