



PRESS RELEASE

Aurelia's 100% hydrogen powered design awarded RINA approval

Hamburg, 08 September 2022 - Aurelia Green Ship Concept Design has unveiled a new design with 100% hydrogen propulsion, which challenges the future of the green design business. The Certificate of Approval in Principle has been issued by RINA based on the new published RINA Rules for Hydrogen Fuelled Ships and the RINA Guide for the Approval in Principle of Novel Technologies.

The new design concept is the ACD01 1000, a RORO vessel for transporting ro-ro cargo, with electric propulsion using highly compressed H₂ as fuel. Beyond the green design, the difference is marked by the ship's hydrogen-based engine system, which can be applied to other ship designs.

The fuel used to operate the vessel is 100% compressed hydrogen which generates no environmentally harmful emissions with a design which can be considered as zero emission not only in port, but also during navigation. The hybrid propulsion is based on battery and fuel cell power modules and it is not supported by internal combustion engines supplied by petroleum-based conventional fuels. The batteries are used as an energy storage source to supply power for the hotel load too.

Ton Bos, partner, and co-founder of Aurelia commented: "The world of zero emissions is a pioneering world open to new opportunities, which to some extent reminds me of the first operations in the heavy lift sector, where there was also no experience yet. In this sense, the cooperation with RINA is a strong signal that the maritime world is ready to work together for clean shipping."

"This cooperation gives us the opportunity to tune the recently published rules for Hydrogen, to focus on new technical challenges as well to verify the technology readiness level of the components and systems used for the storage, supply and bunkering of hydrogen. The commitment of the persons involved is high and this will bring realistic achievements", said Patrizio Di Francesco, EMEA Special Projects Manager at RINA.

Furthermore, this new design complies well beyond the limits settled by EEDI Phase 3 according to MEPC.203(62), the ballast water treatment plant is in accordance with the latest amendments of the International Ballast Water Management Convention and the hull is designed to ensure excellent hydrodynamic and maximum propeller efficiency.

"This new design for a compressed hydrogen RORO is part of a long-term cooperation between Aurelia and RINA in which we will develop liquefied hydrogen propulsion system that could be used for heavy lift, cruise and Ro-Pax vessels. This cooperation with RINA will ensure that the design of renewable ships becomes a reality and does not remain a distant dream. From Aurelia we are synergising with RINA to achieve this out of the box design concept, we think big, we think about the future, we think about safety and our planet," said Raffaele Frontera, founding partner of Aurelia Green Concept Design."

Aurelia is a start-up with crystalline talent in concept designs for clean power vessels. Aurelia's mission is to influence the maritime world by proposing zero emission ships, introducing a new way of designing vessels starting from operational knowledge. For a company focused on environmentally friendly ship design, Aurelia identify the value of contributing to the reduction of environmental pollution with innovative ship design and zero emissions. <https://aureliadesign.nl/>



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