

ClassIBS

ISTHMUS BUREAU OF SHIPPING



RULES AND REGULATIONS
FOR THE
CLASSIFICATION AND CONSTRUCTION
OF STEEL SHIPS

ISTHMUS BUREAU OF SHIPPING

Regulations

For the Classification of Sea-going Steel Vessels

(09/2009)

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

INDEX

CHAPTER	1	GENERAL REGULATIONS
CHAPTER	2	CLASSIFICATION REGULATIONS
Section	1	Class Conditions
	1.1	General
Section	2	Classification Definitions
	2.1	Definitions
Section	3	General
	3.1	Statutory
	3.2	New vessels
	3.3	Existing vessels
	3.4	Damages or Alterations
	3.5	Existing vessels- Periodical Surveys
	3.6	Continuous Survey
	3.7	Certificates
	3.8	Notice of surveys
	3.9	Withdrawal/ Suspension of class
CHAPTER	3	PERIODICAL SURVEY REGULATIONS
Section	1	General
	1.1	Frequency of surveys
	1.2	Surveys for damage or alterations
	1.3	Unscheduled surveys
	1.4	Surveys/ Audits for the issue of convention certificates
	1.5	Coating Conditions
Section	2	Annual Surveys
	2.1	General
	2.2	Annual Surveys
Section	3	Intermediate Surveys
	3.1	General
	3.2	Intermediate Surveys
Section	4	Bottom Surveys
	4.1	General
	4.2	Bottom Surveys
Section	5	Special Survey –General Hull requirements
	5.1	General
	5.2	Preparation
	5.3	Examination and testing
	5.4	Thickness measurement
	5.5	Thickness measurement reporting
Section	6	Special Survey –Bulk carriers –Hull requirements
	6.1	General
	6.2	Documentation
	6.3	Planning and preparation survey

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

	6.4	Overall Survey
	6.5	Testing
	6.6	Close-up Survey
	6.7	Thickness measurement
	6.8	Statutory Requirements
Section	7	Special Survey – Oil tankers (including ore/oil ships and ore/bulk/oil ships) - Hull requirements
	7.1	General
	7.2	Documentation
	7.3	Planning and preparation for survey
	7.4	Overall Survey
	7.5	Testing
	7.6	Close-up Survey
	7.7	thickness measurement
	7.8	Statutory Requirements
Section	8	Special Survey –Chemical tankers- -Hull requirements
	8.1	General
	8.2	Documentation
	8.3	Planning and preparation for survey
	8.4	Overall Survey
	8.5	Testing
	8.6	Close-up Survey
	8.7	thickness measurement
Section	9	Dredgers, sand Carriers and Hopper Barges
	9.1	General
	9.2	Annual Surveys –Basic requirements
Section	10	Machinery surveys – General requirements
	10.1	Annual, Intermediate and Bottom surveys
	10.2	Complete Surveys
Section	11	Oil engines – Detailed requirements
	11.1	Complete Surveys
Section	12	Electrical equipment
	12.1	Annual and Intermediate Surveys
	12.2	Complete Surveys
	12.3	Bottom surveys
Section	13	Boilers
	13.1	Frequency of surveys
	13.2	Scope of surveys
Section	14	Steam pipes
	14.1	Frequency of surveys
	14.2	Scope of surveys
Section	15	Screw-shafts, tube shafts and propellers
	15.1	Frequency of surveys
	15.2	Normal Surveys
	15.3	Modified Survey
	15.4	Partial Survey

Chapter 1

SECTION 1

- 1.1 Isthmus Bureau of Shipping (hereinafter referred to as IBS), is a technical organisation recognised under the laws of Panama as a corporation whose business is conducted for the public interest of the community, was founded in 1995. It was established for the purpose of obtaining for the use of the maritime market a faithful classification of merchant shipping.
- 1.2 The Society also:
- a) Approves designs and reports on various types of ships, floating units, components, equipment, production methods and processes for the purpose of testing their compliance with plans, specifications, Rules and Codes of Practice,
 - b) Acts with delegated authority on behalf of various Flag States in respect of Statutory Requirements;
 - c) Provides other technical inspection and advisory services relating to ships and the maritime industry in general.

SECTION 2

- 2.1 IBS' affairs are under the overall direction of the Board of Directors.
- 2.2 The Board of Directors has power to:
- Appoint Committees and determine their powers and functions.
- 2.3 The Board of Directors has exercised its powers and has appointed a Technical Committee composed of:
- 2.3.1 Technical Director
 - 2.3.2 Class Staff and
 - 2.3.3 Statutory Staff
- 2.4 The function of the Technical Committee is to consider technical problems connected with IBS' business, proposed alterations in the existing Rules and to frame new Rules for Classification. Meetings of the Technical Committee are convened as often and at such times and places as is necessary, but there are to be at least one meeting in each year quarter. Any proposal of the Technical Committee involving any alteration or addition to the Rules for Classification is referred to the Board of Directors for approval.
- 2.5 The Technical Committee is empowered to:
- (a) Appoint sub-Committees,
 - (b) Country Representatives and
 - (c) Exclusive Surveyors

SECTION 3

- 3.1 The Board of Directors has power to adopt Rules relating to classification and has provided the following:
- a) Except in the case of changes necessitated by mandatory implementation of the International Conventions, no new Rule or alteration is to be applied compulsorily within six months of its adoption.
 - b) All reports of survey are to be made by the Surveyors according to the forms prescribed

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

- c) Information contained in the reports of Classification and Statutory Surveys will be made available to Administrations, PSC authorities, Protection and Indemnity clubs, Hull Underwriters and, if authorised in writing by the Owner, to any other person or organisation.

SECTION 4

- 4.1 No IBS' employee is permitted to accept, from whom the work of the employee brings the employee into contact, any present or honorarium of any sort whatsoever which is of more than nominal value or which might be construed to exceed customary courtesy.

SECTION 5

- 5.1 In providing services or advice neither IBS nor any of its officers or agents warrants the accuracy of any information or advice supplied. Except as set out herein, neither IBS nor any of its officers or agents (on behalf of each of whom IBS has agreed this clause) shall be liable for any loss or expense whatever sustained by any person due to any act or error of whatsoever nature caused by IBS or its agents. Nevertheless, if any person, who is party to agreement pursuant to which IBS provides any service, uses IBS' services or relies on any advice given by IBS and suffers loss or expense thereby which is proved to have been due to any negligent act or error of IBS, its officers or agents, then IBS will pay compensation to such person for his proved loss up to but not exceeding the amount of the fee (if any) charged by IBS for that particular service or advice.
- 5.2 IBS, its officers or agents (on behalf of each of whom this notice is given) shall be under no liability in negligence or otherwise howsoever to any person who is not a party to the agreement with IBS pursuant to which any certificate or report is issued.
- 5.3 Any dispute concerning the provision of IBS' services or the contract under which such services are provided is subject to the exclusive jurisdiction of the Panama courts and will be governed by Panamanian Law.

Chapter 2 Classification Regulations

SECTION 1

Class Conditions

1.1 General

1.1.1 Unless otherwise stated these Regulations apply to vessels of welded construction of length ≥ 24 m and as defined in parts A, B and C of these Rules. Machinery referred to in this Chapter is defined in Parts D and E of these Rules. Vessels built in accordance with IBS' Rules and Regulations, or in accordance with requirements equivalent thereto, will be assigned a class in the Vessel Class Status and will continue to be classed as long as they are found maintained in accordance with the Rules.

1.1.2 The intact stability of vessels is to comply with the relevant provisions of SOLAS and with requirements of Flag State. In addition to comply with IBS' Rules, additional requirements can be made according geographical conditions of the service contemplated. Loading conditions are to be in accordance with arrangements agreed by IBS prior to the voyage.

1.1.3 Any damage or grounding which could invalidate the conditions for which a class has been assigned is to be reported to IBS without delay for surveyor to attend and decide on vessel status as necessary. The Rules are framed on the understanding that the Vessel will be properly loaded. They do not unless stated in the class notation, provide for special distributions of loading.

1.1.4 When longitudinal strength calculations have been required, loading guidance information is to be supplied to the Master by means of a loading Manual and, if required, by means of a loading instrument. The Rules are framed on the understanding that Vessels will not be operated in environmental conditions more severe than those agreed for the design basis.

