



REFERENCE

Bulk vessel terms and definitions

Purpose of this document

This document has been written for authorised officers (AO) as a reference guide of terms used in relation to bulk vessel inspections and their definitions. This document is designed to be read in conjunction with the Guideline: *Empty bulk vessels for export* (the guideline) and Work instruction: *Inspecting empty bulk vessels* (the work instruction) to support bulk vessel inspection activities.

In this document

Purpose of this document.....	1
Definitions.....	1
Related material.....	9
Document information	9
Version history	10
Attachment 1: General cargo vessel cross section	11
Attachment 2: Bulk carrier cross section	12

Definitions

The following table of definitions is accompanied by Attachments 1 and 2 which depict cross sections of general cargo vessel hold and bulk carrier cross section respectively.

The following table defines terms used in the guideline and the work instruction, and provides additional inspection information on specific sites of the vessel.

Term	Definition
Afterpeak	Space at the stern below deck. May be used for carrying drinking water or for ballast.
Air pipe	Ventilating pipe to ensure release of air from a tank as it is filled. Fitted at outboard corners and at opposite ends from filling pipes, or at highest point of tank top.
Amidships	Part of ship midway between stem and stern, or anywhere in the fore and aft centre line of a vessel. See also Midships.
Angle bar	A steel L shaped section.
Angle brackets	Supports fitted in an angle, as between plates and frames.
Angle iron	Commonly applied to an angle bar, but also to an angle bracket.
Australian ladder	An inclined ladder that has intermediate platforms between the tank top and the deck.
Awning	Canvas covering over a deck as protection from sun and rain.
Awning deck	Lightly constructed deck over main or upper deck to give protection against sun and weather.
Ballast	Heavy materials, either solid or liquid (water), to increase stability or submerge the propeller of the vessel. Ballast may be temporary or permanent.
Battens	Lengths of timber varying in size according to use. In particular, cargo battens are fitted to the holds of conventional vessels on each side to keep the cargo from contact with the steel hull to prevent damage by condensation or chafing.
Beam	<ol style="list-style-type: none"> 1. Breadth of a ship. 2. Angle irons or girders as part of the ship's structure. <p>There are two types:</p> <ol style="list-style-type: none"> 1. longitudinal beams, usually as deck girders running on either side of the hatch opening 2. transverse beams <p>Hatch end beams run at either end of the hatch opening and small deck beams run between these and the bulk-heads.</p> <p>Box beam is an alternative name for a girder that is L- or H- shaped, or 4-sided in cross-section. In bulk carriers, the hatch girders are normally continuous with the top tank sides and therefore fully enclosed.</p>

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Term	Definition
Bilge pipes	Pipes fitted throughout the length of the ship for draining the bilges. The suction end of each pipe is fitted with a strum box to act as a filter.
Bilge pump	Pump for extracting water from the bilges and discharging it overboard.
Bilges or Bilge compartments	<p>The space inside the hull that serves as a drainage area where accumulated water can run and be pumped out. If a hold has been washed, the upper surfaces of the bilge wells may contain infested or infestible residues or other contaminants.</p> <p>In bulk carriers where the tank top extends out into the ship's side there are no proper bilges and holds drain into sunken compartments in the double bottom, known as wells.</p>
Bits	Iron posts on a metal base that mooring ropes are secured to. Bits are located on deck. Bollards are similar structure ashore.
Boatswain (pron. Bosun)	A seaman working under the command of the chief officer and to whom he is responsible for the deckhands.
Boom	Beam of wood or steel used as a derrick.
Bow	Fore part of the ship immediately abaft the stem.
Bulkhead	<p>A vertical partition to provide compartments or subdivisions. Bulk heads may be either transverse, or fore and aft. Bulk heads are inspected a part of an empty vessel hold inspection. The most common issue detected on bulk heads is contaminants such as rust and paint scaling. Residue(s) and infestations can be found beneath the scale or found behind the structure itself.</p> <p>Temperature sensors, moisture sensors and fire suppression systems may be located on bulkheads. These sensors may have protective perforated screens around them, which may need to be dismantled to facilitate inspection.</p>
Bunker	Compartment where fuel for the vessel's engines is stored.
Cable casings	<p>Casings that protect electrical cables in the holds.</p> <p>Cable casings often present a serious source of infested residues and grain is most likely to enter cable casings when trimming machines are used during loading. Depending on the type of bulk vessel being inspected, cable casings may be located:</p> <ul style="list-style-type: none"> • On the upper deck (conventional) • In the vessel spaces of the upper deck • Inside the top wing tanks in bulk carriers <p>Cable casings may be completely sealed, or may have perforated or open tops.</p> <p>The lower part of cable casings can be viewed from the tank-top by looking upwards or through use of a ladder.</p>
Captain	See Master.

