

ANS' Reflective Material **Regular** Series

UL-209S

Heat Transfer Reflective Tape

1. General Description

ANS' regular series heat transfer reflective tape UL-209S is a breathable and slight stretchable reflective tape . The tape is composed of retro-reflective glass beads bonded to PES hot melt adhesive .The tape is designed to be heat applied to suitable background fabrics for using on High Visibility Warning Garments , ideal for most of the fabric and work wear item , such as vests , shirts , jackets ...

When properly used, these materials help enhance the visibility of the wearer in nighttime or low-light conditions when illuminated by a light source, such as headlights, by returning the light back toward the original source and reaching the automobile driver's eye.

2. Photo:



3. Performance

ANS' regular series heat transfer reflective tape will meet or exceed the following performance specifications as noted. It is important to note that different use, wear, and environmental conditions will affect performance.

Summary of performance					
ANS' regular series heat transfer reflective tape UL-209S	Initial Average Brightness (RA)	Minimum Initial Brightness (RA)	After wash Brightness (RA)	After abrasion Brightness (RA)	After folding at cold temperatures Brightness (RA)
	500°	330°	>100°	>100°	>100°
	After exposure to temperature variation Brightness (RA)	In Rainfall Brightness (RA)	Home Wash Cycles	Industrial Wash Cycles	Dry Clean Cycles
	>100°	>100°	50	×	×
<p>Home wash : ISO 6330 Method 60°C wash, tumble dry low after every wash.</p> <p>Industrial wash : ISO 15797 Method 75°C wash, tumble dry at 90°C after every wash.</p> <p>Dry clean : ISO 3175-2.</p> <p>Measured on new product at +5.0° entrance and 0.2° observation angles. Results are measured in RA (cd/lux/m2).</p>					

4. Compliance Standard

The following ANS' Reflective Material, as listed in the table below, meet the requirements of the listed standards. Current certificates are available at www.kachunworkwear.com or by request.


Compliance Standard					
Product	ISO20471	ANSI107	CSAZ96	AS NZS1906	Oeko-tex
UL-209S	√	√	√	√	√

5. Heat Apply Guideline


Platform type heat press machine

1. Work on a flat surface where uniform heat and pressure can be applied.
2. Avoid applying the tape over seams and stitches.
3. Ensure that the temperatures in each zone of the press plate are uniform across the width of the press.
4. For different fabrics, we suggest that the user conduct washing tests in advance to test the adhesion between the tape and fabric before bulk production. This will allow them to adjust the heat application parameters accordingly until suitable parameters are found that ensure optimal adhesion and durability. By doing so, the user can ensure the quality and reliability of their products.
5. We strongly recommend heating and applying the tape onto the fabric surface twice. The parameters for each heating are as follows:


After applying the tape onto the fabric for the first time, the protective film of the reflective tape needs to be removed before the second application, but the tape needs to be fully cooled down during removal.

	The First Time	The Second Time	
Heating Temperature:	150 - 165 °C	150 - 165 °C	
Heating Time:	6 - 8 Seconds	10 - 12 Seconds	
Heating Pressure:	50-60 psi	50-60 psi	

6. Applying the tape onto the fabric surface with heat press only once is also workable, but the adhesion is not as good as when applying heat twice.

	One Time	
Heating Temperature:	150 - 165 °C	
Heating Time:	> 15 Seconds	
Heating Pressure:	50-60 psi	

Heat roll type machine






	One Time	
Heating Temperature:	140 - 150 °C	
Heating Speed:	4-8 m/min	
Heating Pressure:	30-50 psi	

6. Care Instructions

Test each application according to appropriate care instructions required for the finished product. Actual life of ANS' Reflective Material depends on cleaning methods , wear and storage conditions .

Home Wash Guidelines

- 1.Home laundering means using a top- or front-loading consumer-type home washing machine with a consumer detergent at moderate water temperatures (up to 60 °C). Drying methods, such as tumble drying at high temperatures, can limit garment life and should be considered as part of the cleaning process.
- 2.If bleach is needed, only non-chlorine bleach should be used. High alkaline treatments such as stain removal products should not be used.
- 3.Garment care label guidelines need to consider the garment fabric as well as the recommendations for garment components such as reflective tape.
- 4.Care label recommendations for ANS' Reflective Material are below:

Care Label Recommendations										
Product	Wash		Dry		Iron		Dry Clean		Bleach	
UL-209S		60°C Machine wash, 50 cycles, ISO6330		Tumble dry low		Use cool iron, 110°C		Do not dry clean		Non chlorine bleach when needed

Storage and Shelf Life :

- 1.Please store in a cool (15 to 25°C), dry area (with relative humidity less than 70%) and use within **one year** of the receipt date from KACHUN.
- 2.Store rolls in their original shipping cartons. Return partially used rolls to the carton or suspend them horizontally through the core.
- 3.Cut pieces should be stored flat.
- 4.Ensure that the lot/roll identification remains attached to both the product rolls and cut pieces.
- 5.The actual shelf life of the reflective material is influenced by various factors, including the production process, transportation process, and storage process. Therefore, KACHUN only guarantees that the product is qualified at the time of leaving factory. Once the reflective tape is heat-applied onto the fabric, KACHUN does not provide any guarantee on the quality of the reflective tape.
- 6.If the reflective material is not used promptly, kindly store it in accordance with the aforementioned recommendations. Prior to reusing it, it is mandatory to conduct tests to verify that the reflective material quality remains satisfactory before applying it to fabric.

7. Important Notice

Product Selection and Use:

Many factors beyond KACHUN's control and uniquely within user's knowledge and control can affect the use and performance of reflective material in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards , as well as determining the proper amount and placement of reflective material. While reflective material can enhance visibility, no reflective product can ensure visibility or safety under all possible conditions. Failure to properly evaluate, select, and use a KACHUN product in accordance with all applicable instructions and with appropriate safety equipment, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property. KACHUN may change the product, specification, and availability; therefore, customer should contact KACHUN for latest information before specifying the product.

Warranty, Limited Remedy, and Disclaimer:

Unless a different warranty is specifically stated on the applicable KACHUN product packaging or product literature (in which case such warranty governs), KACHUN warrants that each KACHUN product meets the applicable KACHUN product specification at the time KACHUN ships the product. KACHUN MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a KACHUN product does not conform to this warranty, then the sole and exclusive remedy is, at KACHUN's option, replacement or repair of the KACHUN product or refund of the purchase price. [Warranty claims must be made within one \(1\) year from the date of KACHUN's shipment.](#)

Limitation of Liability:

Except for the limited remedy stated above, and except to the extent prohibited by applicable law, KACHUN will not be liable for any loss or damage arising from or related to the KACHUN product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

8. Contact us

For current technical literature and technical support, please email to kingson.liang@kachun.com.cn, or call Customer Service at 86-757-23331223. To purchase, contact the following information, thanks.

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