1.1.5 For Vessels, the arrangements and equipment of which are required to comply with the requirements of International Conventions, Protocols, codes and applicable amendments thereto, it is required that the applicable Convention Certificates be issued by the National Administration, an internationally recognised organisation or by IBS.

1.1.6 Where an on board computer system having a longitudinal strength or a stability computation capability, or both, is provided, then the system is to be certified for such use in accordance with an Internationally Recognised Society.

1.1.7 Unless expressed otherwise, new Rules or amendments will come into force in 6 months after approval. The rules do not cover certain technical characteristics, such as stability, trim, etc. Where a Vessel is so badly damaged that class has to be suspended, IBS is prepared to assist the Owner with advice if requested.

1.1.8 Attention is to be paid to additional requirements from Flag state.

SECTION 2

Classification Definitions

2.1 Definitions

2.1.1 Clear water. Water having sufficient depth to permit the normal development of wind generated waves.

2.1.2 Fetch. The extent of clear water across which a wind has blown before reaching the Vessel.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

- 2.1.3 Sheltered water. Sea area between shores or islands with a distance of less than ten nautical miles in between.
- 2.1.4 Reasonable weather. Wind strengths of force six or less in the Beaufort scale, associated with sea states sufficiently moderate to ensure that water is taken on board the Vessel's deck at infrequent intervals.
- 2.1.5 Type notation. A notation indicating that the Vessel has been constructed in compliance with particular rules intended to apply to that type of Vessel.
- 2.1.6 Cargo notation. A notation indicating that the Vessel has been designed to carry a particular cargo.
- 2.1.7 Special duties notation. A notation indicating that the Vessel has been designed for special duties.
- 2.1.8 Special features notation. A notation indicating that the Vessel incorporates special features, e.g. movable decks.
- 2.1.10 Service restriction notation. A notation that a Vessel has been classed on the understanding that it will be operating only in suitable areas e.g. protected waters service.
- 2.1.11 Linked. Means connected, whilst in operation, to an attendant vessel (which may be on shore or afloat) by a restraining line.

SECTION 3

General

3.1 Statutory

- 3.1.1 IBS will act, when authorised on behalf of Flag States in respect, of National and International statutory requirements for passenger and cargo vessels and issue the relevant certificates.

3.2 New vessels

- 3.2.1 When it is intended to build a Vessel for classification with IBS, constructional plans and all necessary particulars relevant to the hull, equipment and machinery, as defined in the Rules, are to be submitted in duplicate for approval by IBS before the work is commenced. Substantial modifications to the approved plans and documents are to be submitted for approval. Where the proposal construction of any part of the hull or machinery has not sufficiently justified the principle of application involved, special tests or examinations may be required. Approved plans and documents are to be stamped APPROVED. Approval conditions may be written on plans, documents or approval letters.
- 3.2.2 The materials used in the construction of hulls and machinery intended for classification are to be of good quality and free from defects. The steel is to be manufactured by an approved process. Alternatively, tests to the satisfaction of the responsible surveyors will be required to demonstrate the suitability of the steel. New vessels intended for classification are to be built under IBS's Special Survey. From the commencement of the work until the completion of the Vessel, the Surveyors are to be satisfied that the materials, workmanship and arrangements are satisfactory and in accordance with the Rules. Copies of plans may be exempted for sister vessels.
- 3.2.3 Any fitting or apparatus, other than that required on the Rules, may be allowed to be fitted in the Vessel if it is found satisfactory that such fitting or apparatus is as effective as that required by the Rules. IBS is prepared to consider methods of survey which formally include procedures involving the Vessel ship-yard quality systems. Each Vessel is to comply with the draught and stability requirements of the National Authority and is to have on board sufficient stability data to enable it to be properly loaded. In the case of an unmanned Vessel under tow, the data is to be made available to the tug master.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

- 3.2.4 Copies of approved plans, records and required manuals are to be readily available for use when required by IBS' Surveyors. When the machinery is constructed under IBS' Special Survey, this survey is to relate to the period from the commencement of the work until the final test under working conditions.
- 3.2.5 Validity of Approved Plans is not to exceed 5 years. Plans will become invalid if no commencement of ship construction has been made after 5 years of approval dates or if amendments to the Rules, laws of Flag State or International Conventions make them invalid.
- 3.2.6 Vessel's programme of surveys, tests and trials are to be submitted and satisfactorily examined by the responsible Lead Surveyor. Prior to the commencement of a Vessel construction, responsible surveyors are to inspect and be satisfied with personnel competence, materials, infrastructure, quality control and standards.
- 3.2.7 When arrangements are such that essential machinery can be operated by remote and/or automatic control equipment, the control equipment is to be arranged and tested in accordance with IBS' Rules. The date of completion of special survey during construction of Vessels built under IBS' inspection will normally be taken as the date of built to be entered in the Vessel Class Status. If the period between launching and commissioning is unduly prolonged, the dates of a launching and completion may be separately indicated in the Vessel Class Status.
- 3.2.8 When a Vessel, upon completion, is laid-up for a period, IBS, prior to the Vessel proceeding to sea, will direct an examination which may include a survey in dry-dock. If hull and machinery are reported free from deterioration, the subsequent special Survey and Complete Survey of the machinery will date from the time of such examination.
- 3.2.9 Items that surveyors are to attend are as follows:
- 3.2.9.1 Hull:
- 3.2.9.1.1 Review of materials and confirmation of relevant certificates.
- 3.2.9.1.2 Block inspections
- 3.2.9.1.3 Erection inspections
- 3.2.9.1.4 Pressure tests and thickness measurements.
- 3.2.9.1.5 Closing appliances and their remote controls.
- 3.2.9.1.6 Steering gear, anchor windlass and mooring equipment.
- 3.2.9.1.7 Rudder and propulsion shafting centrelines.
- 3.2.9.1.8 Determination of Vessel's main dimensions, load line marks and drafts.
- 3.2.9.1.9 Lightweight survey.
- 3.2.9.1.10 Inclining test
- 3.2.9.1.11 Sea trials.
- 3.2.9.2 Machinery:
- 3.2.9.2.1 Essential machineries installation and certification.
- 3.2.9.2.2 Piping tests including strength test at workshops
- 3.2.9.2.3 Survey and tests of essential machineries after installed.
- 3.2.9.2.4 Survey and test of fuel oil, lubricating oil, bilge, ballasting, fire fighting, ventilation and dampers, measuring, heating, venting, cargo oil, inert gas, remote control systems, quick-closing, etc.
- 3.2.9.2.5 Mechanical remote controls and automation.
- 3.2.9.2.6 Sea trials.
- 3.2.9.2.7 Other items considered necessary to be examined and tested by IBS.
- 3.2.9.3 Electrical installations:
- 3.2.9.3.1 Electrical installations essential services and certificates.
- 3.2.9.3.2 Survey and tests of main and emergency switchboards.
- 3.2.9.3.3 Cable specifications and inspection of installation.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

- 3.2.9.3.4 Internal communications.
 - 3.2.9.3.5 Mechanical remote control and automation, main and auxiliary engines, boilers, steering systems (including alarm systems).
 - 3.2.9.3.6 Fire detection and alarm systems.
 - 3.2.9.3.7 Installation of fire-proof and explosion-proof equipment.
 - 3.2.9.3.8 Survey and tests of emergency power supply (including charging devices).
 - 3.2.9.3.9 Other items considered necessary by IBS.
- 3.2.9.4 Test requirements
- 3.2.9.4.1 Main compartments are to be subject to water-head or hose tests for verifying strength and tightness of the structure. The test pressure is to be to the maximum head of water in the event of damage to the ship. Test is to be carried out with welds uncoated. Pressure at nozzle is to ≥ 0.2 MPa and hose diameter ≥ 12 mm.
 - 3.2.9.4.2 Water-head tests may be substituted by air-tightness testing. Duration of tests is to be ≥ 10 min.
 - 3.2.9.4.3 During air-tightness tests, air pressure is first to be raised to 0.02 MPa and then lowered to 0.014 MPa. After that, soapy water solution (or equivalent) is to be applied to the welds for detecting leakages.
 - 3.2.9.4.4 Tightness tests for boilers, pressure vessels and piping is to be carried out after installation. The duration of test is in to be ≥ 3 min, with the test pressure as required in Part D Section 30 of the Rules.
 - 3.2.9.4.5 Mooring and sea trials are to be carried out in accordance with the approved trial programme.
 - 3.2.9.4.6 Inclining test:
 - (1) After construction is finished an inclining test is to be carried out to determine the elements of Vessel' stability. Relevant information is to be provided to the master of the Vessel. Requirements for the inclining test and the assessment of test results are to comply with the requirements of the Flag or IMO Res. A749 (18) as applicable. The society may allow the inclining test of a ship to be dispensed with, provided that basic stability data are available from the inclining test of a sister ship, or that reference to existing data for similar ships indicates that due to ship's proportions sufficient metacentric height will be available in all loading conditions.
 - 3.2.9.4.7 Shipbuilders are to submit relevant inspection, testing and measuring reports to IBS.
 - 3.2.9.4.8 Responsible surveyors are to prepare survey reports, records, data and relevant certificates for the ship's hull and machinery, electrical installations, and equipment on completion of inspection and testing, in the forms specified by IBS.
 - 3.2.9.4.9 Approved plans, certificates, records, loading manual, stability information and other guidelines related to the ship are to be kept on board the ship for surveyors and authorities' examination.

