# ORALITE® FD 1404 Imo Flex

# **Description**

ORALITE® FD 1404 Imo Flex is a tough weather and solvent resistant product designed for rugged outdoor maritime use. It was specifically designed for use on inflatable devices, such as life preservers or jackets and life rafts. It is compliant with U.S. Department of Transportation specification USCG 46 CFR, section 164.018 and International Maritime Organisation (IMO) resolution A.658(16) Type I.

# **Product Construction**

ORALITE® FD 1404 Imo Flex is composed of cube corner (microprism) retroreflective elements integrally bonded to a flexible, smooth-surfaced tough and weather resistant UV stabilised polymeric film. The prism surfaces are coated with a vacuum deposition of aluminium to provide a mirror surface to the prism facets. The resulting film is not more than 0,410 mm thick, and comes with an aggressive pressure sensitive adhesive or a textile backing.

# **Product Approval**

IMO resolution A.658(16).

# Film Logo Pattern



#### Wheel Mark

ORALITE® IMO/SOLAS FD 1404 carries a permanent ships wheel marking for easy recognition of the approved quality of the material.

#### SOLAS



2690/XX ORALITE® NOTE: In place of the XX the last two digits of the year manufactured will provided.

## Colour

ORALITE® FD 1404 Imo Flex is available in silver (retroreflection in white). The colour shall be located in the area defined by the chromaticity coordinates provided in Table 1, when measured in accordance with CIE No. 15 and illuminated with the CIE standard illuminant  $D_{65}$  using  $45^{\circ}$  /  $0^{\circ}$  or  $0^{\circ}$  /  $45^{\circ}$  geometry.

### Retroreflectivity

When illuminated with CIE illuminate A and measured with provisions of CIE No. 54 the typical coefficient of retroreflection (RA) of ORALITE® FD 1403 is shown in Table 2.

#### **Adhesive**

 $\mathsf{ORALITE}^{\$}$  FD 1404 is 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.

## **Application Instructions**

Please contact ORAFOL for full instructions.



# ORALITE® FD 1404 Imo Flex

## **Shelf Life**

The product must be used within one year from the shipment date. All rolls including partially used rolls should be stored in original packaging, tightly wound. Store in a clean and dry area, away from direct sunlight. Store at 20° C and 50% relative humidity.

Table 1
Colour Specification Limits (Daytime)

|        | Chromaticity Coordinates* |       |       |       |       |       |       |       |  |
|--------|---------------------------|-------|-------|-------|-------|-------|-------|-------|--|
| Colour | 1                         |       | 2     |       | 3     |       | 4     |       |  |
|        | х                         | у     | х     | у     | х     | у     | х     | у     |  |
| Silver | 0,300                     | 0,270 | 0,385 | 0,355 | 0,345 | 0,395 | 0,260 | 0,310 |  |

<sup>\*)</sup> The four pairs of chromaticity coordinates determine the acceptable chromaticity when measured with standard illuminant D<sub>65</sub> using a Hunter LabScan spectrocolorimeter.

Table 2
Retroreflectivity

| Observation | Entrance Angle (β <sub>1</sub> , β <sub>2</sub> =0) |     |     |  |  |  |
|-------------|---|-----|-----|--|--|--|
| Angle       | 5°  | 30° | 45° |  |  |  |
| 0,10°       | 1000  | 600 | 175 |  |  |  |
| 0,20°       | 700   | 400 | 140 |  |  |  |
| 0,50°       | 125   | 80  | 55  |  |  |  |
| 1,00°       | 20  | 15  | 10  |  |  |  |

All values have units of cd/lux/m2.

### **IMPORTANT NOTE**

All ORAFOL products are subject to careful quality control throughout the entire manufacturing process, and it is ensured that they are of merchantable quality and free from manufacturing defects. The information published is based on our analyses and studies and does not constitute any warranted properties or any agreement as to quality. Due to the diverse possibilities of use of ORAFOL products and the constant development of new applications, the buyer should carefully consider the suitability and performance of the product for the respective purpose; it bears all risks associated with such use. No warranty is given for purposes other than those listed in the Technical Data Sheet or for applications that are not processed in accordance with ORAFOL's processing instructions.

The durability of the end product depends upon a variety of factors, including but not limited to substrate selection and preparation, compliance with the recommended application guidelines, geographical area, exposure conditions and maintenance of the ORAFOL material and of the end product. Product defects caused by the substrate or improper surface preparation do not lie within ORAFOL's sphere of responsibility.

When using ORAFOL products, the pertinent national regulations are to be observed. ORAFOL recommends that you obtain the current stipulations from your local authority and ensure that the product meets these requirements. Please contact ORAFOL for further information.

ORALITE® is a registered trademark of ORAFOL Europe GmbH.

