Certificate no.:
TACC000001V

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Commercial Craft

with type designation(s)
12m Fast Crew Transfer Boat

issued to
Yinson Electric Pte. Ltd.
Singapore, **Singapore**

is found to comply with
DNV Standard DNV-ST-0342 - Craft, 2022

Application:

See next page.

Issued at **Høvik** on **2025-06-19**
This Certificate is valid until **2030-06-18**.
DNV local unit: **Certification of Materials - Singapore**

Approval Engineer: **Per Annar Sandaune**

for **DNV**

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.

Conditions

Type certification means that the boat builder has engaged himself to build boats in series identical to the prototype which the Society has inspected and found to be in accordance with the abovementioned standard. The production of the type certified boat is subject to surveillance by the Society, by inspection. Boats of the certified type are to be equipped with an individual certificate to be issued upon product survey.

The certification is based on the assumption that the boats will be handled in a seamanlike manner as stipulated in the standard.

Boat type

Boat type identification number:	**662.01**
DNV design ID	**P40497**
Application of standard:	**Requirements for decked craft.** **DNV ST-0342 Sec.3 [3.1.3] Alternative design standard:** - **DNV Rules for classification: High speed and light craft** - **Class notation 1A HSLC R3 Service.**

Particulars

Length, Loa:	**11.90 m**
Beam incl. fenders, B max:	**5.26 m**
Draught incl. keel, max:	**0.790 m**
Height above waterline, incl. mast, max:	**5.5 m (displacement mode)**
Weight of boat, incl. engine, equipment, net:	**10800 kg**
Hull material:	**Glass fibre reinforced plastics**
Propulsion:	**Engtek Stern Thruster L-V390**
Batteries:	**4x Kreisel 63 kWh, 800 VDC (installed in 2 of 4 compartments)**

Restrictions

Engine power, max:	**390 kW**
Maximum load (fuel, persons, add. weight):	**1395 kg**
Number of persons, max:	**2 crew + 12 pax**

Special restrictions and additional comments:

Design vertical acceleration at center of gravity $a_{cg} = 1.5g_0$.

The operation of the craft has to be carefully adjusted to the wave pattern in terms of heading and reduced speed, to prevent excessive loads on the hull

List of deviations

1. A fixed fire extinguishing system protecting the battery compartments is not installed in the prototype craft. Safety mitigations include portable extinguishers placed near battery compartments and physical separation of four batteries in the outer hulls, as documented in Yinson's application dated 13 October 2023. The installed battery capacity is higher than specified in the deviation application 2x63 kWh vs. 100 kWh, but considered acceptable. This deviation is only accepted for the prototype craft. For the series production of the craft a fixed fire extinguishing system shall be installed in the battery compartments, and the safety assessment for the battery system shall be updated accordingly.

2. The dynamic amplification factor (DAF) for foil strength has been reduced from 1.8 to 1.5. The DAF is given by the requirements in DNV-RU-HSLC Pt.3 Ch.1 Sec.3 [3.8] *Heavy units*. Yinson has documented craft acceleration levels and strain gauge readings from the foil rods through the installed hull monitoring system on the prototype craft. The results from the prototype test phase shared with DNV are found to be acceptable with regards to the acceleration and foil load level. Ref. Yinson Report No. YE.001-YINS-00-Z-CA-00005 - *Hydroglyder - Hull Monitoring System Report*, rev. A1, DNV approval letter M-SA-SP/PASAN/P40497-J-171 dated 2025-06-19. An update of the report is requested based on missing information about weather conditions and sea states during the test runs. The Type Approval Certificate may be revised based on possible findings in the revised report.

Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com