RULES FOR CLASSIFICATION

High speed and light craft

Edition  July 2017

Part 5 Ship types

Chapter 4 Crew boats
FOREWORD

DNV GL rules for classification contain procedural and technical requirements related to obtaining and retaining a class certificate. The rules represent all requirements adopted by the Society as basis for classification.

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CURRENT – CHANGES

This document supersedes the December 2015 edition of DNVGL-RU-HSLC Pt.5 Ch.4. Changes in this document are highlighted in red colour. However, if the changes involve a whole chapter, section or sub-section, normally only the title will be in red colour.

Changes July 2017, entering into force 1 January 2018

<table>
<thead>
<tr>
<th>Topic</th>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjust damage stability</td>
<td>Sec.3 [2.1.1] - Sec.3 [2.2]</td>
<td>For craft with length less than 45 meters, damage stability requirements has been aligned with German and UK offshore codes.</td>
</tr>
</tbody>
</table>

Editorial corrections

In addition to the above stated changes, editorial corrections may have been made.
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SECTION 1 GENERAL REGULATIONS

1 Classification

1.1 Application

1.1.1 The rules in this chapter apply to craft transporting workers and a limited amount of cargo between shore and offshore installations and similar types of transportation.

Guidance note:

The rules in this chapter are different from the rules for the class notation Passenger craft because workers are considered as more professional and fit than ordinary passengers. It is assumed that workers are trained in safety aspects and are familiar with the subject type of sea transportation.

The notation Crew is based on the same level of safety as specified by a standard reported to IMO for crew boats up to 100 gross tons with equivalent arrangement accepted under regulation 5 of chapter I of SOLAS, although this notation is applicable to high speed and light craft in accordance with the IMO Code specified in [1.1.3].

It should be noted that crediting workers for being able bodied is not accepted by all flag states and hence national authorities may require compliance with 2000 HSC Code passenger requirements or have other additional requirements for crew transportation.

The term limited amount of cargo is typically referring to cargo required to maintain and service offshore installation.

---e-n-d---o-f---g-u-i-d-a-n-c-e---n-o-t-e---

1.1.2 The rules do not apply to craft carrying ordinary passengers as defined under the class notation Passenger craft.

1.1.3 Craft of 500 gross tonnage and upwards or craft carrying more than 150 workers shall comply with the requirements for cargo craft in accordance with the International Code of Safety for High-Speed Craft, 2000 (2000 HSC Code).

1.2 Ship type notation

1.2.1 High speed and light craft built in compliance with the main class requirements of the rules Pt.1, Pt.2, Pt.3 and Pt.4, with the modifications and additional requirements given in this chapter, may be assigned the ship type notation Crew.

1.3 Service area restriction notations

1.3.1 Craft with the type notation Crew will be given one of the following service restrictions R1, R2, R3, R4 or R5.

1.3.2 For the service restrictions R4 and R5 modified requirements of this chapter may be considered.

1.4 Operation limitation

1.4.1 Limitations of speed versus sea state (significant wave height) will be given corresponding to the design vertical acceleration at longitudinal centre of gravity (LCG).

1.4.2 The approved maximum number of persons for which the craft is designed and equipped for normal operation at sea, will be stated in the appendix to the classification certificate.
2 Documentation

2.1 General

2.1.1 Documentation shall be submitted as required by Table 1.

Table 1 Documentation requirements

<table>
<thead>
<tr>
<th>Object</th>
<th>Document type</th>
<th>Additional description</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage stability</td>
<td>B030 – Internal watertight integrity plan</td>
<td></td>
<td>FI</td>
</tr>
<tr>
<td></td>
<td>B070 – Preliminary damage calculation</td>
<td></td>
<td>AP</td>
</tr>
<tr>
<td></td>
<td>B130 – Final damage stability calculation</td>
<td></td>
<td>AP</td>
</tr>
<tr>
<td>Life-saving appliances</td>
<td>Z161 – Vessel operation manual</td>
<td>life-saving appliances and their use</td>
<td>AP</td>
</tr>
<tr>
<td>Safety, general</td>
<td>G050 – Safety plan</td>
<td></td>
<td>AP</td>
</tr>
</tbody>
</table>

