

1.0 General Information

ORALITE® GP 370 is a tough weather and solvent resistant product designed for sewing, heat sealing or welding to garments to clothing.

For more information on the *retroreflectivity* of ORALITE® GP 370, please reference the relevant technical data sheet. These are available from your ORAFOL representative or they can be downloaded at www.orafol.com.

Table 1: Application properties of ORALITE® GP 370

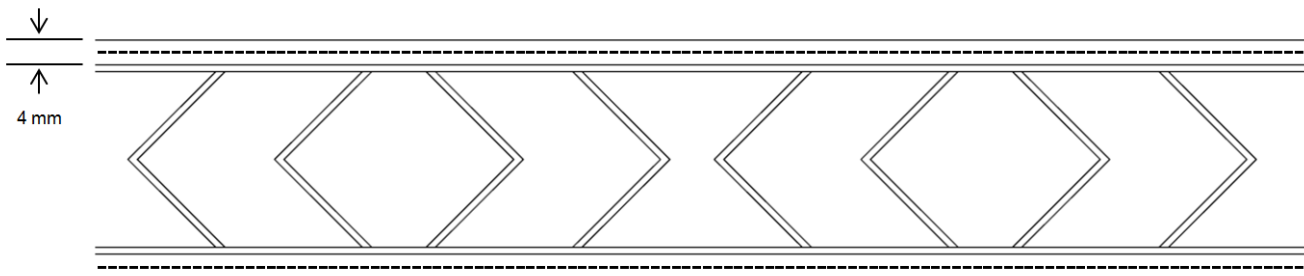
PRODUCT	VISIBLE APPLICATION BORDER	SUITABLE FOR	
		SEWING	HIGH FREQUENCY WELDING
ORALITE® GP 370	✓	✓	✓

2.0 Sewing to Garment Background Fabric

The following measures should be taken to achieve the optimum performance from the tapes.

ORAFOL garment tapes may be sewn onto high visibility garments. Always ensure that the sew line is centred between the parallel border lines or the fully sealed border. Never allow the sew line to run into any of the sealed cells of the tape.

Please sew inside the border as shown.



Recommended stitches: 8 per 25 mm

We recommend taking the following measures if the tape binds during sewing:

1. Reduce the pressure on the machine foot
2. Use a teflon coated pressure foot, if necessary
3. Use of a silicone spray or silicon coated cloth will help to lubricate the surface of the tape

Do not stretch the tape as it is being applied.

ORAFOL recommends that the tape is turned under and sewn through the doubled over edge. This helps prevent moisture ingress. Where possible within the design of the garment the cut ends should be inside the seams of the garment.

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 & wear conditions as the material it is being applied to.

3.0 High Frequency Sealing to Garment Background Fabric

3.1 Sealing Tool/Die

	<p>1.</p> <p>The sealing tool must be stippled or a diamond type patterned rule between 3 to 5 mm wide. Shown is a typical stippled type tool. Avoid using typical “Bar Seal” type flat tool rule, as this will discourage direct bonding between the tape and the coated background fabric.</p> <p>It is preferable to use two tool rules set parallel, when sealing.</p>
	<p>2.</p> <p>However, if using a single tool rule set up, the tool must not be allowed to seal inside the innermost application border seal-line, and encroach into the sealed cells of the tape.</p> <p>The sew border width (from the tear seal to the bar seal) measures 4 mm. Care should be taken when sealing to ensure that the finished seal width does not take up the entire 4 mm width in the sew border.</p>

3.2 High Frequency Sealing Conditions

Sealing conditions are dependent upon the type of sealing equipment used. The primary parameters and conditions to be set are as follows:

- HF Power applied to sealing tool
- Applied Pressure
- Sealing and Dwell Time(s)
- Tooling Material*
- Dielectric material

The applied HF power should be set at a level such that an under seal does not occur. An under seal will not correctly weld the materials. An over seal will cause materials to thin out on the weld line.

