INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES

Surveyor's Glossary

Hull Terms & Hull Survey Terms

Recommendation 82 July 2003 / Rev.1 Oct 2018

Enquiries should be addressed to:

The Secretary General,
International Association of Classification Societies Ltd,
36 Broadway, London, SW1H 0BH

Telephone: +(44)(0) 20 7976 0660
Telefax: +(44)(0) 20 7808 1100
Internet: permsec@iacs.org.uk

ACKNOWLEDGEMENT

IACS acknowledges the contributions made by a variety of marine industry sources in the preparation of this text and specifically acknowledges the kind contribution of the International Bulk Journal for the provision of a photograph for the front cover of this edition.

No. 82

(July 2003)
(Rev.1
Oct 2018)

Surveyor's Glossary

Hull Terms & Hull Survey Terms

1. Introduction

This Surveyor's Glossary of Hull Terms is intended as a guide to improve the standardization of survey reporting. It is recommended that the listed terms for hull structural elements are used throughout report narratives.

The Glossary also includes definitions of common hull survey terms that are applicable for surveys of hull structures and reporting.

All parties involved in the review of classification survey reports should have this Glossary available to assist with correct interpretation of the report narratives.

2. Hull Terms

2.1 General

Accommodation Ladder is a portable set of steps on a ship's side for people boarding from small boats or from a pier.

Aft Peak Bulkhead is a term applied to the first main transverse watertight bulkhead forward of the stern. An aft peak tank is any tank in the narrow part of the stern aft of this last watertight bulkhead.

Bay is the area between adjacent transverse frames or transverse bulkheads.

Bilge Keel is a piece of plate set perpendicular to a ship's shell along her bilges for about one third her length to reduce rolling.

Bilge Strake is the strake at the turn of bilge extending outward to a point where the side rises vertically.

Breast Hook is a triangular plate bracket joining port and starboard side structural members at the stem.

Bulkhead Deck is the uppermost continuous deck to which transverse watertight bulkheads and shell are carried.

Bulkhead Structure is the transverse or longitudinal bulkhead plating with stiffeners and girders.

Bulwark is the vertical plating immediately above the upper edge of the ship's side surrounding the exposed deck(s).

Cargo Area or **Cargo Length Area** is that part of the ship that contains cargo holds and cargo / slop tanks and adjacent areas including ballast tanks, fuel tanks, cofferdams, void spaces and also including deck areas throughout the entire length and breadth of the part of the ship over the mentioned spaces.

Cargo Hold Bulkhead is a boundary bulkhead separating cargo holds.

No. 82 (cont)

Cargo Port is a door or port in a ship's side for the loading or discharge of cargo or stores. Also called side port.

Carlings are supports usually of flat plate, welded in a fore and aft direction between transverse deck beams to prevent distortion of the plating.

Casing is the covering or bulkhead around or about any space for protection.

Ceilings is wood sheathing or planking fitted on various parts of the ship such as tank tops, ship's sides and bulkheads to protect the ship's structure from damage and also used to protect the cargo from damage.

Coaming is the vertical boundary structure of a hatch or skylight.

Cofferdams are spaces between two bulkheads or decks primarily designed as a safeguard against leakage of oil from one compartment to another.

Collision Bulkhead is the foremost main transverse watertight bulkhead.

Companion Way is a weathertight entrance leading from a ship's deck to spaces below.

Confined Space is a space identified by one of the following characteristics: limited openings for entry and exit, unfavorable natural ventilation or not designed for continuous worker occupancy.

Cross Deck is the area between cargo hatches.

Cross Ties are used to support the longitudinal bulkheads of oil tankers against hydrostatic and hydrodynamic loads.

Dead Covers are plates of bronze or steel working on a hinge serving to protect the glass port light in heavy weather. Also called dead light.

Deck House is a structure on the freeboard or superstructure deck not extending from side to side of the ship.

Deck Structure is the deck plating with stiffeners, girders and supporting pillars.

Deep Tank is a tank extending from the bottom or inner bottom up to or higher than the lowest deck.

Discharges are any piping leading through the ship's sides for conveying bilge water, circulating water, drains etc. Also called Overboard Discharge.

Double Bottom Structure is the shell plating with stiffeners below the top of the inner bottom and other elements below and including the inner bottom plating.

Duct Keel is a keel built of plates in box form extending the length of the cargo hold. It is used to house ballast and other piping leading forward which otherwise would have to run through the cargo holds.

Enclosed Superstructure is the superstructure with bulkheads forward and/or aft fitted with weather-tight doors and closing appliances.

Equipment Number is used by classification societies mainly to determine the size and number of anchors and chain cables for a new ship.

No. 82 (cont)

Floor is a bottom transverse member.

Flush Deck Ship is a ship that has no superstructure on the freeboard deck.

Forecastle is a short superstructure situated at the bow.

Forepeak is the area of the ship forward of the collision bulkhead.

Freeboard Deck is normally the uppermost complete deck exposed to weather and sea, which has permanent means of closing all exposed openings.

Freeing Port is an opening in the bulwarks to allow water shipped on deck to run freely overboard.

Gangway is the raised walkway between superstructure such as between forecastle and bridge or between bridge and poop.

Girder is a collective term for primary supporting structural members.

Gunwale is the upper edge of the ship's sides.

Gusset is a triangular plate, usually fitted to distribute forces at a strength connection between two structural members.

Hatch Coaming is the vertical plating built around the hatchways to prevent water from entering the hold; and to serve as a framework for the hatch covers.

Hatch Covers are wooden or steel covers fitted over a hatchway to prevent the ingress of water into the ship’s hold and may also be the supporting structure for deck cargo.

Hatch Ways are openings, generally rectangular, in a ship’s deck affording access into the compartment below. Also called hatches.

Hopper Side Tanks are tanks used for ballast or for stability when carrying certain cargoes in bulk carriers. Also referred to as topside wing ballast tanks and bottom hopper tanks.

Independent Tank is a self-supporting tank.

Keel is the main structural member or backbone of a ship running longitudinal along centerline of bottom. Usually a flat plate stiffened by a vertical plate on its centerline inside the shell.

Margin Plate is the outboard strake of the inner bottom and when turned down at the bilge the margin plate (or girder) forms the outer boundary of the double bottom.

Midship Section is the cross section through the ship, midway between the forward and after perpendiculars.

Pipe Tunnel is the void space running in the midships fore and aft lines between the inner bottom and shell plating forming a protective space for bilge, ballast and other lines extending from the engine room to the holds.

Poop is the space below an enclosed superstructure at the extreme aft end of a ship.

No. 82 (cont)

Poop Deck is the first deck above the shelter deck at aft end of a ship.

Port Light is another term for side light or side scuttle.

Reduced Scantlings are scantlings that are allowed to be reduced because approved corrosion control arrangements have been applied.

Representative Spaces is those which are expected to reflect the condition of other spaces of similar type and service and with similar corrosion prevention systems.

Scupper is any opening for carrying off water from a deck, either directly or through piping.