AP = For approval; FI = For information
ACO = As carried out; L = Local handling; R = On request; TA = Covered by type approval; VS = Vessel specific

For general requirements to documentation, including definition of the info codes, see DNVGL-RU-SHIP Pt.1 Ch.3 Sec.2.
For a full definition of the documentation types, see DNVGL-RU-SHIP Pt.1 Ch.3 Sec.3

2.1.2

3 Certification

3.1 Certification requirements

3.1.1 Products shall be certified as required by Table 2.

Table 2 Certification requirements

<table>
<thead>
<tr>
<th>Object</th>
<th>Certificate type</th>
<th>Issued by</th>
<th>Certification standard*</th>
<th>Additional description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor equipment</td>
<td>TA</td>
<td>Society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weathertight closing appliances</td>
<td>TA</td>
<td>Society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weathertight doors and hatches</td>
<td>TA</td>
<td>Society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object</td>
<td>Certificate type</td>
<td>Issued by</td>
<td>Certification standard*</td>
<td>Additional description</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------------------</td>
<td>-----------</td>
<td>-------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Main and auxiliary machinery</td>
<td>PC</td>
<td>Society</td>
<td></td>
<td>For diesel engines, reduction gears, flexible couplings, waterjets and propellers which are type approved for with a maximum power rating of 2500 kW, product certification is not required. and such units may be delivered with a type approval certificate and a maker’s test report only.</td>
</tr>
<tr>
<td>Cargo pumps for flammable liquids</td>
<td>TA</td>
<td>Society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication systems</td>
<td>TA</td>
<td>Society</td>
<td>LSA Code</td>
<td>Alternatively, MED certificates</td>
</tr>
<tr>
<td>Life-saving appliances</td>
<td>TA</td>
<td>Society</td>
<td>LSA Code</td>
<td>Alternatively, MED certificates</td>
</tr>
<tr>
<td>Survival craft</td>
<td>TA</td>
<td>Society</td>
<td>LSA Code</td>
<td>Alternatively, MED certificates</td>
</tr>
</tbody>
</table>

*Unless otherwise specified the certification standard is the rules.
PC = Product certificate; MC = Material certificate; TR = Test report; TA = Covered by type approval

For general certification requirements, see DNVGL-RU-SHIP Pt.1 Ch.3 Sec.4.
For a definition of the certification types, see DNVGL-RU-SHIP Pt.1 Ch.1 Sec.4 and DNVGL-RU-SHIP Pt.1 Ch.3 Sec.5.
SECTION 2 CLASS REQUIREMENTS

1 Structures and equipment

1.1 Fendering arrangement

1.1.1 Efficient fendering system to protect against side damage shall be arranged.

1.1.2 To obtain sufficient protection an arrangement of outside horizontal and vertical profiles on the exposed parts of the sides may be required.

1.2 Decks

1.2.1 Decks intended to carry cargo of any type (including containers), shall be marked with signboards stating the maximum load in tonnes per square metre.

1.2.2 The deck shall have scantlings based on specified design cargo load, with a minimum cargo load of 1 t/m², in combination with 80% of the design sea pressure as specified in Pt.3 Ch.1 Sec.3.

1.2.3 Scantlings of flush hatch covers in the cargo deck area shall be based on a load not less than specified in [1.2.2].

1.2.4 The design cargo load in t/m² will be given in the appendix to the classification certificate.

1.3 Containers

1.3.1 Containers may be stowed longitudinally or transversely, with no stacking and shall be sufficiently supported by the deck structure and cargo rails.

1.3.2 The containers shall be prevented from sliding, lifting or tilting by a system of fixed supports or detachable lashing equipment.

1.3.3 The supporting and lashing equipment shall be arranged and dimensioned in such a way that the supporting forces and internal forces in the containers are within the minimum capabilities of the containers to be used.

2 Anchoring and mooring equipment

2.1 General

2.1.1 The requirements in this sub-section apply to equipment and installation for anchoring and mooring of craft with service restriction notation R1, R2 and R3.

