

## Description

ORALITE<sup>®</sup> V82 Conspicuity Material is a Type V microprismatic retroreflective sheeting. The sheeting is designed for rugged outdoor use on the sides and rear of trucks, trailers, school buses, farm equipment, automobiles and all types of mobile and industrial equipment.

## Product Construction

The sheeting is composed of cube corner (microprism) retroreflective elements integrally bonded to a flexible, smooth-surfaced, tough and weather-resistant UV stabilized polymeric film. The prism surfaces are coated with a vacuum deposition of aluminum to provide a mirror surface to the prism facets. The resulting tape is not more than 0.006 inch thick and comes with an aggressive high-tack pressure sensitive adhesive.

## Reflectivity

ORALITE<sup>®</sup> V82 Conspicuity Material shall comply with the Type V requirements in ASTM D4956 and meet or exceed the minimum coefficient of retroreflection shown in Table 1. The sheeting shall be measured in accordance with ASTM E810. Rotation angles of 0° and 90° are measured and averaged.

## Color

ORALITE<sup>®</sup> V82 Conspicuity Material is available in white, yellow, orange, red, green and blue. The colors conform to the requirements in Table 2 when tested in accordance with ASTM practices E308 and E1164 and standards E1347 and E1349. The measured values are the average of eight readings. The test sample is rotated 45° about its own axis after each reading.

## 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 1" (50 mm) strip shall support a 1 3/4 pound (0.79 kg) weight for 5 minutes without the strip peeling for a distance of more than 2" (50 mm) when applied to a smooth aluminum surface as specified in the ASTM D4956, section 7.5 adhesion test.

## Impact Resistance

Following application to a smooth surface aluminum rectangle, 0.020 inch by 3 inch by 6 inch, the specimen is conditioned for 24 hours at 72°F and 50% relative humidity. The sheeting shall show no cracking when the face of the panel is subjected to an impact of a two pound weight with a 5/8 inch rounded tip dropped from a 100 inch pound setting on a Gardner variable impact tester, IG-1120.

## Flexibility

The sheeting is conditioned for 24 hours at 72°F and 50% relative humidity. The release liner is removed and the sheeting is sufficiently flexible to show no cracking when bent in one second's time around a 1/8-inch diameter mandrel with the adhesive contacting the mandrel.

## Solvent Resistance

ORALITE<sup>®</sup> V82 Conspicuity Material meets the requirements of LS-300C solvent resistance, section 3.6.7, when tested as specified in Table VI, test method 4.4.6.

## Specular Gloss

The sheeting shall have a specular gloss of not less than 40 when tested in accordance with ASTM method D523 at an angle of 85°.

## Shrinkage

A 9" x 9" (229 mm x 229 mm) specimen of the sheeting with liner is conditioned a minimum of one hour at 73° ± 3°F (23° ± 2°C) and 50% relative humidity. The liner is then removed and the specimen is placed on a flat surface with the adhesive side up. Ten minutes after the liner is removed and again after 24 hours, the specimen is measured to determine the amount of dimensional change. The specimen will not shrink in any dimension more than 1/32" (0.8 mm) in 10 minutes and 1/8" (3.2 mm) in 24 hours.

## Application Instructions

Material must be applied when the air and surface temperature is 50°F-100°F. 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.



ORAFOL Americas – GA  
1100 Oracal Parkway  
Black Creek, GA 31308  
Phone: 888.672.2251

ORAFOL Americas – CT  
120 Darling Drive  
Avon, CT 06001  
Phone: 800.654.7570

ORAFOL Canada  
2831 Bristol Circle  
Oakville, Ontario L6H 6X5  
Phone: 888.727.3374

**Table 1**  
**Coefficient of Retroreflection<sup>‡</sup>(R<sub>A</sub>)**

Observation Angle	Entrance Angle	White	Yellow	Orange	Red	Green	Blue
0.20°	-4°	700	470	280	120	120	56
	30°	400	270	160	72	72	32
0.50°	-4°	160	110	64	28	28	13
	30°	75	51	30	15	13	6

<sup>‡</sup> Candelas/Lux/Square Meter

**Table 2**  
**Color Specification Limits**

Color	Chromaticity Coordinates*								Luminance Factor (Y%)	
	1		2		3		4		Min.	Max.
	x	y	x	y	x	y	x	y		
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	15.0	---
Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472	12.0	30.0
Orange	0.558	0.352	0.636	0.364	0.570	0.429	0.506	0.404	7.0	25.0
Green	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771	2.5	11.0
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	11.0
Blue	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216	1.0	10.0

\* The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant D65.

**Film Logo Pattern**



**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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