Scuttle is a small opening in a deck or elsewhere, usually fitted with a cover or lid or a door for access to a compartment.

Shedder Plates are slanted plates fitted in dry cargo holds to prevent undesired pockets of cargo. The term is also commonly applied to slanted plates that are fitted to improve the structural stability of corrugated bulkheads and framing members.

Sheer Strake is the top strake of a ship's side shell plating.

Single Bottom Structure is the shell plating with stiffeners and girders below the upper turn of bilge.

Skylight. A deck opening fitted with or without glass port light and serving as a ventilator for engine room, quarters, etc.

Spaces are separate compartments including holds and tanks.

Stay is a term for bulwarks and hatch coaming brackets.

Stem is the piece of bar or plating at which a ship’s outside plating terminates at her forward end.

Stern Frame is the heavy strength member in single or triple screw ships, combining the rudder post.

Stiffener is a collective term for secondary supporting structural members.

Stool is a structure supporting cargo hold and tank bulkheads.

Strake is a course, or row, of shell, deck, bulkhead, or other plating.

Strength Deck is normally the uppermost continuous deck. After special consideration of its effectiveness, another deck may be defined as strength deck.

Stringer Plate is the outside strake of deck plating.

Superstructure is a decked structure on the freeboard deck extending for at least 92% of the breadth of the ship.

Suspect Areas are locations showing substantial corrosion and/or which are considered by the Surveyor to be prone to rapid wastage.

No. 82 (cont)

Tank Bulkhead is a boundary bulkhead in a tank for liquid cargo, ballast or bunkers.

Topside Wing Ballast tanks are ballast tanks in bulk carriers that normally stretch along the length of the ship's side and occupy the upper corners of the cargo hold.

Tween Decks is an abbreviation of between decks, placed between the upper deck and the tank top in the cargo holds.

Void is an enclosed empty space in a ship.

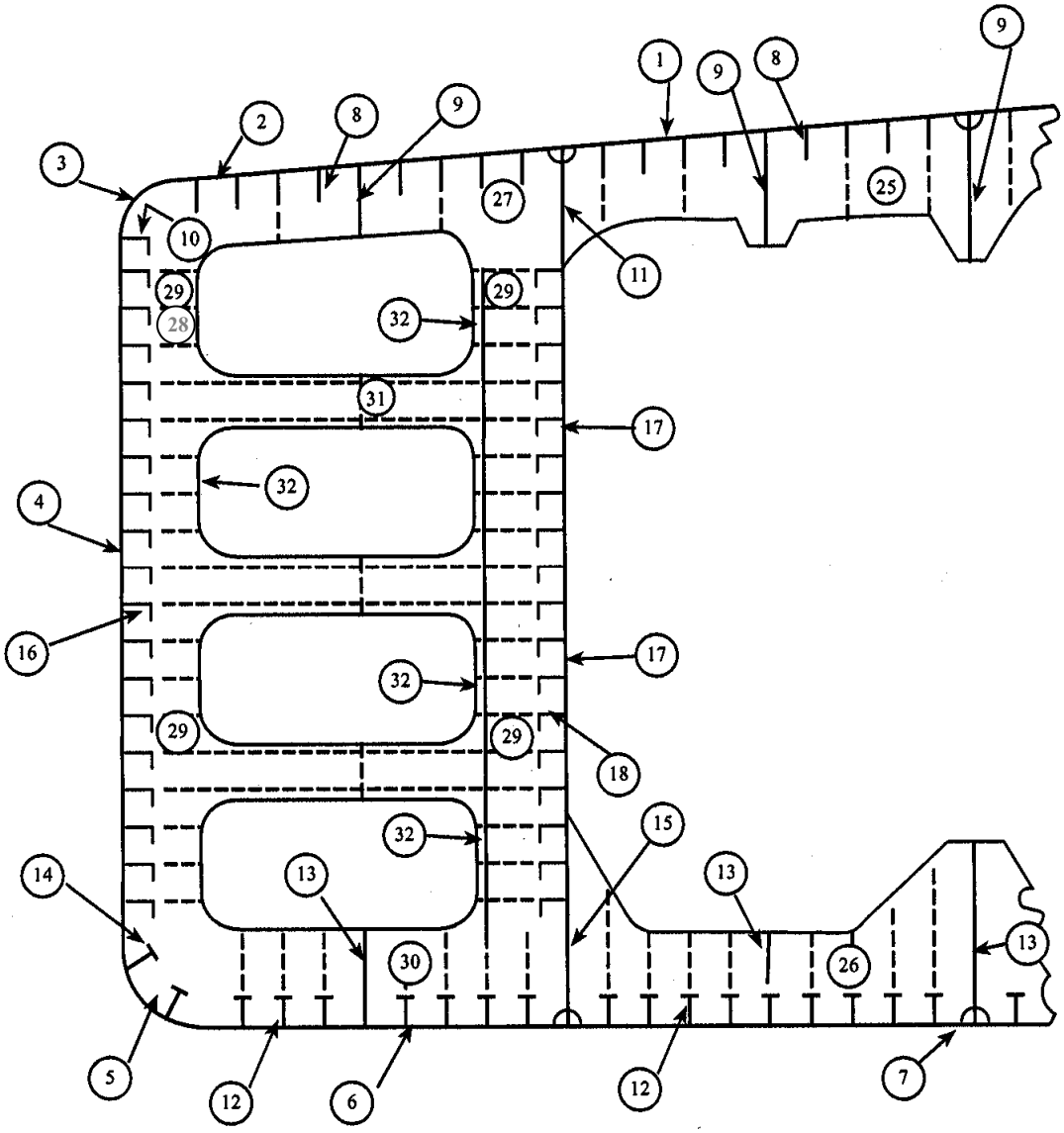
Wash Bulkhead is a perforated or partial bulkhead in a tank.

Watertight Bulkhead is a collective term for transverse bulkheads required for subdivision of the hull into watertight compartments.

Wind and Water Strakes are the strakes of a ship's side shell plating between the ballast and deepest load waterline.