Term	Definition
Chain locker	Space in the bows where the anchor cable is housed.
Channel	Rolled steel section or girder forming three sides of a rectangle.
Cleats	<ol style="list-style-type: none"> 1. Fitting of two projecting horns attached to a base fixed in the centre and used for securing ropes. 2. Projection on a hatch coaming into which a wedge is driven to secure the hatch cover tarpaulins. 3. On Patent (McGregor) hatch covers, fittings on the side of the sections that pull the covers down onto the rubber seal.
Coaming	A raised vertical boundary around hatches or other openings in a deck to prevent entry of water. It usually refers to a raised section of deck plating around an opening, such as a hatch. Hatch coamings provide support for hatches and have fittings to hold the hatch covers in place. Hatch coamings are an important site in the bulk vessel inspection.
Corrugated bulkheads	In modern ships, bulkheads are often corrugated to give stiffness, so ordinary welded stiffeners are not fitted.
Cowl	Hood-shaped fitting over a ventilating shaft or duct to direct the air-stream.
Cradle	A staging that is suspended over the ship's side when painting or carrying out repairs.
Deck	Flooring above the vessel's bottom plating or double bottom.
Deck beam or deck head beams	<p>Horizontal beams to support a deck and provide a bracing for the sides of the hull. Deck beams are known to be high risk areas for residues that collect in and around deck head beams from previously cargoes.</p> <p>In some newer vessels, there may be the ability to view deck head beams from the weather deck, via hatches.</p>
Deck girders	Usually fitted in line with the hatch coamings, and the coaming plate is then built into the girder.
Derrick	A boom or spar that is used for handling cargo. It is pivoted at either a platform on the deck or to a mast on one end. Wire ropes run from a winch to the top of the derrick and then to the loading hook.
Derrick post	Mast, king post or Sampson post from where the derrick is swung.
Double bottom	Space between the double plating at the bottom of a ship and divided into separate tanks.
Draught (draft)	The water depth to which a ship's hull is immersed in a given condition of load, traditionally measured from the top of the keel to the waterline.
Dry store	Food storage area that is non-refrigerated.

Term	Definition
Dunnage	Materials, either permanent or temporary, used to facilitate good storage and to protect cargo including blocks, boards, paper, burlap, and hessian. Dunnage may contain moderately deep-seated infestations that do not appear obvious.
Exposed metal surfaces	Areas or surfaces within the hold of a vessel that have not already been identified or otherwise specified.
Forecastle Fo'c's'le Boatswain store	Raised part of the upper deck that is forward of the holds, which usually comprises lockers, workshop and gear storage. Rodent infestations may occur in and around the forecastle lockers.
Forepeak	The angle of the bows. In older vessels, divided off from the hold to form, below the forecastle, the forepeak lockers and tank.
Forward For'ard	In the direction of the bow of the vessel.
Frames	Steel ribs or girders extending vertically on the inside of the hull to give strength and rigidity to the structure.
Frame spacing	Distance between the centre lines of adjacent frames.
Galley	Kitchen or place on the vessel equipped and reserved for food preparation and cooking.
Girder	Beam of H-section which may be made of rolled steel or built up by welding or riveting. When built may have a double H construction.
Grab	Steel bucket with hinged jaws for loading and discharging grain, ore and chemical cargoes.
Gutter	Channel on each side of the deck into which water drains, via the scuppers, to the sea.
Hatch	The opening in a deck giving access to a space below or to a hold.
Hatch battens	See battens.
Hatch beam	Removable transverse beam supporting the hatch boards or pontoons.
Hatch beam carriers	Brackets on the inside of the hatch coamings that receive the beam ends.
Hatch coamings	Strictly the raised portion or rim around the periphery of a hatchway, but may also includes portions of the deck girders and hatch end beams that form the rim below the deck level.

