

Technical Product Bulletin

Reflexite® VC312 Daybright®

For livery applications on EMS vehicles
Bulletin #200-2



Product

Reflexite® VC312 Daybright® is a tough weather and solvent resistant product designed for rugged outdoor use for livery applications on emergency services vehicles. The material is die cuttable and plotter cuttable, and easy to apply onto smooth painted or unpainted vehicle surfaces. The material does not need edge sealing. Printing on the material is not recommended.

Construction

Reflexite VC312 Daybright 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 material is not more than 0,20mm thick, and comes with an aggressive high-tack pressure sensitive adhesive. It is single layer, with no need for edge sealing.

Colour

Reflexite VC312 Daybright is available in white, yellow, red, blue and green. The colours conform to the requirements of prEN 1789:1999. The colour shall be located in the area defined by the chromaticity coordinates and luminance factor provided in Table 1, when measured in accordance with the provisions of CIE No. 15.2. The four pairs of coordinates determine the acceptable colour when measured with standard illuminant D₆₅ using a Hunter LabScan.

Reflectivity

Reflexite VC312 Daybright complies with the reflectivity requirements of prEN1789:1999. When illuminated with CIE standard illuminant A and measured with the provisions of CIE no.54, the coefficient of retroreflection (R') for Reflexite VC312 Daybright shall not measure less than the values provided in Table 2 when rotation angles of 0° and 90° are measured and averaged.

Roll Size

Standard rolls are 775mm x 45,7m.

Adhesive

The adhesive is protected by a release liner, which shall be removed by peeling, without soaking in water or other solvents. A 25mm strip shall provide a bond such that it shall support a 800g weight for 5 minutes without the strip peeling for a distance of more than 50mm. When applied to a smooth aluminium surface as specified in the ASTM 4956 adhesion test.

Impact Resistance

Reflexite VC312 Daybright sheeting shall show no signs of cracking or delamination outside the actual area of impact when it is subjected to an impact of 1,13 N·m generated by a 0,91kg weight with a 16mm rounded tip, as per ASTM D4956.

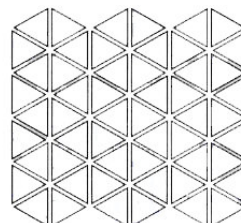
Shrinkage

A 230mm square specimen of the sheeting with liner shall be conditioned a minimum of 1 hour at 22°C and 50% RH. The liner is then removed and the specimen is placed on a flat surface with the adhesive side up. Then 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 0,8mm in 10 minutes and 3,1mm in 24 hours.

Flexibility

The sheeting is conditioned for 24 hours at 22°C and 50% RH. The release liner is removed and the sheeting must be sufficiently flexible to show no cracking when bent in one second's time around a 3,1mm diameter mandrel with the adhesive contacting the mandrel.

Film Logo Pattern



Product approval

The product conforms to prEN1789:1999.

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Table 1
Colour Specification Limits (daytime)

Colour	Chromaticity Coordinates on CIE diagram*									
	1		2		3		4		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	---
Yellow	0,498	0,412	0,557	0,442	0,479	0,520	0,438	0,472	15,0	45,0
Red	0,648	0,351	0,735	0,265	0,629	0,281	0,565	0,346	2,5	12,0
Blue	0,140	0,035	0,244	0,210	0,190	0,255	0,065	0,216	1,0	10,0
Green	0,030	0,380	0,166	0,346	0,286	0,426	0,201	0,776	2,5	11,0

*) The four pairs of chromaticity coordinates determine the acceptable chromaticity when measured with standard illuminant D65 using a

Table 2
Coefficient of Retroreflection (R')

Colour	Entrance angle (Beta=β)					
	0,10° / -4°	0,10° / +30°	0,20° / -4°	0,20° / +30°	0,50° / -4°	0,50° / +30°
White	600	200	400	190	140	75
Yellow	400	150	270	130	100	50
Red	100	40	70	40	25	15
Blue	80	25	45	15	11	8
Green	108	36	72	34	25	13

*) The coefficient of retroreflection (R_A) has units of cd/lux/m²

Application Instructions

Material must be applied when the air and surface temperature is between 15° and 38° to assure proper adhesive bonding. Surfaces must be cleaning for all grease, oil and dirt. 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 contact Reflexite for complete application instructions (Technical Document App-04).

Solvent Resistance

Reflexite VC312 Daybright material 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.

Warranty

Please contact Reflexite for full details.

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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