

Regulations of 15 January 2008 No. 72 on helicopter decks on mobile offshore units

Legal basis: Laid down by the Norwegian Maritime Authority on 15 January 2008 under the Act of 16 February 2007 No. 9 relating to ship safety and security sections 9, 11, 14, 15, 21 and 45, cf. Royal Decree of 16 February 2007 No. 171 and Formal Delegation of 31 May 2007 No. 590 by the Ministry of Trade and Industry.

EEA references: EEA Agreement Annex II, Chapter XIX point 1 (Directive 98/34/EC).

Amendments: Amended by Regulations of 14 March 2008 No. 305, 10 June 2008 No. 561, 1 July 2014 No. 955.

Chapter I General provisions

Section 1

Applicability

- (1) These Regulations apply to all units which have been registered or will be registered in a Norwegian register of ships. The Regulations are applicable when a helideck is fitted to a mobile offshore unit, from which helicopter operations will be conducted. The Regulations apply to unrestricted trade areas.
- (2) Mobile offshore units which are registered in a Norwegian ship register may, until the next certificate issue, comply with the requirements that applied at the time of the last certificate issue.

Section 2

Definitions

For the purpose of these Regulations the following definitions apply:

- a) *Non-conformity:* Non-conformity with the company's Safety Management System, including operations manuals with associated procedures etc. and non-conformity of components and systems in relation to the normal standard.
- b) *"D":* The greatest length or width of a helicopter, including rotors when both rotors are turning.
- c) *Unit:* Mobile platform, including drilling ship, equipped for drilling for subsea petroleum deposits, and mobile platform for other purposes than drilling for subsea petroleum deposits.
- d) *Helicopter deck:* A deck on a mobile unit, intended for helicopter take-off and landing.
- e) *Safety Management System:* All systematic efforts which the company is required to make to ensure that activities are planned, organized, performed and maintained in accordance with requirements applicable to areas regulated by the Act of 16 February 2007 No. 9 relating to ship safety and security.
- f) *Helicopter Landing Officer:* A person specially trained and appointed to supervise day-to-day work on the helideck.
- g) *Aviation enterprise:* Person, organisation or company engaged in aviation.
- h) *Company:* Cf. the definition given in section 4 of the Ship Safety and Security Act.

Amended by Regulation of 14 March 2008 No. 305 (in force on 24 March 2008).

Section 3

Mutual recognition

- (1) Where these Regulations require that specific fittings, materials, equipment or devices, or types of equipment, etc. shall be acquired or be provided on board an offshore unit or where special building or design requirements apply, the Norwegian Maritime Authority shall permit alternative solutions provided they have been documented by testing or otherwise to be at least as effective as those prescribed by these Regulations.
- (2) The Norwegian Maritime Authority shall accept the results of tests performed by recognized testing institutions, including testing institutions in other EEA countries. Such acceptance will be given on condition that the tests give an appropriate and satisfactory guarantee of a technical, professional, and independent nature.

Section 4

Exemptions

The Norwegian Maritime Authority may, in individual cases and upon written application, grant exemptions from the requirements of these Regulations. There must be special reasons that make the exemptions necessary and they must be justifiable in terms of safety. Exemptions can only be granted where they do not contravene international agreements to which Norway has acceded.

Section 5

Documentation

The company shall be able to document that the requirements of these Regulations are complied with. The contents, scope and type of documents and the time of submission shall be decided by:

- a) The Norwegian Maritime Authority, for areas such as strength, means of access, fire-fighting and fire safety, tank installations, emergency preparedness, manning and training (sections 7, 9, 16, 18, 19, 33, 34, 35, 37, 38, 39, 40, 41 and 42);
- b) The Norwegian Civil Aviation Authority, for matters related to the operation of aircraft (sections 6, 8, 10, 11, 12, 13, 14, 15, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32 and 36).

Amended by Regulation of 10 June 2008 No. 561 (in force on 1 July 2008).

Chapter II

Location, construction, size and load

Section 6

Location

- (1) The helideck shall be located so that the obstacle-free take-off and approach sector has the most favourable direction in relation to the prevailing wind conditions, in order to minimise the effect of turbulence from structures on the take-off and approach area and the touchdown area. High temperatures from turbine exhausts and other gas discharges on board shall also be taken into consideration.
- (2) If the helideck is to be located on a compact part of a unit, such as a living quarter module, a separation shall be provided which enables air to flow freely between the deck and the subjacent structure. The minimum distance shall be 1 metre.
- (3) Turbulence conditions shall be documented by wind tunnel test or simulation model.

Section 7

Construction

- (1) The helideck shall be made of an appropriate corrosion resistant material, and be designed in such a way that the ground effect is maintained.
- (2) The deck shall be constructed so that water will not accumulate on the deck.
- (3) The slope of the deck must not exceed 2%.

Section 8

Size

The helideck shall have a minimum dimension corresponding to a circle with a diameter of $1.25 \times "D"$.

Section 9

Load

- (1) The dimensioning of the helideck shall be based on the presumption that any point on the deck may be subjected to a single load of 75% of the total weight of the heaviest helicopter used. The single load is considered to be evenly distributed across the contact area. The contact area between the helicopter's landing undercarriage and the helideck shall be stipulated in accordance with specifications from the helicopter manufacturer.
- (2) The load bearing structures beneath the helideck shall be dimensioned to carry a static load equal to 3 times the take-off weight of the heaviest helicopter used, with the weight distribution on the undercarriage which is normal for this helicopter. The helicopter is presumed to be located in the most adverse position on the deck.
- (3) With the loads of the helicopter indicated in subsections 1 and 2 plus the structure's specific weight and wind forces, the stresses allowed are equal to the yield stress of the material, but not exceeding $2/3$ of the ultimate limit.

Chapter III

Obstacles

Section 10

Obstacle-free take-off and approach sector

- (1) The helideck shall have a 210° obstacle-free take-off and approach sector. The sector shall extend from the level of the helideck, in its horizontal plane, except over an angle of 180° from the centre of the deck perpendicular on the

centre line of the 210° angle. This section of the obstacle-free take-off and approach sector shall extend in a plane with a slope gradient of 5:1 from the outer edge of the safety net or gangway downwards to the level of the sea.

(2) The centre line of the angle shall normally pass through the centre of the helideck (circle or square). The sector may be "swung" up to 15°.

Section 11

Obstacles in the take-off and approach sector

(1) In the 210° take-off and approach sector there shall, on or in the immediate vicinity of the deck, be no obstacles projecting above the helideck level (fig. 1 and 2). The following exceptions apply:

- a) safety shoulder (cf. section 18),
- b) shoulder and flood lighting which does not project more than 25 cm above the helideck level (cf. section 27),
- c) outer edge of the safety net (cf. section 15),
- d) single obstacles necessary to the operation of the helideck (handrails at exits, foam monitors etc.) which do not project more than 25 cm above the helideck level.