2.2 Structural arrangement

2.2.1 The general requirements for structural arrangement for anchoring equipment shall be according to Pt.3 Ch.5 Sec.3 [2.1].
2.3 Equipment number

2.3.1 The equipment number is calculated according to Pt.3 Ch.5 Sec.3 [3.1].

2.4 Equipment tables

2.4.1 The equipment is in general to be in accordance with the requirements given in Table 1 reduced as per Table 2.

2.4.2 The required anchoring equipment is suitable for use in reasonably sheltered waters only.

### Table 1 Equipment table, R1, R2 and R3

<table>
<thead>
<tr>
<th>Equipment No.</th>
<th>Equipment letter</th>
<th>Bower anchors</th>
<th>Stud-link chain cables</th>
<th>Mooring lines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td>Mass per anchor kg</td>
<td>Diameter and steel grade</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HHP 2)</td>
<td></td>
<td>NV K1 mm</td>
</tr>
<tr>
<td>Exceeding - Not exceeding</td>
<td></td>
<td>Number</td>
<td>Total length m</td>
<td></td>
</tr>
<tr>
<td>30 to 40</td>
<td>a₀</td>
<td>1</td>
<td>70</td>
<td>46</td>
</tr>
<tr>
<td>40 to 50</td>
<td>a₀y₂</td>
<td>1</td>
<td>88</td>
<td>58</td>
</tr>
<tr>
<td>50 to 60</td>
<td>ay₁</td>
<td>1</td>
<td>106</td>
<td>70</td>
</tr>
<tr>
<td>60 to 70</td>
<td>ay₂</td>
<td>1</td>
<td>123</td>
<td>81</td>
</tr>
<tr>
<td>70 to 80</td>
<td>by₁</td>
<td>1</td>
<td>141</td>
<td>93</td>
</tr>
<tr>
<td>80 to 90</td>
<td>by₂</td>
<td>1</td>
<td>158</td>
<td>104</td>
</tr>
<tr>
<td>90 to 100</td>
<td>cy₁</td>
<td>1</td>
<td>185</td>
<td>122</td>
</tr>
<tr>
<td>100 to 110</td>
<td>cy₂</td>
<td>1</td>
<td>211</td>
<td>139</td>
</tr>
<tr>
<td>110 to 120</td>
<td>dy₁</td>
<td>1</td>
<td>238</td>
<td>157</td>
</tr>
<tr>
<td>120 to 130</td>
<td>dy₂</td>
<td>1</td>
<td>264</td>
<td>174</td>
</tr>
<tr>
<td>130 to 140</td>
<td>ey₁</td>
<td>1</td>
<td>282</td>
<td>186</td>
</tr>
<tr>
<td>140 to 150</td>
<td>ey₂</td>
<td>1</td>
<td>300</td>
<td>198</td>
</tr>
<tr>
<td>150 to 160</td>
<td>fy₁</td>
<td>1</td>
<td>326</td>
<td>215</td>
</tr>
<tr>
<td>160 to 175</td>
<td>fy₂</td>
<td>1</td>
<td>352</td>
<td>232</td>
</tr>
<tr>
<td>170 to 190</td>
<td>gy₁</td>
<td>1</td>
<td>378</td>
<td>249</td>
</tr>
<tr>
<td>190 to 205</td>
<td>gy₂</td>
<td>1</td>
<td>414</td>
<td>273</td>
</tr>
<tr>
<td>205 to 220</td>
<td>hy₁</td>
<td>1</td>
<td>449</td>
<td>296</td>
</tr>
<tr>
<td>220 to 240</td>
<td>hy₂</td>
<td>1</td>
<td>484</td>
<td>319</td>
</tr>
<tr>
<td>240 to 260</td>
<td>iy₁</td>
<td>1</td>
<td>528</td>
<td>348</td>
</tr>
</tbody>
</table>
### Equipment

