



CHINASTARS

REFLECTIVE MATERIAL

TECHNICAL DATA SHEET

BE SEEN, BE SAFER

CSR-1303-FR20 Flame Resistant Fabric

DESCRIPTION

The reflective part of Chinastars CSR-1303-FR20 flame retardant fabric red-silver-red is composed of micro-glass beads bonded to a 100% FR treated cotton fabric backing. The fluorescent red contrasting part helps to make the material highly visible in daytime.

REFLECTIVE PERFORMANCE

The reflective coefficient (R, in cd/lux/m²) of CSR-1303-FR20 can meet the requirements in international standards like EN ISO 20471, ANSI/ISEA 107, CSA-Z96-15, AS/NZS 1906.

| Observation Angle | Entrance Angle | Minimum Reflectivity | Typical Reflectivity |
|-------------------|----------------|----------------------|----------------------|
| 5° | 12' | 330 | >420 |

WASH PERFORMANCE

| Product No. | Home Wash Cycles ¹ | Dry Cleaning Cycles ² |
|---------------|-------------------------------|----------------------------------|
| CSR-1303-FR20 | >50 | >50 |

¹ISO 6330 Method 2A at 60 °C (140 °F) and $R_A \geq 100$ cd/lux/m² (home wash)

²ISO 3175 Method 8.1 and $R_A \geq 100$ cd/lux/m²

COLOR

| Product No. | Daytime Color |
|---------------|----------------|
| CSR-1303-FR20 | Red-Silver-Red |

RHYSICAL PERFORMANCE

After the following each exposure testing, CS-1303-FR20 R_A values are above 100 cd/lux/m² at +5.0° entrance angle and 0.2° observation angle.

| Physical Performance | Test Method |
|----------------------|--|
| Abrasion | EN 530 Method 2, 5000 cycles |
| Flexing | ISO 7854 Method A, 7500 cycles |
| Cold Fold | ISO 4675, -20°C (-4°F) |
| Temperature Cycle | 12 hours @ 50°C (122°F); 20 hours @ -30°C (-22°F) |
| Wash | ISO 6330 Method 2A @ 60°C (140°F) number of cycles listed |
| Dry-Clean | ISO 3175 Method 9.1 number of cycles listed |
| Wet Reflectivity | ANSI 107-2015 Appendix A; EN 20471:2013 Annex C |
| Flame Resistance | ASTM D6413 char length ≤ 4 inches; after flame <2 seconds |

CERTIFICATION

CSR-1303-FR20 flame resistant reflective fabric meet the requirements in below listed standards for high visibility garments.

| Product No. | EN ISO 20471 ANSI/ISEA 107 CSA-Z96-15 AS/NZS 1906 | EN469 EN ISO 14116 EN ISO 11612 NFPA 701 ASTM F1506 |
|---------------|--|---|
| CSR 1303-FR20 | ✓ | ✓ |

APPLICATION INSTRUCTIONS

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. For best results, apply to light and medium weight fabrics.

Printing: Inks can be printed on the surface of Chinastars reflective fabrics. Before printing, all inks shall be tested to ensure acceptable adhesion. Wipe the surface lightly with a soft cloth dampened with isopropyl alcohol may help ink adhesion.

CARE AND MAINTENANCE INSTRUCTIONS

Actual life of CSR-1303-FR2O fabric trim depends on cleaning method and wear conditions.



Do not presoak
Machine wash warm,
60°C (150°F)



Tumble
dry low



Cool iron, Do
not exceed
150°C (300°F)



Do not bleach

Some suggestions for extending the life of reflective fabric on safety clothing:

1. When do machine wash, you may use a mild detergent, but No Bleach or Fabric Softener!
2. Try to avoid wash the reflective products with your work jeans or any clothing with rough fabric or edges. The microscopic glass beads on the reflective fabric can be worn off by rough texture.
3. Try to line dry your reflective products. If you choose to machine dry, try to remove the product immediately. The added heat can damage the reflective fabric.

HANDLING PRECAUTIONS

Most of our reflective fabric contains aluminum layer, and sweat /oil/ water stains may occur if the surface of the product has direct contact with hands during application and is then exposed to hot and humid conditions. Even though these blemishes won't affect performance of the product, we strongly recommend handling the reflective fabric with gloves and keeping them in the environment of below 26.7 °C (80 °F) and lowering than 70% relative humidity.



HANGZHOU CHINASTARS REFLECTIVE MATERIAL CO., LTD

Office: No.98 Shimin Street, Jianggan District,
Hangzhou, China, 310016
Tel: +86-571-88155512
Fax: +86-571-88156171
Website: www.chinareflective.com
Email: info@chinastars.com.cn

Hangzhou Factory:
Jingshan Town,
Yuhang district,
Hangzhou, China

Huzhou Factory:
Southern Industrial
Park, Changxing
county, Huzhou, China

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