(2) The horizontal extent of the sector is calculated on the basis of performance requirements for the most critical helicopter type used.

Section 12

Obstacles outside the take-off and approach sector

In a sector of 150° from the outer edge of the helideck outwards to a distance of 0.12 "D", no obstacles higher than 0.05 "D" are permitted. From 0.12 "D" outwards to a distance of 0.33 "D" from the outer edge of the helideck, no obstacles protruding above a plane on a gradient of 1 unit (vertically) to 2 units (horizontally), with a starting point at the inside edge at an altitude of 0.05 "D", are permitted (fig. 3).

Chapter IV

General requirements

Section 13

Friction

(1) The helideck shall have a surface to prevent the helicopter from skidding (non-skid), even if the deck is wet or moist. The friction coefficient shall be at least 0.40.

(2) In addition to the requirement of the first paragraph, the helideck shall be equipped with rope netting.

(3) The size of the rope netting shall be determined by the largest helicopter used. The minimum size shall be:

- a) Small helicopter: 6 x 6 metres or 6 m diameter.
- b) Medium-sized helicopter: 12 x 12 metres or 12 m diameter.
- c) Large helicopter: 15 x 15 metres or 15 m diameter.

(4) The net mesh shall be dimensioned to prevent snagging on the helicopter.

(5) The rope netting shall be fastened at 1.5 m intervals. To ensure that the rope is kept tautly-stretched, at least 50% of the fastenings shall be fitted with a tightening device.

(6) Rope netting is not required on installations and vessels where the helideck surface consists of individual profiles with particular anti-skid properties, provided that the deck is maintained in such a way that it has satisfactory friction.

Section 14

Paint

Paint used on or in connection with the helideck shall be of a fire retardant type.

Section 15

Safety net

(1) The helideck shall be surrounded by a safety net of 1.5 m width in order to reduce accident risk for persons on the deck. The net shall be made of a corrosion and fire resistant material. The mesh shall be no bigger than 10 cm square. The safety net shall be sufficiently strong to support a weight of at least 200 kg per square metre. The net shall extend outwards from a level lower than the helideck and shall have an upward gradient of approximately 10°, to make its outer edge level with the surface of the helideck.

(2) When constructional considerations dictate, the outer edge of the safety net may protrude up to 25 cm above the level of the deck. Projections may be made in the safety net for the installation of fire fighting equipment / additional access routes, to a width of up to 3 metres from the outer edge of the helideck.

(3) A lowered gangway around the helideck perimeter may replace the safety net.

Section 16

Access

- (1) In addition to the main access to the helideck there shall be at least two other access routes, preferably located at approx. 120° in relation to the main access.
- (2) Access to foam monitor operators' stations shall be so arranged that it is not necessary to cross parts of the helideck.

Section 17

Tie-down points

The helideck and any helicopter parking areas shall be equipped with recessed tie-down points to secure parked helicopters (cf. fig. 8).

Section 18

Safety shoulder

There shall be a safety shoulder, approximately 5 cm high, along the outer edge of the helideck to prevent personnel or material from slipping overboard. The shoulder shall also ensure that foam is kept on the deck for fire-fighting and to achieve cooling in the event of a fire. The safety shoulder shall have effective drainage to a ditch.

Section 19

Drain ditch

The helideck shall be watertight and closely surrounded by a drain ditch capable of withstanding burning fuel. The dimensions of the ditch and its drains shall be according to the calculations of greatest simultaneous water consumption on the deck. The cross section of the ditch shall at least be 200 x 200 mm. The drainage shall be effective and lead directly to the sea at the angles of heel at which helicopters can land.

Chapter V

Visual aids

Section 20

Wind cone

- (1) A clearly visible wind cone shall be provided in a location where it will be least affected by turbulence from nearby structures. The wind cone shall have a single colour (orange) or two colours: orange/white, red/white or black/white. The wind cone shall be tapered and of sufficient size: minimum inside diameter 30 cm, outside diameter 15 cm, length 1.2 m.
- (2) An additional wind cone shall be fitted where certain wind directions cause turbulence which may affect the functions of the ordinary wind cone.
- (3) Lighting of the wind cone shall be provided for night flying.

Section 21

Markings

- (1) The colour of the helideck shall be green or grey.
- (2) The identification marking of the helideck shall consist of the letter H, white in colour, in the centre of the reference circle. The direction of the H shall be oriented so that the cross arm of the H is parallel to the centre line of the 210° sector. The size of the H shall be 3 x 4 metres (cf. fig. 4).
- (3) A maximum allowable mass marking shall be displayed on the helideck (maximum take-off/landing weight of the largest helicopter for which the helideck is intended). This marking shall be in a contrasting colour, clearly visible from any approach direction. The marking shall specify tonnes and display mass in tonnes with one decimal, followed by the letter "t" (cf. fig. 5).
- (4) The perimeter of the helideck shall be marked with a white edge line, 0.3 m wide (edge marking, cf. fig. 7).
- (5) The helideck shall be marked with a yellow, 1 m wide reference circle for touchdown guidance.
- (6) The inside diameter of the reference circle shall correspond to half the "D" value of the helideck, but not less than 6 metres and not more than 12 metres (cf. fig. 6). When dictated by operational circumstances, the aiming circle may be displaced up to 0.1 "D" from the centre of the helideck, along the bisector of the 210° sector, towards the outer edge of the deck. (cf. fig. 6).

Section 22

Name marking

Helidecks shall be marked with the name of the unit, clearly visible from all approach directions above the helideck level. The marking shall preferably be located at the side of the helideck towards the 150° sector, between the reference circle and the obstacle limited area. The colour of the marking shall contrast with the background, and the height of the characters shall be not less than 1.2 metres.

Section 23

Obstacle-free sector marking

The 210° obstacle-free sector of the helideck shall be marked. The marking shall consist of a black border, 10 cm wide, along each of the sector limits, so that they constitute the sector's angle where the obstacle-free area originates. The height of the angle shall equal the width of the helideck's edge marking (cf. fig. 7).

Section 24

Helideck size marking

The helideck shall be marked with the "D" value of the largest helicopter that can use the deck. The "D" value of the helideck, expressed in integral metres, shall be displayed in contrasting colour in at least three places (90° intervals) on the outer marking of the helideck. The digits shall be approximately 60 cm high (cf. fig. 7).

Section 25

Fixed obstacles marking

Fixed obstacles located within the 150° sector or along its boundaries and/or which represent a hazard to flying shall be marked with contrasting colours and, if necessary, be fitted with warning lights of a luminous intensity of at least 10 candelas (cf. section 27).

