

ORALITE® V99 SCHOOL BUS FOR PRINTED SIGNS

(Formerly a Reflexite® Branded Product)

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Description

ORALITE® V99 School Bus for Printed Signs Conspicuity Sheeting is a tough weather-and solvent-resistant product designed for rugged outdoor use marking the front and rear of school buses. It is easy to apply to smooth surfaces or to surfaces where tape must be cut around rivets and other design features.

Film Logo Pattern



Product Construction

ORALITE® V99 School Bus for Printed Signs Conspicuity 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 inches thick and comes with an aggressive high-tack pressure-sensitive adhesive.

Color

ORALITE® V99 School Bus for Printed Signs Conspicuity Sheeting is available in school bus yellow color. The color conforms to the requirements in the Table 1 when tested in accordance with ASTM 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® V99 School Bus for Printed Signs Conspicuity Sheeting shall meet or exceed the minimum coefficient of retroreflection shown in Table 2. Reflexite V99 School Bus Conspicuity Sheeting shall be measured in accordance with ASTM E810.

Adhesive

The adhesive is especially formulated to adhere to a variety of surfaces including fiberglass, aluminum, steel and painted metal. The adhesive is protected by a release liner which shall be removed by peeling, without soaking in water or other solvents. The adhesive produces such a bond that a 1" wide strip shall support a 1-3/4 pound weight for 5 minutes without the strip peeling for a distance of more than 2" when applied to a smooth aluminum panel as specified in the ASTM D4956 adhesion test.

Application Instructions

The recommended application temperature to achieve best results is 65°F or above. The adhesive on ORALITE® V99 School Bus Conspicuity Sheeting has been formulated to bond at temperatures as low as 0°F. When bonding at low temperatures the surface should be free from ice, frost, condensation as well as any contaminants. For additional information please refer to the ORALITE® V99 School Bus Conspicuity Sheeting Application Instructions.

Impact Resistance

Following application to a smooth-surfaced aluminum rectangle 0.040" by 3" by 6", 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 4.0 pound weight with 5/8" rounded tip dropped from a 100 in/lb setting on a Gardner variable impact tester, IG-1120.

Shrinkage

A 9" by 9" specimen of the sheeting with liner is 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 will not shrink in any dimension more than 1/32" in 10 minutes and 1/8" in 24 hours.



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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 seconds time around a 1/8" diameter mandrel with the adhesive contacting the mandrel.

Solvent Resistance

ORALITE® V99 School Bus for Printed Signs Conspicuity 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.

Table 1

Color Specification Limits

Chromaticity Coordinates*

Color	1		2		3		4		Reflectance Y	
	x	y	x	y	x	Y	x	y	Min.	Max.
Yellow	0.484	0.455	0.517	0.482	0.544	0.455	0.513	0.426	10.0	36.0

* 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 Angles	Entrance Angles	Yellow
0.2°	-4°	310
0.2°	30°	165
0.5°	-4°	136
0.5°	30°	45

ORALITE® V99 School Bus for Printed Signs Conspicuity Sheeting fully meets or exceeds the requirements of the 2005 National School Transportation Specifications and Procedure and CSA D250.

*Candelas/Lux/Square Meter

Warranty

ORALITE® V99 School Bus for Printed Signs Conspicuity Sheeting has a 5 year warranty. Please contact ORAFOL Americas for details.

Note:

All ORALITE® products are manufactured within an ISO 9001:2008 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.

Surfaces to which the material will be applied must be thoroughly cleaned from dust, grease or any contamination which could affect the adhesion of the material. Freshly lacquered or painted surfaces should be allowed to dry for at least three weeks and to completely cure respectively. The compatibility of selected lacquers and paints should be tested by the user, prior to application of the material. The self-adhesive reflective material can only be used for dry application. The low tensile strength of the material can make the removability of the



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reflective film more difficult. Please review applicable application information published by ORAFOL.

No warranty is given for purposes other than those listed in the Technical Datasheet or which are not processed according to ORAFOL's processing and handling instructions. The durability of the signs will depend on a variety of factors, including but not limited to substrate selection and preparation, compliance with recommended application guidelines, geographic area, exposure conditions and maintenance of the product and finished sign. Sign failures caused by the substrate or improper surface preparations are not the responsibility of ORAFOL. Please refer to the full warranty document available at www.orafolamericas.com for detailed information.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
ORALITE® is a trademark of ORAFOL Europe GmbH.



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