

## Description

ORALITE® VC 70-01+ is a tough weather resistant product designed for application in an automated production process of ECE 70 Amendment 1 approved rear marker plates. The material does not need edge sealing.

## Product Construction

ORALITE® VC 70-01+ is composed of cube corner (microprism) retroreflective elements integrally bonded to a flexible, smooth-surfaced tough and weather resistant UV stabilised polymeric film. The reflective material is welded to a UV stabilised polymeric film to protect the prism surfaces from dirt and moisture. The prism surfaces are coated with a vacuum deposition of aluminium to provide a mirror surface to the prism facets. The resulting material is not more than 0,20 mm thick, and comes with an aggressive high-tack pressure sensitive adhesive. It is single layer, with no need for edge sealing.

## Product Approval

ORALITE® VC 70-01+ conforms to Regulation ECE 70 Amendment 1 when applied in the above orientation.

## Colour

ORALITE® VC 70-01+ is available in yellow and red. The colour shall be located in the area defined by the chromaticity coordinates and luminance factor provided in Table 2, when measured in accordance with the provisions of CIE No.15 and illuminated with the CIE standard illuminant D<sub>65</sub> at an angle of 45° to the normal (45° / 0° geometry). The measured value shall be the average of 8 readings. The test sample shall be rotated 45 degrees.

The retroreflected colour (nighttime colour), when illuminated with CIE standard illuminant A at an observation angle of 20° and entrance angles of  $\beta_1 = \pm 5^\circ$ , and  $\beta_2 = 0^\circ$  shall be located within the area defined by the chromaticity coordinates in Table 3.

## Retroreflectivity

When illuminated with CIE standard illuminant A and measured with the provisions of CIE No. 54, the coefficient of retroreflection for ORALITE® VC 70-01+ shall be not less than the values in Table 1.

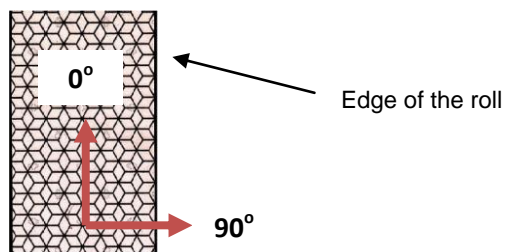
## Adhesive

The adhesive is especially formulated to adhere to a variety of surfaces: fibreglass, aluminium and painted steel in particular. The adhesive is protected by a release liner, which shall be removed by peeling, without soaking in water or other solvents. The adhesive produces a bond such that a 25 mm strip shall require a force of at least 10N (2,25 pounds), at a speed of 300 mm per minute, to be removed from the substrate after a 20 minutes dwell. ORALITE® VC 70-01+ may be used on stainless steel when used with the correct pressure sensitive adhesive, which should be requested when ordering.

## Application

For the best reflectivity performance and to ensure compliance to ECE 70 Amendment 1, ORALITE® VC 70-01+ should be applied at the 0° or 90° orientation. The orientation can be identified by the printing pattern on the film, as shown below. The material should not be applied at an angle.

How to identify the orientation:



### Application Instructions

Materials must be applied with the air and surface temperature between 10° C and 38° C to ensure proper adhesive bonding. Surfaces must be cleaned of all grease, oil and dirt. Use a clean towel and Isopropyl alcohol or similar to wipe the surface before application. If any air bubbles are trapped use a pin to puncture the bubble and a squeegee to push the air towards the pin hole. Please contact ORAFOL for complete application instructions.

### Shelf Life

The sheeting must be used within 1 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.

### Warranty

ORALITE® VC 70-01+ has a ten year warranty. Please contact ORAFOL for full details.

**Table 1**  
**Retroreflectivity**

Observation Angle	Beta 1 (β <sub>1</sub> )	Entrance Angle (β)			
		0°	0°	0°	0°
20' (0,33°)	Beta 2 (β <sub>2</sub> )	5°	30°	40°	60°
Yellow	R'	300	180	75	10
Red	R'	10	7	4	-

All values have units of cd/lux/m<sup>2</sup>.

**Table 2**  
**Colour Specification Limits (Daytime)**

Colour	Chromaticity Coordinates*								Y%
	1		2		3		4		
	x	y	x	y	x	y	x	y	
Yellow	0,545	0,454	0,487	0,423	0,427	0,483	0,465	0,534	≥ 0,16
Red	0,690	0,310	0,595	0,315	0,569	0,341	0,655	0,345	≥ 0,03

\*) The four pairs of chromaticity coordinates determine the acceptable chromaticity when measured with standard illuminant D<sub>65</sub>.

**Table 3**  
**Colour Specification Limits (Night-time)**

Colour	Chromaticity Coordinates*							
	1		2		3		4	
	x	y	x	y	x	y	x	y
Yellow	0,585	0,385	0,610	0,390	0,520	0,480	0,505	0,465
Red	0,720	0,258	0,735	0,265	0,665	0,335	0,643	0,335

\*) The four pairs of chromaticity coordinates determine the acceptable chromaticity when measured with standard illuminant D<sub>65</sub>.

### 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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