

Annex - Standards for On-Board Helicopter Facilities

1 Definition

. For the purpose of these standards:

1.1. *Helideck* is a purpose-built helicopter landing area located on a ship including all structure, fire-fighting appliances and other equipment necessary for the safe operation of helicopters.

1.2. *Helicopter facility* is a helideck including any refuelling and hangar facilities.

2 Structure

2.1. In general, the construction of helidecks should be of steel or other equivalent material. If the helideck forms the deckhead of a deckhouse or superstructure it should be insulated to A-60 class standard.

2.2. If the Administration permits aluminium or other low melting metal construction that is not made equivalent to steel, the following provisions should be satisfied:

. 1. if the platform is cantilevered over the side of the ship, after each fire on the ship or on the platform, the platform should undergo a structural analysis to determine its suitability for further use; and

. 2. if the platform is located above the ship's deckhouse or similar structure, the following conditions should be satisfied:

. 2.1. the deckhouse top and bulkheads under the platform should have no openings;

. 2.2. all windows under the platform should be provided with steel shutters; and

. 2.3. after each fire on the platform or in close proximity, the platform should undergo a structural analysis to determine its suitability for further use.

2.3. A helideck should be provided with both a main and an emergency means of escape and access for fire fighting and rescue personnel; these should be located as far apart from each other as is practicable and preferably on opposite sides of the helideck.

3 Fire-fighting Appliances

3.1. In close proximity to the helideck the following fire-fighting appliances should be provided and stored near the means of access to that helideck:

. 1. at least two dry powder extinguishers having a total capacity of not less than 45 kilograms;

. 2. carbon dioxide extinguishers of a total capacity of not less than 18 kilograms or equivalent;

. 3. a suitable foam application system consisting of monitors or foam making branch pipes capable of delivering foam to all parts of the helideck in all weather conditions in which helicopters can operate. The system should be capable of delivering a discharge rate as required in the following table for at least five minutes.

Category	Helicopter overall length	Discharge rate foam solution (litres/min)
H1	up to but not including 15 m	250
H2	from 15 m up to but not including 24 m	500
H3	from 24 m up to but not including 35 m	800

. The principal agent should meet the performance standards of the International Civil Aviation Organization - Airport

Services Manual, Part 1 - Rescue and Firefighting, Chapter 8 - Extinguishing Agent Characteristics, Paragraph 8.1.5 - Foam Specifications Table 8-1, Level 'B' foam, and be suitable for use with salt water;

.4. at least two nozzles of an approved dual-purpose type (jet/spray) and hoses sufficient to reach any part of the helideck;

.5. in addition to those required by regulation II-2/17 of the 1974 SOLAS Convention as amended, two sets of fireman's outfits; and

.6. at least the following equipment, stored in a manner that provides for immediate use and protection from the elements:

- adjustable wrench;
- blanket (fire resistant);
- cutters, bolt 60 cm;
- hook, grab or salving;
- hacksaw, heavy duty complete with 6 spare blades;
- ladder;
- lifeline of 5 mm diameter x 15 m in length;
- pliers, side cutting;
- set of assorted screwdrivers; and
- harness knife complete with sheath.

3.2. Drainage facilities in way of helidecks should be constructed of steel and lead directly overboard independent of any other system and designed so that drainage does not fall on to any part of the ship.

4 Helicopter Refuelling and Hangar Facilities (where fitted)

4.1. A designated area should be provided for the storage of fuel tanks which should be:

- .1. as remote as is practicable from accommodation spaces, escape routes and embarkation stations; and
- .2. isolated from areas containing a source of vapour ignition.

4.2. The fuel storage area should be provided with arrangements whereby fuel spillage may be collected and drained to a safe location.

4.3. Tanks and associated equipment should be protected against physical damage and from a fire in an adjacent space or area.

4.4. Where portable fuel storage tanks are used, special attention should be given to:

- .1. design of the tank for its intended purpose;
- .2. mounting and securing arrangements,
- .3. electrical bonding; and
- .4. inspection procedures.

4.5. Storage tank fuel pumps should be provided with means which permit shutdown from a safe remote location in the event of a fire. Where a gravity fed fuelling system is installed, equivalent closing arrangements should be provided to isolate the fuel source.

4.6. The fuel pumping unit should be connected to one tank at a time. The piping between the tank and the pumping unit should be of steel or equivalent material, as short as possible, and protected against damage.

- 4.7. Electrical fuel pumping units and associated control equipment should be of a type suitable for the location and potential hazards.
- 4.8. Fuel pumping units should incorporate a device which will prevent over-pressurization of the delivery or filling hose.
- 4.9. All equipment used in refuelling operations should be electrically bonded.
- 4.10. Signs "NO SMOKING" should be displayed at appropriate locations.
- 4.11. Hangar, refuelling and maintenance facilities should be treated as category A machinery spaces with regard to structural fire protection, fixed fire-extinguishing and detection system requirements.
- 4.12. Closed hangar facilities or closed spaces containing refuelling installations should be provided with mechanical ventilation as required for closed ro-ro cargo spaces of cargo ships ([Regulation II-2/53.2.3](#) of the 1974 SOLAS Convention). Ventilation fans should be of non-sparking type.
- 4.13. Electrical equipment and wiring in closed hangars or closed spaces containing refuelling installations should comply with the requirements of [Regulation 11-2/53.2.4](#) of the 1974 SOLAS Convention.

5 Occasional and Emergency Helicopter Operations

. Where **helicopters** land or conduct winching operations on an occasional or emergency basis on ships without helidecks, fire-fighting equipment fitted in accordance with [chapter II-2](#) of the 1974 SOLAS Convention, may be used. This equipment should be made readily available in close proximity to the landing or winching areas during **helicopter** operations.

6 Operations Manual and Fire-fighting Service

- 6.1. Each **helicopter** facility should have an operations manual, including a description and a checklist of safety precautions, procedures, and equipment requirements. This manual may be part of the ship's emergency response procedures.
- 6.2. The procedures and precautions to be followed during refuelling operations should be in accordance with recognized safe practices and contained in the operations manual.
- 6.3. Fire-fighting personnel consisting of at least two persons trained for rescue and fire-fighting duties and fire-fighting equipment should be immediately available at all times when **helicopter** operations are expected.
- 6.4. Fire-fighting personnel should be present whenever refuelling is taking place. These fire-fighting personnel should not be involved with refuelling activities.
- 6.5. Regular on-board refresher training should be carried out and additional supplies of fire-fighting media should be provided for training and testing of the equipment.