<table>
<thead>
<tr>
<th>Exceeding</th>
<th>Equipment letter</th>
<th>Number</th>
<th>Equipment</th>
<th>Bower anchors</th>
<th>Stud-link chain cables 4)</th>
<th>Mooring lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Not exceeding</td>
<td></td>
<td></td>
<td></td>
<td>Mass per anchor kg</td>
<td>Diameter and steel grade</td>
<td>Steel or fibre ropes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total length m</td>
<td>NV K1 mm</td>
<td>NV K2 mm</td>
</tr>
<tr>
<td>260 to 280</td>
<td>iy₂</td>
<td>1</td>
<td>HHP 2)</td>
<td>572</td>
<td>192</td>
<td>26</td>
</tr>
<tr>
<td>280 to 300</td>
<td>jy₁</td>
<td>1</td>
<td>HHP 2)</td>
<td>616</td>
<td>219</td>
<td>28</td>
</tr>
<tr>
<td>300 to 320</td>
<td>jy₂</td>
<td>1</td>
<td>SHHP 3)</td>
<td>660</td>
<td>219</td>
<td>28</td>
</tr>
<tr>
<td>320 to 340</td>
<td>ky₁</td>
<td>1</td>
<td></td>
<td>704</td>
<td>219</td>
<td>30</td>
</tr>
<tr>
<td>340 to 360</td>
<td>ky₂</td>
<td>1</td>
<td></td>
<td>748</td>
<td>219</td>
<td>30</td>
</tr>
<tr>
<td>360 to 380</td>
<td>iy₁</td>
<td>1</td>
<td></td>
<td>792</td>
<td>246</td>
<td>32</td>
</tr>
<tr>
<td>380 to 400</td>
<td>iy₂</td>
<td>1</td>
<td></td>
<td>845</td>
<td>246</td>
<td>32</td>
</tr>
<tr>
<td>400 to 425</td>
<td>my₁</td>
<td>1</td>
<td></td>
<td>880</td>
<td>246</td>
<td>34</td>
</tr>
<tr>
<td>425 to 450</td>
<td>my₂</td>
<td>1</td>
<td></td>
<td>933</td>
<td>246</td>
<td>34</td>
</tr>
<tr>
<td>450 to 475</td>
<td>ny₁</td>
<td>1</td>
<td></td>
<td>986</td>
<td>246</td>
<td>36</td>
</tr>
<tr>
<td>475 to 500</td>
<td>ny₂</td>
<td>1</td>
<td></td>
<td>1047</td>
<td>246</td>
<td>36</td>
</tr>
</tbody>
</table>

1) Two anchors may be accepted.
2) HHP = ordinary high holding power anchors.
3) SHHP = super high holding power anchors.
4) Chain cable may be substituted by steel wire or synthetic fibre ropes.

#### Table 2: Equipment reductions for service restriction notations (see Table 1)

<table>
<thead>
<tr>
<th>Service restriction notation</th>
<th>Anchors</th>
<th>Stud-link chain cables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Mass change per anchor</td>
</tr>
<tr>
<td>Alternative 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R0, R1</td>
<td>1</td>
<td>No reduction</td>
</tr>
<tr>
<td>R2, R3</td>
<td>1</td>
<td>~30%</td>
</tr>
<tr>
<td>Alternative 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R0, R1</td>
<td>2</td>
<td>~30%</td>
</tr>
<tr>
<td>R2, R3</td>
<td>2</td>
<td>~50%</td>
</tr>
</tbody>
</table>

R4 and R5 will be specially considered.
2.5 Anchors

2.5.1 Anchor types normally dealt with are:
— HHP (ordinary high holding power) anchor,
— SHHP (super high holding power) anchor; ordinary stockless bow anchors or other types of anchors may
be specially considered.

2.5.2 When two anchors are chosen, the length change of chain cables refers to total length of chain cable
and shall be equally divided between the two anchors. I.e. each chain cable shall be at least 80% of table
value from Table 1.

2.5.3 For anchors the notation in the register of ships will be according to Pt.3 Ch.5 Sec.3 [4.1.3] and Pt.3
Ch.5 Sec.3 [4.1.4].

2.5.4 For anchors the materials, shackles, type approval, testing and identification are normally to be in
accordance with Pt.3 Ch.5 Sec.3 [4]. Anchors made from stainless steel are permitted provided the mass and
the strength is not less than required for steel.

