

This document applies to ORALITE® glass bead tapes (garment trims) for sewing application. These instructions do not apply to ORALITE® heat-applied glass bead tapes. The products covered in this document are:

- ORALITE® GP 010
- ORALITE® GP 020
- ORALITE® GP 030
- ORALITE® GP 030P

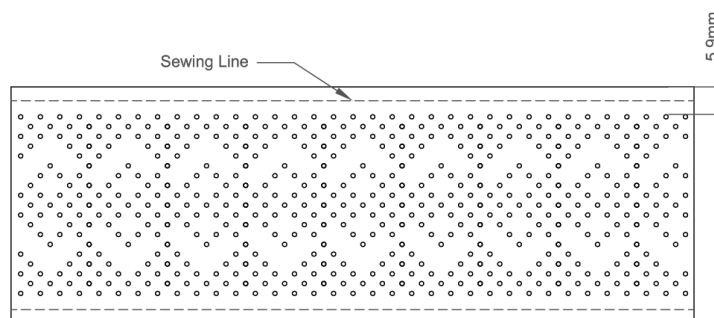
1.0 General Information

ORALITE® glass bead tapes are flexible, weather resistant tapes designed for use on high visibility garments. They are designed to be sewn to suitable background fabrics. They exceed the photometric requirements of EN ISO 20471:2013. In addition, ORALITE® GP 030 also exceeds the requirements of EN 469:2005 and EN ISO 14116 Index 3. For more information on the retroreflectivity of ORALITE® glass bead tapes, please reference the relevant technical product bulletins. These are available from your ORAFOL representative or they can be downloaded at www.orafol.com. We suggest the following measures are taken to achieve the optimum performance from the tapes.

1.1 Application - Sewing to Garment Background Fabric

ORALITE® glass bead tapes should be sewn onto high visibility garments.

1. **Sewing Machine Settings** – Recommended stitches per inch is 8 (eight). Reduce pressure on the machine foot. A Teflon coated pressure foot can also help with sewing.
2. **Background fabric** – Whilst ORAFOL has carried out compatibility checks to most of the readily available background fabrics, we cannot give an open guarantee that the chosen background fabric is fully compatible. Please check with the manufacturer of the fabric before use. The thread must be able to withstand the same wash and wear conditions as the material it is being applied to.
3. **General** – Do not stretch the tape as it is being applied. At the cut ends of the tape we recommend that the tape is turned under itself and sewn through the doubled over edge. Where possible within the design of the garment the cut ends should be inside the seams of the garment.
4. **Sewing border** –
ORALITE® GP 010/020/030
There is no defined sewing border on these tapes but we recommend sewing at 2 – 3 mm from the edge of the tape.
ORALITE® GP 030P
Please sew inside the centre of the sewing border as shown,



Due to the variety of manufacturing environments globally, stains on the surface of reflective material can appear on completed garments or schoolbags especially if assembled or stored in hot and humid environments. Such stains can appear on any exposed silver glass bead material. Staining may occur when contaminants come in contact with the reflective surface during the application process and the finished article 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)

Staining does not indicate that the product is defective and the product's reflective performance is not affected.

In order to reduce the possibility of staining during the manufacturing process:

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 come in contact with the reflective surface.
3. All workers handling the exposed reflective material surface should wear gloves.
4. Check that the fabric's additives will not stain the reflective surface.
5. Cover the reflective surface to prevent handling during the manufacturing step. This may be a plastic film for example.

2.0 Care Instructions – General Information

Symbols explained










	Machine wash hot, not greater than 60°C		Non chlorine bleach when needed		Tumble dry, normal, low heat
	Do not steam		Dry clean, any solvent except trichloroethylene		Do not dry clean

Table 1: Overview of Care Instructions

PRODUCT	RECOMMENDED CARE SYMBOLS	WASH TEMPERATURE	APPROVAL
ORALITE® GP 010		30 cycles at 60° C	ISO 6330:2012 Method 6N
ORALITE® GP 020		50 cycles at 60° C Dry cleaning – 25 cycles	ISO 6330:2012 Method 6N ISO 3175:2010, Method 9.1
ORALITE® GP 030/ GP 030P		50 cycles at 60° C Dry cleaning – 30 cycles	ISO 6330:2012 Method 6N ISO 3175:2010, Method 9.1

ORALITE® glass bead tapes for sewing application wash as well at lower temperatures as they do at higher temperatures. Therefore select the lowest washing temperature that will ensure adequate cleaning of the fabric. This will allow environmentally friendly washing and will extend the life of the garment.

Variations in environmental conditions as well as chosen care process may affect the life of your garment. Regular inspection of the garment performance against the requirements of EN ISO 20471:2013 is recommended. Information included in the care label should be verified to ensure that the reflective material maintains compliance with EN ISO 20471:2013.

2.2 Hand Washing

Hand washing can be done with a sponge, a soft fabric cloth or a soft brush with lukewarm water and a mild detergent. After washing, the tape must be rinsed with clean water. Stubborn stains such as grease or tar may be spot cleaned with petrol, alcohol, naphtha or turpentine. After spot cleaning the tape must be hand washed as above and rinsed with water.

2.3 Household Washing

Washing Machine	Standard household washing machine
Temperature	30° C to 60° C
Detergent	Standard household detergent, which contains oxygen bleach to reduce staining with Hi-Vis garments.
Setting	“Coloured clothing without pre-wash”

Maximum washing time on the highest temperature should not exceed 12 minutes.

Maximum total washing time should not exceed 50 minutes.

If ORALITE® glass bead tapes are used on fabrics that outbleed (run) easily; we recommend conducting the first two washes at 40° C. This can prevent colour staining.

2.4 Bleaching

Only use non-chlorine bleach when needed.

2.5 Drying

Household tumble dryer, normal, low heat.
Dry to “slightly humid”. DO NOT OVER DRY.
Maximum exhaust temperature shall not exceed 80° C.
For extended life, the garment should be turned inside out before drying.

2.6 Chemical cleaning / dry cleaning

GP 010 - Do not dry clean.
GP 020 – Dry clean, 25 cycles, ISO 3175:2010, Method 9.1
GP 030 – Dry clean 30 cycles, ISO 3175:2010, Method 9.1
GP 030P – Dry clean 30 cycles, ISO 3175:2010, Method 9.1

2.7 Ironing

Do not use steam.
Use a cool or warm temperature setting.
Avoid direct contact of the tape when ironing, use a press cloth.

IMPORTANT NOTICE

All ORALITE® products are subject to careful quality control throughout the manufacturing process and are warranted to be of merchantable quality and free from manufacturing defects. Published information concerning ORALITE® products is based upon research which the Company believes to be reliable although such information does not constitute a warranty. Because of the variety of uses of ORALITE® products and the continuing development of new applications, the purchaser should carefully consider the suitability and performance of the product for each intended use, and the purchaser shall assume all risks regarding such use. All specifications are subject to change without prior notice.

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