No. 82 (cont)

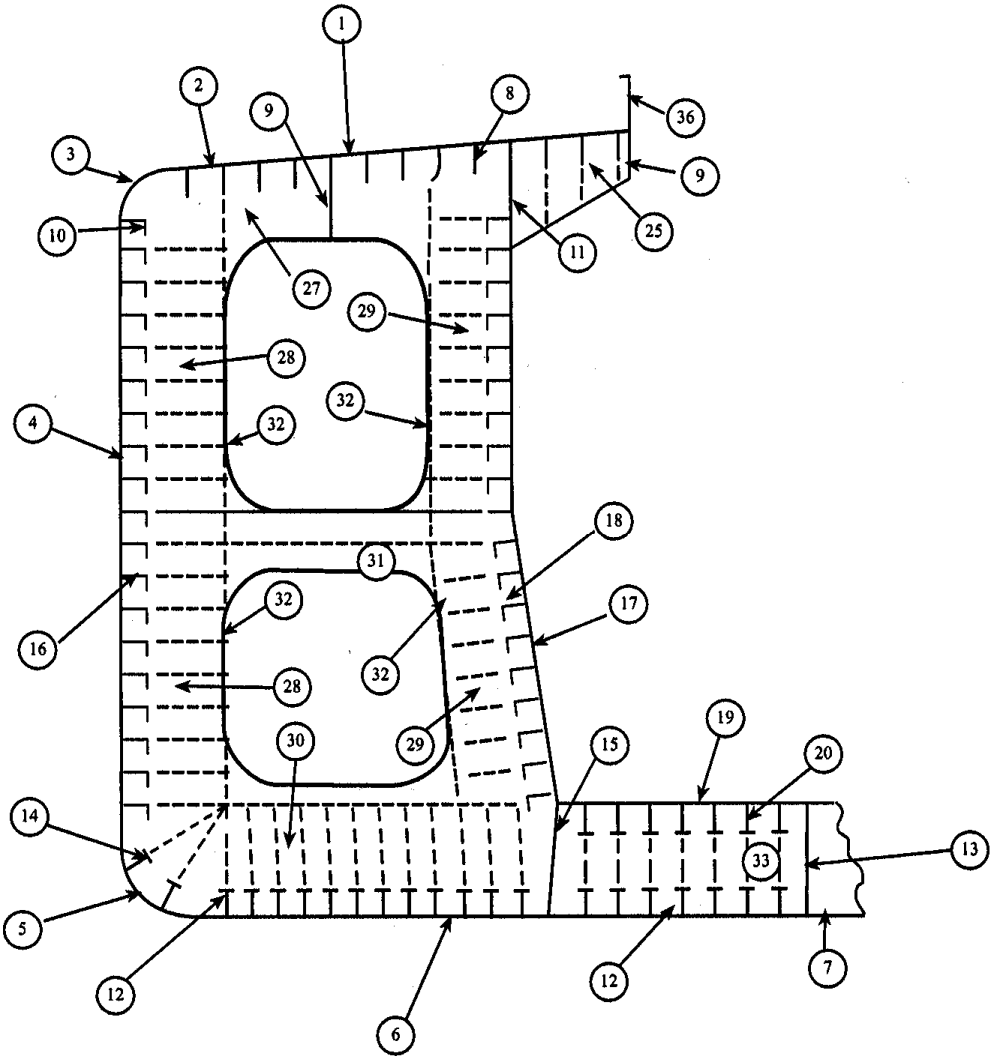
2.2 Nomenclature for typical hull structures



1	Strength deck plating	14	Bilge longitudinals
2	Stringer plate	15	Longitudinal bulkhead lower strake
3	Sheer strake	16	Side shell longitudinals
4	Side shell plating	17	Longitudinal bulkhead plating
5	Bilge plating	18	Longitudinal bulkhead longitudinals
6	Bottom shell plating	25	Deck transverse centre tank
7	Keel plate	26	Bottom transverse centre tank
8	Deck longitudinals	27	Deck transverse wing tank
9	Deck girders	28	Side shell vertical web
10	Sheer strake longitudinal	29	Longitudinal bulkhead vertical web
11	Longitudinal bulkhead top strake	30	Bottom transverse wing tank
12	Bottom longitudinals	31	Cross ties
13	Bottom girders	32	Transverse web face plate

Figure 1: Single Hull Tanker – Typical Transverse Section

No. 82 (cont)



1	Strength deck plating	16	Side shell longitudinals
2	Stringer plate	17	Longitudinal bulkhead plating
3	Sheer strake	18	Longitudinal bulkhead longitudinals
4	Side shell plating	19	Inner bottom plating
5	Bilge plating	20	Inner bottom longitudinals
6	Bottom shell plating	25	Deck transverse centre tank
7	Keel plate	26	Bottom transverse centre tank
8	Deck longitudinals	27	Deck transverse wing tank
9	Deck girders	28	Side shell vertical web
10	Sheer strake longitudinal	29	Longitudinal bulkhead vertical web
11	Longitudinal bulkhead top strake	30	Bottom transverse wing tank
12	Bottom longitudinals	31	Cross ties
13	Bottom girders	32	Transverse web face plate
14	Bilge longitudinals	33	Double bottom floor
15	Longitudinal bulkhead lower strake	36	Hatch coamings

Figure 2: Single Hull Oil / Ore Carrier – Typical Transverse Section

No. 82 (cont)