Section 26

Signs by the access routes

- (1) Conspicuous signs shall be posted at the access ways to the helideck, prohibiting presence on the deck during take-off and landing, and prohibiting movement on the deck behind a parked helicopter with rotors turning.
- (2) Exits from the helideck shall be clearly marked "EXIT" and "UTGANG" by means of notices which shall be sufficiently visible in the dark.

Section 27

Lighting

- (1) Helidecks to be used for night operations and/or in conditions of reduced visibility shall have:
 - a) A floodlighting arrangement that is sufficiently screened to prevent flight crew from being dazzled during the approach and landing phase. Where a dual-purpose lighting system (perimeter lights and floodlighting) are in place, the average luminous intensity shall be at least 10 lux. The illumination of the deck shall be even, with contrasts not exceeding an 8:1 ratio.
 - b) Perimeter lights along the outer edge of the helideck uniformly spaced at intervals of no more than 3 metres. Perimeter lights shall emit omnidirectional, constant green light, and the luminous intensity shall be at least 25 candela. Light fixtures shall not protrude more than 25 cm above the helideck level. Perimeter lights shall not be visible below the level of the helideck.
- (2) Floodlights and perimeter lights shall be connected to the emergency power system, and the switching time shall not exceed 10 seconds.
- (3) The highest point of the derrick, crane boom and crane cabin or other obstacles representing a hazard to flying shall be marked with a red warning light, visible from all sides. In addition, the derrick and crane arm shall be fitted with red lights at intervals corresponding to one-third of their total length, reckoned from the highest point of the derrick or crane arm. At least one light in each plane shall be visible from any direction. The luminous intensity shall be 10 candela or more. As an alternative, the obstacles may be floodlighted.
- (4) It must be ensured that the lights on the helideck can easily be distinguished from other lights on the unit, and that illumination from nearby areas cannot distract or disturb the flight crew.

Chapter VI

Aeronautical meteorological service

Amended by Regulation of 10 June 2008 No. 561 (in force on 1 July 2008).

Section 28

General requirements

For more detailed rules concerning aeronautical meteorological service for routes and areas on the continental shelf, reference is made to the CAA-N regulation of 26 October 2007 No.1181 governing continental shelf operations – commercial air traffic to and from helidecks on offshore installations and vessels section 31 and Regulations of 28 January 2008 No. 81 on aeronautical meteorological service.

Amended by Regulation of 10 June 2008 No. 561 (in force on 1 July 2008).

Sections 29–31

Repealed by Regulation of 10 June 2008 No. 561 (in force on 1 July 2008).

Chapter VII Operational equipment

Section 32

Registration of helideck movements

(1) Mobile offshore units shall be equipped with instruments for the registration of longitudinal (pitch), transverse (roll) and vertical movements (heave rate). It shall be possible to present the readings to the helicopter crew in an adequate way for flight planning, and to inform the helicopter crew immediately before landing.

(2) The instruments shall be calibrated and maintained in accordance with instructions from the manufacturer. The registrations shall be stored for at least 30 days.

Section 33

Repealed by Regulations of 1 July 2014 No. 955, in force on 15 September 2014.

Section 34

Repealed by Regulations of 1 July 2014 No. 955, in force on 15 September 2014.

Section 35

Fuel distribution facility

(1) If the unit is equipped with a facility for refuelling helicopters, the facility, its operating instructions and fuel checks shall have the authorisation of the air operator before any refuelling takes place.

(2) For fire preparedness requirements in connection with such installations, cf. sections 37 and 38 of these Regulations.

Section 36

General equipment

The helideck shall at all times have all required operational equipment, including:

- a) wheel chocks,
- b) equipment to tie down parked helicopters,
- c) a scale for the weighing of baggage/passengers, and
- d) snow and ice clearing equipment.

Chapter VIII Fire fighting and rescue preparedness

Section 37

General requirements

(1) There shall be open airspace under the helideck so that efficient fire-fighting also can be carried out on the underside. Cf. also section 6.

(2) During take-off and landing the helideck crew shall consist of at least 2 persons. The Helicopter Landing Officer (HLO) may be one of the two persons. At least one person, wearing fire protection equipment, shall be posted at the foam monitor on the helideck which is most appropriate under the prevailing weather conditions.

- (3) Fire protection gear must be worn by all crew on the helideck during take-off and landing if there is reason to suspect that a contingency may occur on the helideck.
- (4) The Helicopter Landing Officer is responsible for the day-to-day supervision of work on the helideck during helicopter calls, and for supplying the platform manager with weekly information in writing concerning the status of the helideck, equipment and services. He is under special obligation to ensure that:
 - a) the necessary measures have been taken to prevent the presence of unauthorised persons on the helideck prior to take-off and landing,
 - b) the deck has been cleared of loose objects, snow and ice, flammable substances, etc.,
 - c) the necessary personnel are standing by in their positions,
 - d) crane operations in the helideck area have ceased,
 - e) all equipment and instruments are available and in working order.
- (5) The HLO shall maintain direct contact with the helicopter crew, from before landing to after take-off. Before landing, the HLO shall inform the crew of whether the deck has been prepared for landing. In the event of any abnormal situation arising, the HLO shall immediately inform the crew.
- (6) The HLO shall ensure that passengers are guided during embarkation and disembarkation.