Term	Definition
Hatch covers	<p>Steel covers in one piece or in sections that cover the hold opening.</p> <p>There are different types of hatch covers and AOs inspection activities reflect the kind of hatches and hatch covers encountered (for example see also Patent hatch covers). Consider the type and structure of hatch cover being inspected to determine where residues may be present.</p> <p>Some areas of hatch covers, such as ventilation shafts and mesh, may only be accessible for inspection when the hatch covers are closed.</p> <p>Inspection of the hatch covers may give an indication of what residues are present, particularly on the deck beams. Opening and closing of hatch covers by the vessel's crew may dislodge grain or residues to be dislodged.</p>
Hatch entrance cover	The small entrance near the hold opening for personnel to access ladders needed to access a vessel hold.
Hold	<ul style="list-style-type: none"> • Internal compartment where cargo, prescribed goods or otherwise, can be stowed and carried. • One of the spaces between bulkheads specifically intended for carrying cargo. <p>NOTE: The term 'hold' can refer to spaces within a hatch for example, the lower hold or 'tween deck space.</p>
Hold pillars	Vertical columns from the deck of a hold to a beam at the deckhead.
Hold stringers	Horizontal girders fitted at the sides of a hold for additional strength and rigidity.
Hull	Outside plated frame and body of a vessel.
IMO number	International Maritime Organisation Number (Lloyd's Number) which is a unique identifier for a vessel.
Inner bottom	See tank top.
Jib	See derrick.
Limber boards	The wooden planks covering the bilges to prevent cargo from coming into contact with the water. In vessels with steel bilge covers sheathed with planks, this timber is termed limber ceiling or bilge ceiling and is fitted as protection for the plates.
Limber ceiling	See bilge ceiling.
Lockers	Compartments fitted for storing and handling the vessel's stores and equipment.
McGregor hatch covers	See Patent hatch covers.
Mast	Vertical tubular steel pole that carries derricks and other equipment.

Term	Definition
Mast house	Superstructure between the hatches often enclosing hold access hatchways and switchgear. Experience has shown that infestations may occur in these areas of vessels.
Main deck	Principal deck or 'strength deck' which, for structural reasons, an essential part of the hull.
Main hatch	In older vessels, this is the principal hatch where the heavier cargo is usually carried. The vessel's official number and registered tonnage are cut into the coaming.
Patent hatch covers (McGregor and similar types)	Self-supporting covers that has sections when roll opened along the coamings and are stowed upright in concertina fashion forward or aft of the hatch. Patent hatch covers have strength girders which form ledges beneath the hatch cover which can capture and harbor large quantities of residues, contaminants and infestations. The ledges are normally easily visible from the deck when the hatch covers have been rolled back. It is very important that the ledges are inspected.
Peaktank	A ballast tank at the after peak or forepeak.
Pillars	See Hold pillars.
Pipe casings	Casings in a vessel's holds containing sounding pipes and includes brackets.
Pontoon	1. Floating platform for working on the side of a ship. 2. Type of steel hatch cover in the form of a fully or partly enclosed box and usually self-supporting. Pontoons typically have lashing points and mounting/securing hardware which may harbor residues. Pontoons can be lifted individually by the vessel's crew to facilitate inspection.
Poop	Short raised deck at the aftermost part of a ship.
Port	Left hand side of the vessel when looking forward.
Pratique	Permission that is given by port doctor after medical inspection has been carried out, for persons to board and go ashore.
Quarantine flag	A ship thought to be free of infectious disease flies a square yellow flag when arriving and this is hauled down when she has been given pratique. If infectious diseases are suspected, two yellow flags are flown, but if an infectious disease is confirmed the signal flags GL are shown.
Scale	Sheets of rust or paint that are peeling or falling away from the surface of the hold and other vessel structures. Infestible and infested residues and other contaminants can gather behind rust and paint scale.