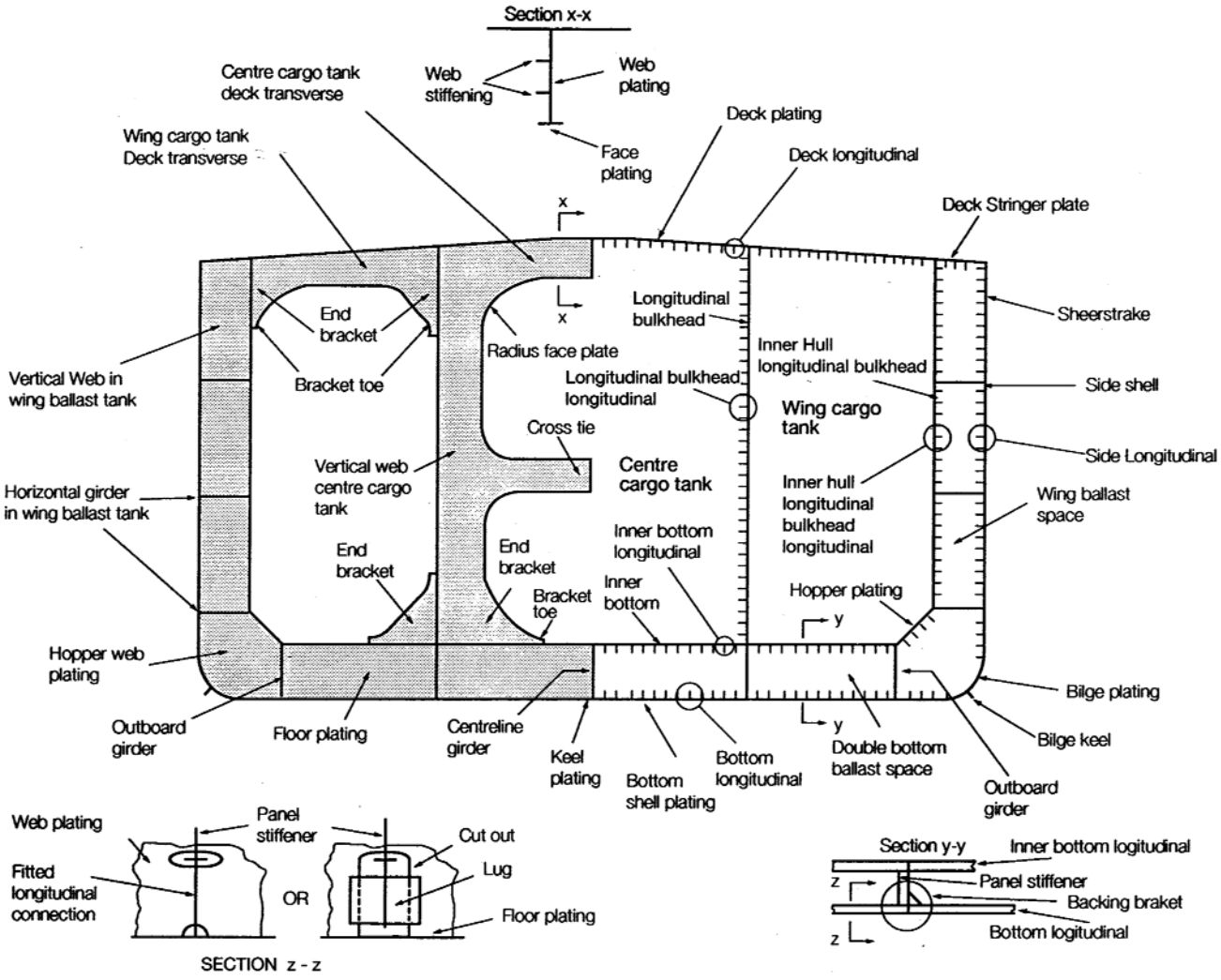


Figure 3: Double Hull Tanker – Typical Transverse Section

No. 82 (cont)

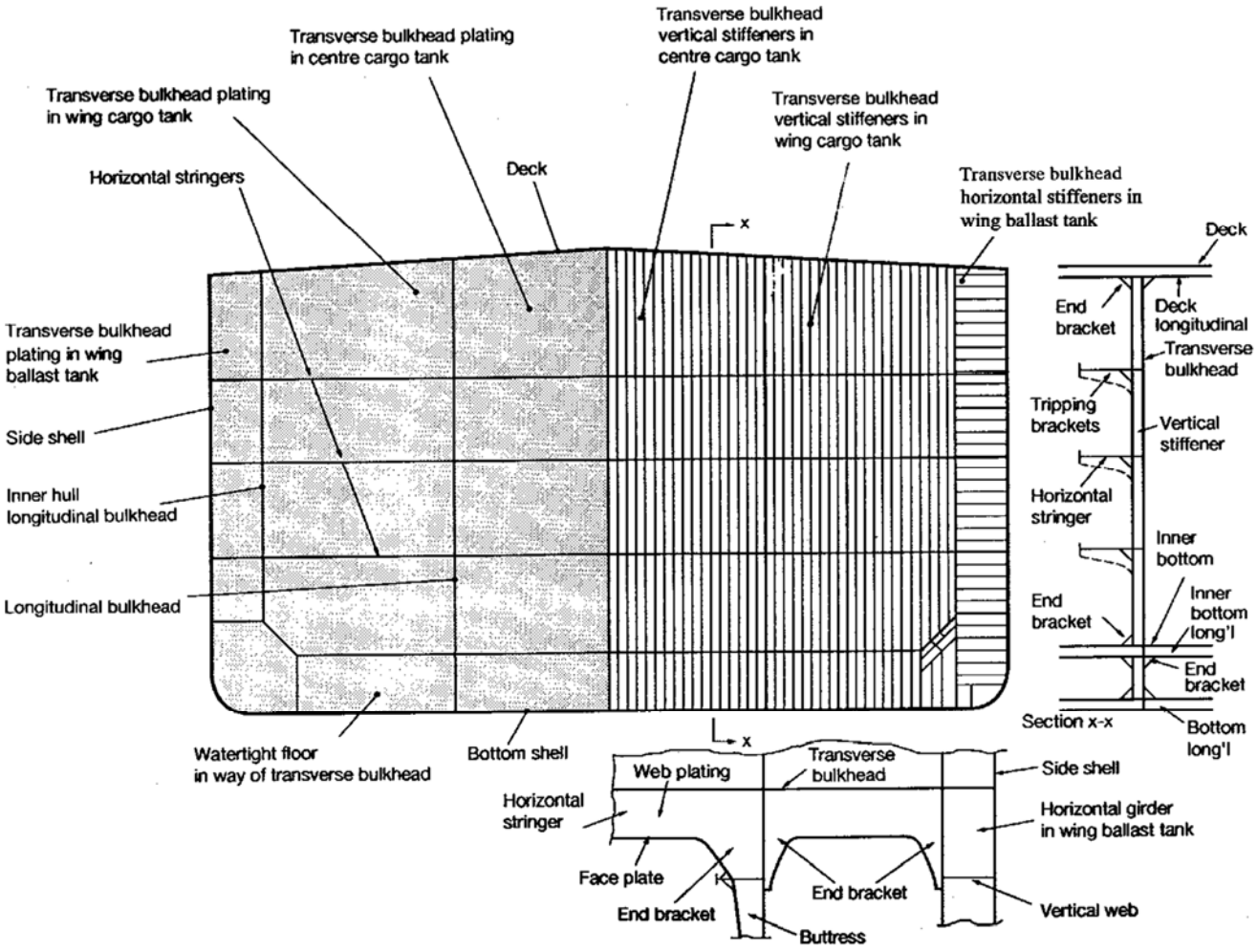


Figure 4: Double Hull Tanker – Typical Transverse Bulkhead

No.
82
(cont)

