

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Window Wipers**with type designation(s)
WSO-H-1-V-PI and SEO-H-2-V-EP-IT

Issued to

Jung-A Marine Co., Ltd.
Busan, 11, Republic of Koreais found to comply with
DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Busan** on **2019-01-03**This Certificate is valid until **2024-01-02**.DNV GL local station: **Gimhae Station**for **DNV GL**Approval Engineer: **Geun Young Park**

Andreas Kristoffersen
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-016256-3**
Certificate No: **TAA000024V**

Product description

Window wipers, WSO-H-1-V-PI and SEO-H-2-EP-IT, consists of following components.

Component	Type	Location	Remark
Straight line wiper with motor mounted outside	WSO-H-1-V-PI	Exposed	1 wiper type
	SEO-H-2-V-EP-IT	Exposed	2 wiper type
Main controller	1221SV	Protected	-
Sub control box	JAWSVS	Protected	-

Application/Limitation

- For marine and offshore applications.
- The window wipers shall be installed in accordance with the manufacturer's document.
- When installed on ships with class notation NAUT(OC)/NAUT(AW)/NAUT(OSV), the window wipers shall comply with minimum coverage and speed/frequency requirements described in the relevant class notation rules.

Type Approval documentation

DNVGL No.	Document No.	Rev.	Title
13	KOMERI-08T208-2	-	Certificate of Test (IP)
14	KOMERI-08T208-1	-	Certificate of Test (IP)
15	08T206	-	Certificate of Test (Vibration)
16	08T209	-	Certificate of Test (Extreme, excessive)
17	Euisi2008-1260	-	Test Report (salt mist)
23	KOMERI-0601-13T2594	-	Testing Certificate
24	KOMERI-0314-T13T2592	-	Test Certificate
26	KOMERI-0306-13T2595	-	Testing Certificate
27	KOMERI-0311-13T2597	-	Testing Certificate
28	KOMERI-0311-13T2596	-	Testing Certificate
30	KOMERI-To-13T2593	-	Testing Certificate (Durability)
31	KOMERI-To-14T0001	-	Testing Certificate (salt water)

Tests carried out

- IEC 60945 (2002)
- ISO 17899 (2004)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.