

## Lifeboats

Most new cargo ships are fitted with totally enclosed lifeboats. Older ships may have open, or partially closed types, but all lifeboats will have their own davits from which they are launched. Lifeboats have their own engines for propulsion, and are equipped with rations and emergency equipment.



'Free-fall' lifeboats are usually stowed at the stern of larger new ships. Crews must be drilled in their use and the passengers of a lifeboat should be able to board within three minutes.



A class 1 passenger ship lifeboat stowed on extendable davits.

## Carly floats

On the highest deck of many vessels large, orange objects are often visible. These are Carly floats and consist of buoyant material with a fibreglass shell and lines on the edge that survivors in the sea can cling too. If they are fastened down to the deck they must be fitted with a hydrostatic release. More commonly they sit in cradles on the deck so that they may float free in the event of the ship sinking.



Although fastened to the deck with lines, these floats will also float free as they are fitted with a hydrostatic release mechanism visible on the left of the picture. These devices must be inspected annually by an authorised person.

## Life buoys

These are located around the ship in specially-designed holders that allow a person to throw them quickly overboard to someone in the sea. Some will be attached to the ship by a very long painter that must be coiled in such a way that it will not foul when the buoy is thrown overboard. Others will not have a painter but will be equipped with a light that will automatically turn on in contact with the sea. The life buoy must display some kind of identification of the vessel, for example the registration number, name of the vessel or home port.



## Personal flotation devices (PFDs)

Also referred to as life jackets, they must be regularly inspected and maintained, fitted with the correct accessories and be stowed in clearly marked, easily located and readily-accessible areas.

Coastal, or SOLAS (Safety of Life at Sea), life jackets are the most commonly-used onboard commercial ships. They have retro reflective tape and a light and whistle attached to them, as well as a collar to keep the head above the water in case of unconsciousness.

Crew members must be familiar with how to correctly put on on a life jacket and will be required to demonstrate this to passengers onboard.



PFD type 1



PFD type 2



PFD type 3



Coastal



SOLAS



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An example of safety equipment.



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## Emergency position indicating radio beacon (EPIRB)

One of the most important life saving devices on a commercial vessel is an EPIRB. Often these are secured to the vessel using a hydrostatic release that is water activated, deploying the beacon automatically if the vessel sinks. An EPIRB can also be deployed manually where a distress situation exists and the vessel continues to float.

Beacons developed for the Cospas-Sarsat satellite system operate on the 406 MHz frequency and use digital technology that allows the beacon to transmit a unique code (HexID or UIN) that identifies the beacon. 406 MHz beacons come in two basic types: those that provide an encoded (GPS) location and those that do not. The satellite system can calculate a beacon's location, but locating a site is usually much faster if the beacon signal provides a GPS location.

The transmission from a 406 MHz EPIRB can be stored, carried and then forwarded when a local user terminal (LUT) comes in view, therefore global coverage is achieved.

EPIRBs are designed to float in the water to optimise signal strength to the satellite. An EPIRB is required to operate for a minimum of 48 hours continuously once activated and is equipped with a lanyard that is used to secure it to something that is not going to sink, so that it can float free.

### HexID or unique identity number (UIN)

The HexID, or UIN, is the unique code programmed into each 406 MHz EPIRB that is transmitted when the beacon is activated. This number is registered with the Australian Maritime Safety Authority (AMSA) and the code links the individual distress beacon to the registration database. This allows the vessel to be identified if the EPIRB is activated.

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An EPIRB is a last resort — other equipment such as v-sheets, flares and marine radios should be used in the first instance. Often, rescue authorities may instruct the crew over the radio to activate their EPIRB in the final stages of the search and rescue process. Should an EPIRB be activated inadvertently, even for a minute or two, it is important to report the activation to the Rescue Coordination Centre on 1800 641 792, or alternatively a local volunteer marine rescue organisation. There is no penalty for accidental activation and this report will save a lot of effort from search and rescue authorities.

## Distress flares

Distress flares are used to attract the attention of passing vessels or aircraft for assistance. There are three different types of flares carried onboard commercial ships: orange smoke (pictured), red hand held and red rocket.

Different brands of flares will have different methods of ignition depending on the manufacturer — it is important to know what type the vessel is equipped with. All flares have an expiry date three years from their date of manufacture — after this date they must be replaced and the old flares disposed of correctly. Flares are classed as explosives and flammables and become unstable over time, so they should be disposed of appropriately. Flare disposal locations can be found on the Maritime Safety Queensland website ([www.msq.qld.gov.au](http://www.msq.qld.gov.au)).



## Emergency portable lighting

All crew should have access to their own torch to be used as a signalling device in an emergency. Cyalume sticks, which are small plastic cylinders that produce light from a chemical reaction when bent, can also be used for lighting.



## Alarms

During emergency drills onboard, alarms should also be tested to ensure they are operational and to familiarise the crew with what each alarm sounds like. For example, fire detection alarms are usually a loud electronic beeping from the alarm panel in the wheelhouse. This is automatic and will be followed by the general fire alarm — usually the continuous ringing of a bell.

Some other alarms include:

- General muster/emergency station — seven short and one long blast of a sound signal.
- Abandon ship — one long, blast followed by one short blast of a sound signal at least three times ('A' in Morse Code).