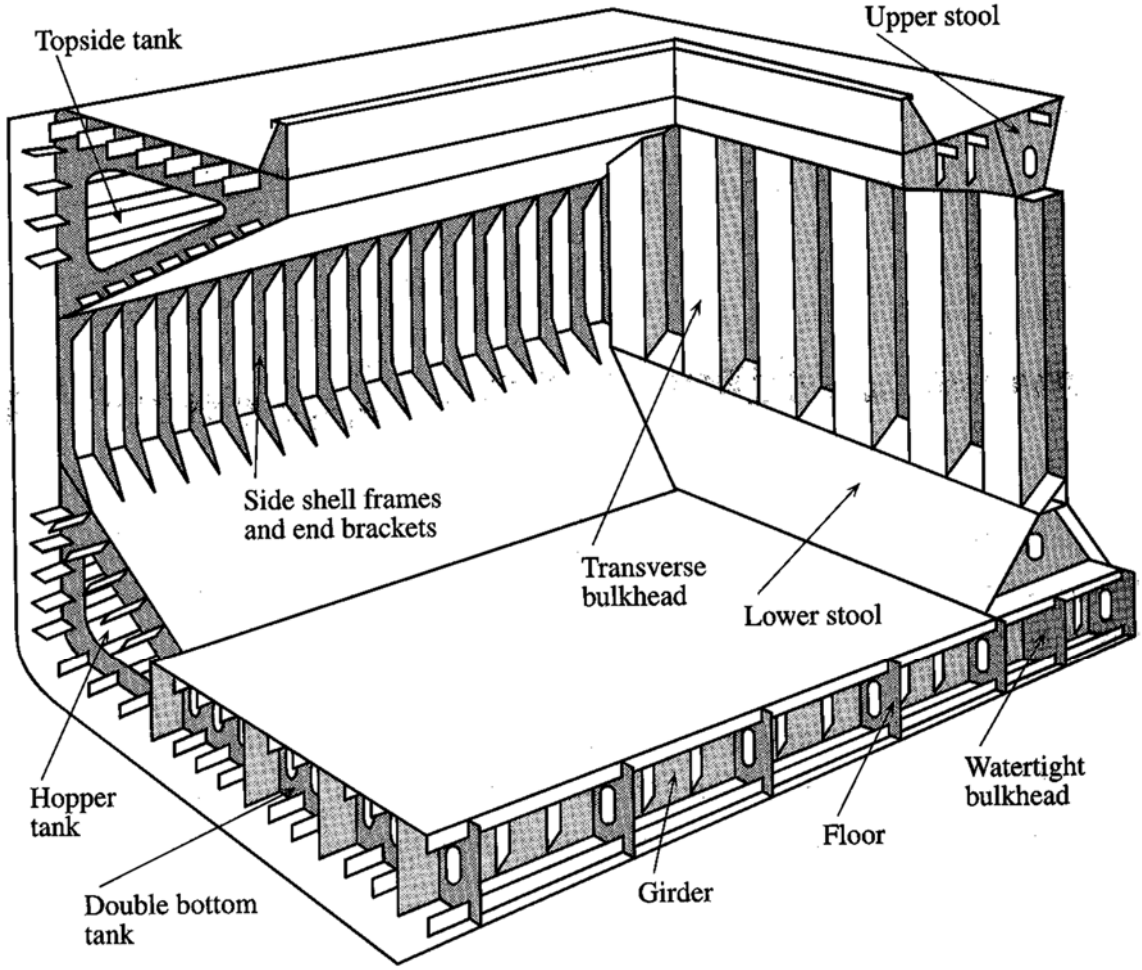


Figure 5: Single Skin Bulk Carrier – Typical Cargo Hold Structural Configuration

No. 82 (cont)

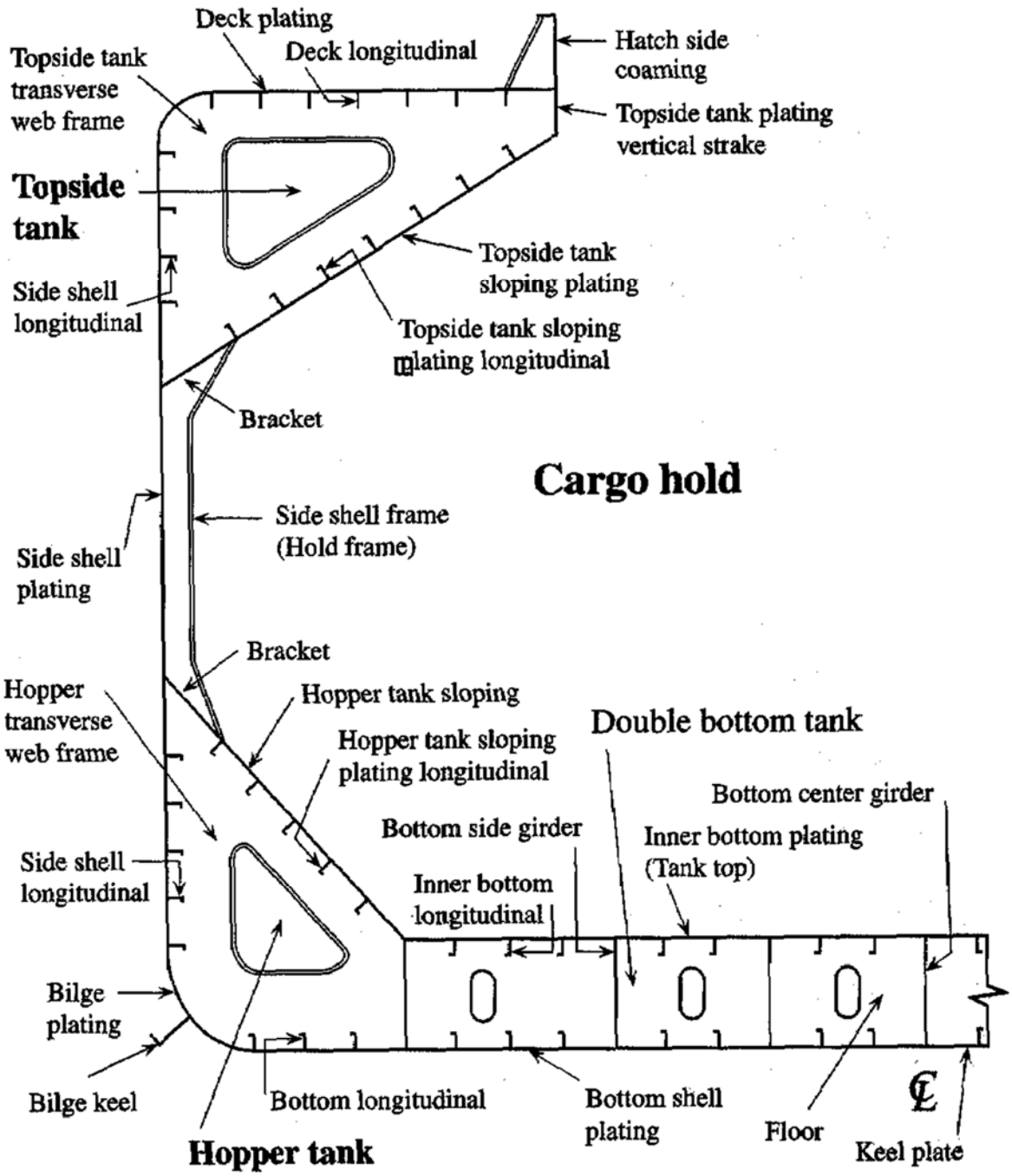


Figure 6: Single Skin Bulk Carrier – Typical Transverse Section

No. 82 (cont)