2.5.5 The mass of the head of the anchor is not to be less than 60% of the table value.

2.6 Anchor chain cables

2.6.1 Anchor chain cables to comply with requirements stipulated in Pt.3 Ch.5 Sec.3 [5].

2.6.2 The diameter of stud link chain cable shall not be less than given in [2.6].

2.6.3 Anchor chain cables made from stainless steel will be permitted provided the material strength is not
less than for the steel.

2.7 Windlass and chain stoppers

2.7.1 General design, materials and testing are normally to be in accordance with Pt.3 Ch.5 Sec.3 [6].
Stainless steel material will be accepted for this equipment.

3 Stability, water- and weathertight integrity

3.1 Intact stability

3.1.1 The intact stability requirements shall be as for the main class given in Pt.3 Ch.6 Sec.2.

3.2 Damaged stability

3.2.1 Damaged stability requirements are given in Sec.3 [2].

3.3 Watertight bulkheads

3.3.1 Collision bulkhead and fore and aft engine room bulkheads shall be provided as required for craft with
notation Cargo, Ch.3.
3.4 Watertight doors

3.4.1 Watertight doors shall be fitted in all watertight bulkhead access openings.

3.4.2 Watertight doors shall be either type approved or approved and tested on an individual basis.

3.4.3 Watertight doors shall be of equivalent strength as the surrounding structure and hydraulically tested from the side which is most prone to leakage. Test pressure should, as a minimum, be equal to design pressure for the bulkhead.

3.4.4 Watertight doors shall have open/closed indication fitted on the bridge.

3.5 Weathertight doors and hatches

3.5.1 Weathertight doors or hatches shall be fitted in all external access openings in the weather deck and superstructure.

3.5.2 Weathertight doors and hatches shall be either type approved or approved and tested on an individual basis.

3.5.3 Weathertight doors and hatches shall be of equivalent strength as the surrounding structure and hose tested after installation.

3.5.4 All doors shall open the same way as the escape route out of the craft.

3.5.5 Weathertight doors and access hatches shall be so arranged that they are operable from both sides.

Guidance note:
Boiled or similar permanently fitted hatches, for example hatches used for equipment installation and removal, are not considered access hatches.

---e-n-d---o-f---g-u-i-d-a-n-c-e---n-o-t-e---

3.5.6 The use of flush hatches, except for escape hatches from below the weather deck, will be accepted provided:
— They are either type approved or approved and tested on an individual basis.
— The hatch shall be permanently marked “To be kept closed at sea”.

3.5.7 For accommodation spaces below the weather deck which are only used in port, the use of flush escape hatches may be accepted provided:
— They are either type approved or approved and tested on an individual basis.
— The escape hatch shall be permanently marked “To be kept closed at sea”.
— The primary access shall be permanently marked “No access while at sea”.

3.6 Windows and deadlights

3.6.1 Windows shall be of toughened safety glass. Except for front windows in the wheelhouse, other materials may be found acceptable based on consideration of strength, impact resistance and ageing properties.

3.6.2 Window glass with baked-in heating elements, bolted mechanical fastenings or other strength reducing arrangements, shall be specially considered with regard to thickness.
3.6.3 Window glasses shall in general be firmly mounted in stiff frames with due respect to impacts. In superstructures and deckhouses other types of mounting, gluing etc. shall be documented to the satisfaction of the surveyor.

3.6.4 Windows below the bulkhead deck will be specially considered.

3.6.5 The number of deadlights in relation to number of windows shall at least be as given in Table 3, depending on the service restriction notations (R).

Table 3 Deadlights in relation to windows

<table>
<thead>
<tr>
<th>Location</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below main deck</td>
<td>100%</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>Superstructure front 1st tier</td>
<td>50%</td>
<td>25%</td>
<td>1 each type</td>
</tr>
<tr>
<td>Superstructure sides 1st tier</td>
<td>1 each type</td>
<td>1 each type</td>
<td>0%</td>
</tr>
</tbody>
</table>

3.7 Air Intakes and ventilation openings

3.7.1 The lower edge of air intakes and ventilation openings above the waterline shall be located at a height $H_v$, but not less than that given in Table 4.

