

# AS-OI IMO SIGNS



## General description

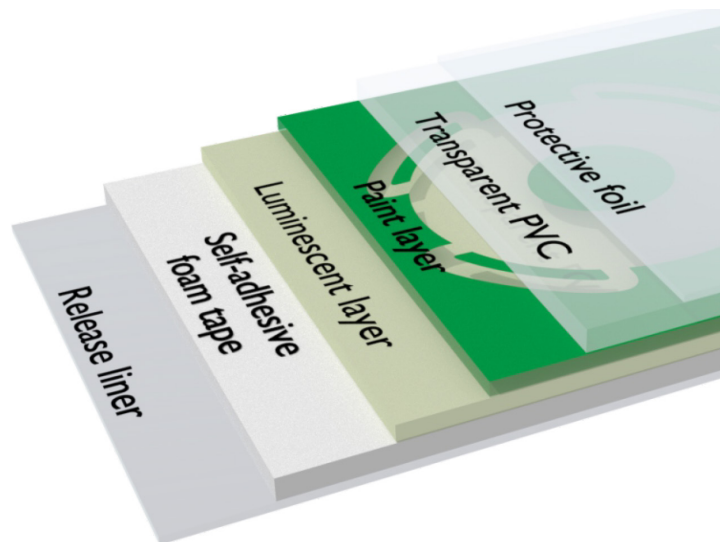
AS-OI IMO Signs are produced on Dura-Plate material - photoluminescent multilayer material specially designed for the production of luminous signage and LLL system. AS-OI material is manufactured on base of the rigid, self-extinguishing, plastic material which protect the luminous layer against the mechanical damages and UV rays. At the back AS-OI signs is equipped with a soft, self-adhesive foam, which allows for installation on wide range of the surfaces. All components are non-toxic and non-radioactive. It meets the requirements of the ISO 15370:2010 which classify it as a fire retardant material.

## Installation instruction

Due to the adhesive foam tape backing AS-OI material can be applied on most of the surfaces without additional adhesive layers. There is no need for using the additional aluminium profiles.

## Advantages

1. Produced of 0,5 mm PVC with an enhanced fire resistance.
2. High afterglow performance.
3. Photoluminescent layer is produced on base of new generation earth aluminates luminous pigments, UV stable.
4. Good resistance to sea water and detergents (it can be cleaned using detergents).
5. Temperature resistance from -30°C to +65°C.
6. Excellent adhesive properties.
7. Suitable for external use.
8. Photoluminescent material and printed area is protected against mechanical damages by the transparent PVC.
9. The surface of the signs is protected with protective foil which can be removed after the installation.
10. Do not require any special maintenance.



## Maintenance and storing

AS-OI Dura-Plate should be store in temperature range 10 - 30° C and humidity between 40 - 60%.

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## Physical and chemical properties

Parameter	Result
Base materials	0,5 mm transparent PVC; self-extinguishing, adhesive foam
Thickness	1,5 mm (with adhesive layer)
Service temperature	-30°C to +65°C (-22°F to +149°F)
Surface preparation	Yes
Mounting method	Self-adhesive
UV resistance	Excellent
Weather resistance	Excellent
Chemical resistance	Very Good
Sea water resistant	Yes
Workable life (indoor)	10 years
Workable life (outdoor)	3-5 years

## Afterglow performance

Brightness (mcd/m <sup>2</sup> )*			Decay time	Weight per m <sup>2</sup>
10 min	60 min	120 min		
≥ 133	≥ 17	≥ 7,59	min. 2680 min	1,42 kg

\* Measurement performed in accordance with DIN 67510-1

## Test methods

### Temperature range:

A specimen applied to stainless steel is exposed at high and low temperatures and brought back to room temperature. 1 hour after exposure the specimen is examined for any deterioration. Note: Prolonged exposure to high and low temperatures in the presence of chemicals such as solvents, acids, dyes, etc. may eventually cause deterioration.

### Chemical Resistance:

All chemical tests are conducted with test panels to which a specimen has been applied. 72 hours after application the panels are immersed in the test fluid for the given test period. 1 hour after removing the panel from the fluid, the specimen is examined for any deterioration.



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# AS-OI IMO SIGNS

## Tests

AS-OI IMO signs were tested in accredited laboratories and they meet or exceed the following requirements:

- ISO 15370:2010 Ch. 4.2 and Annex A - Phosphorescence test
- DIN 67510-I - Photopic Luminance
- PN-IEC 60092-101:2001 part 2.28.2 - Flame retardance test

## Certificates

AS-4I Dura Plate is certified by DNV-GL for compliance with (EU) 2017/306, item No. MED/3.40. SOLAS 74 as amended, Regulation II-2/13, FSS Code II, IMO Res.A.752(18) and ISO 15370:2010.

  
Certificate No:  
**MEDB0000268**

### EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

**This is to certify:**  
**That the Low-Location Lighting Systems**

with type designation(s)  
**AS-41 DURA-PLATE, AS-42/B Photoluminescent Plate, AS-42/C Photoluminescent Plate, AS-42/D Photoluminescent Plate, AS-43/C Photoluminescent Plate, AS-44/B Photoluminescent Foil**

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**A-SPE Polska  
Gronowo Górne, Elblag 2, Poland**

is found to comply with the requirements in the following Regulations/Standards:  
Regulation (EU) 2017/306,  
**item No. MED/3.40. SOLAS 74 as amended, Regulation II-2/13, FSS Code 11, IMO Res.A.752(18) and ISO 15370:2010**

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-08-06**.  
Issued at **Høvik** on **2017-08-07**

DNV GL local station:  
**Gdansk CMC**


Approval Engineer:  
**Tomasz Werchowicz**

  
Notified Body  
No.: **0575**

  
for **DNV GL AS**  
Digitally Signed By: Helt Øyvind  
Location: DNV GL Høvik, Norway  
on behalf of  
**Vidar Dolonen**  
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a notified body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.  
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.  
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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Certificate No:  
**MEDD000015Y**

### QS - CERTIFICATE OF ASSESSMENT - EC (MODULE D)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

**This is to certify:**  
**That the Quality System for the products**

with type designation(s) as specified in the Appendix to this Certificate

Issued to  
**A-SPE Polska  
Gronowo Górne, Elblag 2, Poland**


is found to comply with the applicable requirements.  
The quality system has been assessed with respect to the procedure of conformity assessment described in Annex II, Module D in the directive 2014/90/EU and regulation (EU) 2017/306.

This Certificate is valid until **2022-08-06**.  
Issued at **Høvik** on **2017-08-07**

DNV GL local station:  
**Gdansk CMC**

Approval Engineer:  
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for **DNV GL AS**  
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on behalf of  
**Vidar Dolonen**  
Head of Notified Body

0575/yyyy      0575:      Notified Body number undertaking quality surveillance  
yyyy:      The year in which the mark is affixed

The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.  
This certificate authorizes the manufacturer in conjunction with the valid EC Type Examination (Module B) Certificate(s) of the equipment listed before to affix the Mark of Conformity (wheelmark) to the product described herein.  
This certificate loses its validity if the manufacturer makes any changes to the approved quality system which have not been notified to and agreed with the notified body named on this certificate.  
This certificate remains valid unless suspended, withdrawn, recalled or cancelled.  
The Manufacturer has to apply for periodical audits to verify the maintenance and application to the quality system every 12 months.

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