Section 38

Fire-fighting equipment

- (1) There shall be a fire-fighting system using foam on the helicopter deck. The system may consist of three fixed foam monitors, alternatively a branch pipe system with nozzles ensuring efficient supply of foam to the whole helicopter deck and all parts of the helicopter's exterior. The foam monitors shall be so designed and located that they are capable of directing the water jet straight down against the surface of the deck.
- (2) The location of the foam monitors shall be such that under the most adverse weather conditions in which helicopters can land, it will be possible to fight a critical fire anywhere on the helideck. The operators' stations shall be situated close to one of the access ways (cf. section 16), also taking into consideration the approach sector of the helicopters.
- (3) There shall be a panel at every foam monitor from which the necessary pumps and foam valves can be remote-operated. These pumps and valves shall also be capable of being manually (locally) operated. In addition, it shall be possible to operate the foam monitors, pumps and valves remotely from a central and protected location commanding a clear and unobstructed view of the helicopter deck.
- (4) The foam system shall be capable of supplying at least 5.5 litres of foam solution (water + foam concentrate) per min. per sq. m. of the area of the helicopter deck, cf. section 8. The foam system shall supply foam not later than 15 seconds after being activated. When foam monitors are being used, each single foam monitor shall be capable of supplying at least 1.500 litres/min. If one single foam monitor is not able to comply with the capacity requirement for the foam system, 2 foam monitors which is run simultaneously, at least deliver the required amount of foam solution per minute, shall be used.
- (5) A foam concentrate of a suitable type which is in accordance with an international recognized standard shall be used. The volume of the foam storage tank (foam tank) shall be calculated on the basis of:
 - minimum 10 minutes' continuous operation of the foam system
 - a foam concentrate dilution percentage according to the recommendations of the supplier, or greater.
- (6) There shall be at least two fire hydrants with hose reels in the vicinity of the helideck.
- (7) Tank facilities and areas around fuel tank(s) shall be protected by a deluge system with a capacity of at least 10 litres per minute per sq. m.
- (8) The extinguishing systems referred to in the fourth, sixth and seventh paragraphs shall be connected with two separate pump systems, one of which shall be connected with the unit's emergency switchboard. The arrangement of fire mains, valves and pump systems shall be such that every pump system alone is capable of ensuring a sufficient water supply (capacity and pressure) when the extinguishing systems (paragraphs 4, 6 and 7) are in operation simultaneously. The pressure in the fire mains at the helideck shall be not less than 7 bars. The fire mains shall be continuously water filled and pressurised up to the extinguishing systems referred to in this section.
- (9) For the purpose of fighting a fire in the helicopter engines, there shall be a 10 kg CO₂ extinguisher with an extension hose and nozzle capable of reaching the engines of the helicopter types which can land on the deck. Two similar CO₂ extinguishers shall be kept in reserve in the vicinity of the helideck.
- (10) For the purpose of extinguishing minor fires on the helideck, there shall be an approved combined foam/dry powder station with hoses and dual purpose nozzles ready for use, capable of reaching any part of the helideck. The quantity of dry powder shall be no less than 250 kg and the capacity of the system shall be between 2 and 3 kg of powder per second. The system shall contain not less than 250 litres of foam concentrate and be capable of supplying no less than 200 litres of foam solution per minute.
- (11) There shall be two sets of fireman's equipment, and also two blankets made of a fire-restraining material, to be kept in the vicinity of the helideck. Cf. Regulations of 31 January 1984 No. 227 on precautionary measures against fire and explosion, sections 13, 14 and 15, for the extent, etc. of fireman's equipment.
- (12) The following emergency equipment shall be stored in the vicinity of the helideck, preferably in the immediate vicinity of the operator's station (foam monitor) at the main access:

- 2 fire-axes
- 3 stainless knives (for cutting seat belts)
- 2 hand torches (explosion-proof)
- 1 crowbar
- 1 pair of cutting pliers
- 1 hacksaw with spare blade
- 1 hammer
- 1 steel bar with a wedged tip
- 1 pair of sheet metal shears
- 1 bolt cutter
- 1 lightweight ladder (approx. 3 metres)
- 1 jack for at least 1/2 tonne
- 1 metal hook with a shaft approx. 3 metres long

(13) The equipment shall be easily accessible, visible and stored in a safe place, preferably in a sealed cabinet or box. The cabinet or box shall be capable of being locked with a key, and the key shall be kept behind a window of a breakable material. The cabinet or box shall be red in colour and marked "NØDUTSTYR" and "EMERGENCY EQUIPMENT".

Section 39

Safety measures for helidecks with fuel distribution facilities

- (1) Fuel with flash point below 37°C is not permitted to be used in connection with distribution facility.
- (2) The area for fuel storage tanks shall be located at a safe distance from accommodation spaces, evacuation routes and lifeboat stations, judged by technical fire criteria. It shall be separate from areas where there are sources of ignition. Fuel storage tanks shall be protected against a possible helicopter casualty.
- (3) The storage tanks shall be securely fixed and protected against mechanical damage and high temperatures from any fire occurring in adjacent areas.
- (4) Transportable tanks shall be designed in accordance with the IMDG Code and equipped with proper fittings, fixing arrangements and earthing. Inspection routines for transportable tanks shall be included in the operations manual. These inspection routines shall be maintained for all storage tanks.
- (5) Storage tanks, pump units and refuelling sites shall be arranged with a drip tray of ample dimensions for collecting possible leakages. The drip tray shall be effectively drained to a safe place.
- (6) Vent arrangements from storage tanks with a pressure/vacuum valve shall be located at a safe distance from accommodation spaces, etc. It shall not be possible for gas from outlets to enter into ventilation systems.
- (7) Outlet valves shall be fitted directly to the tank and shall be capable of being closed remotely in the event of fire.
- (8) Pump systems shall be connected to one tank at a time, and pipes between the tanks and the pump unit shall be of steel or equivalent material. Short flexible connections of oil and fire resistant material may be used. Pipes shall be protected against mechanical damage.
- (9) Electrical pump systems with attachments shall be in compliance with the regulations in force on electrical installations, maritime installations, and the electrical equipment regulations laid down by the Norwegian Directorate for Civil Protection and Emergency Planning.
- (10) All pumps and shut-off valves shall be capable of being operated from the helicopter refuelling facility.
- (11) All pump systems shall have an arrangement to prevent excess pressure in hoses.
- (12) Safety instructions for the filling of fuel, including i.a. "No Smoking" signs, shall be posted in the vicinity of the fuel distribution facility.

Chapter IX

Maintenance and operation

Section 40

Maintenance system

The company shall have a maintenance and spares system for the helideck, described in the documentation for the operation of the unit.

Section 41

Documentation for operation and contingency

- (1) An operation and emergency manual shall be prepared. The instructions shall take into consideration the relevant requirements of these Regulations and also the requirements of the aviation enterprise and aviation authorities, as well as the relevant structural and operational restrictions determined for the helideck with its related systems and equipment.

- (2) A logbook shall be kept for the operation of the helideck.
- (3) The emergency manual shall specify planned measures and procedures necessary to prevent situations involving danger or damage and to restore the safe operation of the helideck, and the necessary measures to reduce the harmful effects of casualties on the helideck.

Section 42

Crew/training system

- (1) The company shall appoint the necessary crew for the operation of the helideck, including the Helicopter Landing Officer. Cf. the third paragraph and the second paragraph of section 37.
- (2) The company shall have a training system which also includes the crew responsible for the operation of the helideck. Training shall cover all matters of significance to the safe operation of the helideck, including documentation of completed training in the use of the helideck's fire-fighting equipment.
- (3) Helicopter Landing Officer:

In order to serve as Helicopter Landing Officer, the person concerned shall document having received at least the following training:

- a) training in the use of fire-fighting equipment, as referred to in the second paragraph above,
 - b) knowledge of requirements for helidecks and of the operation of the deck under normal conditions and in emergency situations,
 - c) knowledge of helicopter types and of the refuelling of aircraft,
 - d) carriage of dangerous goods by aircraft,
 - e) loading/unloading – requirements for lashing and securing of cargo in aircraft,
 - f) regulations relating to conduct of activities in the petroleum activities and other relevant laws and regulations,
 - g) general information on continental shelf flying,
 - h) aeronautical radiotelephony phraseology training,
 - i) any such additional training as the company or aviation enterprise may require.
- (4) The Norwegian Maritime Authority may impose further requirements for the personnel involved in the operation of the helideck.

