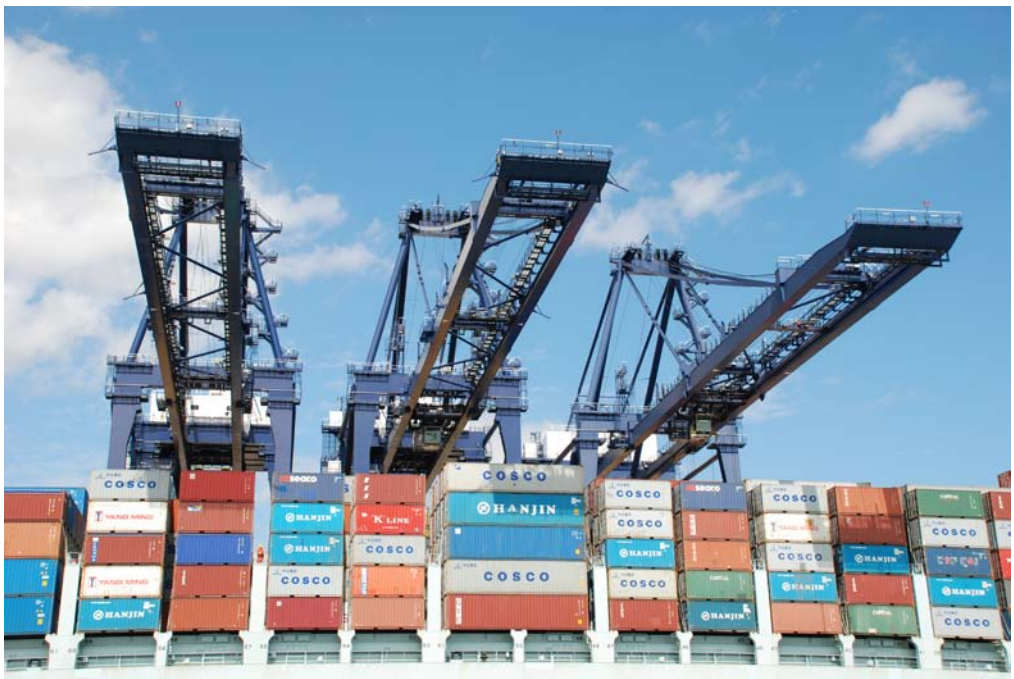
IACS

INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES

CLASSIFICATION SOCIETIES - *their key role*

Leading the way: dedicated to safe ships and clean seas, IACS Members make a unique contribution to maritime safety and regulation through technical support, compliance verification and research and development. More than 90% of the world's cargo carrying tonnage is covered by the classification design, construction and through-life compliance Rules and standards set by the Member Societies of IACS.

CONTENTS



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INTRODUCTION

Classification Societies today

The purpose of a Classification Society is to provide classification and statutory services and assistance to the maritime industry and regulatory bodies as regards maritime safety and pollution prevention, based on the accumulation of maritime knowledge and technology.

The objective of ship classification is to verify the structural strength and integrity of essential parts of the ship's hull and its appendages, and the reliability and function of the propulsion and steering systems, power generation and those other features and auxiliary systems which have been built into the ship in order to maintain essential services on board. Classification Societies aim to achieve this objective through the development and application of their own Rules and by verifying compliance with international and/or national statutory regulations on behalf of flag Administrations.

The vast majority of commercial ships are built to and surveyed for compliance with the standards laid down by Classification Societies. These standards are issued by the society as published Rules.

However, a classification certificate should not be construed as a warranty of safety, fitness for purpose or seaworthiness of the ship. It is an attestation only that the vessel is in compliance with the Rules that have been developed and published by the society issuing it. Further, Classification Societies are not guarantors of safety of life or property at sea or the seaworthiness of a vessel because although the classification of a vessel is based on the understanding that the vessel is loaded, operated and maintained in a proper manner by competent and qualified personnel, the Society has no control over how a vessel is operated and maintained between the periodical surveys it conducts.

More than 50 organizations worldwide define their activities as providing some form of marine classification services; however, not all meet the definition given in Appendix 1. Some that do (see Appendix 2) form the International Association of Classification Societies (IACS).

Classification is one element within the maritime safety regime. Others with a responsibility for or interest in promoting maritime safety include shipowners, shipbuilders, flag State Administrations, port State control authorities, underwriters, shipping financiers, charterers, and, of course, seafarers.

