ABS

DELIVERING **ADVANCED** AND **SUSTAINABLE SOLUTIONS** FOR **FUTURE YACHTS**

Courtesy of Baglietto Yachts

ABS IS A GLOBAL LEADER IN YACHT CLASSIFICATION

Providing services that advance safety, reliability and compliance at every stage of a yacht's life cycle. By leveraging new technologies and promoting innovative thinking, ABS provides engineering and technical capabilities to enable safer and more sustainable yachting.

SAFETY EXCELLENCE

Safety is the cornerstone of everything we do at ABS, reflecting our clients' needs for services and solutions that go beyond baselines.

"At Heesen, we are dedicated to building superyachts with a sharp focus on quality, innovation, and sustainability. Our longstanding partnership with ABS has accompanied us on our journey to **achieve the highest standards** in terms of improved yacht performance and energy-efficient designs by adopting new technologies and innovative production methods that contradistinguish the Heesen heritage. With its dedicated support, **ABS always offers excellent services beyond baselines, making them a truly valuable partner."**

— Peter van der Zanden, General Manager Design & Development at Heesen Yachts

Courtesy of Heesen Yachts

TECHNOLOGY TRENDS

Looking at the yachting industry in 2024 and beyond, there is a growing demand for a combination of enhanced safety, sustainable solutions and novel technologies. A new generation of owners have already started to push the limits of technology, demanding progress in the development of more sustainable yachts, both in terms of the construction materials and performance, to reduce emissions and their environmental impact.

In response to this increased demand, ABS follows a dynamic approach providing an additional layer of innovative thinking that embraces technological changes including improved performance and advanced sustainable solutions.

INNOVATIVE THINKING

ABS helps the yachting industry advance energy efficient technologies to support a more sustainable future. The ABS sustainability team works closely with clients, industry associations and organizations to advance key areas of research such as yacht design, future fuels, digital technologies and decarbonization pathways.

ADVANCED SERVICES

The yachting market is constantly evaluating innovative solutions to satisfy the ever-expanding needs of owners, both at a small scale of simple details and at a large scale of architectural design solutions.

Pushing the boundaries of traditional yacht building is at the heart of ABS' approach. We support the application of new techniques and novel technologies and reflect these in periodic updates to the ABS Yacht Rules, Guides, Guidance Notes and Requirements published to support the industry.

ABS works towards more efficient surveys conducted remotely as well as less prescriptive Rules in favor of a risk-based approach to new designs. Advanced techniques include 3D plan approval providing a paperless process and the provision of end-to-end cybersecurity.

REMOTE SURVEY

ABS continues to pioneer new ways for smart, efficient, thorough and safe surveying. The ABS Remote Survey program augments traditional surveys through the transfer of digital documentation for non-attendance verification of selected surveys. Adoption of this program improves scheduling efficiencies and reduces operational disruptions. All requests are subject to ABS review and acceptance on a case-by-case basis.

Courtesy of Overmarine Group Photo Archive

3D PLAN APPROVAL

With the capability and experience to fully support 3D model-based engineering plan review and survey, ABS continues to lead the way in the development of digital class by leveraging data and digital technologies to deliver operational efficiencies and enhanced safety for the industry.

At ABS, advances in technology and 3D modeling techniques now enable one, end-to-end, project model — helping designers achieve up to 25 percent of time savings with the elimination of 2D drawings.

CYBERSECURITY SERVICES

ABS provides practical guidance to help mitigate and protect against cybersecurity risks. The ABS CyberSafety® program offers support at every stage of an asset's life cycle so that owners can understand and address the risks associated with cyber-enabled equipment.

The ABS CyberSafety method provides asset owners, operators, shipyards, equipment system suppliers and integrators with a clear and simple method for understanding, measuring and mitigating the risks inherent to cyber-enabled equipment.

SUSTAINABILITY FOR FUTUREPROOF YACHTS

Nowadays the need for yachting to be sustainable is closely linked with the use of alternative fuels and renewable energies. ABS leads the way in new technologies that enable the use of alternative fuels such as methanol and hydrogen fuel cells as the most likely and suitable fuels for the yachting sector.

As the yachting industry moves towards a cleaner future, ABS offers support with finding the best commercially viable solutions and helping owners achieve compliance for air emissions, ballast water management, underwater noise, ship recycling, solid waste and more.

HYBRID PROPULSION SYSTEMS

Different configurations of traditional internal combustion engines coupled with reduction gear and propulsion shaftline and batteries governed by energy management systems have been used for years.