Section 43

Entry into force

- (1) These Regulations enter into force on 15 January 2008.
- (2) For mobile offshore units which are registered in a Norwegian ship register, these Regulations enter into force at the first certificate expiry, cf. section 1.
- (3) Regulations of 22 December 1993 No. 1240 on helicopter decks on mobile offshore units are repealed effective from 15 January 2013.

Annex

<i>TABLE 1 – Helicopter data</i>							
<i>Helicopter type</i>	<i>"D" - value (metres)</i>	<i>0.62 D (metres)</i>	<i>0.83 D (metres)</i>	<i>MTOM (kg)</i>	<i>Maximum Height (metres)</i>	<i>Rope net size</i>	<i>Rotor dia- meter (metres)</i>
Augusta A109 E	13.04	8.08	10.82	2,850	3.50	Small	11.00
Augusta Bell AB 139	16.65	10.32	13.82	6,400	4.95	Medium	13.80
Augusta Westland EH 101	22.80	14.14	18.92	14,600	6.63	Large	18.60
Bell 212	17.46	10.83	14.50	5,080	4.80	Medium/Skids	14.63
Bell 214ST	18.95	11.75	15.73	7,936	4.68	Medium	15.85
Eurocopter EC135	12.19	7.56	10.12	2,910	3.51	Small	10.20
Eurocopter EC145	13.03	8.08	10.81	3,585	3.96	Small	11.00
Eurocopter EC155	14.30	8.87	11.87	4,950	4.35	Small	12.60
Eurocopter EC225 LP	19.50	12.09	16.19	11,000	4.97	Medium	16.20

Eurocopter AS 365N2	13.68	8.48	11.35	4,250	4.01	Small	11.93
Eurocopter AS 365N3	13.73	8.51	11.40	4,300	4.06	Small	11.94
Eurocopter AS 332L/L1 Super Puma	18.70	11.59	15.52	8,600	4.92	Medium	15.60
Eurocopter AS 332L2 Super Puma	19.50	12.09	16.19	9,300	4.97	Medium	16.20
Sikorsky S76	16.00	9.92	13.28	4,676	4.41	Medium	13.40
Sikorsky S76C+	16.00	9.92	13.28	5,306	4.42	Medium	13.41
Sikorsky S-61N	22.20	13.76	18.43	9,298	5.64	Large	18.90
Sikorsky S-92A	20.88	12.95	17.33	12,019	4.32	Large	17.17
NATO Helicopter Industries NH90	19.56	12.13	16.24	10,600	5.31	Medium	16.30
Westland Sea King	22.00	13.64	18.26	9,715	5.00	Large	19.00
Westland Lynx	15.20	9.42	12.62	4,875	3.60	Small	12.80

This table is a guidance and contains available details as of May 2007. These values may be subject to change due to the development of the helicopters. The current values may be obtained from the aviation enterprise, manufacturer or the Norwegian Civil Aviation Authority.

PLAN VIEW
210° sector

Alternatively, the entire sector may be rotated $\pm 15^\circ$ in order to comply with the requirements