The role of classification and Classification Societies has been recognized in the International Convention for the Safety of Life at Sea, (SOLAS) and in the 1988 Protocol to the International Convention on Load Lines. This statutory role is addressed later in this note.

A vessel built in accordance with the applicable Rules of an IACS Member society may be assigned a class designation by the society on satisfactory completion of the relevant surveys. For ships in service, the society carries out surveys to verify that the ship remains in compliance with those Rules. Should any defects that may affect class become

apparent, or damages be sustained between the relevant surveys, the owner is required to inform the society concerned without delay.

The classification of a vessel is based on the understanding that the vessel is loaded, operated and maintained in a proper manner by competent and qualified crew or operating personnel.

A vessel maybe maintained in class provided that, in the opinion of the society concerned, it remains in compliance with the relevant Rules, as ascertained by periodic or non-periodic survey.

Classification Rules have been developed over many years by each society through extensive research and development and service experience and are subject to constant refinement. In addition, Unified Requirements have been agreed by IACS Members and transposed into the individual Members' Rules.

As outlined later below, 'statutory' requirements are developed at IMO and where necessary, Unified Interpretations of them are adopted by IACS.

Why 'Classification'?

In the second half of the 18th century, marine insurers, based at Lloyd's coffee house in London, developed a system for the independent technical assessment of the ships presented to them for insurance cover. In 1760 a Committee was formed for this purpose, the earliest existing result of their initiative being *Lloyd's Register Book* for the years 1764-65-66.

At that time, an attempt was made to 'classify' the condition of each ship on an annual basis. The condition of the hull was classified A, E, I, O or U, according to the excellence of its construction and its adjudged continuing soundness (or otherwise). Equipment was G, M, or B: simply, good, middling or bad. In time, G, M and B were replaced by 1, 2 or 3, which is the origin of the well-known expression 'A1', meaning 'first or highest class'. 'Lloyd's Register of British and Foreign Shipping' was reconstituted as a self-standing 'Classification Society' in 1834 with the concept of classification slowly spreading to other countries and insurance markets with the establishment of several other major Classification Societies.

As the classification profession evolved, the practice of assigning different classifications has been superseded, with some exceptions. Today a ship either meets the relevant class society's Rules or it does not. As a consequence it is either 'in' or 'out' of 'class'.

Classification Societies are often simply referred to as 'Class Societies' or just 'Class' ('class').

The International Association of Classification Societies - IACS

IACS can trace its origins back to the International Load Line Convention of 1930 and its recommendations. The Convention recommended collaboration between Classification

Societies to secure "*as much uniformity as possible in the application of the standards of strength upon which freeboard is based…*".

Following the Convention, RINA hosted the first conference of major societies in 1939 - also attended by ABS, BV, DNV, GL, LR and NK - which agreed on further cooperation between the societies.

A second major Class Society conference, held in 1955, led to the creation of Working Parties on specific topics and, in 1968, to the formation of IACS by seven leading societies. The value of their combined level of technical knowledge and experience was quickly recognised. In 1969, IACS was given consultative status with the International Maritime Organization (IMO). It remains the only non-governmental organization with Observer status which is able to develop and apply Rules.

Compliance with the IACS Quality System Certification Scheme (QSCS) is mandatory for IACS Membership. Full details of the scheme are available on the IACS website.

IACS is governed by a Council, with each Member represented by a senior management figure.

Under the Council is the General Policy Group (GPG), made up of a senior manager from each Member, which develops and implements actions giving effect to the policies, directions and long term plans of the Council.

The chair of GPG is taken by the Member holding the Council chair. IACS's technical work is undertaken generally through specialist Working Groups overseen by GPG.

The Association maintains a Secretariat in London and a QSCS Operations Centre in Southampton, UK.

The IACS Charter, Procedures, details of the work programme, technical Resolutions and other publications are all available on the IACS website.

CLASSIFICATION

Scope of classification

Implementing the published Rules, the classification process consists of:

- A technical review of the design plans and related documents for a new vessel to verify compliance with the applicable Rules;
- Attendance at the construction of the vessel in the shipyard by a Classification Society surveyor(s) to verify that the vessel is constructed in accordance with the approved design plans and classification Rules;
- Attendance by a Classification Society surveyor(s) at the relevant production facilities that provide key components such as the steel, engine, generators and castings to verify that the component conforms to the applicable Rule requirements;
- Attendance by a Classification Society surveyor(s) at the sea trials and other trials relating to the vessel and its equipment prior to delivery to verify conformance with the applicable Rule requirements;

- Upon satisfactory completion of the above, the builder's/shipowner's request for the issuance of a class certificate will be considered by the relevant Classification Society and, if deemed satisfactory, the assignment of class may be approved and a certificate of classification issued;
- Once in service, the owner must submit the vessel to a clearly specified programme of periodical class surveys, carried out onboard the vessel, to verify that the ship continues to meet the relevant Rule requirements for continuation of class.