3.3 Existing Vessels

- 3.3.1 The requirements for the classification of vessels not built under IBS' Survey will be given by HO under a case per case basis. Special consideration will be given to vessels transferring class to IBS from an IACS or another recognised Classification Society.
- 3.3.2 Reclassification. When reclassification is desired for a Vessel for which the class previously assigned by IBS has been withdrawn IBS will direct that a survey, appropriate to the circumstances of the case, be carried out. If at such a survey, the Vessel is found in efficient condition IBS will be prepared to consider reinstatement of the original class. The date of any reclassification will be recorded in the Vessel Class Status. A similar arrangement will apply in the case of reclassification of refrigerated cargo installations.
- 3.3.3 IBS reserves the right to decline an application for classification depending on the prior history of detentions or other negative aspects of the Vessel or ship operator.

3.4 Damages or Alterations

- 3.4.1 All repairs to hull, equipment and machinery which may be required in order that a Vessel retain her class, see 1.1.3 are to be carried out to the satisfaction of IBS' Surveyors. When repairs are effected

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

at a location where the services of a surveyor to IBS are not available, the repairs are to be surveyed by one of IBS' surveyors at the earliest opportunity thereafter.

- 3.4.2 When at any survey the surveyors consider repairs to be immediately necessary, they are to communicate their recommendations at once to Owner's representative. When such recommendations are not complied with, immediate notification is to be given to IBS by the attending surveyor.
- 3.4.3 When at any survey it is found that any damage (see 1.1.3) is of such a nature that does not require immediate permanent repair, but is sufficiently serious to require rectification by a prescribed date in order to maintain class, a suitable condition of class is to be imposed by the Surveyor. If a Vessel which is classed with IBS is to leave harbour limits under tow, the Owner is to advise IBS of the circumstances prior to her departure. If a Vessel which is classed with IBS is taken in tow whilst at sea, the Owner is to advise IBS of the circumstances at the first practicable opportunity.
- 3.4.4 Plans of any proposed alterations to the approved scantlings and arrangements of hull, equipment, or machinery are to be submitted for approval, and such alterations are to be carried out to the satisfaction of IBS' Surveyors.

3.5 Existing Vessels- Periodical Surveys

3.5.1 Annual surveys are to be held on all vessels within three months, before or after each anniversary of the completion or special survey in accordance with the requirements given in chapter 3. The date of the last Annual survey will be recorded in the Vessel Class Status.

3.5.2 Intermediate surveys are to be held on all Vessels instead of the second or third Annual Survey after completion or Special Survey in accordance with the requirements given in chapter 3. The date of the last intermediate Survey will be recorded in the Vessel Class Status.

3.5.3 The Owner should notify IBS whenever a Vessel can be examined in dry-dock. Bottom surveys are to be held twice within a five year period and the maximum interval between successive Bottom surveys is not to exceed three years, and one of the two Bottom surveys required in each five years period should coincide with the Special Survey. Consideration may be given to any special circumstances justifying an extension of this interval and IBS may accept an extension of this interval and an In-water survey in lieu of the intermediate docking between special surveys, see Ch 3, 4.3. A bottom survey is considered to coincide with the Special Survey when held within the 15 months prior to the due date of the Special Survey.

3.5.4 The interval between dry-dockings for Vessels operating in fresh water and non self propelled craft may be greater than that given in 3.5.3.

3.5.5 Attention is to be given to any relevant statutory requirements of the National Authority of the country in which the Vessel is registered. The date of the last examination in dry dock will be recorded in the Vessel Class Status.

3.5.6 As an alternative to Annual Surveys and Bottom surveys, according to 3.5.1 and 3.5.3 respectively, vessels classed as 'barge' may be subjected to Intermediate Surveys. These surveys become due 30 months after the previous special Survey and they are to be in accordance with the requirements given in Ch 3, 2 as applicable. Intermediate Surveys are to be completed within three months of the due date. Survey requirements for In-water Surveys are given in Ch3, 4.2.7. The date of the last in water survey will be recorded in the Vessel Class Status, preceded with the notation **IWS**. Where, on barges, intermediate surveys are permitted as an alternative to Annual and Bottom surveys, Special Surveys become due five years after the previous Special Survey.

3.5.7 All vessels classed with IBS are also to be subjected to special survey in accordance with the requirements given in chapter 3. These surveys become due at five-yearly intervals, the first one year from the date of build or date of Special Survey for Classification. Consideration can be given at the discretion of IBS to any exceptional circumstance justifying and extension of the hull classification to a maximum of three

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

months beyond the fifth year. If an extension is agreed, the next period of hull classification will start from the due date of the Special Survey before the extension was granted. Special surveys may be commenced at the fourth Annual Survey after previous special survey and be progressed during the succeeding year with a view to completion by the due date of the Special Survey.

3.5.8 Vessels which have satisfactorily passed a special survey will have a record entered in the Vessel Class Status indicate the date and the notation **ESP** if this is applicable (See in Principles for Classification). Where the special survey is completed more than three months before the due date, the new record of Special Survey will be the final date of survey. In all other cases the date recorded will be the fifth anniversary.

3.5.9 At the request of an Owner, IBS may agree that the Special Survey of the hull, for vessels other than bulk carriers, combination carriers, chemical tankers and oil tankers, be carried out on the continuous survey basis. All compartments of the hull need to be opened for survey and testing, within an interval of five years between consecutive examinations of each part. In general, approximately one fifth of the special survey is to be completed each year and particular hull special survey must be completed at the end of the five year cycle. If the examination during continuous survey reveals any defects, further parts are to be opened up to attending surveyor's satisfaction. Vessels which have satisfactorily completed the cycle will have a record entered in the Class Status indicating the date of completion. The agreement for surveys to be carried out on continuous survey basis may be withdrawn at the discretion of IBS.

3.5.10 Machinery is to be submitted to the surveys detailed in Ch 3, 10 to 15. Complete surveys of machinery become due at five-yearly intervals, the first one five years from the date of build or date of classification and thereafter five years from the date recorded in the Class Status for the previous Complete Survey. Consideration can be given to any exceptional circumstances justifying an extension of machinery class to a maximum of three months beyond the fifth year. If an extension is agreed to, the next period machinery class will start from the due date of complete survey of machinery before extension was granted. On satisfactory completion of a survey, an appropriate record will be made in the Class Status. Where the complete survey is completed more than three months before due date, the new date recorded will be the final date of survey. In all other cases the date recorded will be the fifth anniversary.

3.5.11 Upon application by an Owner, IBS may agree to the extension of the survey requirements for engines, which, by the nature of the Vessel's normal service, do not attain the number of running hours recommended by the engines' manufacturer for major overhauls within the survey periods given in 3.5.10.

3.5.12 When, at the request of an Owner, it has been agreed by IBS that the complete survey of the machinery may be carried out on the continuous survey basis, the various items of machinery are to be opened for survey in rotation, so far as is practicable, to ensure that the interval between consecutive examinations of each item will not exceed five years. In general, approximately one fifth of the machinery is to be examined each year. A record indicating the date of satisfactory completion of the Continuous Survey cycle will be made in the Vessel Class Status. If any examination during continuous surveys reveals defects, further parts are to be opened up and examined as considered necessary by the surveyor, and the defects are to be dealt with to his satisfaction.