Term	Definition
Scupper	Hole in the bulwarks to allow water on deck to flow over-board. Scuppers from decks below the freeboard deck may lead to the bilges.
Shedder plates	Vertically sloping plates fitted over coaming beams and girders, or other hold structures, to permit self-cleaning of bulk cargoes. May also refer to large angle brackets designed to shed loose material.
Shelter deck	Correctly the deck above the main deck. In vessels with hatches divided into three, the upper space is usually referred to as the shelter deck or upper 'tween deck.
Side tanks	See wing tanks.
Sounding pipes	Vertical pipes from the weather deck to tank tops or bilges into which a graduated rod can be lowered to measure the depth of liquid in the compartment. Sounding pipes can contain temperature, water ingress or moisture sensors that collect residues and contaminants. Where sounding pipes terminate in the bilge well they may also have grain residues on the outer and inner surfaces of the pipe, left over from washing activities. These grain residues may be dislodged by tapping sharply on the pipe.
Stage	Platform lowered on ropes over the side of a vessel or in holds for painting and other work.
Stanchion	Vertical beam or pillar used as a support or to strengthen a deck above. Often referred to as lumber supports used for supporting bulk log cargoes stored on the weather deck.
Starboard	Right hand side of a vessel when facing forward.
Stern	After end of the vessel.
Stevedore	Shore side person who is responsible for loading the vessel along with the vessel's chief officer.
Stiffeners	Large area of plating usually supported by angle bars or channels to add stiffness.
Strum box	Metal box with perforated sides placed around the end of a bilge suction pipe.
Super-structure	Term applied to structures above the main deck-bridge, cabins and storerooms.
Tank top ceiling	The floor of a vessel's hold. The most common issue detected on the tank top is contaminants such as rust and paint scaling. Residue(s) and infestations can be found beneath the scale or found behind the structure itself.
'Tween decks	More correctly the between decks. In a cargo vessel, any deck between the tank top and the main deck, and the space between it and the deck above.

Term	Definition
Upperdeck	The topmost deck extending unbroken from bow to stern. This term is used where there is more than one continuous deck.
Ventilation trunking	Trunking that allows air to enter and leave the vessel's hold.
Ventilator	Device for removing air or delivering it to a hold. A cowl on the exposed top controls intake or exhaust, as required.
Ventilator shaft	A small space within a vessel that permits air flow. They may run horizontally under the upper deck, and have openings into holds that are covered with mesh. Ventilator shafts may terminate several metres above the tank top. Ventilator shafts often harbor residues and pests that become lodged on top or inside the ventilator trunking and pockets of infestation can also develop and escape detection unless the areas are thoroughly inspected. Insects have been known to migrate inside the shafts and survive spray and gas treatments.
Vertical ladder	Straight ladder within a vessel hold.
Water ballast	Seawater taken on, usually in the double, and the deep and peak tanks.
Weather deck	Exposed deck open to the elements.
Web frames	Larger frames of T-section spaced at intervals and often with smaller frames between. Double built web frames are an arrangement of two web frames placed side by side and joined by several horizontal plates.
Wells	Bilges in bulk carriers where the double bottom tanks extend to the sides of the hold, located in both wings.
Wing tanks	Vessel tanks located to the port or starboard of the centerline and designated port or starboard wings or wing tanks. The most common issue detected on the wing tanks is contaminants such as rust and paint scale. Residues and infestations can be found beneath the scale or found behind the structure itself.

Related material

The following related material is available on the Instructional Material Library:

- Guideline: *Empty bulk vessels for export*
- Work Instruction: *Inspecting empty bulk vessels*

Document information

The following table contains administrative metadata.