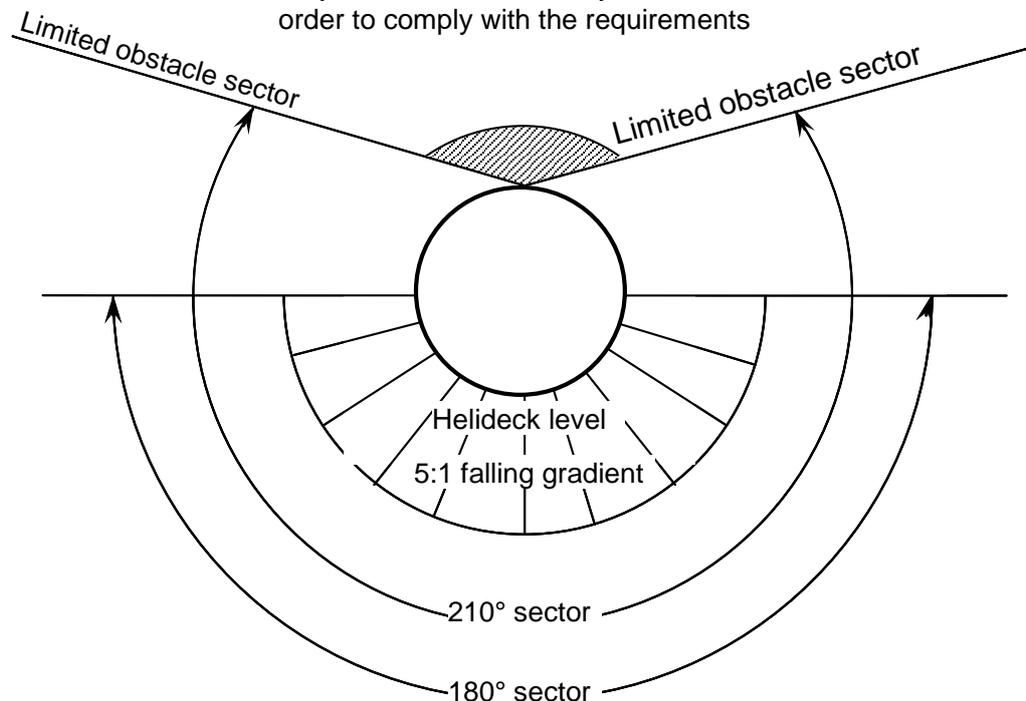


Fig. 1: Obstacle free take-off and approach sector. plan view

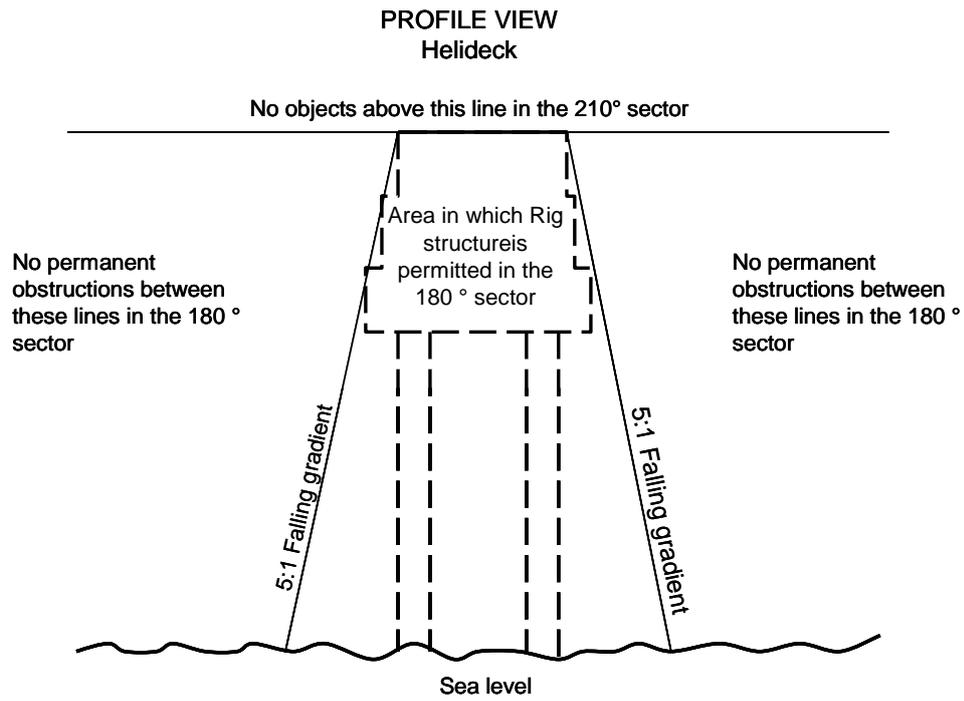


Fig. 2: Obstacle free take-off and approach sector. profile view

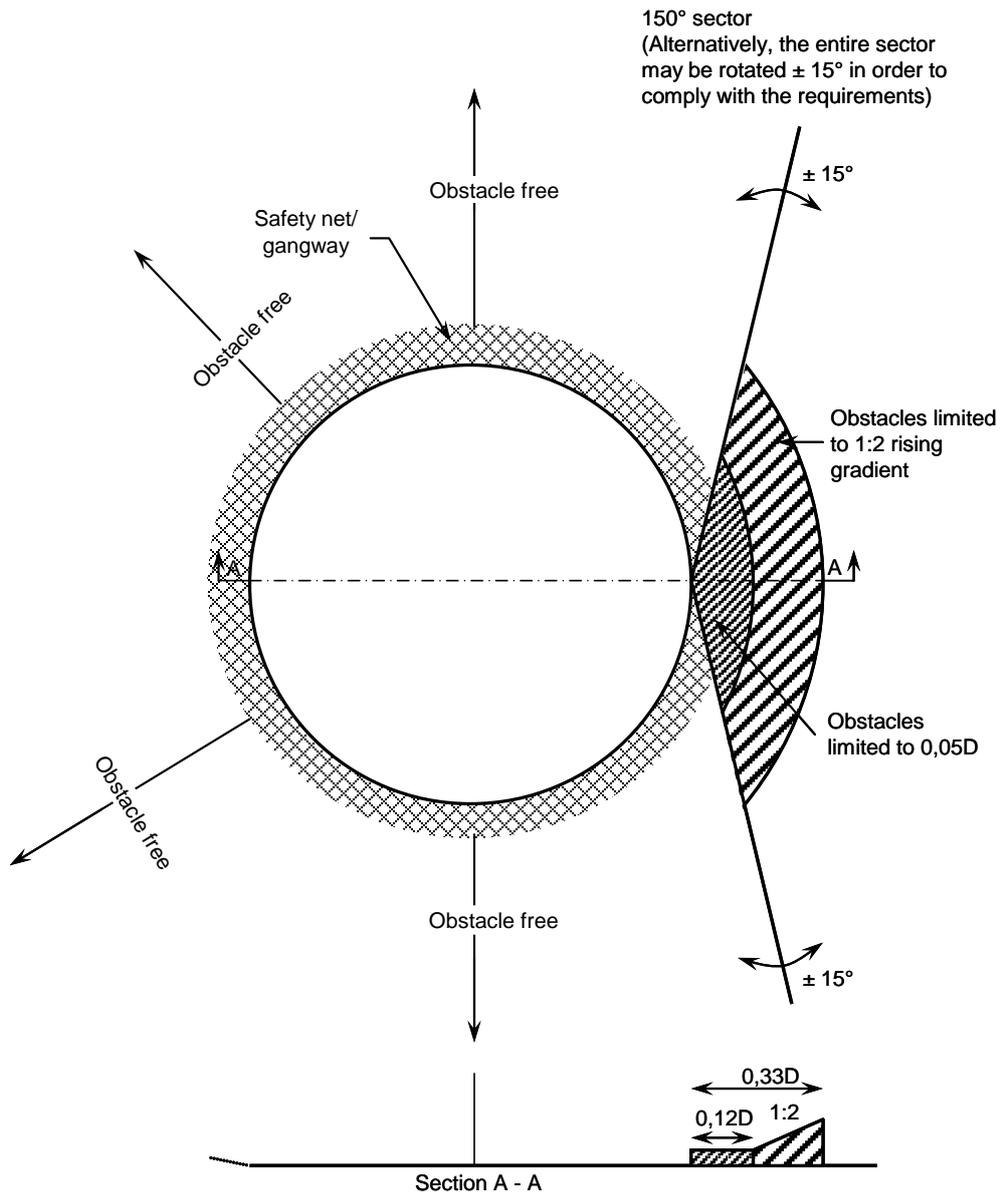


Fig. 3: Obstacle restrictions

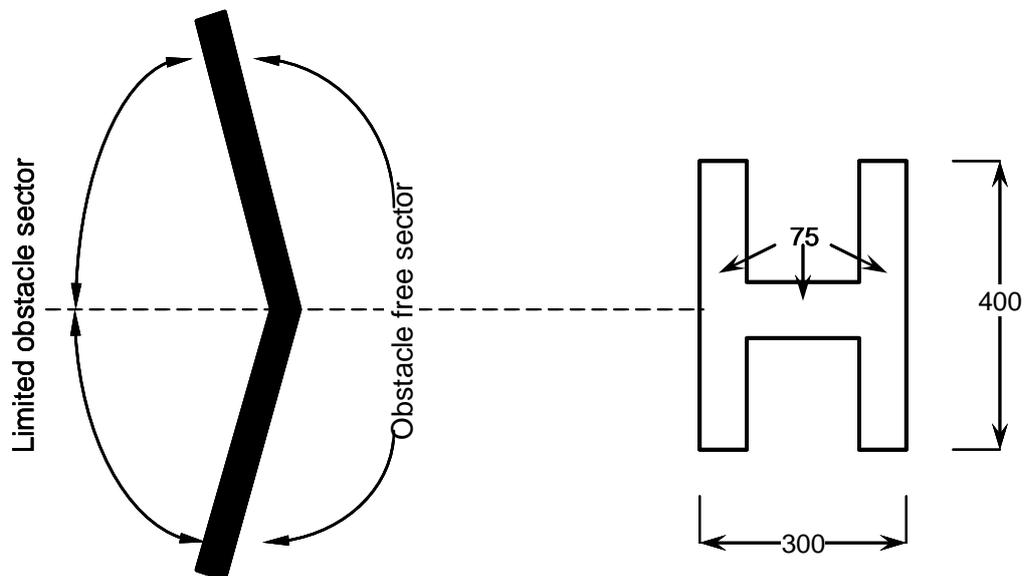


Fig. 4: Identity marking (measures in centimetres)