3.5.13 Upon application by an owner, IBS may agree that, subject to certain conditions, some items of machinery may be examined by the Chief Engineer of the Vessel at ports where IBS is not represented, followed by a confirmatory survey carried out at the next port of call where an Exclusive Surveyor is available. Particulars of this arrangement may be obtained from IBS' HO. Where an approved planned maintenance scheme is in operation the confirmatory surveys may be held at annual intervals, at which time the records will be checked and the operation of the scheme verified. Particulars of this arrangement may be obtained from any of IBS' Offices.

3.5.14 Where condition monitoring equipment is fitted, IBS, upon application by the Owner, will be prepared to amend applicable periodical survey requirements where details of the equipment are submitted and found satisfactory. Where machinery installations are accepted for this method of survey, it will be a requirement that an Annual Survey be held, at which time monitored records will be analysed and the machinery examined under working conditions.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

3.5.15 Boiler surveys, examination of steam pipes and screw shaft surveys are to be carried out as stated in Ch 3, 13 to 15. On satisfactory completion, appropriate records will be made in the Vessel Class Status.

3.6 Continuous Surveys

3.6.1 At the request of the Owner and with the consent of the Society, Machinery Special Surveys (including electrical installations) and Hull Special Surveys for vessels other than oil tankers, bulk carriers, chemical carriers, gas carriers, combination carriers and passenger vessels may be carried out on a Continuous Survey Basis.

3.6.2 When the continuous surveys are carried out, the various items for special surveys are to be examined in rotation and distributed evenly within the 5 years cycle. The interval of continuous surveys is to be the same as that of special surveys

3.6.3 All items to be inspected are to be submitted to the Surveyors for examination after opening or cleaning. Control, alarm and safety systems, in general, are to be checked by operation or simulation test.

3.6.4 At the Owner's request, the Certified Chief Engineer of the Vessel may examine the items of machinery. On completion of the examination, the Chief Engineer is to make an entry in continuous survey report about the items examined by him and a Confirmatory Survey by IBS is to be made at the next port of call where an IBS Surveyor is available. Necessary evidence of Chief Engineer's survey is to be kept available on board for examination during Confirmatory Survey.

3.7 Certificates

3.7.1 When the required reports, on completion of the survey of new or existing Vessels which have been submitted for classification, have been received from the surveyors and approved by IBS, a certificate will be issued. This is a Certificate of Class valid for five years subject to endorsement for Annual and Intermediate Surveys issued to the Owners. The validity of Class certificates is to be coordinated with that of statutory certificates as far as possible.

3.7.2 IBS' Surveyors are permitted to issue provisional (interim) certificates to enable a Vessel classed with IBS to proceed on her voyage provided that in their opinion She is in an efficient condition. Such certificates will embody the surveyors' recommendations for continuance of class, but in all cases are subject to confirmation by IBS. Validity of Interims is not to exceed 5 months. An Interim certificate is to be issued when no deficiencies have been found by the responsible surveyor.

3.8 Notice of surveys

3.8.1 It is the responsibility of the Owners to ensure that all surveys necessary for the maintenance of class are carried out at the proper time and in accordance with the instructions of IBS. IBS will give timely notice to an Owner about forthcoming surveys directly or through its local representative. The omission of such notice, however, does not absolve the Owner from his responsibility to comply with IBS' survey requirements for maintenance of class.

3.9 Withdrawal/ Suspension of class

3.9.1 When the class of a Vessel, is withdrawn by IBS in consequence of a request from the Owner, a notation 'Class withdrawn at Owner's request' (with date) will be assigned.

3.9.2 When regulations as regards surveys on the hull, equipment or machinery have not been complied with and the Vessel is thereby not entitled to retain class, the class will be suspended or withdrawn, at the discretion of IBS, and a corresponding notation will be assigned.

3.9.3 Class will be automatically suspended and the Certificate of Class will become invalid if the Annual or Intermediate Survey is not completed within the relevant window or due date of the survey. Class will be automatically suspended from the expiry date of the Certificate of Class in the event that the Special Survey

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

has not been completed by the due date and an extension has not been agreed (see 3.5.9), or is not under attendance by the Surveyors with a view to completion prior to resuming trading.

3.9.4 When in accordance with 3.4.3 of the Regulations a condition of class is imposed, this will be assigned a due date for completion and the Vessel's class will be subject to a suspension procedure if the condition of class is not dealt with, or postponed by agreement, by the due date.

3.9.5 When it is found, from the reported condition of the hull of equipment or machinery of a Vessel, that an Owner has failed to comply with the applicable Regulations, the Class will be liable to be suspended or withdrawn, at the discretion of IBS, and corresponding notation assigned. When it is considered that the Owner's failure to comply with these requirements is sufficiently serious the suspension or withdrawal of class may be extended to include other Vessels controlled by the same Owner, at the discretion of IBS.

3.9.6 When any Vessel proceeds to with less freeboard than that approved by IBS, the class will be liable to be withdrawn or suspended. When it is found that a Vessel is being operated in a manner contrary to that agreed at the time of classification, the class will be liable to be automatically withdrawn or suspended.

3.9.7 In all instances of class suspension, the assigned notation with date of application will appear in the Vessel Class Status. In cases where Class has been suspended by IBS and it becomes apparent that the Owners are no longer interested in retaining IBS' Class, the notation will be amended to withdrawn status. After the withdrawn status has been established in the Vessel Class Status for six months, it will be automatically amended to 'classed IBS until' (with date).

3.9.8. If the recommendations of IBS' Surveyors are considered in any case to be unreasonable by the Vessel's, appeal may be made to IBS HO, who may direct a Special Examination to attend the case.

3.9.9 For reclassification see 3.3.2 above.

Chapter 3 PERIODICAL SURVEY REGULATIONS

SECTION 1

General

1.1 Frequency of Surveys

1.1.1 The requirements of this chapter are applicable to the Periodical Surveys set out in Ch 2, 3.5 and are additional to HSSC A948(23) as applicable:

- a) Annual Surveys, as required by Ch 2, 3.5.1.
- b) Intermediate Surveys, as required by Ch 2, 3.5.2.
- c) Bottom Surveys, as required by Ch 2, 3.5.3 and 3.5.4.
- d) Special Surveys at five-yearly intervals see Ch 2, 3.5.6. For alternative arrangements, see also Ch 2, 3.5.6, 3.5.7 and 3.5.9.
- e) Complete Surveys of machinery at five-yearly intervals, see Ch 2, 3.5.10.

1.1.2 When it has been agreed that the complete survey of the hull and machinery may be carried out on the continuous survey basis, all compartments of the hull and all items of machinery are to be opened for survey in rotation to ensure that the interval between consecutive examinations of each part will not exceed five years, see Ch 2, 3.5.9 and 3.5.12.

1.1.3 For the frequency of surveys of boilers, steam pipes, screw shafts, tube shafts, propellers and inert gas systems, see sections 15 to 18.

1.1.4 For the requirements for surveys of refrigerated cargo installations, see Pt E, Section 38.

1.1.5 Ships laid up for 12 months and above without Annual Survey are to be subject to an Annual Survey prior to re-commissioning. Additionally all pending surveys are to be carried out and machinery installations are to be subject to a sea trial. Where the Special Survey is due during the laid-up period it is to be carried out prior to re-commissioning and a new period is to start from the completion date of the Survey.

1.2 Surveys for Damage or Alterations

1.2.1 At any time when a Vessel is undergoing alterations or damage repairs, any exposed parts of the structure normally difficult to access are to be specially examined, e.g. If any part of the main machinery is removed for any reason, the steel structure in way is to be carefully examined by the surveyor, or when cement in the bottom is removed, the plating in way is to be examined.

1.3 Unscheduled surveys

1.3.1 In the event that IBS has cause to believe that its Regulations are not being complied with, IBS reserves the right to perform unscheduled surveys of the hull or machinery.

1.3.2 In the event of PSC detentions, IBS reserves the right to perform unscheduled surveys and/ or audits to vessels classed by IBS and deemed to be necessary.

1.4 Surveys/ audits for the issue of Convention certificates

1.4.1 Surveys/ audits are to be held by IBS when so appointed, or by the National Administration or by an Internationally Recognised Organisation when so authorised by the National Authority, or, in the case of Cargo Vessel Safety Radio Certificates or Safety Management Certificates, by any organization authorised by the National Authority.

