

ORALITE® VC 30710+

Description

ORALITE® VC 30710+ is a tough weather resistant product designed for rugged outdoor environments. The product is fully certified to comply with the German specification DIN 30710 for use as safety marking of vehicles and equipment.

Product Construction

ORALITE® VC 30710+ 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 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. The sheeting has a pressure sensitive adhesive.

Product Approval

The product is fully certified to comply with the German specification DIN 30710 for use as safety marking of vehicles and equipment.

Film Logo Pattern



Colour

ORALITE® VC 30710+ is available in silver with transparent red chevron stripes. The colour conforms to the requirements in Table 2, when measured in accordance with the provisions of CIE No.15.2. The four pairs of coordinates determine the acceptable colour when measured with standard illuminant D₆₅ using a Hunter LabScan.

Retroreflectivity

When illuminated with CIE standard illuminant A and measured with the provisions of CIE no. 54, the coefficient of retroreflection of ORALITE® VC 30710+ shall not measure less than the values provided in Table 1.

Impact Resistance

ORALITE® VC 30710+ shall show no signs of cracking or delamination outside the actual area of impact when it is subjected to an impact of 1,13 N·m generated by a 0,91 kg weight with a 16 mm rounded tip on a Gardner variable impact tester, IG-1120. As per ASTM D4956.

Adhesive

The adhesive is protected by a release liner, which shall be removed by peeling, without soaking in water or other solvents. The adhesive produces such a bond that a 25 mm strip shall require a force of at least 10N at a speed of 300 mm per minute to be removed from the substrate after a 20 minutes dwell.

A 25 mm strip shall provide a bond such that it shall support an 800 g weight for 5 minutes without the strip peeling for a distance of more than 50 mm when applied to a smooth aluminium surface as specified in the ASTM 4956 adhesion test.

Shrinkage

A 230 mm square specimen of the sheeting with liner shall be conditioned a minimum of 1 hour at 22° C and 50% RH. The liner is then removed and the specimen is placed on a flat surface with the adhesive side up. 10 minutes after the liner is removed and again after 24 hours, then specimen is measured to determine the amount of dimensional change. The specimen must not shrink in any dimension more than 0,8 mm in 10 minutes and 3,1 mm in 24 hours.

Flexibility

The sheeting is conditioned for 24 hours at 22° C and 50% RH. The release liner is removed and the sheeting must be sufficiently flexible to show no cracking when bent in one second's time around a 3,1 mm diameter mandrel with the adhesive contacting the mandrel.

Solvent Resistance

ORALITE® VC 30710+ will not dissolve, blister, or pucker when wiped with a soft cloth wet with kerosene, mineral spirits, turpentine, VM&P Naphtha, 5% HCL, NaOH, or Methanol.

Printing

The material is not printable.

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

The product has a seven year warranty. Please contact ORAFOL for full details.

Table 1 - Retroreflectivity

Obs. Angle	0.20°			0.33°			2.00°		
	5°	30°	40°	5°	30°	40°	5°	30°	40°
Red	45	25	15	25	14	13	1,0	0,4	0,3
Silver	250	150	110	180	100	95	5,0	2,5	1,5

All values have units of cd/lux/m².

When the reflective area is less than 4 square inches, increased variations in brightness may occur. For recommendations regarding minimum photometric values for reflective areas smaller than 10,16 cm please contact ORAFOL. The above values are typical values for average of $\beta = 0^\circ$ and $\beta = 90^\circ$. The $\beta = 0^\circ$ orientation angle is determined from the datum mark.

Table 2 - Colour Specification Limits and Reference Standards

Colour	Chromaticity Coordinates*									
	1		2		3		4		Y	
	x	y	x	y	x	y	x	y	Min.	Max.
Red	0,660	0,340	0,610	0,340	0,638	0,312	0,690	0,310	0,03	----
Silver	0,305	0,315	0,335	0,345	0,325	0,355	0,295	0,325	0,27	----

*) The four pairs of chromaticity coordinates determine the acceptable chromaticity when measured with standard illuminant D65 using a Hunter LabScan spectrophotometer.

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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