Use of a brass tool is recommended.

Always ensure that the upper platen holding the tool is parallel to the lower platen to ensure a uniform seal. Poor alignment results in areas being over sealed and may lead to an arc formation.

*Brass is expensive but very durable and gives very good HF transmission.

3.3 Background Fabric

ORAFOL has carried out compatibility checks to most of the readily available heat sealable background fabrics. We cannot guarantee that the chosen background fabric is fully compatible for heat sealing and we recommend that the manufacturers of the background fabric are consulted before proceeding with heat sealing. ORAFOL cannot be held responsible for any non-compatibility of welded materials.

Do not stretch the tape as it is being applied.

Check the strength of the seal to the background fabric at regular intervals of production. Ensure that the tool / die covers the tape edge during sealing to stop an edge curling effect.

Try to ensure that bar seal width covers at least 60 % of the sew border and the remaining 40 % over the fabric, this of course will depend on seal strength, and may vary in order to increase the seal strength.

4.0 Care Instructions - General Information

Symbols explained












	Do not bleach		Only non-chlorine bleach when needed		Tumble dry, normal, low-heat		Use cool or warm iron temperature setting. Do not use steam.		Do not dry clean
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Table 2: Overview of Care Instructions

PRODUCT	RECOMMENDED CARE SYMBOLS	WASH TEMPERATURE	APPROVAL
ORALITE® GP 370	      *	75** wash cycles at 75° C + tumble drying at 90° C 25 wash cycles at 75° C + tunnel drying at 120° C inlet temperature	ISO 15797:2002 Method 8

*limited tunnel drying capability **Orange: 60 cycles at 75° C

ORALITE® products clean 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 the chosen care process, may affect the life of your garment.

ORALITE® GP 370 tapes exceed all the requirements of specification EN ISO 20471:2013 separate performance and are certified per ISO 15797 Method 8.

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.

4.1 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.

4.2 Industrial Washing

Washer: Standard front-loading industrial washing machine. Tunnel washing is not recommended.

Temperature: Maximum wash temperature shall not exceed 75° C.

Detergent: Low to medium alkaline, high-surfactant detergents. The detergent should not contain free sodium hydroxide or potassium hydroxide. The PH of the detergent used should not exceed 11.5.

Caution!

- Do not pre-soak
- Do not use high alkaline products (such as heavy duty products or stain removal products)
- Do not use solvenated detergents or micro-emulsions
- Do not use additional bleaches
- Rinse thoroughly in order to completely remove all detergent residues.

Note!

ORALITE® GP 370 is certified to ISO15797 Method 8 as detailed above. Washing process, drying process and detergent selection changes can significantly change the wash durability of the reflective tape. It is important that these parameters are evaluated for each application, and it remains the responsibility of the user to test their specific conditions to assess durability.

4.3 Household Washing

Washer: Standard household washing machine

Temperature: Maximum wash temperature shall not exceed 75° C

Detergent: Standard household detergent, which contains oxygen bleach to reduce staining with Hi-Vis garments.

Setting: "Coloured clothing without pre-wash"

Caution!

- Maximum washing time on highest temperature not to exceed 12 minutes.
- Maximum total washing time not to exceed 50 minutes.
- If ORALITE® GP 370 is used on easy outbleeding fabrics, it is recommended to conduct the first two washes at 40° C. This can prevent colour staining.

4.4 Bleaching

Only non-chlorine bleach when needed.

4.5 Drying

Tumble dry

Maximum temperature shall not exceed 90° C.

Dry to "slightly humid". Do not over dry.

For extended life, garment should be turned inside out before drying.

Tunnel dry

GP 370 can be tunnel dried; however, higher tunnel inlet temperatures will significantly reduce the life of the tape. Where possible, operate the tunnel at an inlet temperature below 120° C. The drying time should not exceed 6 minutes.

4.6 Chemical Cleaning / Dry Cleaning

Do not dry clean.

4.7 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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