1.5 Coating Conditions

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

1.5.1 Coating Condition is defined as follows:

- a) Good Condition: Minor spot rusting affecting not more than 20 per cent of areas under consideration, e.g. on a deck transverse, on a total area of plating and stiffeners on the longitudinal structure between these components, etc.
- b) Fair Condition: Local breakdown at edges of stiffeners and weld connections and/or light rusting affecting 20 per cent or less of areas under consideration.
- c) Poor Condition: General breakdown of coating affecting 20 per cent or more of areas under consideration or hard scale affecting 10 per cent or more of area under consideration

SECTION 2
Annual Surveys

2.1 General

2.1.1 Annual surveys are to be held concurrently with statutory annuals wherever practicable.

2.1.2 At annual surveys, the surveyor is to examine the Vessel and machinery, so far as necessary in order to be satisfied as to their general condition.

2.1.3 For additional requirements for Vessels for liquefied gases, see Section 9.

2.2 Annual Surveys

2.2.1 The surveyor is to be satisfied regarding:

- a) The efficient condition of hatchways on freeboard and superstructure decks, weather deck plating, ventilator coamings and air pipes, exposed casings, fiddley openings, skylights, flush deck scuttles, deckhouses and companionways, superstructure bulkheads, side, bow and stern doors, side scuttles and deadlights, chutes and other openings, together with all closing appliances and flame screens.
- b) The efficient operating condition of mechanically operated hatch covers including stowage, fit, securing, locking, sealing and operational testing of hydraulic power components, wires, chains, etc.
- c) The efficient condition of scuppers and sanitary discharges (as far as is practicable) and their controls; guard rails and bulwarks; freeing ports, gangways and life-lines; fitting and appliances for timber deck cargoes.
- d) The efficient condition of bilge level detection and alarm systems on vessels assigned with UMS notation.

2.2.2 Cargo hatch covers and coamings are to be examined to ensure that no alterations have been made to the approved arrangements:

- a) Mechanically operated cargo hatch covers are to be tested for tightness and to confirm the satisfactory condition of securing and sealing arrangements; drainage channels; operating mechanisms; tracks and wheels.
- b) Cargo hatch covers of the portable type (i.e. wood or steel pontoons) are to be examined to confirm that the covers and closing appliances are in satisfactory condition.
- c) For dry bulk cargo Vessels, in addition to the above, the steel cargo hatch covers, coamings and stiffeners are to be subjected to a close-up examination.

2.2.3 The surveyor is to confirm that, where required, an approved loading instrument together with its operation manual is available on board.

2.2.4 The anchoring and mooring equipment is to be examined as far as is practicable.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

2.2.5 The watertight doors in watertight bulkheads, their indicators and alarms, are to be examined and tested (locally and remotely), together with an examination of watertight bulkhead penetrations, so far as practicable.

2.2.6 The surveyor is to examine and test in operation all main and auxiliary steering arrangements including their associated equipment and control systems, and verify that log book entries have been made in accordance with statutory requirements where applicable.

2.2.7 The surveyor is to be satisfied regarding the freeboard marks on the Vessel's side.

2.2.8 The surveyor is to generally inspect the machinery and boiler spaces, with particular attention being given to the propulsion system, auxiliary machinery and to the existence of any fire and explosion hazards. Emergency escape routes are to be checked to ensure that they are free of obstruction.

2.2.9 The means of communication between the navigating bridge and the machinery control positions, as well as the bridge and the alternative steering position, if fitted, are to be tested.

2.2.10 The bilge pumping systems and bilge wells, including operation of extended spindles and level alarms, where fitted, are to be examined so far as is practicable. Satisfactory operation of the bilge pumps is to be proven.

2.2.11 Piping systems containing oil fuel, lubricating oil or other flammable liquids are to be generally examined and operated as far as practicable, with particular attention being paid to tightness, fire precaution arrangements, flexible hoses and sounding arrangements.

2.2.12 The surveyor is to be satisfied regarding the condition of non-metallic joints in piping systems which penetrate the hull, where both the penetration and the non-metallic joint are below the deepest load waterline.

2.2.13 The boilers, other pressure vessels and their appurtenances, including safety devices, foundations, controls, relieving gear, high pressure and waste steam piping and insulation and gauges, are to be generally examined. Surveyors should confirm that Periodical Surveys of boilers and other pressure vessels have been carried out as required by the Rules and that the safety devices have been tested.

2.2.14 The electrical equipment and cabling forming the main and emergency electrical installations are to be generally examined under operating condition so far as practicable. The satisfactory operation of the main and emergency sources of power and electrical services essential for safety in an emergency is to be verified; where the sources of power are automatically controlled they should be tested in the automatic mode.

2.2.15 Bonding straps for the control of static electricity and earthing arrangements are to be examined where fitted.

2.2.16 For vessels having (Unattended Machinery Spaces) or .CDC notation, a general examination of automation equipment is to be carried out. Satisfactory operation of safety devices and control systems is to be verified.

2.2.17 For Vessels to which Pt E, Section 36 applies, the arrangements for fire protection, detection and extinction are to be examined and are to include:

- a) Verification, so far as is practicable, that no significant changes have been made to the arrangement of structural fire protection.
- b) Verification of the operation of manual and/or automatic door where fitted.
- c) Verification that fire-control plans are properly posted.
- d) Examination, so far as is possible, and testing as feasible, of the fire and/or smoke detection and alarm system(s).
- e) Examination of fire main system, and confirmation that each fire pump, including the emergency fire pump can be operated separately so that the two required powerful jets of water can be produced simultaneously from different hydrants.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

- f) Verification that fire-hoses, nozzles, applicators and spanners are in good working condition and situated at their respective locations.
 - g) Examination of fixed fire-fighting systems controls, piping, instructions and marking, checking for evidence of proper maintenance and servicing, including date of last system tests.
 - h) Verification that all portable and semi-portable fire-extinguishers are in their stowed positions, checking for evidence of proper maintenance and servicing, conducting random checks for evidence of discharged containers.
 - i) Verification, so far as is practicable, that the remote control for stopping fans and machinery and shutting fuel supplies in machinery spaces and, where fitted, the remote controls for stopping fans in accommodation spaces and the means of cutting off power to the galley are in good working order.
 - j) Examination of the closing arrangements of ventilators, tunnel annular spaces, skylights, doorways and tunnels, where applicable.
 - k) Verification that the firemen outfits are complete and in good condition.
 - l) Examination of the electrical installation in areas which may contain flammable gas or vapour and/or combustible dust to verify it is in good condition and has been properly maintained.
- 2.2.18 The requirements of 3.2.3, 3.2.4, 5.3.3 and 5.3.4 regarding the survey of water ballast spaces are also to be complied with as applicable.
- 2.2.19 The surveyor is to carry out a close-up survey and thickness measurement of structure identified at the previous Special Survey as having substantial corrosion, see sections 6, 7 and 8.
- 2.2.20 For Oil Tankers (including ore/bulk/oil Vessels and ore/oil Vessels), in addition to the applicable requirements of 2.2.1 to 2.2.21, the following are to be dealt with where applicable:
- a) Examination of cargo tank venting arrangements including gaskets covers coamings and screens.
 - b) Examination of cargo tank venting arrangements including secondary means of venting, or over/under pressure alarms where fitted, with associated pressure/vacuum valves and flame screens.
 - c) Examination of flame screens on vents to all bunker, oily ballast and oily slop tanks and void spaces, so far as is practicable.
 - d) Examination of cargo, crude oil washing, bunker, ballast and vent piping systems together with flame arrestors and pressure/vacuum valves, as applicable above the upper deck within the cargo tank area, including vent masts and headers.
 - e) Verification that no potential sources of ignition such as loose gear, excessive products in the bilges, excessive vapours, combustible materials, etc., are present in or near the cargo pump room and that access ladders are in good condition.
 - f) Examination of cargo pump rooms and pipe tunnels (where fitted) and examination of all pump room bulkheads for signs of a leakage or fractures and, in particular, the sealing arrangements of all penetrations in these bulkheads.
 - g) Verification that the pump room ventilation system is operational, ducting intact, dampers operational and screens are clean.
 - h) For Vessels to which Pt 6, Ch 4 applies the external examination of the piping and cut-out valves of cargo tank and cargo pump room fixed fire fighting system.
 - i) For Vessels to which Pt 6, Ch 4 applies, the verification that the deck foam system and deck sprinkler system are in good operating condition.
 - j) Examinations of the condition of all piping systems in the cargo pump room so far as is practicable.
 - k) Examination, so far as is practicable, of cargo, bilge, ballast and stripping pumps for excessive gland seal leakage, verification of proper operation of electrical and mechanical remote operating and shutdown devices and operation of pump room bilge system, and checking that pump foundations are intact.
 - l) Verification that installed pressure gauges on cargo discharge lines and level indicator systems are operational.
 - m) Verification that a least one portable instrument for measuring flammable vapour concentrations is available, together with a sufficient set of spares and a suitable means of calibration.
 - n) Examination of any inert gas system, see 2.2.24.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