Instructional Material Library document ID	Instructional material owner
IMLS-	The Director, Grain and Seed Exports Program, Plant Export Operations Branch

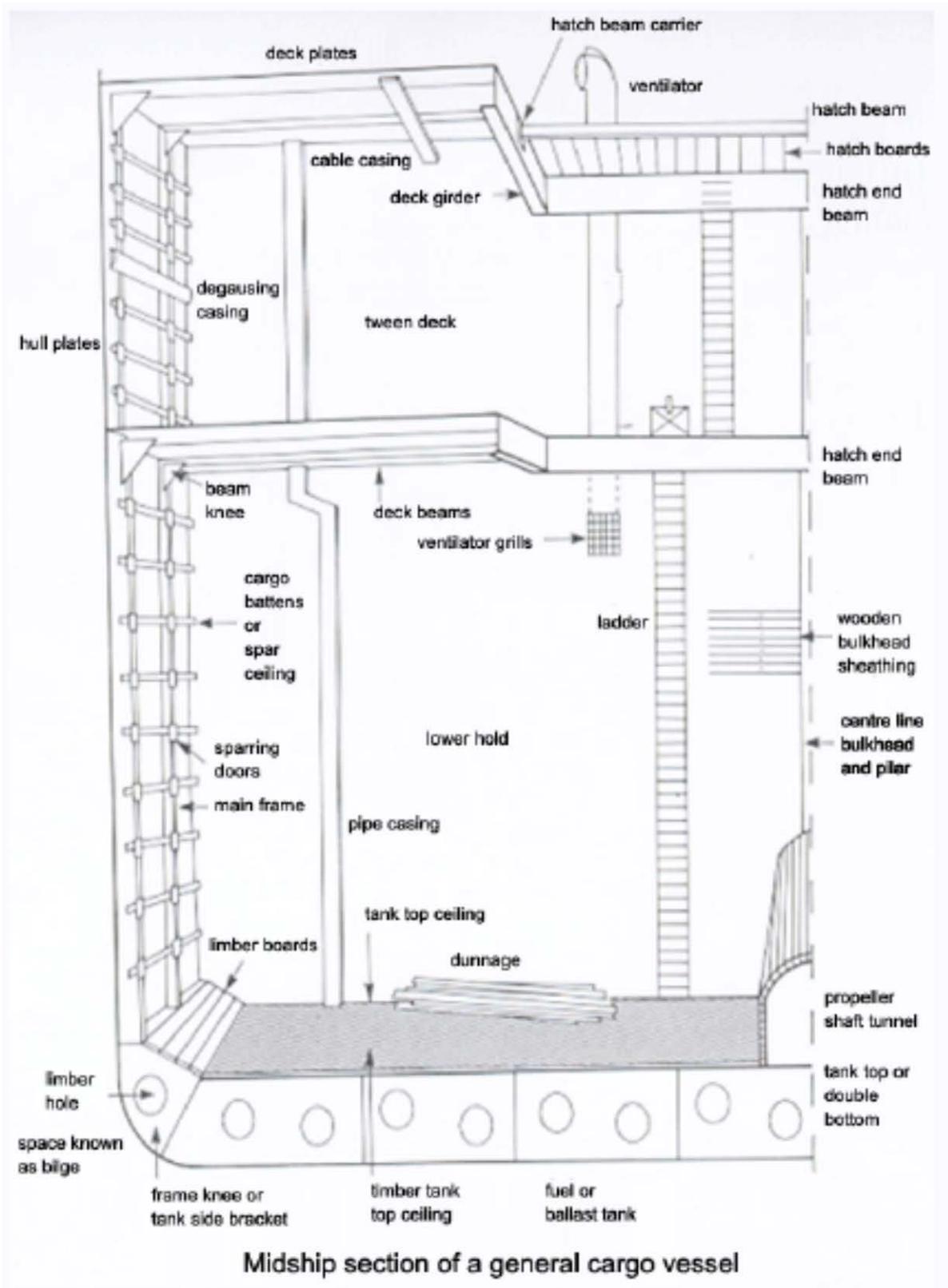
Version history

The following table details the published date and amendment details for this document.

Version	Date	Amendment details
1	06/11/2017	First publication of this reference.

Attachment 1: General cargo vessel cross section

The following image depicts a cross section of a midship general cargo vessel hold.



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Attachment 2: Bulk carrier cross section

The following image depicts a cross section of a midship bulk carrier hold.