Table 4 Air intakes and ventilation openings

<table>
<thead>
<tr>
<th>Service restriction notation</th>
<th>$H_v$ (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>0.05 L; minimum 2.30 m</td>
</tr>
<tr>
<td>R2</td>
<td>0.04 L; minimum 2.00 m</td>
</tr>
<tr>
<td>R3</td>
<td>0.035 L; minimum 1.50 m</td>
</tr>
</tbody>
</table>

R4 and R5 will be specially considered.

3.7.2 For openings which are not necessary for the operation of the craft at sea, a reduced $H_v$ may be considered. In that case permanently fitted closing devices shall be available.

4 Arrangement

4.1 Accommodation

4.1.1 The accommodation shall be designed and arranged so as to protect the occupants from unfavourable environmental conditions and to minimise the risk of injury during normal and emergency conditions.

4.1.2 Controls, electrical equipment and other items from which injury to persons onboard could result, shall be adequately shielded, isolated, or otherwise protected.

4.1.3 Operating controls in the accommodation shall be located and protected so that their operation is unlikely to be impeded by others than the crew operating the craft.
4.1.4 The accommodation may be part of the control station without smoketight divisions as required for **Passenger craft**. In such case the control station shall be shielded from illuminated parts of the accommodation.

4.2 Seats

4.2.1 Permanent seats shall be provided for all persons onboard in accordance with the maximum number of persons stated in the appendix to the class certificate.

4.2.2 All seats and furniture shall be permanently attached to the structure of the craft.

4.2.3 The seats and their attachments shall be designed to withstand forces corresponding to the design acceleration level.

4.2.4 In high speed craft safety belts shall be provided for all seats from where the craft is operated.

4.2.5 Safety belts may be required for seats in open deck areas for craft with design acceleration exceeding 1.0 g if these are used at sea.

4.3 Baggage and store compartments

4.3.1 Provisions shall be made to store baggage in a way which does not affect the escape ways from the craft.

4.3.2 Controls, electric equipment or other items, the damage or failure of which could affect the safe operation of the craft, shall not be located in baggage or store compartments unless such items are adequately protected so that they cannot be damaged or inadvertently operated by movement of the contents of the compartment.

4.4 Decks

4.4.1 Decks, walkways, stairs etc. may be required to be of non-skid type. However, wood, varnish, paint etc. will be accepted when normal passageway is arranged to prevent falling overboard.

4.5 Railing

4.5.1 Areas on deck intended for normal use and operation of the craft shall be arranged with adequate railings of minimum 1000 mm height.

4.5.2 Entrances, stairs, gangways etc. shall have handholds at least on one side.

5 Machinery

5.1 General

5.1.1 Main and auxiliary machinery shall in general comply with the main class requirements.
6 Piping systems

6.1 Bilge system

6.1.1 Piping systems shall comply with the main class requirements and the following additional requirements.

6.1.2 The craft shall be provided with an efficient plant serviced by two independent power operated bilge pumps capable of pumping from and draining any watertight compartment which is neither a permanent oil tank nor a water tank. Providing the safety of the ship is not impaired, the bilge pumping arrangements can be dispensed with within particular compartments.

6.1.3 A ballast or general service pump may be accepted as the independent power operated bilge pump provided it is fitted with the necessary connections to the bilge pumping system.

6.1.4 Means shall be provided for sounding every compartment which is served by the bilge pumping system and not readily accessible at all times during the voyage.

6.1.5 In any unattended propulsion machinery space, an automatic bilge level alarm shall be fitted.

7 Electrical systems

7.1 Emergency source of power

7.1.1 The craft shall include an emergency source of electrical power situated above the uppermost continuous deck and outside the machinery casings in addition to the principal source of electrical power.

7.1.2 This emergency source of electrical power may be a generator or an accumulator (storage) battery provided with an emergency switchboard installed as near to the emergency generator as possible or in the case of the accumulator battery in a different but nearby space.