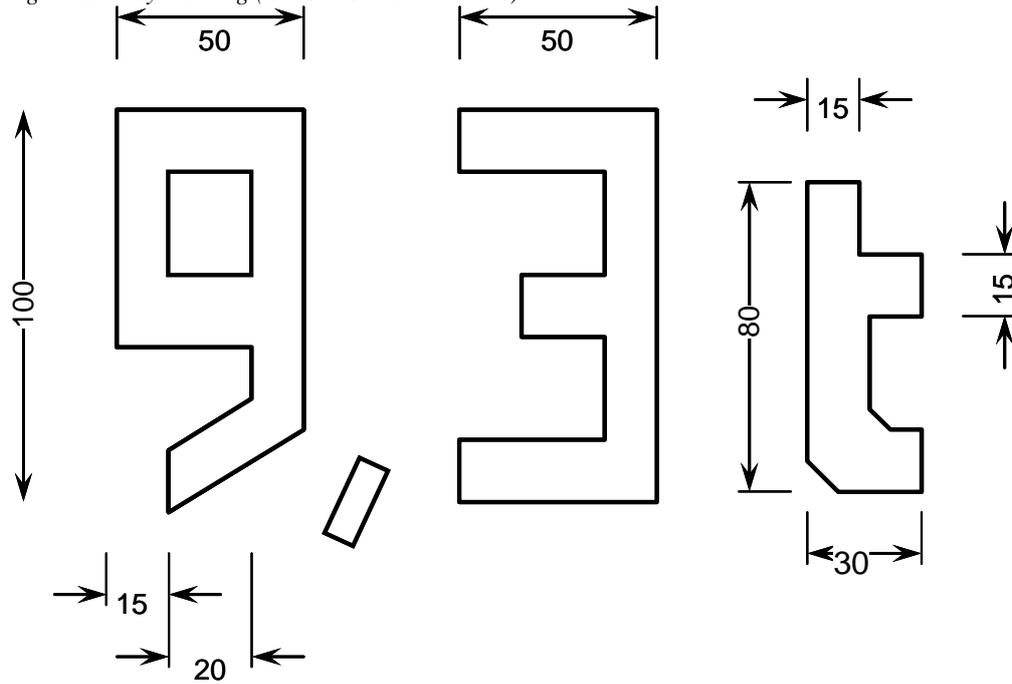


Fig. 5: Maximum allowable mass marking (measures in centimetres)

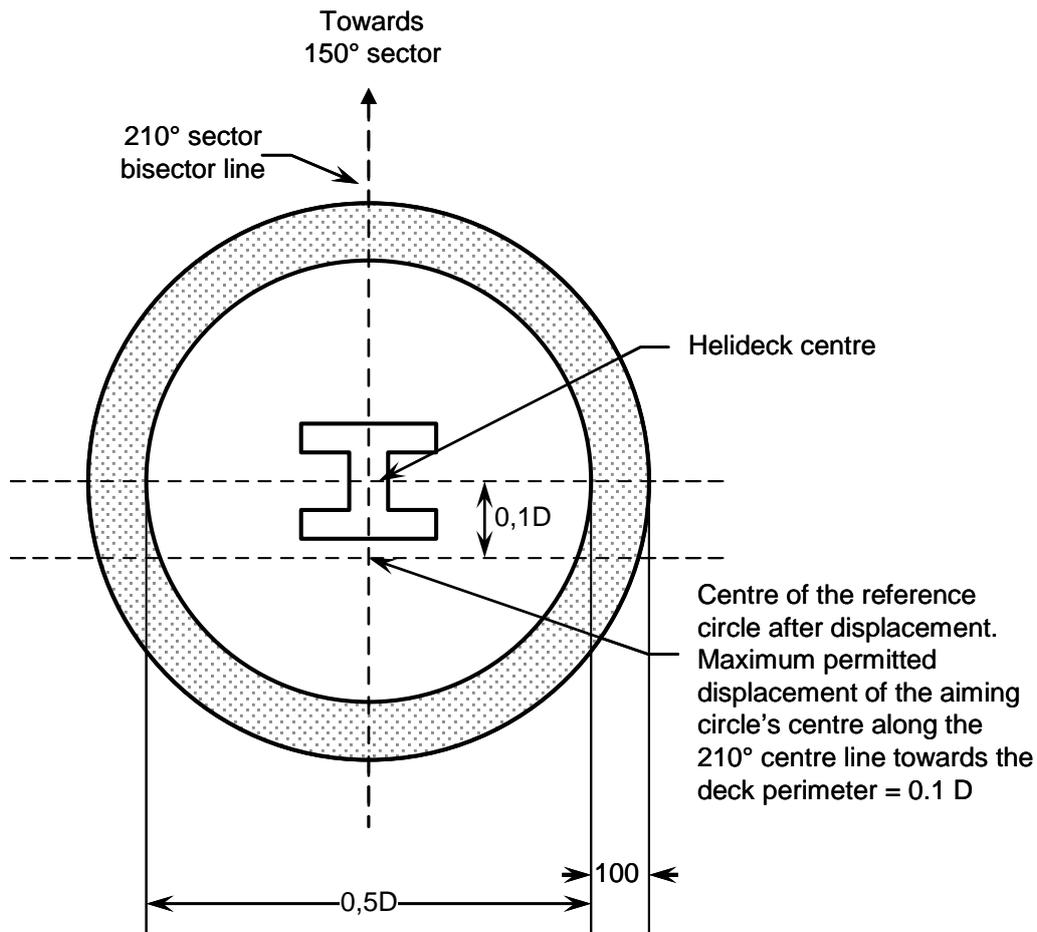


Fig. 6: Aiming circle (measures in centimetres)