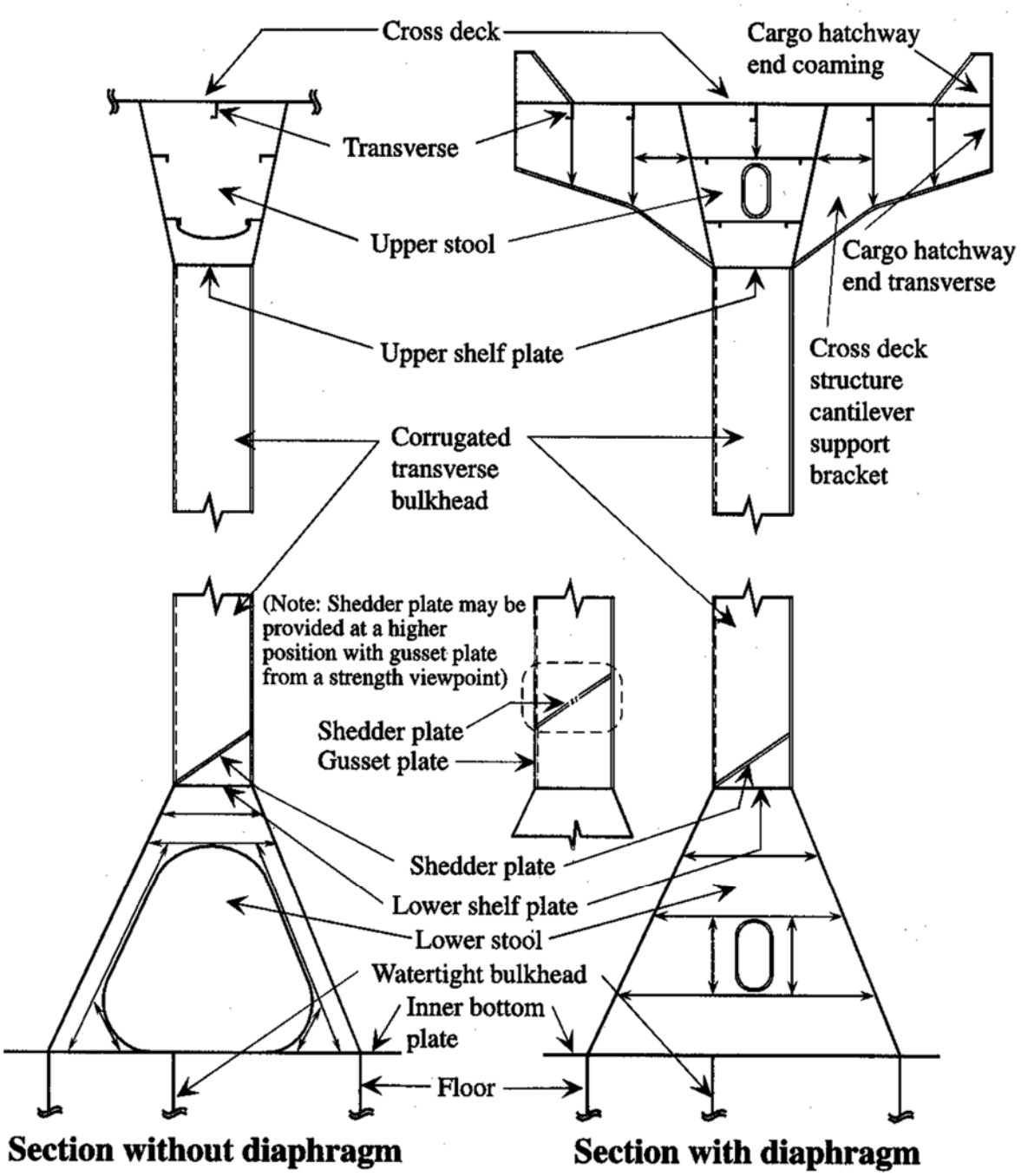


Figure 7: Bulk Carrier – Typical Transverse Watertight Bulkhead

No. 82 (cont)

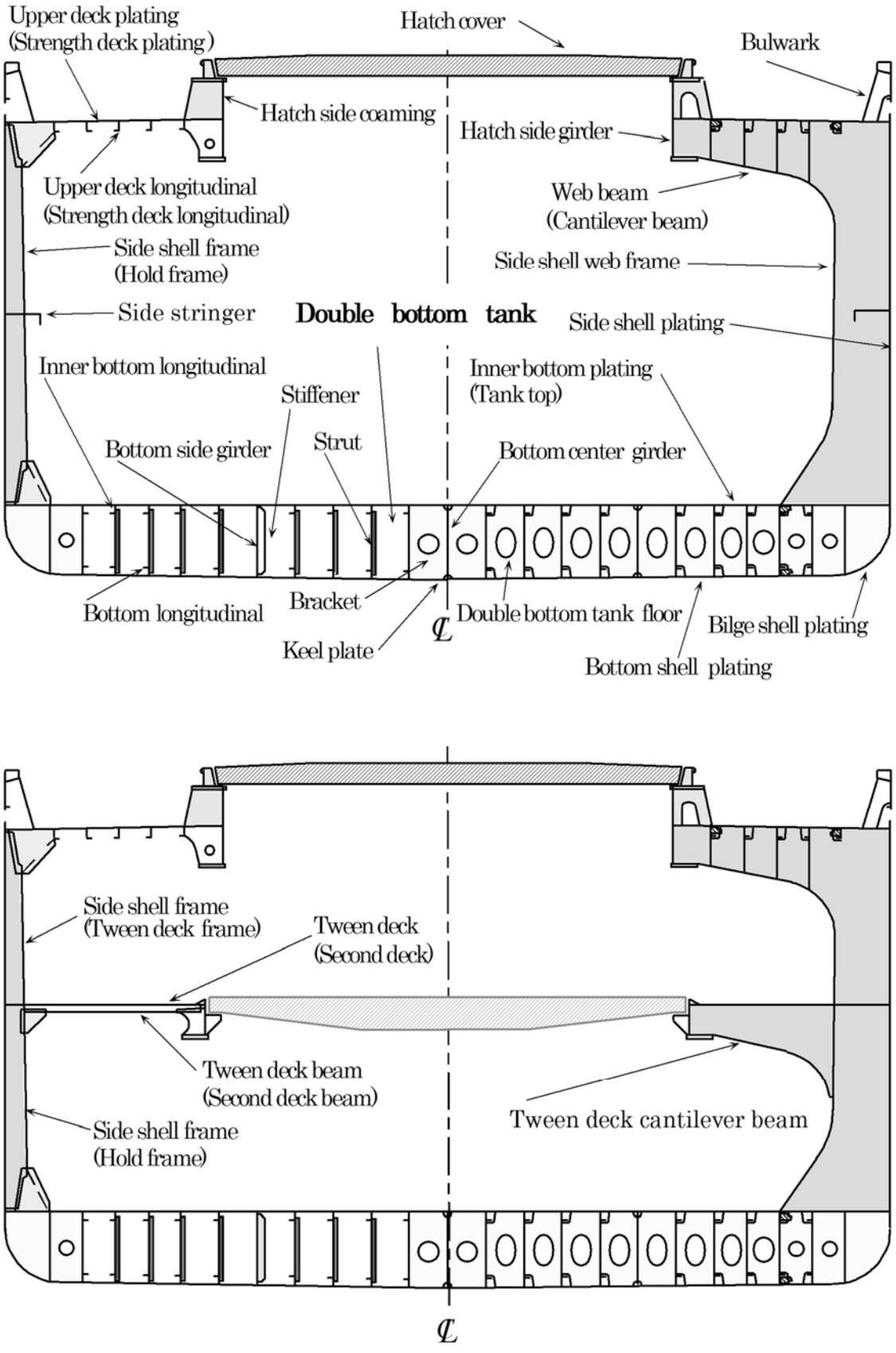


Figure 8: General Dry Cargo Ship – Typical Transverse Section

No. 82 (cont)

3. Hull Survey Terms

Abrasion is the removal of material by mechanical, i.e. rubbing or frictional, means.