ABS has led the way with the multi-award winning Heesen-built vessel *Home* launched in 2017. The first yacht from the yard to feature a hybrid diesel-electric propulsion system, *Home* combines increased performance with a more comfortable onboard experience, smoother cruising and lower noise.

BATTERIES AND FUEL CELLS

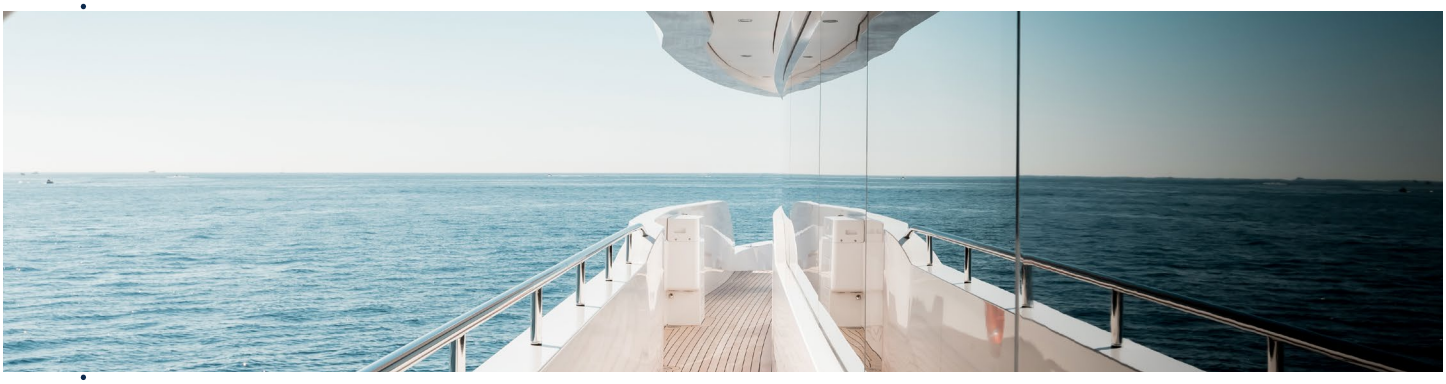
As the focus shifts towards a combination of internal combustion engine, batteries and fuel cells, ABS is ready to support the research and development of marine solutions that will be ready to satisfy the needs of a highly demanding industry driven by individuals that see every challenge as a new opportunity and where boundaries are pushed to the limits.

ABS is actively supporting the development of fuel cell technology for its potential to make a real contribution to the decarbonization of the yachting industry. ABS has issued Statements of Technology Maturity to different suppliers as a key step to the commercial application of their product.

ALTERNATIVE FUELS

New propulsion systems using alternative fuels such as methanol are quickly becoming a reality and where the regulatory framework has moved from the traditional prescriptive approach to a risk-based approach, ABS has proven its ability to respond proactively to evolving industry demands.

ABS deploys a skilled team of engineers close to the main yachting hubs to carry out reviews of conceptual yacht design to identify challenges or gaps within applicable regulations, especially when the desired goal in respect of the 500 gross tonnage (gt) level needs to be achieved or based on specific requirements reflecting the individual rules of a particular flag Administration.



Courtesy of Baglietto Yachts

"Building a Motor yacht under ABS survey and classification has an **added value** coming from the international reputation of ABS itself, especially for US Clients.

Furthermore, for the Shipyard, the main benefits are related to the **easy development of the design approval process** - both in terms of technical support and speed of approval - as well as to the **care and expertise** of the appointed surveyors, finding in both cases the possibility to have a direct and quick approach with the person in charge, which results in a very efficient problem-solving procedure."

— Andrea Lavagnino, Technical Director, Baglietto

BEYOND TRADITIONAL CLASS SERVICES

ABS works closely with all stakeholders to ensure that yacht owners' expectations are met. Reviewing the design concepts at an early stage helps identifying gaps or safety risks that need to be addressed for the successful delivery of each project.

CONCEPT DESIGN REVIEW

As onboard comfort remains one of the primary goals of designers and builders to meet the stringent needs of their clients and define their brand, noise and vibration analysis become extremely important, a requirement reflected in several dedicated ABS notations.

COMFORT ON BOARD

ABS can apply noise and vibration prediction and measurement tools for retrofits or at the earliest design and build stage of a new yacht project. These tools help designers and shipyards make more informed design decisions for modifications to reduce or improve the noise and vibration characteristics for a vessel and enhance the comfort and experience on yachts.

