

ORALITE® V52 Diamond Plate DOT-C2 Conspicuity Sheeting

(Formerly a Reflexite® Branded Product)

Technical Datasheet

12/15

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Description

ORALITE® V52 Diamond Plate DOT Conspicuity Sheeting is a tough weather-and solvent resistant product designed for rugged outdoor use on the sides and rear of trucks, trailers, utility vehicles and all types of work trucks and mobile industrial equipment.

ORALITE® V52 Diamond Plate Sheeting is provided with the DOT-C2 certification mark as per NHTSA 49CFR571.108.

The sheeting is compliant with FMVSS 108, DOT-C2.

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 0.008" thick and comes with an aggressive high-tack pressure sensitive adhesive.

Color

ORALITE® V52 Diamond Plate Sheeting is available in an alternating red and white striped pattern with the DOT- C2 certification mark. It is also available in solid red and solid white without the DOT-C2 certification mark. The Diamond Plate pattern provides brighter more vivid daytime colors than previously available in metalized microprism sheeting. The colors conform to the requirements in Table 1 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.

Reflectivity

ORALITE® V52 Diamond Plate Sheeting shall meet or exceed the minimum coefficient of retroreflection shown in Table 2. The sheeting shall be measured in accordance with ASTM E810. Rotation angles of 0° and 90° are measured and averaged.

Adhesive

The adhesive is protected by a release liner that shall be removed by peeling, without soaking in water or other solvents. The adhesive produces a bond such that a 1" wide strip shall support a 1-3/4 pound weight for five minutes without the strip peeling a distance of more than 2" when applied to a smooth aluminum panel as specified in the ASTM D4956 adhesion test.

Application Instructions

Material 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.

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.

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.

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® V52 Diamond Plate 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.



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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°.

Table 1
Color Specification Limits

Color	1		2		3		4		Reflectance Y	
	x	y	x	y	x	Y	x	y	Min.	Max.
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	27.0	----
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	11.0

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

Table 2
Coefficient of Retroreflection* (R')

Observation Angle	Entrance Angle	White	Red
.2°	-4°	460	75
.2°	30°	250	60
.5°	-4°	100	25
.5°	30°	65	15

*Candelas/Lux/Square Meter

ORALITE® V52 Diamond Plate DOT Conspicuity Sheeting fully meets or exceeds the requirements of ASTM D4956 Type V sheeting.

Film Logo Pattern



Warranty

ORALITE® V52 Diamond Plate DOT-C2 Conspicuity Sheeting has a 5 year warranty. Please contact ORAFOL Americas for details.

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.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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