

**TYPE APPROVAL CERTIFICATE****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 AND COMPANY LIMITED**  
**REDDITCH, United Kingdom**

is found to comply with

**DNV GL 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 GL.**Issued at **Høvik** on **2018-12-27**for **DNV GL**This Certificate is valid until **2023-12-26**.DNV GL local station: **Manchester**Approval Engineer: **Steinar Kristensen****Jan Tore Grimsrud**  
**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.



## 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

## 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 notations 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)	< 1000 mm
Blade (BBBB)	< 1100 mm

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

## Type Approval documentation

DNV GL No	Document ID	Rev.	Title
20	Type C MkV 8000	Issue 6	Manual Type C Straight Line Wiper - Inside Motor 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

Job Id: **262.1-013022-2**  
Certificate No: **TAA000024C**

<b>DNV GL No</b>	<b>Document ID</b>	<b>Rev.</b>	<b>Title</b>
6		01.08.2013	Test Plan: Wynn Marine, Test Plan for DNVType Approval Test Programme
3	Type D MkV 8000	Issue 6	Manual: Wynn Marine, Installation and Maintenance Manual, Type D MkV 8000 Controller Standard

## Tests carried out

- IEC 60945 – Environmental testing [2002]
- ISO 17899 – Marine electric window wipers – First Edition [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, 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.