Courtesy of Baglietto Yachts

LEADING WITH CLASS

ABS is one of the leading classification societies with a classed yacht fleet of over 500 yachts with a length above 24 meters (m), constructed with steel, aluminum or fiber-reinforced plastics (FRP), either sailing or motor yachts.

Through close collaboration with builders, naval architects and representatives of commercial and private yacht owners, ABS provides services that drive innovation, efficiency and compliance with safety regulations. ABS keeps clients up-to-date in today's rapidly evolving landscape with world-class classification, sustainability and technology services and solutions for yachts.

CLASSIFICATION SERVICES

ABS has a long history of yacht classification providing worldwide services to owners, designers and major builders. Today we are one of the leading class organizations for the global yacht fleet and we are authorized by leading flag Administrations involved in the registration of yachts.

RULES AND GUIDES

- *Rules for Building and Classing Yachts*
- ABS *Guide for Comfort on Yachts*
- *Guidance Notes On Ship Vibration*
- *Guidance Notes on Yacht Design*
- *Requirements for Hybrid Electric Power Systems for Marine and Offshore Applications*
- *Requirements for Use of Lithium-ion Batteries in the Marine and Offshore Industries*

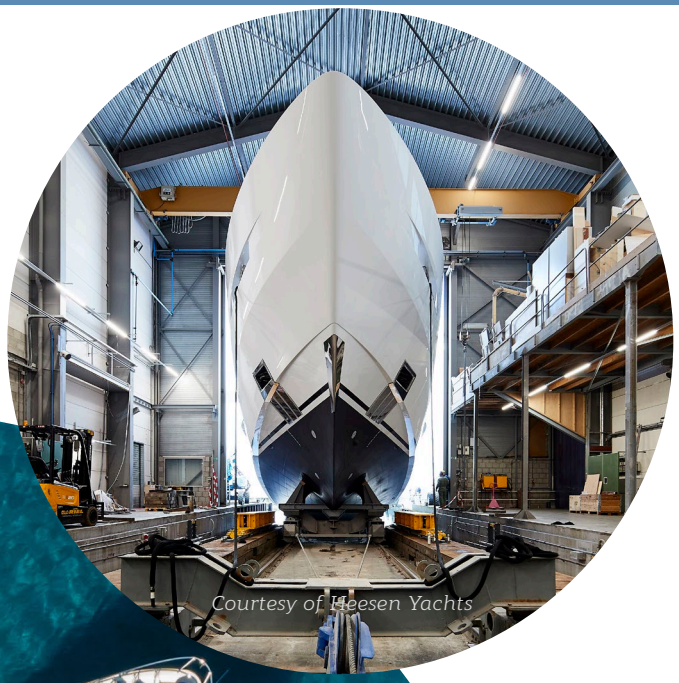
Scan to access the Rules, Guides and other Resources

OTHER RESOURCES

- Regulatory Debrief for NOx Tier III Compliance for Yachts
- Ballast Water Management for Yachts
- **Brochure:** Inventory of Hazardous Materials for Yachts
- **Brochure:** ABS Guide on Comfort on Yachts and Related Advisory Services

AN AVERAGE
OF MORE THAN **50**

yachts are **under construction every year between Italy, the Netherlands and Turkey** with the same number of new yacht projects undergoing **plan approval** in ABS offices in Europe at any given time.