2.2.21 For Chemical Tankers, in addition to the applicable requirements of 2.2.1 to 2.2.22, the following are to be dealt with, where applicable:

- a) Examination of gauging devices, high level alarms and valves associated with overflow control.
- b) Verification that any devices provided for measuring the temperature of the cargo and any associated alarms are satisfactory.
- c) Examination of the cargo Heating/cooling system sampling arrangements where fitted.
- d) Verification that wheelhouse doors and windows, side scuttles and windows in superstructure and deckhouse ends facing the cargo area are in good condition.
- e) Verification that pump discharge pressure gauges fitted outside the cargo pump rooms are satisfactory.
- f) Verification that pumps, valves and pipelines are identified and distinctively marked.
- g) Verification that the remote operation of the cargo pump room bilge system is satisfactory.
- h) Verification that cargo pump room rescue arrangements are in order.
- i) Verification that removable pipe lengths or other approved equipment necessary for cargo separation are available, and satisfactory.
- j) Verification that the ventilation system including portable equipment, if any, of all spaces in the cargo area is operational.
- k) Verification that the arrangements are made for sufficient inert/padding/drying gas to be carried to compensate for normal losses and that means are provided for monitoring of ullage spaces.
- l) Verification that arrangements are made for sufficient medium to be carried where drying agents are used on air inlets to cargo tanks.
- m) Verification that suitable protective clothing is available for crew engaged in loading and discharging operations and that suitable storage is maintained.
- n) Verification that the requisite safety equipment and associated breathing apparatus with requisite air supplies and emergency escape respiratory and eye protection, if required, are in good condition and are properly stowed.
- o) Verification that medical first aid equipment including stretchers and oxygen resuscitation is in good condition and that satisfactory arrangements are made for antidotes for cargoes actually carried to be on board.
- p) Verification that decontamination arrangements are operational
- q) Verification that the requisite gas detection instruments are on board and that satisfactory arrangements are made for the supply of any required vapour detection tubes.
- r) Verification that the cargo sample stowage arrangements are in good condition.
- s) Verification that any special arrangements made for bow or stern loading and unloading are in good condition.
- t) Verification that, if applicable, the provisions made for chemicals which have special requirements listed in Chapter 17 of the *Rules for Vessels for Liquid Chemicals* are in order.

2.2.22 For Inert Gas systems, where fitted, the following are to be dealt with:

- a) External examination of the condition of piping including vent piping above the upper deck in the cargo tank area and overboard discharges through the shell so far as practicable, together with components for signs of corrosion or gas leakage/effluent leakage.
- b) Verification of the proper operation of both inert gas blowers.
- c) Checking the scrubber room ventilation system.
- d) Checking, so far as is practicable, of the deck water seal for automatic filling and draining and checking the operation of the non-return valve.
- e) Testing of all remotely operated or automatically controlled valves including the flue gas isolating valve(s).
- f) Checking the interlocking features of soot blowers.
- g) Checking that the gas pressure regulated valve automatically closes when the inert gas blowers are secured.
- h) Checking, so far as is practicable, the following alarms and safety devices of the inert gas system using simulated conditions where necessary:
 - i. High oxygen content of gas in the inert gas main,
 - ii. Low gas pressure in the inert gas main,

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

- iii. Low pressure in the supply to the deck water seal,
- iv. High temperature of gas in the inert gas main,
- v. Low water pressure to the scrubber,
- vi. Accuracy of portable and fixed oxygen measuring equipment by means of calibration gas.

2.2.23 For Dry Bulk Cargo vessels. In addition to the applicable requirements of 2.2.1 to 2.2.21, examination of cargo holds in accordance with Table 3.2.1 is required.

2.2.24 For Roll On- Roll Off vessels and other vessel types fitted with bow doors, inner doors, side doors and stern doors, in addition to the requirements of 2.2.1, the following are to be satisfactorily dealt with as applicable:

- a) Verification of the operation of doors and their power units.
- b) Examination of the door structure and surrounding Vessel structure.
- c) Examination of the door sealing arrangements including gaskets and retaining bars.
- d) Examination of the door cleating, locking and securing arrangements.
- e) Examination of the door hinging arrangements.
- f) Verification of the local and/or remote control of the securing devices/cleats.
- g) Examination of all equipment associated with the opening, closing and securing of the door, e.g. wire ropes, chains, sheaves, rollers guides, shackles, etc.
- h) Verification of the tightness of the doors.

TABLE 3.2.1 Dry bulk cargo ships-annual survey

Sips less than 10 years old	Ships between 10 and 15 years old	Ships greater than 15 years old
An overall Survey of the forward cargo hold and an aft cargo hold See Note 1	(a) Overall Survey of all cargo holds. (b) Close-up Survey of at least 25 per cent of the cargo hold side shell frames, their lower end attachments and adjacent shell plating in the forward cargo hold. See Notes 2,3,4 and 5	(a) Overall Survey of all cargo holds (b) Close-up Survey of at least 25 per cent of the cargo hold side shell frames, their llower end attachments and adjacent shell plating in the forward cargo hold and one other selected cargo hold. See Notes 2,3,4 and 5
<p>NOTES</p> <ol style="list-style-type: none"> 1. Where the survey reveals the need for remedial measures, then the survey is to be extended to include all cargo olds. 2. Close-up Survey is required within the area of the lower one-third of the length of the cargo hold side shell frames. 3. Where the survey reveals the need for remedial measures, the survey is to be extended to include a Close-up Survey of all of the cargo hold side shell frames and adjacent shell plating of the cargo hold, as well as a Close-up Survey of sufficient extent of all remaining cargo holds. 4. When considered necessary by the surveyor, thickness measurement is to be carried out. Where the results of thickness measurement indicate substantial corrosion, the extent of thickness measurement should be in accordance with section 6, tables 3.6.3, 3.6.4, 3.6.5 and 3.6.6 as applicable. 5. Where protective coatings are found in good condition, as defined in 1.5, the extent of the Close-up Survey and thickness measurement may be specially considered. 		

- i) Examination and testing of remote control panels and associated indicator lights, close circuit television systems, water leakage indicators lights and alarm systems.
- j) Examination of the required notice boards and verification of log entries.
- k) Verification of the satisfactory testing of the bilge systems for the space between the inner and outer bow doors and of the vehicle deck.
- l) Verification that the approved Operation and Maintenance Manual is on board and satisfactorily maintained.

2.2.26 For Liquefied Gas Vessels, see also section 9.

2.2.27 Where a special features notation 'Certified Container Securing Arrangements' is assigned, the surveyor is to examine the securing arrangements so far as is necessary in order to be satisfied as to their general condition.

SECTION 3

Intermediate Surveys

3.1 General

3.1.1 Intermediate surveys are to be held concurrently with statutory annual wherever practicable.

3.2 Intermediate Surveys

3.2.1 The requirements of section 2 are to be complied with so far as applicable.

3.2.2 A general examination of salt-water ballast tanks is to be carried out as required by 3.2.5 and 3.2.6. If such examinations reveal no visible structural defects then the examination may be limited to verification that the protective coating remains in good or fair condition as defined in 1.5. When considered necessary by the surveyor, thickness measurement of the structure is to be carried out.

3.2.3 For salt-water ballast tanks, where a protective coating is found to be in poor condition, as defined in 1.5 or where protective coating was not applied from the time of construction, maintenance of class will be subject to the spaces in question being internally examined and gauged as necessary at Annual Surveys.

3.2.4 For all vessels over five years of age and up to 10 years age, representative salt water ballast tanks are to be examined:

- a) For tanks, other than independent double bottom tanks, where a protective coating is found in poor condition, as defined in 1.5, or where a protective coating was not applied from the time of construction, the examination is to be extended to other ballast tanks of the same type.
- b) For independent double bottom tanks where substantial corrosion or other defects are found, the examination is to be extended to other ballast tanks of the same type.