Active Corrosion means gradual chemical or electrochemical attack on a metal producing loose scale, by atmosphere, moisture or other agents.

Allowable Corrosion or **Wastage Limit** is the acceptable thickness diminution of structural elements.

Anode is the positively charged metal surface and the corroding part of an electrochemical corrosion cell at which the oxidation or loss of electrons occurs. Sacrificial anode or impressed current anode.

Antifouling is paint for use on underwater areas on hulls. Antifouling contains agents who prevent the adhesion and growth of organisms on the hull.

Bacterial Corrosion or **Microbially Influenced Corrosion (MIC)** is corrosion which is induced or accelerated by the presence of micro organisms.

Blasting or **Shot-Blasting** is the cleaning of a metal surface by a stream of abrasive particles.

Blister - a raised area, often dome shaped, resulting from loss of adhesion between a coating or deposit and the substrate.

Brittle Fracture is the separation of a solid accompanied by little or no macroscopic plastic deformation. Typically, brittle fracture occurs by rapid crack propagation with less expenditure of energy than for ductile fracture. Brittle tensile fractures have a bright, granular appearance and exhibit little or no necking.

Buckling: a bulge bend or other wavy condition of the structure caused by in plane compressive stresses and /or shear stresses.

Butt Joint is a joint between two structural members lying in the same plane. Typically a butt joint is used to describe the welded connection between two plates in the transverse direction.

Cathode is the negatively charged metal surface and the non-corroding or protected part of an electrochemical corrosion cell.

Cathodic Protection is the partial or complete protection of a metal from corrosion by making it a cathode, using either a galvanic or an impressed current to bring a metal to a potential where it is thermodynamically stable.

Cavitation Damage is degradation of metal surfaces, characterized by pitting, in which the pit profile is irregular, occurring when very turbulent fluids are in contact with the metal surface, and associated with the formation and collapse of cavities in the liquid at the solid – liquid interface.

Close-up Survey is a survey where the details of structural members are within the close visual inspection range of the surveyor, i.e. normally within the reach of hand.

Coating Evaluation Criteria is normally an assessment of the extent of damage registered in terms of coating breakdown area and/or rust scales in % of area under consideration, normally the complete tank, with additional information on coating

No. 82 (cont)

damage to edges and weld connection. Typical coating failures may be given as additional information.

Coating, often synonymous with **Painting**, i.e. a protective film of thickness usually about 0,2 - 0,5 mm, applied to prevent corrosion mainly via a three main mechanisms; the barrier effect, the cathodic effect or by inhibition / passivation.

Collision Damage is damage caused by physical impact between two or more ships used for navigation.

Condition Assessment Programme (CAP) is a voluntary system, which gives a detailed assessment of a tanker's actual condition at the time of inspection and is available to both charter-parties and owners.

Condition Survey is a survey normally of limited scope and time and intended to identify any anticipated structural or corrosion related deficiencies and give an overall visual impression of the structural integrity.

Contact Damage is damage caused when the ship strikes something other than another ship. (see also '**Grounding**').

Corrosion Fatigue is the process in which a metal fractures prematurely in a trans-crystalline manner under conditions of simultaneous corrosion and repeated cyclic loading of lower stress levels or fewer cycles than would be in the absence of a corrosive environment

Corrosion is the chemical or electrochemical reaction between a material, usually a metal and its environment that produces a deterioration of material and its properties, usually an oxide is formed.

Corrosion Prevention System is considered a full hard coating; alternatively a full hard coating supplemented by cathodic protection.

Crack is a fracture type discontinuity without complete separation characterized by a sharp tip and high ratio of length and width to opening displacement.

Crevice Corrosion is localized corrosion of a metal surface at, or immediately adjacent to, an area that is shielded from full exposure to the environment because of close proximity between the metal and surface of another material. It is usually associated with small volumes of stagnant water; within lapped joints,
under heads of fastenings, under gaskets and packings, under marine organisms and porous deposits.

Critical Structural Areas are locations which have been identified from calculations to require monitoring or from the service history of the subject ship or from similar ships to be sensitive to cracking, buckling or corrosion which would impair the structural integrity of the ship.

Cumulative Damage is an aggregation of damage due to various physical causes, specifically applied to fatigue under various stress ranges and frequencies.

Damage Survey is a survey requested as a result of hull damage or other defects.

Deformation is a change in the form of a structure due to stress, thermal change, change in moisture, or other causes.

No. 82 (cont)

Delamination is peeling from undercoat or substrate.

Deposit Attack is an attack under, or around, the edge of a local deposit formed on a metal surface in the presence of an electrolyte.

Ductile Fracture is the separation of a solid accompanied by gross plastic deformation.

Edge Corrosion is local corrosion at the free edges of stiffeners, brackets, flanges, manholes etc.

Elasticity means the structural member's capability of sustaining stress without permanent deformation, i.e. to recover its original size and shape after the stress has been removed.

Electrochemical Corrosion is corrosion associated with the passage of an electric current. If the current is produced by the system itself it is called Galvanic Corrosion and if it results from an impressed current it is called Electrolytic Corrosion.

Erosion Corrosion is a combined action involving corrosion and erosion in the presence of a moving corrosive fluid, leading to the accelerated loss of material. Erosion corrosion is characterized by grooves, gullies, waves, valleys etc., usually with directional pattern and with bright surfaces free from corrosion products.

Erosion Damage is the physical removal of material from a surface by mechanical means such as e.g. flowing liquid and it may be accelerated by corrosion.

Excessive Corrosion is an extent of corrosion that exceeds the Allowable Corrosion.

Extensive Corrosion is an extent of corrosion consisting of hard and/or loose scale, including pitting, over 70% or more of the area under consideration, accompanied by evidence of thickness diminution.

FAIR condition is a term used to describe the condition of a hard coating; with local breakdown at edges of stiffeners and weld connections and/or light rusting over 20% or more of areas under consideration, but less than as defined for POOR condition.

Fair is to smooth or fair up a ship's lines and eliminating irregularities.

Fatigue is the phenomenon leading to fracture under repeated or fluctuating stresses having a maximum value significantly less than the ultimate tensile strength of the material.

Fracture is the propagation of a crack through the thickness of a material.
(see '**Brittle**' and '**Ductile**' Fractures)

Galvanic Corrosion is electrochemical accelerated corrosion of a metal because of an electrical contact with a more noble metal or nonmetallic conductor in a corrosive electrolyte.

Galvanizing is the deposition of zinc on to the surface of steel to provide corrosion protection by both protecting the steel from contact with the environment and giving sacrificial protection.

General Corrosion or **Overall Corrosion** appears as non-protective, friable rust of a uniform nature on uncoated surfaces. Rust scale continually breaks off, exposing fresh metal to corrosive attack. Visual judgment of thickness loss is difficult until serious

No. 82 (cont)

wastage has occurred.