7.1.3 The capacity of the emergency source of power shall be such that the following consumers will be provided for a minimum period of three (3) hours:

1) Emergency lighting at stowage positions of life-saving appliances, at all escape routes, in machinery spaces and the main and emergency generating spaces including their control positions, at control stations, at steering gears.
2) Main navigation lights and not under command lights.
3) Daylight signalling lamp (intermittent operation).
4) Electrical internal communication equipment.
5) Craft radio facilities (GMDSS).
6) Craft's whistle (intermittent operation).
7) Fire detection system. Fire alarm to have capacity for 0.5 hour.
8) General alarm system (0.5 hour capacity for alarm).
9) Remote control devices of fire-extinguishing systems (if fitted).
10) Emergency fire pump when electrically driven (if fitted).
8 Cargo handling systems

8.1 Cargo pumps

8.1.1 Cargo pumps shall be provided with remote shut down devices capable of being activated from a dedicated cargo control location which is manned at the time of cargo transfer. Remote shut down shall also be capable of being activated from at least one other location outside the cargo area and at a safe distance from it.

8.1.2 Segregation between cargo piping systems where cross-contamination causes safety hazards or marine pollution hazards shall be by means of spectacle flanges, spool pieces or equivalent. Valve segregation is not considered equivalent.
SECTION 3 SAFETY REQUIREMENTS

1 General

1.1 General requirements

1.1.1 The yard or builder may, as an alternative to comply with the requirements given in this section, submit evidence that the topics in this section are accepted by the respective administration, e.g. by compliance with relevant domestic standard. If so the Society will accept the use of this domestic standard according to DNVGL-RU-SHIP Pt.1 Ch.1 Sec.2 [1.3.5].

Guidance note:
Flag states might have requirements in addition to the requirements stipulated in this section. Compliance with the requirements in this section will not automatically result in compliance with requirements stipulated by the flag state.

---e-n-d---o-f---g-u-i-d-a-n-c-e---n-o-t-e---

2 Damaged stability

2.1 General

2.1.1 The damage stability requirements shall be as for the class notation Cargo craft as given in DNVGL-RU-HSLC Pt.5 Ch.3 Sec.3 except as given in [2.2] and in [2.1.2].

2.1.2 For craft with service restriction R5 in national trade no damage stability requirements apply.

2.2 Extent of damage

2.2.1 For craft of up to 45 meters length, the following will be accepted:
HSC Section 2.6.7 (Extent of side damage) - shall only apply in the forward 1/3rd (one third) of the load line length of the craft. In this area the extents of damage shall be applied anywhere, including across the main transverse watertight bulkheads. In the remaining areas of the craft, the extents of damage shall extend between main transverse watertight bulkheads from keel to deck and from ship side to ship centerline.
HSC Section 2.6.8.1.2 - (Extent of stern damage) shall not be applied.
HSC Section 2.6.9 (Extent of bottom damage in areas vulnerable to raking damage) - shall only apply in the forward one third 1/3rd (one third) of the length of the craft. In this area the extents of damage shall be applied anywhere, including across the main transverse watertight bulkheads. In the remaining areas of the craft HSC 2.6.9 shall not be applied.
HSC Section 2.6.10 (Extent of bottom damage in areas not vulnerable to raking damage) - shall only apply in the forward 1/3rd (one third) of the load line length of the craft. In this area the extents of damage (as prescribed by the formula in 2.6.10.2) shall be applied anywhere, including across the main transverse watertight bulkheads. In the remaining areas of the craft 2.6.10 shall not be applied.
HSC Section 2.6.11 (7 meter obstruction for multihull craft damage determination) - shall only apply in the forward 1/3rd of the length of the craft. In the remaining areas of the craft 2.6.11 shall not be applied.

2.2.2 For craft with service restriction R3 and R4 in national trade the prescribed damage is assumed between bulkheads only. The distance between the bulkheads shall be longer than the defined length of damage.
3 Fire safety

3.1 General

3.1.1 Crew boats shall comply with the fire safety requirements for cargo boats in 2000 HSC Code, with the modifications specified in this section and the applicable interpretations as specified in Pt.4 Ch.11 App.A and Pt.4 Ch.11 App.B.