Class Rules do not cover every piece of structure or item of equipment on board a vessel, nor do they cover operational elements. Activities which generally fall outside the scope of classification include such items as: design and manufacturing processes; choice of type and power of machinery and certain equipment (e.g. winches); number and qualification of crew or operating personnel; form and cargo carrying capacity of the ship and manoeuvring performance; hull vibrations; spare parts; life-saving appliances and maintenance equipment. These matters may however be given consideration for classification according to the type of ship or class notation(s) assigned.

It should be emphasized that it is the shipowner who has the overall responsibility for the safety and integrity of a vessel, including the manner in which it is operated and maintained. The effectiveness of classification depends upon the shipbuilder, during construction, and the shipowner, once the vessel enters service, cooperating with the Class Society in an open and transparent manner on all issues which may affect its class status. For the shipowner, this particularly requires acting in good faith by disclosing to the Class Society any damage or deterioration that may affect the vessel's classification status. If there is the least question, the owner should notify class and schedule a survey to determine if the vessel is in compliance with the relevant class standard.

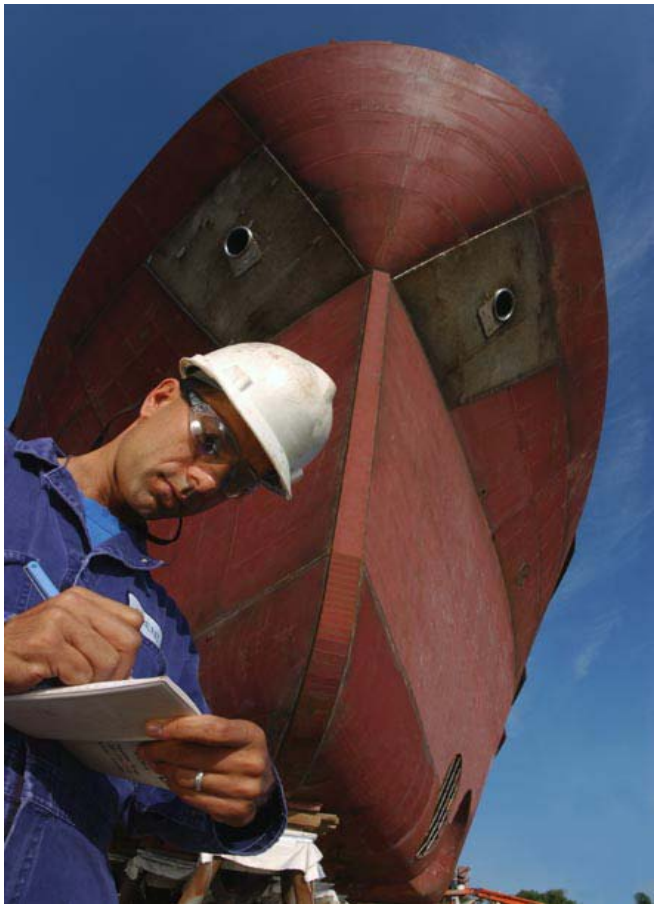
A Class surveyor may only go on board a vessel once in a twelve-month period. At that time it is neither possible nor expected that the surveyor scrutinize the entire structure of the vessel or its machinery. The survey involves a sampling, for which guidelines exist based upon empirical experience and the age of the vessel which may indicate those parts of the vessel or its machinery that may be subject to corrosion, or are exposed to the highest incidence of stress, or may be likely to exhibit signs of fatigue or damage.

It is the owner's responsibility to properly maintain the ship in the period between surveys. It is the duty of the owner, or its representative, to inform the Society of any events or circumstances that may affect the continued conformance of the ship with the Society's Rules.

Where the conditions for the maintenance of class are not complied with, class may be suspended, withdrawn or revised to a different notation, as deemed appropriate by the society when it becomes aware of the condition.

SURVEYORS

Qualities and qualifications of Surveyors



A memorandum of 1834 has not been bettered:

"The utmost care and discrimination have been exercised by the Committee in the selection of men of talent, integrity, and firmness as Surveyors, on whom the practical efficacy of the system and the contemplated advantages must so materially depend; the Committee have in their judgement appointed those persons only…who appeared to them to be most competent to discharge the important duties of their situations with fidelity and ability, and to ensure strict and impartial justice to all parties whose property shall come under their supervision."

