

## Description

ORALITE® IMO/SOLAS FD1403 is tough, weather and solvent resistant retroreflective material designed for application to rigid and non-rigid substrates in the rugged maritime environments.

ORALITE® IMO/SOLAS FD1403 is compliant with U.S. Department of Transportation specification USCG 46 CFR, section 164.018 and International Maritime Organization (IMO) Resolution A.658 (16) for Type I and Type II devices.

## Product Construction

ORALITE® IMO/SOLAS FD1403 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 to provide a mirror surface to the prism facets. The resulting film is not more than 0.008" thick and comes with either an aggressive pressure sensitive adhesive or a textile backing for sewing.

## Reflectivity

Typical coefficient of retroreflection (R') of the ORALITE® IMO/SOLAS FD1403 is shown in Table 1 when illuminated with CIE standard illuminant A and measured with the provisions of CIE No.54.

## Color

ORALITE® IMO/SOLAS FD1403 is available in silver, (retro-reflection in white). The color shall be located in the area defined by the chromaticity coordinates provided in Table 2, when measured in accordance with the provisions of CIE No. 15 and illuminated with the CIE standard illuminant D65 using 45°/0° or 0°/45° geometry.

## Product Certification

The product is certified by BUREAU VERITAS to IMO resolution A.658(16) for Type I and Type II.

## Backings

ORALITE® IMO/SOLAS FD1403 can be supplied with a pressure sensitive adhesive. The adhesive is protected by a release liner which shall be removed by peeling, without soaking in water or solvents.

ORALITE® IMO/SOLAS FD1403 can be supplied with a knitted polyester backing or a Tyvek® backing to facilitate sew on applications. A stitch count of 8 – 10 stitches per inch is recommended.

## Roll Size

Standard rolls are 2 in x 150 ft. The product is also available in other configurations including patches and shapes.

## Storage and Shelf Life

Store in a cool, dry area at 68°F/50% relative humidity and use within one year of receipt. All rolls including partially used rolls should be stored in original packaging, tightly wound and taped.

**Table 1**  
**Coefficient of Retroreflection\* (R<sub>A</sub>)**

Observation Angle	Entrance Angle		
	5°	30°	45°
0.10°	1000	575	150
0.20°	700	400	100
0.50°	160	75	50
1.00°	20	15	10

\*Candelas/Lux/Square Meter



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**Table 2**  
**Color Specification Limits**

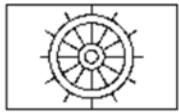
Color	Chromaticity Coordinates*							
	1		2		3		4	
	x	y	x	y	x	y	x	y
<b>White</b>	0.300	0.270	0.385	0.355	0.345	0.395	0.260	0.310

\* The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE diagram.

### Wheel Mark

The material carries a permanent ships wheel marking for easy recognition of the approved quality of ORALITE® IMO/SOLAS FD1403.

SOLAS



2690/XX  
ORALITE®

NOTE: In place of the XX the last two digits of the year manufactured will be provided.

### Note:

All ORALITE® products are manufactured within an ISO 9001:2015 controlled manufacturing environment and batch traceability is possible on the basis of the roll number.


### Analysis and Assessment of Risk

Applicable standards, testing procedures, and installation instructions are considered adequate to fully address all reasonably foreseeable risks for the intended use of this material.

### 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 – Cancer and/or Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

ORALITE® is a registered trademark of ORAFOL Europe GmbH.



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