

CONFORMABLE GRAPHIC SHEETING

Description

ORALITE® V98 Conformable Graphic Sheeting is a tough weather and solvent resistant microprismatic retroreflective product designed for vehicles that require increased visibility such as fire, EMS, police, utility, telecom and DOT. The material is plotter cuttable and easy to apply to smooth painted or unpainted vehicle surfaces. The single layer product does not require edge sealing, and is designed to be applicator friendly due to the potential to template fewer pieces than other prismatic graphic films. ORALITE® V98 meets/exceeds the requirements of NFPA 1901.

Product Construction

ORALITE® V98 Conformable Graphic 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.

Reflectivity

Typical values for the coefficient of retroreflection for ORALITE® V98 Conformable Graphic Sheeting are shown in Table 1 when illuminated with CIE standard illuminant A and measured with the provisions of CIE No.54.2. Rotation angles of 0° and 90° are measured and averaged.

Daytime Color

ORALITE® V98 Conformable Graphic Sheeting is available in white, yellow, red, blue, green, fluorescent yellow-green and fluorescent orange. The color 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. 15.2. The four pairs of coordinates determine the acceptable color when measured with standard illuminant D65 using a Hunter ColorFlex.

Adhesive

ORALITE® V98 Conformable Graphic Sheeting is available with both high tack and low tack adhesives. The low tack adhesive provides exceptional repositionability with the high tack offering a more aggressive initial bond. The adhesives are protected by a release liner which shall be removed by peeling, without soaking in water or other solvents.

Impact Resistance

Following application to a smooth surface aluminum rectangle, 0.020" by 3" by 6", 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" rounded tip dropped from a 100 in/lb 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" diameter mandrel with the adhesive contacting the mandrel.

Solvent Resistance

ORALITE® V98 Conformable Graphic Sheeting 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" specimen of the sheeting with liner is conditioned a minimum of one hour at 72°F 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" in 10 minutes and 1/8" in 24 hours.

Application Instructions

Sheeting must be applied when the air and surface temperature is 65°F or above. 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 refer to the V98 Conformable Graphic Sheeting Application Instructions for specifics.

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Table 1, Coefficient of Retroreflection (R_A)*

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Fl Yel-Grn	Fl Orange
0.20°	-4°	750	525	130	130	55	420	200
	30°	375	260	65	65	25	200	100
0.50°	-4°	110	80	20	20	8	65	45
	30°	60	45	10	10	4	33	20

*Candelas/Lux/Square Meter

Table 2, Color Specification Limits (Daytime)

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	27	---
Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472	15	45
Green	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771	3.0	12
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	15
Blue	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216	1.0	10
Fl Yellow-Green	0.387	0.610	0.369	0.546	0.428	0.496	0.460	0.540	60	---
Fl Orange	0.583	0.416	0.535	0.400	0.595	0.351	0.645	0.355	20	---

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

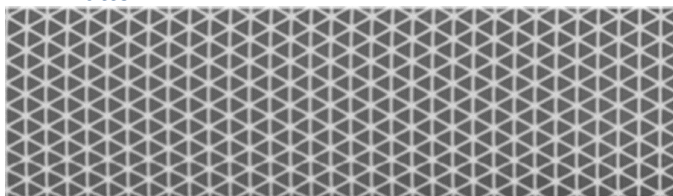
Warranty

ORALITE® V98 Conformable Graphic Sheeting has a 5-year warranty. Please contact ORAFOL Americas for details.

Shelf life

The sheeting 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 room temperature 65-75°F and at 50% relative humidity.

Film Pattern



ORALITE® V98

Technical Datasheet

06/2022

Page 3 of 3

CONFORMABLE GRAPHIC SHEETING

Note:

All ORALITE® products are manufactured within an ISO 9001:2015 controlled manufacturing environment and batch traceability is possible on the basis of the roll number.

IMPORTANT NOTICE

When using ORALITE® sheeting, please comply with relevant national specifications. ORAFOL® recommends obtaining the current requirements from your local authority and ensure product conformance with such requirements. Please contact ORAFOL® for further information.

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.



WARNING – This product may expose you to chemicals which are known in the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to – www.P65Warnings.ca.gov

ORALITE® is a trademark of ORAFOL Europe GmbH



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