GOOD condition is a term used to describe condition of hard coating; with only minor spot rusting.

Grooving Corrosion is local corrosion normally adjacent to welding joints along abutting stiffeners and at stiffener or plate butts or seams.

Grounding is contact of the ship's bottom with the sea floor.

Hard Coating is a coating which chemically converts during its curing process, normally used for new construction, or non-convertible air drying coating which may be used for maintenance purposes. Hard coating can be either organic or inorganic and covers typical marine coatings such as those based on epoxy, coal tar epoxy, polyurethane, chlorinated rubber, vinyl, zinc epoxy, zinc silicate.

Hose Testing is carried out to demonstrate the tightness of structures not subject to structural (hydrostatic) or leak testing and to other components that contribute to the watertight or weathertight integrity of the hull.

Hydropneumatic Testing is a combination of hydrostatic and air testing.

Indent is deformation of structural members caused by out of-plane loads like bottom slamming and bow impact forces, contact with other objects etc.

Inhibitors are substances used to prevent or retard a chemical or electrochemical reaction, often used to render corrosion products less soluble and thereby tending to stifle electrochemical corrosion processes.

Insignificant Corrosion or **Minor Corrosion** is an extent of corrosion with minor spot rusting and such that an assessment of the corrosion pattern indicates wastage generally not exceeding of 30% of the allowable corrosion limits.

Lamination is an excessively large, laminar, non-metallic inclusion, producing a defect appearing in sheets or strips as segregation or in layers.

Lap Joint is a joint between two structural members that overlap each other.

Leak Testing is an air or other medium test carried out to demonstrate the tightness of the structure.

Local Corrosion is by name local in nature, often appearing at areas with local breakdown of coating or at areas with stress concentrations.

Loose Scale is sheets of rust falling off if the surveyor hits the structure with his test hammer. Loose scale can best be removed by hand or power tool cleaning or a combination of these.

Mill Scale is thick oxide film formed on wrought-metal products which have been hot-rolled or forged and allowed to cool in air, the term is principally applied to steel on which the oxide is essentially magnetic black oxide.

Necking Effect is a term describing local corrosion at junction of plating and stiffeners due to flexure effects caused by reverse, cyclic loading with loss of coating or shedding of scale exposing fresh steel to further corrosion. The corrosion rate may be rather high and accelerates with thinning of the material.

No. 82 (cont)

On-hire/Off-hire Survey is surveys carried out to state the ship's condition prior to or after her chartering. The main purpose is to record deficiencies or damages.

Overall Survey is survey intended to report on the overall condition of the hull structure and determine the extent of additional close-up surveys.

Paint can be described as a liquid material capable of being applied or spread over a solid surface on which it subsequently dries or hardens to form a continuous adherent, obliterating film.

Paint Cracking is deep cracks in paint that expose substrate.

Periodical Survey is a collective term of classification surveys carried out after the delivery a ship and at prescribed time intervals, i.e. annual, intermediate and renewal/special surveys.

Pinholing is tiny, deep holes exposing substrate.

Pinpoint Rusting is local rusting at pinholes or holidays.

Pitguard Anode is a sacrificial anode placed just above tank bottom in order to mitigate the general and pitting corrosion process.

Pitting Corrosion is local, random scattered corrosion mainly on horizontal surfaces and at structural details where water is trapped, particularly at bottom of tanks. For coated areas the attack produces deep and small diameter pits which may lead to perforation. Pitting of uncoated areas in tanks, as it progresses, forms shallow but very wide scabby patches (e.g. 300 mm in diameter) and the appearance resembles condition of general corrosion.

Plasticity is the property of a material that allows it to be extensively repeatedly deformed without rupture when acted upon by a force sufficient to cause deformation and that allows it to retain its deformed shape after the applied force has been removed.

POOR condition is a term used to describe condition of hard coating; with general breakdown of coating over 20% or more or hard scale at 10% or more of areas under consideration.

Prompt and Thorough Repair is permanent repair completed at the time of the survey to the satisfaction of the surveyor, therein removing the need for imposition of any associated condition of class.

Rust is a visible corrosion product consisting of hydrated oxides of iron and is formed on steel surfaces exposed to moist atmospheric conditions.

Sags are excess flow of paint, also called runs or curtains.

Scale is surface oxidation, consisting of partially adherent layers of corrosion products, left on metals by heating or casting in air or in other oxidizing atmospheres and is the product of the corrosion process of steel with a porous surface layer or flakes, in volume greater than the metal from which it was formed.

Scantlings are the dimensions of a ship's structural members as girders, stiffeners and plates.

No. 82 (cont)

Seam is a joint between two structural members lying in the same plane. Typically a seam is used to describe the welded connection of two plates in the longitudinal direction.

Semi-hard Coating is a coating that dries or converts in such a way that it stays flexible although hard enough to touch and walk upon.

Shop primer is a rust preventing paint for temporary protection of steel immediately after blasting for protection of the material surface from corrosion during construction and until the final paint system is applied.

Soft Coating is a coating that remains soft so that it wears off at low mechanical impact or when touched; often based on oils (vegetable or petroleum) or lanolin (sheep wool grease). Application of soft coating does generally not allow relaxation of the extent of periodical hull survey requirements of ballast tanks.

Statutory Survey is a collective term of surveys required to meet International Convention requirements such as Load Line, SOLAS and MARPOL.

Strain is any forced change in the dimensions of a structural member.

Stress Concentration or **Stress Raiser** is a term used of any notch, crack, hole, corner, groove, attachment or other interruption to smooth flow of stress and strain in structures introduces a concentration of stress.

Stress Corrosion is the preferential attack of areas under tensile stress in a corrosive environment, where such an environment alone would not have caused corrosion. Tensile stresses may be residual stresses from welding or cold-working or applied working stresses.

Stripe Coating is used to produce a coating with sufficient film thickness on edges, corners, weld seams and other areas that are difficult to coat using airless spray.

Structural Testing or **Tank Testing** is a hydrostatic test carried out to demonstrate the structural adequacy of design and tightness of tank boundaries.

Substantial Corrosion is an extent of corrosion such that assessment of corrosion pattern indicates wastage in excess of 75% of allowable corrosion, but within allowable corrosion limits.

Survey is a collective term for examination, testing and evaluation of results and decision making.

Suspect Areas are locations showing substantial corrosion and/or are considered to be prone to rapid wastage.

Transverse Section includes, for thickness measurement purposes, all longitudinal members such as plating, longitudinals and girders at the deck, side, bottom, inner bottom and longitudinal bulkheads. For transversely framed ships, a transverse section includes adjacent frames and their end connections in way of transverse section. Also called **Girthbelt.**

No. 82 (cont)

Watertight means capable of preventing the passage of water through the structure under a head of water for which the surrounding structure is designed.

Wear is the deterioration of a surface due to relative motion between it and another.

Weathertight means that in any sea condition water will not penetrate into the ship.

Weld Metal Corrosion is a preferential corrosion of the weld deposit due to an electrolytic action between the weld metal and base metal.