

Description

ORALITE® GP 851 Segmented (GP 851S) is a tough weather and solvent resistant tape designed to be heat applied on to high visibility garments. The reflectivity exceeds the highest performance level of EN ISO 20471:2013.

Product Construction

ORALITE® GP 851S is composed of cube corner (microprism) retroreflective elements integrally bonded to a flexible, smooth-surfaced tough and weather resistant UV stabilised polymeric film. The prism surfaces are metallised to provide a mirror surface to the prism facets. The product comes with a heat activated adhesive.

Product Approvals

EN ISO 20471:2013 Separate Performance
Test certificates for garment CE mark acquisition are available upon request.

Film Logo Pattern



Colour

ORALITE® GP 851S is available in silver. ORALITE® GP 851S tape conforms to the colour requirements in Table 2 when measured in accordance with CIE Publication No. 15.2. The four pairs of coordinates determine the acceptable colour when measured with standard illuminant D65 using a Hunter LabScan.

Retroreflectivity

ORALITE® GP 851S tapes comply with the minimum reflectivity requirements of EN ISO 20471:2013 separate performance, when tested in accordance with the procedures in EN ISO 20471:2013. *Typical* coefficients of retroreflection for ORALITE® GP 851S tape when applied to fabric are provided in Table 1. These values will depend on the final substrate and sealing parameters.

Care Instructions



Dry Cleaning

Do not dry clean.

Machine Washing

Temperature 40°C or 60°C

ORALITE® microprismatic 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.

ORALITE GP851S is certified according to ISO 6330:2021; Method 6N - 25 washings at 60°C with tumble drying.

Application Instructions

As there can be great variation in the background fabrics produced, variation in chemical treatments used on fabrics, variation in the fusing methods and equipment and variation in the washing processes, it is important that these parameters are evaluated for each application, and it remains the responsibility of the user to test the specific fabric to be sure that the adhesion of ORALITE® GP851S is satisfactory on an ongoing basis before commencing production.

ORAFOL has created a qualification process to verify background fabric compatibility and customise instructions for each individual customer's specific application(s). Based upon the specific background fabric(s) and sealing equipment, we will help define an appropriate application system. Please contact ORAFOL for further information.

Shelf Life

The product must be used within one year from the shipment date. All rolls including partially used rolls should be stored in original packaging, tightly wound. Store in a clean and dry area, away from direct sunlight. Store at 20° C and 50% relative humidity.

Table 1
Retroreflectivity

Observation Angle	Entrance Angle ($\beta_1, \beta_2=0$)			
	5°	20°	30°	40°
0,20° (12')	500	290	180	65
0,33° (20')	250	200	170	60
1,00° (1°)	25	15	12	10
1,50° (1°30')	10	7	5	4

All values have units of cd/lux/m².

Table 2
Colour Specification Limits

Colour	Chromaticity Coordinates*							
	1		2		3		4	
	x	y	x	y	x	y	x	y
15 Silver	0,303	0,300	0,368	0,366	0,340	0,393	0,274	0,329

* The four pairs of chromaticity coordinates determine the acceptable chromaticity on the CIE diagram.

Physical Properties

Thickness	~400 µm
Temperature Resistance	-20°C to +50°C
Shelf life	1 year
Protective Liner	Yes
Abrasion	EN ISO 12947-2:2016, 9 kPa, wool, 5000 cycles
Flexing	EN ISO 7854:1997, method A, 7500 cycles
Folding at cold temperature	ISO 4675:2017, (-20 ±2°C)
Temperature variation	EN ISO 20471:2013, pt. 7.4.4, 12 hours @ (+50±2°C) & 20 hours @ (-30±2°C)
Domestic wash 40°C with tumble dry	EN ISO 6330:2021, method 6N+F, 25 cycles
Industrial wash 75°C with tumble dry	No
Dry cleaning	No
Influence of rain	EN 20471:2013, annex C

IMPORTANT NOTE

All ORAFOL products are subject to careful quality control throughout the entire manufacturing process, and it is ensured that they are of merchantable quality and free from manufacturing defects. The information published is based on our analyses and studies and does not constitute any warranted properties or any agreement as to quality. Due to the diverse possibilities of use of ORAFOL products and the constant development of new applications, the buyer should carefully consider the suitability and performance of the product for the respective purpose; it bears all risks associated with such use. No warranty is given for purposes other than those listed in the Technical Data Sheet or for applications that are not processed in accordance with ORAFOL's processing instructions.

The durability of the end product depends upon a variety of factors, including but not limited to substrate selection and preparation, compliance with the recommended application guidelines, geographical area, exposure conditions and maintenance of the ORAFOL material and of the end product. Product defects caused by the substrate or improper surface preparation do not lie within ORAFOL's sphere of responsibility.

When using ORAFOL products, the pertinent national regulations are to be observed. ORAFOL recommends that you obtain the current stipulations from your local authority and ensure that the product meets these requirements. Please contact ORAFOL for further information.

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