

Technical Product Bulletin

Reflexite® V98 Conformable Graphic Sheeting

For EMS Vehicle Graphic Applications

Product

Reflexite V98 Conformable Graphic Sheeting is a tough weather and solvent resistant product designed for rugged outdoor use for graphic applications on emergency services vehicles. The material is die cuttable and 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.

Construction

Reflexite V98 Conformable Graphic Sheeting is composed of cube corner (micropism) 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 material is not more than 0.018" thick, and comes with an aggressive high-tack pressure sensitive adhesive.

Color

Reflexite V98 Conformable Graphic Sheeting is available in white, yellow, red, blue, green, fluorescent lime, fluorescent yellow and fluorescent orange. The color shall be located in the area defined by the chromaticity coordinates and luminance factor provided in Table I, 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.

Reflectivity

Typical values for the coefficient of retroreflection for Reflexite V98 Conformable Graphic Sheeting are shown in Table II 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.

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 a bond such that a one-inch wide strip shall support a 1-3/4 pound weight for five minutes without the strip peeling a distance of more than two inches when applied to a smooth aluminum surface.

Solvent Resistance

Reflexite V98 Conformable Graphic Sheeting meets the solvent resistance requirements of LS-300C solvent resistance, section 3.6.7, when tested as specified in Table VI, test method 4.6.6.

Shrinkage

A 9 inch by 9 inch specimen of the sheeting with liner shall be conditioned a minimum of 1 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 must not shrink in any dimension more than 1/32 inch in 10 minutes and 1/8 inch in 24 hours.

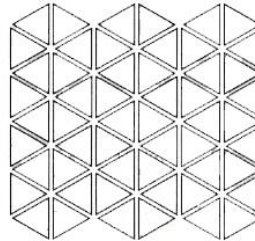
Impact Resistance

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 or delamination outside the actual area of impact 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.

Film Pattern



Shelf Life and Storage

The sheeting must be used within 1 year from date of shipment. All rolls including partially used rolls should be stored in original packaging, tightly wound and secured with tape. Store in a clean and dry area, away from direct sunlight at temperatures between 65-82°F.

Application Instructions

Material must be applied when the air and surface temperature is between 50-82°F to ensure proper adhesive bonding. Surfaces must be cleaned of all grease, oil, dirt etc. Use a clean cloth 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 contact Reflexite for complete application instructions.

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Table I
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 Lime	0.387	0.610	0.369	0.546	0.428	0.496	0.460	0.540	60	---
Fl Yellow	0.479	0.520	0.446	0.483	0.512	0.421	0.557	0.442	40	---
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 CIE1931 Standard Colorimetric System measured with CIE Standard Illuminant D₆₅.

Table II
Coefficient of Retroreflection
[Candelas/Lux/Square Meter]

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Fl Lime	Fl Yellow	Fl Orange
0.2°	-4°	750	525	130	130	55	420	295	200
	30°	375	260	65	65	25	200	145	100
	45°	120	85	20	20	8	70	45	30
0.33°	-4°	375	260	65	65	25	200	145	100
	30°	185	130	32	32	13	100	75	50
	45°	60	40	10	10	4	35	25	20
0.5°	-4°	110	80	20	20	8	65	45	45
	30°	60	45	10	10	4	33	23	20
	45°	20	14	4	4	1.3	10	7	8
1.0°	-4°	28	20	5	5	2	15	11	8
	30°	14	10	2	2	1	8	5	4
	45°	4	3	---	---	---	2	2	2

IMPORTANT NOTICE

All Reflexite 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 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 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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