

Product

Reflexite V52 Diamond Plate DOT Conspicuity Material 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.

Reflexite V52 Diamond Plate Material is provided with the DOT-C2 certification mark as per NHTSA 49CFR571.108.

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

Color

Reflexite V52 Diamond Plate 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

Reflexite V52 Diamond Plate 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 one-inch wide strip shall support a 1-3/4 pound weight

Application Instructions

Material must be applied when the air and surface temperature is 65°F (18°C) 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 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.

Shrinkage

A 9 inch by 9 inch 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 inch in 10 minutes and 1/8 inch 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-inch diameter mandrel with the adhesive contacting the mandrel.

Solvent Resistance

Reflexite V52 Diamond Plate 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

for five minutes without the strip peeling a distance of more than two inches when applied to a smooth aluminum panel as specified in the ASTM D4956 adhesion test.

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

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

Film Logo Pattern



Warranty

Reflexite® V52 Diamond Plate DOT-C2 has a 5 year warranty. Please contact Reflexite for full details.

IMPORTANT NOTICE

All Reflexite® and 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 Reflexite® and 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 Reflexite and 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.