3.2.5 For all vessels over 10 years of age the following is required:

- a) All salt-water ballast tanks are to be examined.
- b) The anchors are to be partially lowered and raised using the windlass.

3.2.6 The surveyor is to carry out a Close-up Survey and thickness measurement of structure identified at the previous Special Survey as having substantial corrosion, see also sections 6, 7 and 8.

3.2.7 For all Vessels the electrical generating sets are to be examined under working conditions to verify compliance with Pt E1.

3.2.8 In addition to the foregoing, in the case of Oil Tankers (including ore/oil and ore/bulk/oil vessels) the following are to be dealt with where applicable:

- a) An examination of cargo, crude oil washing, bunker, ballast, steam and vent piping on the weather decks, as well as vent masts and headers. If upon examination there is any doubt as to the condition of the piping, the piping may be required to be pressure tested, gauged, or both.
- b) A general examination within the areas deemed as dangerous, such as cargo tanks, for defective and non-certified safe-type electrical equipment, improperly installed, defective and dead-end wiring. An electrical insulation resistance test of the circuits terminating in, or passing through, the dangerous area is to be carried out. If the Vessel is not in a gas free condition the results of previously recorded test readings may be accepted.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

3.2.9 For Oil Tankers (including ore/oil and ore/bulk/oil vessels), in addition to 3.2.9, the following is required for vessels over 10 years of age:

- a) Overall Survey of combined salt-water ballast/cargo tanks.
- b) Overall survey of the least two representative cargo oil tanks.
- c) Close-up Survey of all salt-water ballast tanks and two combined salt-water ballast/cargo tanks. Where protective coatings are found to be in GOOD condition, as defined in 1.5, the extent of close-up Survey may be specially considered.
- d) Machinery and boiler spaces including tank tops, bilges and cofferdams, sea suction and overboards are to be generally examined.

3.2.10 For Oil Tankers (including ore/oil and ore/bulk/oil vessels), in addition to 3.2.9 and 3.2.10 the following is required for vessels over 15 years of age:

- a) Close-up Survey of one cargo oil tank. Where protective coatings are found to be in good condition, as defined in 1.5, the extent of Close-up Survey may be specially considered.

3.2.11 For Chemical Tankers, in addition to the applicable requirements of 3.2.1 to 3.2.8 the following are to be dealt with where applicable:

- a) Examination of vent line drainage arrangements.
- b) Verification that the cargo heating/cooling system is in good condition.
- c) Verification that, the Vessel's cargo hoses are approved and in good condition.
- d) Verification that, where applicable, pipelines and independent cargo tanks are electrically bonded to the hull.
- e) An examination of cargo, cargo washing, bunker, ballast, steam and vent piping on the weather decks, as well as vent masts and headers. If upon examination there is any doubt as to the condition of the piping, the piping may require to be pressure tested, gauged or both.
- f) A General Examination within the areas deemed as dangerous, such as cargo pump rooms and spaces adjacent to and zones above cargo tanks, for defective and non-certified safe-type electrical equipment, improperly installed, defective and dead-end wiring. An electrical insulation resistance test of the circuits terminating in, or passing through, the dangerous areas is to be carried out. If the Vessel is not in a gas free condition the results of previously recorded test readings may be accepted.

3.2.12 For Chemical Tankers, in addition to 3.2.11 the following is required for vessels of 10 years of age and over:

- a) Overall survey of at least two representative cargo tanks including general examination of fittings such as valves and instrumentation.
- b) Close-up Surveys of all salt-water ballast tanks. Where condition, as defined in 1.5, the extent of Close-up Survey may be specially considered.
- c) Machinery and boiler spaces including tank tops, bilges and cofferdams, sea suction and overboards are to be generally examined.

3.2.13 For Chemical Tankers, in addition to 3.2.11 and 3.2.12 the following is required for Vessels over 15 years of age:

- a) Close-up Survey of one cargo tank. Where protective coatings are found to be in good condition, as defined in 1.5, the extent of Close-up Survey may be specially considered.

3.2.14 For Dry Bulk Cargo vessels, in addition to the applicable requirements of 3.2.1 to 3.2.8, the following are to be dealt with on vessels over five years of age:

- a) Examinations of holds in accordance with Table 3.3.1.
- b) Thickness measurement of those areas subject to Close-up Survey, to determine corrosion levels. The thickness measurement may be dispensed with provided the surveyor is satisfied that there is no structural diminution and there is an effective protective coating.

TABLE 3.3.1 dry bulk cargo ships-intermediate Surveys

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

Ships less than 10 years old	Ships between 10 and 15 years old	Ships greater than 15 years old
(a) Overall Survey of all cargo holds (b) Close-up Survey establish the condition of at least 25 per cent of the cargo hold side shell frames including their upper and lower end attachments, adjacent shell plating and the transverse bulkheads in the forward cargo hold and one other selected cargo hold See Notes 1, 3 and 4	(a) Overall Survey of all cargo holds. (b) Close-up Survey to establish the condition of at least 25 per cent of the cargo hold side shell frames including their upper and lower end attachments, adjacent shell plating and the transverse bulkheads of all cargo holds. See Notes 2,3 and 4	(a) Overall Survey of all cargo holds (b) Close-up Survey to establish the condition of all the cargo hold side shell frames including their upper and lower end attachments, adjacent shell plating and the transverse bulkheads of all cargo holds. See Notes 3 and 4
NOTES 6. Where considered necessary by the surveyor as a result of the Overall and Close-up Survey, the survey is to be extended include a Close-up Survey of all of the side shell frames and adjacent shell plating of that cargo hold, as well as a Close-up Survey of sufficient extent of all remaining cargo holds. 7. Where considered necessary by the surveyor as a result of the overall and Close-up Survey, the survey is to be extended to include a Close-up Survey of all of the side shell frames and adjacent shell plating of all cargo holds. 8. Thickness measurement is to be carried out of sufficient extent to determine the level of corrosion of those areas subject to Close-up Survey. Where the results of thickness measurement indicate substantial corrosion, the extent of thickness measurement should be in accordance with section 6, Tables 3.6.3, 3.6.4, 3.6.5 and 3.6.6 as applicable. 9. Where protective coatings are found to be in good condition, as defined 1.5, the extent of Close-up Survey and thickness measurement may be specially considered.		

3.2.15 For Dry Cargo vessels over 15 years old, in addition to the applicable requirements of 3.2.1 to 3.2.8, an Overall Survey is required of a forward cargo hold and an after cargo hold.

3.2.16 For Barges, where intermediate surveys are permitted as an alternative to Annual Surveys and Bottom Surveys, all the hatch covers are to be hose tested at every survey. The external surfaces of the barges are to be surveyed at these surveys.

3.2.17 For Liquefied Gas vessels, see section 9.

SECTION 4
Bottom Surveys

4.1 General

4.1.1 At Bottom Surveys or In-water surveys the Surveyor is to examine the Vessel and machinery, so far as necessary, in order to be satisfied as to the general condition. Special Attention is to be paid to Flag applicable regulations.

4.2 Bottom Surveys

4.2.1 Where a Vessel is under dry-docking it is to be placed on proper blocks of sufficient height, for the examination of the shell including bottom, bow plating and rudder. The rudder is to be lifted for examination of the pintles if considered necessary by the Surveyor.

4.2.2 Attention is to be given to parts of the structure particularly liable to excessive corrosion and to any undue unfairness of plating of the bottom.

4.2.3 The clearances in the rudder bearings are to be measured. The sea connections and overboard discharge valves and their attachments to the hull are to be examined. The propeller, stern-bush and sea connection fastenings and the gratings at the sea inlets are to be examined. The clearance in stern-bush of the efficiency of the oil glands is to be ascertained.

4.2.4 When chain cables are ranged, the anchors and cables are to be examined by the surveyor, see also 5.3.13, 5.3.1 and Table 3.5.1.

4.2.5 For electrical equipment survey requirements of oil tankers five years old and over, see 14.3.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

4.2.6 Unless otherwise provided, bottom surveys are to be carried out at least twice within a five-year period, the maximum interval between successive bottom surveys is not to exceed 3 years and one of the two bottom surveys required in each five-year period is to coincide with the Special Survey. For non-self-propelled ships, the interval of bottom surveys may be greater than that the 5 year period.

