

## **CONSTRUCTION, REPAIR OR EQUIPMENT OF ANY SHIP**

A classification certificate has been held to be equipment and so a claim by a classification society for their charges in connection with issuing such a certificate. Claims under this head do not give rise to a maritime lien, but a repairer has a possessory lien at common law.

A ship can be arrested under admiralty jurisdiction for any outstanding dues under Section 4 (1) (m) of the Admiralty Act (2017) which deals with construction, reconstruction, repair, converting or equipping of the vessel.

Shipbuilding is the construction of ships and other floating vessels. It normally takes place in a specialised facility known as a shipyard. The construction of a ship is a highly technical and complicated process. It involves the blending of many skilled trades and contract employees working under the control of a primary contractor.

Shipbuilding has changed radically. Formerly, most construction took place in a building or graving dock, with the ship constructed almost piece by piece from the ground up. However, advances in technology and more detailed planning have made it possible to construct the vessel in subunits or modules that have utilities and systems integrated within. Thus, the modules may be relatively easily connected. This process is faster, less expensive and provides better quality control. Further, this type of construction lends itself towards automation and robotics, not only saving money, but reducing exposures to chemical and physical hazards.

All ships need repair work at some point in their working lives. A part of these jobs must be carried out under the supervision of the classification society. A lot of maintenance is carried out while at sea or in port by ship's crew. However a large number of repair and maintenance works can only be

carried out while the ship is out of commercial operation, in a ship repair yard.

Prior to undergoing repairs, a tanker must dock at a deballasting station for completing the tank cleaning operations and pumping ashore its slops (dirty cleaning water and hydrocarbon residues).

Ship repair generally includes all ship conversions, overhauls, maintenance programmes, major damage repairs and minor equipment repairs. Ship repair is a very important part of the shipping and shipbuilding industry.

With fleets worldwide becoming old and inefficient, and with the high cost of new ships, the situation is putting a strain on shipping companies. In general, conversion and repair work in shipyards is more profitable than new construction. In new-construction shipyards, repair contracts, overhauls and conversions also help to stabilize the workforce during times of limited new construction, and new construction augments the repair labour workload. The ship repair process is much like the new construction process, except that it is generally on a smaller scale and is performed at a faster pace. The repair process requires a more timely coordination and an aggressive bidding process for ship repair contracts. Repair work customers are generally the navy, commercial ship owners and other marine structure owners.

Ships are similar to other types of machinery in that they require frequent maintenance and, sometimes, complete overhauls to remain operational. Many shipyards have maintenance contracts with shipping companies, ships and/or ship classes that identify frequent maintenance work. Examples of maintenance and repair duties include:

- a. blasting and repainting the ship's hull, freeboard, superstructure, interior tanks and work areas

- b. major machinery rebuilding and installation (e.g., diesel engines, turbines, generators and pump stations)
- c. systems overhauls, maintenance and installation (e.g., flushing, testing and installation of a piping system)
- d. new system installation, either adding new equipment or replacing systems that are outdated (e.g., navigational systems, combat systems, communication systems or updated piping systems)
- e. propeller and rudder repairs, modification and alignment
- f. creation of new machinery spaces on the ship (e.g., cut-out of existing steel structure and adding new walls, stiffeners, vertical supports and webbing).

In many cases, repair contracts are an emergency situation with very little warning, which makes ship repair a fast moving and unpredictable environment. Normal repair ships will stay in the shipyard from 3 days to 2 months, while major repairs and conversions can last more than a year