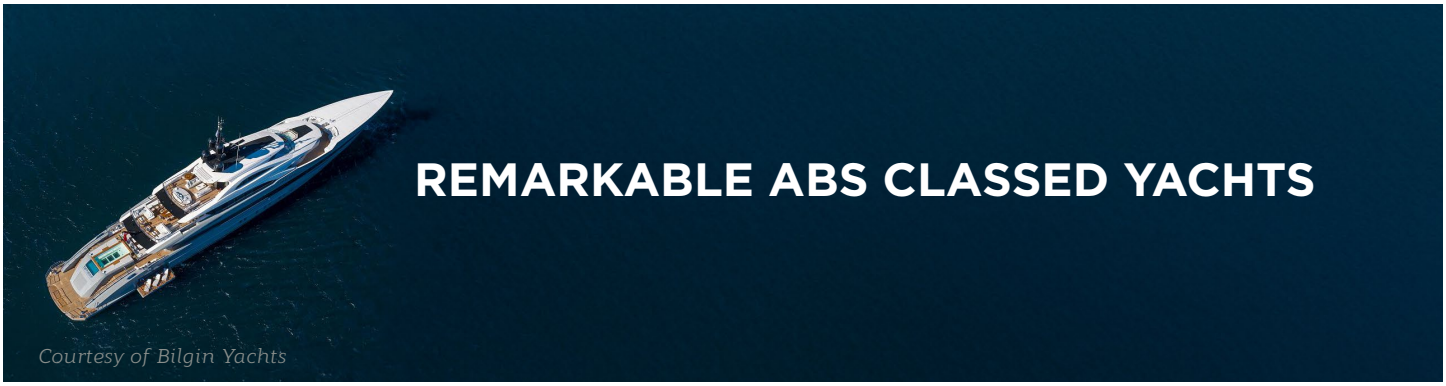
Courtesy of Heesen Yachts

40%

ABS classed yachts are made of **aluminum, 30% steel and 30% of FRP**

55%

of ABS classed yachts are **between 41 and 50 m in length**



REMARKABLE ABS CLASSED YACHTS

Take a look at the list of award-winning yachts classed by ABS below:

Name	Shipyard	Length	Mentions
Alisa	Overmarine	50 m	Boat International 2022 World Superyacht Awards
Amare II	Heesen	50 m	Judges Commendation Winner, Boat International 2021 World Superyacht awards
Annabella	San Lorenzo	43.9 m	Boat International 2022 World Superyacht Awards
Asean Lady	Pride Mega Yachts	88 m	Asymmetric catamaran
Atomic	VSY	64 m	First yacht obtaining ENVIRO notation
Illusion Plus	Pride Mega Yachts	88 m	Largest yacht ever built in Asia
Limitless	Lürssen	96 m	Installed power 14,500HP
Maltese Falcon	Perini Navi	88 m	First ever yacht using patented Falcon Rig DynaRig sailing system
Sealen B	Royal Huisman	34 m	International Superyacht Society Awards 2001 and several regattas successes
Tatiana	Bilgin Yachts	80 m	Largest ever built yacht in Turkey
The Wellesley	Oceanco	56 m	“Below Deck” Bravo series

OPTIONAL NOTATIONS

Selecting optional notations can add value to your asset and demonstrate compliance with higher standards of comfort and sustainability.

Notation	Area of compliance
COMF(Y) and COMF+(Y)	Comfort on board
ENVIRO and ENVIRO+	Compliance with MARPOL
APS	Athwartship thruster
HYBRID IEPS and HYBRID IEPS [Operating Mode]	Hybrid Electric Power Systems
NOx-Tier III	Air emissions, certification of engines
FC-E and FC-NE	Fuel Cells for Essential and Non Essential services
LFFS	Use of Low Flash Point Fuel (eg. Methanol)
DFD-Methanol or -Hydrogen	Dual Fuel Diesel engine power plant using Methanol or Hydrogen
HAB, HAB+, HAB++	Criteria for accommodation area design, vibration, noise, indoor climate and lighting
HELIDK	Use of helicopter deck intended for landing
IDM-A	Infectious Disease Mitigation – Arrangements
IHM	Inventory of Hazardous Materials
LEV(EU) and LEV(US)	Low Emissions Vessel for Internal Combustion Engines per MARPOL Annex V and Engines certified to US EPA Tier 4
MAN and MAN-A	Maneuverability
NBL, NBLES, NBLES+	Navigation Bridge Layout
NIBS	Navigational Integrated Bridge System
SSV	Software System Verification, CyberSafety
SUSTAIN-1 and -2	Sustainability
UWN	Underwater Noise
VIB-M	Vibration of Machinery

YACHT SCANTLING ASSESSMENT TOOL

ABS Yacht Structure Assessment is a Microsoft® Excel® based program, applicable for structural scantling calculations and checks for steel and aluminum yachts according to the ABS *Rules for Building and Classing Yachts*. The tool is intended to help designers and expedite the review and approval process.

ABS GLOBAL REACH

ABS engineers and survey staff are positioned globally to support yacht builders, naval architects, and yacht managers during all phases of a yacht's life cycle. We operate centers of excellence in dedicated offices such as Genoa, London and Istanbul for steel, aluminum and FRP yacht plan approval. Our surveyors are trained and dedicated to the yacht sector to provide an outstanding level of service and the specialized experience necessary for this specific sector.

The experience accumulated from over 160 years of presence in the maritime sector and nearly 100 years working with our yacht clients resulting in close and professional cooperation with shipyards, naval architects and captains.

ABS can leverage its experience in the superyacht sector to provide the roadmap for the transition to this future model of the market. Our work on plan approval and shipyard relationships supports delivery of safer assets; the application of new forms of power will reduce noise and the local impact of superyachts on local communities and ultimately the application of new fuels will lower carbon emissions to net zero, creating a truly sustainable platform for the sector.

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