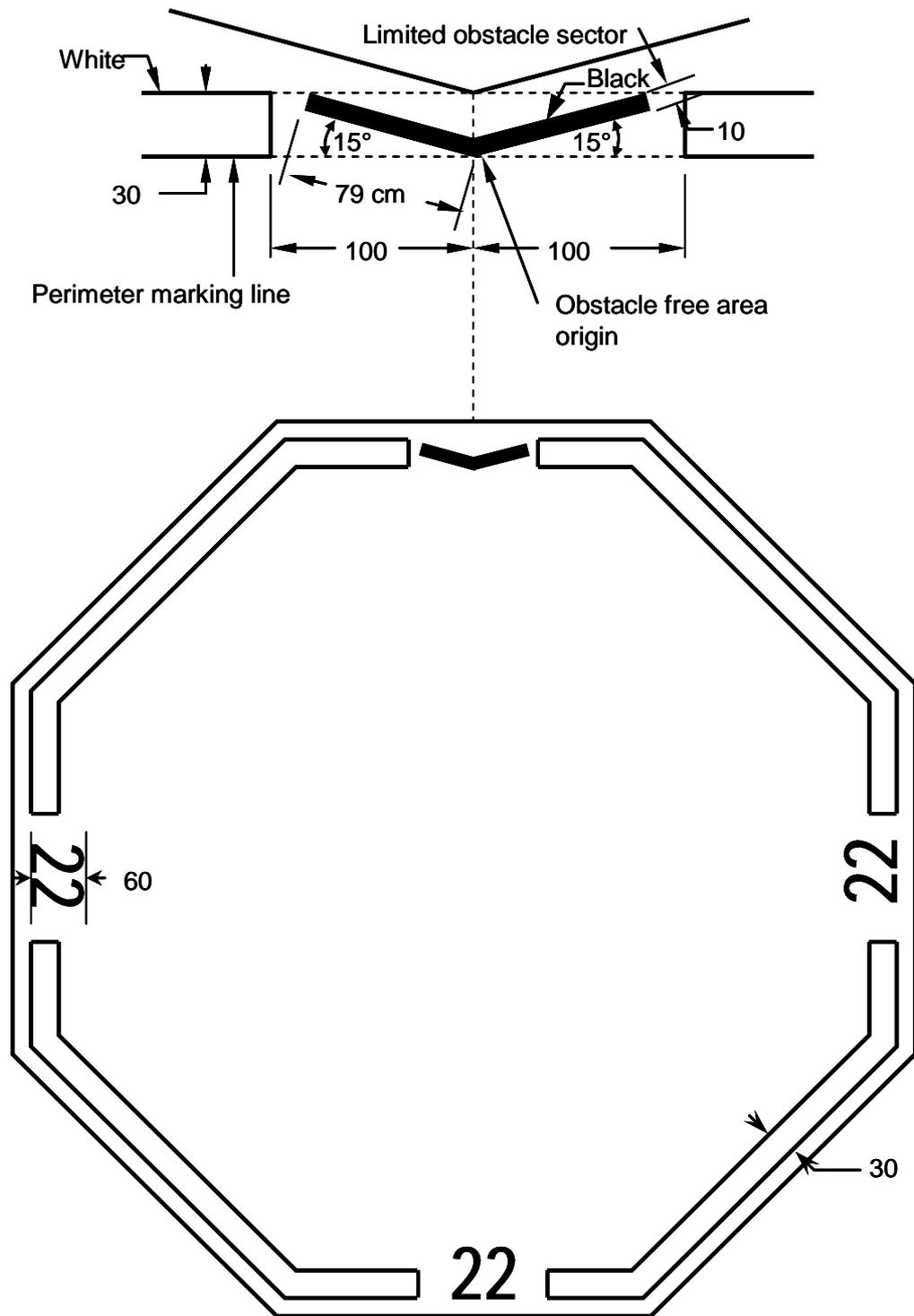
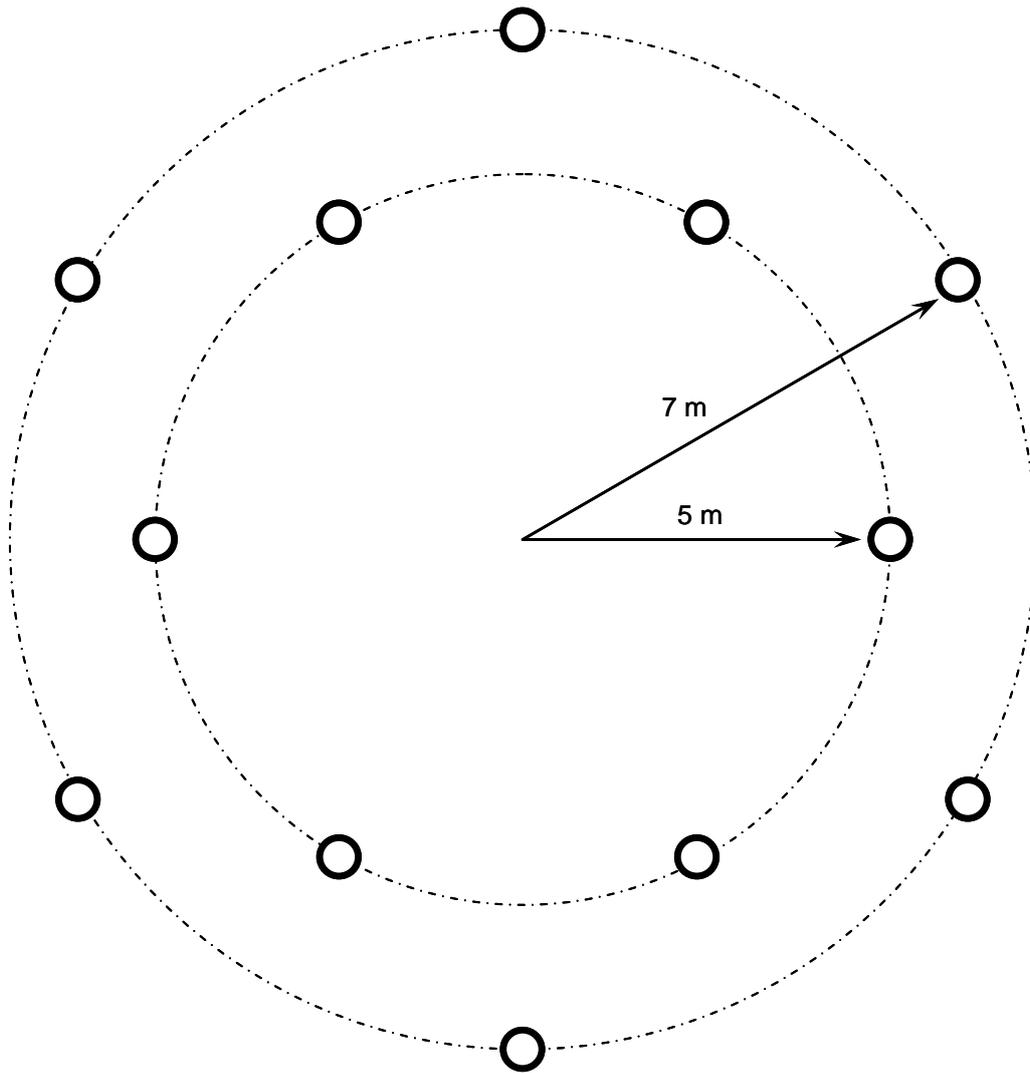


Fig. 7: Marking of obstacle protected sectors and D-value (measures in centimetres)



- Note:
- 1) The tie-down points shall be located around the centre of the helideck's aiming circle.
 - 2) Areas used for parking helicopters shall be equipped with tie-down points.

Fig. 8: Example of location of tie-down points