

This document applies to ORALITE® microprismatic tapes (garment trims) for sewing application to fire fighters' garments. Products include:

- ORALITE® FTP 1200 Advanced
- ORALITE® FTP 2000
- ORALITE® FTP 2100

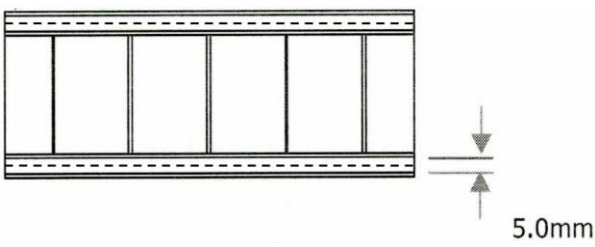
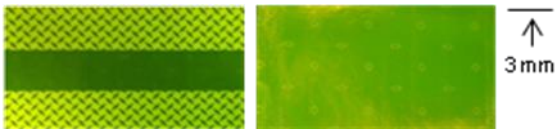
## 1.0 General Information

ORALITE® FTP 1200 Advanced, ORALITE® FTP 2000 and ORALITE® FTP 2100 are microprismatic retroreflective tapes, used to reflectorise fire-fighters' garments, and are fully certified to meet the requirements of EN 469:2005. ORALITE® FTP 1200 Advanced is also certified according to EN ISO 20471:2013.

For more information on the *retroreflectivity* of ORALITE® microprismatic fire tapes, please reference the relevant technical data sheet. These are available from your ORAFOL representative or they can be downloaded at [www.orafol.com](http://www.orafol.com).

## 2.0 Sewing to Garment Background Fabric

ORALITE® microprismatic fire tapes are to be sewn onto garments using a flame retardant thread.

<p>ORALITE® FTP 1200 Advanced</p> 	<p>For ORALITE® FTP 1200 Advanced, always ensure that the sew line is centered within the area shown. Never allow the sew line to run into any of the sealed cells of the tape.</p>
<p>ORALITE® FTP 2000 and ORALITE® FTP 2100</p> 	<p>ORALITE® FTP 2000 and ORALITE® FTP 2100 are of single layer construction which allows for stitching in any area of the surface.</p> <p>The stitching should be at least 3 mm from the edge of the garment tape.</p>

A stitch count of 8-10 stitches per 25 mm is recommended for all tapes.

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

1. Reduce 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

## 2.1 Background Fabric

ORAFOL has performed compatibility checks with many of the readily available background fabrics. ORAFOL cannot give an open guarantee that the chosen background fabric is fully compatible. Please check with the manufacturer of the fabric before use.







## 2.2 Note

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.
















### 3.0 Care instructions

ORALITE® FTP 2000 / 2100 is certified for 50 wash cycles according to ISO 6330:2012 Method 6N\*. ORALITE® FTP 1200 Advanced is certified for 30 wash cycles according to EN ISO 20471:2013. Changes in product performance due to modifications in the specified process are the responsibility of the user. The suitability of the intended care process must be determined by the end user.

### 3.1 Care Symbols

 Machine wash hot, not greater than 60° C	 Machine wash hot, not greater than 92° C	 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 1: Overview of Care Instructions**

PRODUCT	RECOMMENDED CARE SYMBOLS	WASH TEMPERATURE	APPROVAL
ORALITE® FTP 1200 Advanced	    	30 cycles at 60° C	ISO 6330:2012 Method 6N
ORALITE® FTP 2000	    	50 cycles at 60° C *30 cycles at 92° C	ISO 6330:2012 Method 6N *ISO 3175:2012, Method 9N
ORALITE® FTP 2100	    	50 cycles at 60° C *30 cycles at 92° C	ISO 6330:2012 Method 6N *ISO 3175:2012, Method 9N

ORALITE® microprismatic fire tapes 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 the 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.

## 3.2 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.

## 3.3 Household Washing

Washing Machine: Standard household washing machine

Temperature: 40° or 60° C

Detergent: Standard household detergent\*\*

Setting: "Coloured clothing without pre-wash"

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

Maximum total washing time should not exceed 50 minutes.

\*\* The detergent should not contain free sodium hydroxide or potassium hydroxide and ideally be low- to medium- alkaline detergents should be used.

## 3.4 Bleaching

Only use non-chlorine bleach when needed.

## 3.5 Drying

Use a household tumble dryer - normal, low or medium heat.

Dry to "slightly humid". DO NOT OVER DRY!

Maximum exhaust temperature shall not exceed 80° C.

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

Fire garments are sometimes dried in a static drying room where cool air is blown into the inside of the jacket and the jacket is dried from the inside out.

## 3.6 Ironing

Do not use steam.

Use a cool or warm temperature setting.

Avoid direct contact with the tape when ironing, use a press cloth.

## 3.7 Chemical Cleaning / Dry Cleaning

Do not dry clean.

## 3.8 Cleanability

ORALITE® microprismatic fire tapes feature a glossy top surface which is inherently resistant to soiling and allows for easy cleaning. Dirt, soot and smoke stains may be readily cleaned using non-abrasive soap and water, thus restoring significant reflectivity and fluorescence to the product. The reflective elements, which are behind the top surface, will not be affected.

**Note!** 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.

## 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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