The training, qualification and monitoring of surveyors and auditors is governed by the relevant IACS Procedural Requirements.

STATUTORY CERTIFICATION OF SHIPS

Framework

The United Nations Convention on the Law of the Sea (UNCLOS) is an umbrella convention concerned with many aspects of the sea and its uses, including the granting of registration of a ship by a State. Once a ship is registered, the flag State has certain duties laid out in UNCLOS. In particular, under Article 94, the flag State must *"effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag"* and take *"such measures for ships flying its flag as are necessary to ensure safety at sea….."*

Under the auspices of the IMO, International Conventions have been agreed which set out uniform requirements in order to facilitate the acceptance of a ship registered in one country in the waters and ports of another and in the general furtherance of safety at sea and the protection of the environment. These requirements are commonly referred to as 'statutory' requirements. Broadly, they cover four distinct areas:

1) Aspects of the ship's design and its structural integrity – load line and stability in the intact and damaged condition, essential propulsion, steering equipment, etc.;
2) Pollution control with regard to normal ship operation;
3) Accident prevention, including navigational aids and pollution and fire prevention;
4) The situation after an accident (fire, flooding) including containment and escape.

Some or all of these may also be covered in a particular Class Society's Rules.

SOLAS Ch II-1, Reg 3-1 states that, in addition to the requirements of the other (SOLAS) regulations, ships shall be designed, constructed and maintained in compliance with the structural, mechanical and electrical requirements of a Classification Society which is recognised by the Administration in accordance with the provisions of regulation XI/1 (see below), or with applicable national standards of the Administration which provide an equivalent level of safety.

Where the result of the classification survey is taken as evidence of compliance with the corresponding statutory requirement, e.g. load line or safety construction (hull, machinery, boilers, electrical equipment, etc.), this survey is de facto given the status of a statutory survey on behalf of the flag Administration, if the society is acting as its recognised organization in this respect.

When a ship is suspended or withdrawn from class, the IACS Member concerned notifies the ship's flag Administration and publishes the information e.g. on its website and on Equasis[1]. As a consequence, the flag Administration generally invalidates the statutory certificates concerning construction and equipment.

Recognised Organizations

SOLAS and the other International Conventions permit the flag Administration to delegate the inspection and survey of ships to a Recognised Organization (RO). This is in recognition of the fact that many flag Administrations do not have adequate technical experience, manpower or global coverage to undertake all the necessary statutory inspections and surveys using its own staff.

The RO is responsible and accountable to the flag Administration for the work that it carries out on its behalf. The principles of the inspection and survey work are to a very large extent the same as in respect of classification surveys, that is, the verification by the RO that a ship is in compliance with applicable requirements at the time of the survey or inspection. The scopes of these inspections and surveys are laid down by the relevant national laws based on International Conventions to which the Government is a signatory, together with additional instructions that may be issued by the flag Administration.

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For more detail see 'CLASSIFICATION SOCIETIES – WHAT, WHY and HOW?' available on the IACS website under 'IACS explained'.

[1] www.equasis.org

APPENDIX 1

Definition of 'Classification Society'

The following definition applies in respect of the membership of IACS.

A Classification Society is an organisation which:

(i) publishes its own classification Rules (including technical requirements) in relation to the design, construction and survey of ships[2], and has the capacity to (a) apply, (b) maintain and (c) update those Rules and Regulations with its own resources on a regular basis;

(ii) verifies compliance with these Rules during construction and periodically during a classed ship's service life;

(iii) publishes a register of classed ships;

(iv) is not controlled by, and does not have interests in, ship-owners, shipbuilders or others engaged commercially in the manufacture, equipping, repair or operation of ships; and

(v) is authorised by a Flag Administration as defined in SOLAS Chapter XI-1, Regulation 1 and listed accordingly in the IMO database, Global Integrated Shipping Information System (GISIS).

APPENDIX 2

The Members of IACS

The criteria for membership of IACS are given in the IACS Charter which can be found on the IACS website at 'IACS explained' www.iacs.org.uk/explained/default.aspx .

The current membership of IACS, together with website links, can be found on the IACS website at 'IACS explained > Members' www.iacs.org.uk/Explained/members.aspx .

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[2] "ships" are defined as any ships subject to SOLAS safety certification and capable of unrestricted navigation.