4.2.7 The Society may accept in a case per case basis an In-water survey in lieu of the Bottom Survey between Special Surveys for cargo ships. The In-water survey is to provide the information normally obtained from a bottom survey, so far as practicable and is to be carried out at a geographical location with the ship at suitable draught in sheltered waters. Visibility is to be good and the hull below the waterline is to be clean. Application for In-water surveys together with information on date and place for survey is to be submitted in advance to the Society for agreement. The employed survey company is to hold approval certificates recognised by the Society. Clearances at rudder stock, tube-shaft and screw-shaft contained in the information on previous surveys are not to exceed allowable readings. A two-way communication between the Surveyor and divers is to be provided. Pictorial representation provided by divers is to be clear. If the In-water survey reveals damage or deterioration that requires early attention, the Surveyor may require that the Vessel be dry-docked in order that a Bottom Survey can be undertaken and the necessary work carried out.

SECTION 5

Special Survey – General –Hull requirements

5.1 General

5.1.1 The survey is to be sufficient extent to ensure that the hull and related piping is in satisfactory condition and fit for its intended purpose and the periodical surveys being carried out as required by the regulations.

5.1.2 The requirements of section 2 are to be complied with as applicable for all vessels. Additional requirements for Dry Bulk Cargo vessels (bulk carriers), Oil Tankers (including ore/oil Vessels and ore/bulk/oil Vessels), Chemical Tankers and vessels for Liquefied Gases are given in sections 6, 7, 8 and 9.

5.1.3 A Bottom Survey in accordance with the requirements of Section 4 is to be carried out as part of the special survey.

5.2 Preparation

5.2.1 The Vessel is to be prepared for Overall Survey in accordance with the requirements of Table 3.5.1. The preparation should be of sufficient extent to facilitate an examination to ascertain any excessive corrosion, deformation and other structural deterioration.

5.3 Examination and testing

5.3.1 All spaces within the hull and superstructure are to be examined. In certain circumstances the international examination of lubricating oil, fresh water, and oil fuel tanks may be waived. For the minimum extent of tank internal examination, see Table 3.5.2.

5.3.2 In spaces used for salt-water ballast, excluding double bottom tanks, where a protective coating is found in poor condition as defined in 1.5 or where a protective coating was not applied from the time of construction, maintenance of Class will subject to the space in question being internally examined and gauged as necessary at Annual Surveys.

5.3.3 For independent salt-water double bottom tanks where a protective is found to be in poor condition, as defined in 1.5, or where a protective coating has not been applied from the time of construction, maintenance of class may, be subject to the spaces in question being examined and gauged as necessary at Annual Surveys.

Note

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

Independent double bottom tanks are those double bottom tanks which are separated from topside tanks, side tanks or deep tanks.

5.3.4 Double bottom compartments, peak tanks and all other tanks to be tested by a head sufficient to give the maximum pressure that can be experienced in service. Tanks may be tested afloat.

5.3.5 Where repairs are effected to the shell plating or bulkheads, any tanks in way are to be tested to the Surveyor's satisfaction on completion of these repairs.

5.3.6 In cases where the inner surface of the bottom plating is covered with cement, asphalt, or other composition, the removal of this covering may be dispensed with, provided that it is inspected, tested by beating or chipping, and found sound and adhering satisfactorily to the steel.

5.3.7 All decks, casing and superstructures are to be examined.

5.3.8 Wood decks are to be examined, if decay is found, the wood is to be renewed. When a wood deck, laid on stringers and ties, has worn by 15 mm or more, it is to be renewed. Attention is to be given to the condition of the plating under wood deck or other deck covering. If it is found that such coverings are broken, or are not adhering closely to the plating, sections are to be removed as necessary to ascertain the condition of the plating, see also 1.2.1.

5.3.9 Mechanically operated hatch covers are to be tested to confirm satisfactory operation, proper fit of sealing arrangements, and operational testing of power components and chains.

5.3.10 Masts and standing rigging are to be examined.

5.3.11 Anchors are to be examined. If any length of chain cable is found to be reduced in mean diameter at its most worn part by 13 per cent or more from its nominal diameter, it is to be renewed. The windlass is to be examined.

5.3.12 Chain cables are to be ranged and examined on all Vessels over five years old. The Surveyor is to be satisfied that there are suitable mooring ropes when these are a Rule requirement.

Isthmus Bureau of Shipping-ClassIBS
Regulations for the Classification of Sea-going Steel Vessels

TABLE 3.5.1 Survey preparation

Special Survey I (Ships 5 years old)	Special Survey II (ships 10 years old)	Special Survey III (ships 15 years old)
<p>(1) holds, 'tween decks, peaks, deep tanks, engine and boiler spaces, and other spaces, are to be cleared and cleaned as necessary, and the bilges and limbers all fore and aft are to be cleaned and prepared for examination. Platform plates in engine and boiler spaces are to be lifted as may be necessary for the examination of the structure below. Where necessary, close and spar ceiling, lining pipe casings are to be removed for examination of the structure.</p> <p>(2) In ships having a single bottom, a sufficient amount of close ceiling is to be lifted all fore and aft on each side from the bottom and bilges to permit the structure below to be examined.</p> <p>(3) In ships having a double bottom, a sufficient amount of ceiling is to be removed from the bilges and inner bottom to enable the conditions of the plating to be ascertained. If it is found that the plating is clean and in good condition, and free from rust, the removal of the remainder of ceiling may be dispensed with. The surveyor may waive the removal of having reinforced Compositions if there is no evidence in leakages, cracking or other faults in the composition.</p> <p>(4) where holds are insulated from the purpose of carrying refrigerated cargoes, and the hull in way of the insulation was examined by LR's Surveyors is at the time such insulation was fitted, it will be sufficient to remove the limbers and hatches to enable the framing and plating in way to be examined; in other cases, additional insulation is to be removed as necessary to satisfy the surveyor a the condition of the structure, see also Pte 4.</p> <p>(5) The steelwork is to be exposed and cleaned and rust removed as may be required for its proper examination by the surveyor.</p> <p>(6) All tanks are to be cleaned as necessary to permit examination, where this is required by Table 3.5.2.</p> <p>(7) Casings or covers of air, sounding, steam and other pipes, spar ceiling and lining in way of the side scuttles are to be removed, as required by the surveyor.</p>	<p>In addition to the requirements for special survey I, the following are to be complied with:</p> <p>(1) A sufficient amount of ceiling in the holds and other spaces is to be removed from the bilges and inner bottom to enable the condition of the structure in the bilges, the bottom plating of bulkheads and tunnel sides to be examined. If the surveyor deems it necessary, the whole of the ceiling is to be removed</p> <p>(2) In ships having a single bottom, the limber boards and ceiling equal to not less than three strakes, all fore and aft on each side are to be removed, one such strake being taken from the bilges. Where the ceiling is fitted in hatches, the whole of the hatches and at least one strake of ceiling in the bilges are to be removed. If the surveyor deems it necessary the whole of the ceiling and limber boards are to be removed</p> <p>(3) The chain locked is to be cleaned internally. The chain cables are to be ranged for inspection. The anchors are to be cleaned and placed in an accessible position for inspection.</p>	<p>In addition to the requirements for Special Survey II the following are to be complied with:</p> <p>(1) ceiling in holds is to be removed in order to ascertain that the steelwork is in good condition, free from rust and coated. If the surveyor is satisfied, after removal of portions of ceiling then it need not all be removed</p> <p>(2) portions of wood sheathing, or other covering, on steel decks are to be removed, as considered necessary by the surveyor, in order to ascertain the condition of the plating.</p> <p>(3) where the holds are insulated for the purpose of carrying refrigerated cargoes, the limbers and hatches are to be lifted and sufficient insulation is to be removed in each to the chambers to enable the surveyor to satisfy himself of the condition of the framing and plating, see also Pte 4.</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p style="text-align: center;">All subsequent Special Surveys</p> </div> <p>In addition to the requirements for Special Survey III the following is to be complied with:</p> <p>(1) where the holds are insulated for the purpose carrying refrigerated cargoes, the limbers and hatches are to be lifted, and sufficient additional insulation is to be removed in each of the chambers to enable the surveyor to be satisfied as to the condition of the steel structure, and to enable the thickness of the shell plating to be ascertained as required by 5.4</p>

5.3.13 the hand pumps, suction, watertight doors, air and sounding pipes are to be examined.

