

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA000024C
Revision No:
2

This is to certify:
that the Window Wipers

with type designation(s)
Wynn Marine Type C and D MKV wiper mechanisms with Series 8000 Network Control System

issued to
B HEPWORTH & CO LTD T/a Wynn Marine
REDDITCH, United Kingdom

is found to comply with
DNV rules for classification – Ships and offshore units
IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids

Application:
See Page 2

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2025-01-24**

This Certificate is valid until **2030-01-23**.
DNV local unit: **UK & Ireland CMC & VMC**

Approval Engineer: **Steinar Kristensen**



for **DNV**

This document has been digitally signed and will therefore not have handwritten signature

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Heavy Duty Straight Line Windscreen Wiper Mechanism with Series 8000 Network Control System, Wynn Marine Type C and D MKV including Controller and Keypad, consisting of:

Component	Description	Environment
Straight line Wiper Mechanisms	Type C MKV or Type D MKV – IP67	Exposed*
Wiper Motors	3 Phase 115V AC for 8000 Series Controller, PARV81, IP20 or 3 Phase 230V AC for 8000 Series Controller, PARV82, IP20	Protected
Series 8000 Network Control System	8000 Series Module	Protected
	8000 Series 19" Rack Module	Protected
	8500 Keypad, IP66	Protected

*Motor parts for Straight line window wiper Type C shall be mounted in protected area.

Application/Limitation

- For marine and offshore applications.
- Installation to be performed according to the manufacturers Installation and operation manual.
- When installed on ships with class notation NAUT- AW, NAUT-OC or NAUT –OSV(A), the window wiper system shall comply with the minimum blade coverage and speed/frequency requirements described in the relevant class notation rules.
- Wiper dimensions:

Stroke (SSSS)	< 4728 mm
Arm (AAAA)	< 1150 mm
Blade (BBBB)	< 1800 mm

Type Approval documentation

DNV No	Document ID	Rev.	Description
32		2025-01-07	Report: B. Hepworth, Wynn wiper endurance and durability test for 1150mm arm and 1800mm blade length
31	DNV TEST Report IEC 62288 iss2 070125	2	Report: Wynn Marine, Test report for 8000 series keypad to IEC 62288 (2021)
20	Type C 8200 Control Standard	Issue 10	Manual: Wynn Marine, Installation & Maintenance Manual, Type C Straight Line Wiper - Inside Motor with Series 8000 Network Control System
19	N207859	2	Bodycote Materials Test Certificate N207859 Salt Spray
18	09A029 CR	1	Test report from Hursley EMC Services Ltd, No 09A029 CR
17	1424	C	Test report from PARC, No. 1424
16	08A489 CR	1	Test report from Hursley EMC Services Ltd, No 08A489 CR
15	08J049 CR	1	Test report from Hursley EMC Services Ltd, No 08J049 CR
14		Issue 5	Report: Wynn Marine, Test report for DNV Approval Test Programme
13	4816	1	Test report from AQL EMC Limited. No. 4816
12			Test Record Sheet 3000h dry test - Type D
11			Test Record Sheet 3000h dry test - Type C
10	170614	A	Audio Report
9	TRA022314CC01A	A	REPORT: TRAC, Low Temp, Dry Heat, Damp Heat
8	TRA-005367-21-CR-02A	A	Report: TRAC, Environmental test report for 8000 series wiper system
7	TRA-014119-36-02A	1	Report: TRAC, EMC test report for 8000 series wiper system
6		01.08.2013	Test Plan: Wynn Marine, Test Plan for DNV Type Approval Test Programme
3	Type D MKV 8200 Control Standard	Issue 10	Manual: Wynn Marine, Installation and Operation Manual, Type D MKV Straight Line Wiper Series 8000 Network Control System

Tests carried out

- Environmental testing: IEC 60945 (2002) incl. Corr.1 (2008)
- Performance testing, wipers: ISO 17899 (2004)
- Presentation of navigation information: IEC 62288 (2021)

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, reference to Type Approval certificate, 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.