3.2 Structural fire protection

3.2.1 Machinery spaces of major fire hazard and galleys above 10 m² shall be enclosed by fire resisting divisions.

3.2.2 The structural fire protection time for fire resisting divisions is 30 minutes. For steel structures, A-0 towards void and open spaces is considered sufficient.

3.2.3 No structural fire protection requirements are applicable to areas other than specified in [3.2.1].

3.2.4 No requirements related to restricted use of combustible materials and smoke-tight division will apply.

3.3 Escape ways and arrangement

3.3.1 All spaces shall be provided with satisfactory means of escape through corridors, stairways or other spaces independent of the space considered, all with a minimum free opening of 700 mm in all directions. Where a secondary means of escape is required, this can be provided by a permanent ladder and hatch arrangement with a free opening of minimum 500 mm in all directions. Doors and hatches not capable of being unlocked from both sides shall not be regarded as an escape way.

3.3.2 For accommodation spaces, two means of escape from every restricted space or group of spaces shall be provided.

3.3.3 For machinery spaces of major fire hazard, two means of escape shall be provided, except where the spaces has a length of less than 5 m and direct access to open deck is provided.

3.3.4 Fire doors need not be remotely operated or self-closing. However, where fire doors bounding areas of major fire hazard are not self-closing, they shall be normally shut and fitted with indicators to provide warning in the control station when the doors are not completely closed.

3.3.5 Fuel oil tanks may be located contiguous to machinery spaces of major fire hazard provided the boundary between such spaces and fuel oil tanks are protected with 60 minutes fire-resisting divisions.

3.3.6 Petrol for auxiliary purposes may be stored in limited volume. Petrol shall only be stored on open deck or in compartments effectively ventilated to open deck. The storage position shall be so arranged that under no circumstances can inflammable or explosive fluids or gases accumulate, for example, in lower parts of the hull.

3.4 Ventilation

3.4.1 The requirements of 2000 HSC Code Ch.7.6 apply as amended and modified below.
3.4.2 Controls for closure of ventilation and operation of fans may be located outside the control station if located in a safe and readily available position.

3.4.3 Fire dampers need only be operable from outside the engine room. Arrangement for remote and automatic closing of fire dampers is not required.

3.4.4 Steel dampers of robust design will be accepted for ventilation outlets from areas of major fire hazard to open decks in lieu of fire dampers.

3.5 Fire detection systems

3.5.1 The requirements of 2000 HSC Code Ch.7.7 apply as amended and modified below.

3.5.2 An approved automatic fire detection and alarm system shall be installed, to indicate, at the craft’s control station, the location of outbreak of a fire. In the event that the control station is unmanned, an audible alarm shall be automatically sounded throughout the crew compartments.

3.5.3 All enclosed spaces, except areas of no fire risk and limited areas of minor fire risk such as void spaces and bathrooms of limited area within cabins, shall be provided with fire detectors. Spaces with floor area below 4 m$^2$ and ceiling area below 6 m$^2$ are in this context considered to be spaces of limited area.

3.5.4 Crew boats need not be fitted with TV cameras in main propulsion machinery room.

3.6 Extinguishing in machinery spaces

3.6.1 Spaces of major fire hazard, except for galleys below 10 m$^2$, shall be fitted with a fixed fire extinguishing system according to 2000 HSC Code Ch. 7.7.3.

3.6.2 For areas of major fire hazard, remote control of the fixed extinguishing system from the control station is not required provided local manual control is in a safe and readily available position.

3.6.3 The quantity of gas required for one discharge is accepted as being sufficient where gas is used as the extinguishing medium. A minimum capacity of 40% of the gross volume of the complete machinery space shall be provided for when using CO$_2$ systems.

3.7 Other extinguishing systems

3.7.1 Fixed extinguishing systems for deep fat cooking equipment and galley ducts are not required.

3.7.2 Sprinkler system in accommodation is not required, irrespective of size.

3.8 Fire pumps

3.8.1 At least one main fire pump shall be provided. The capacity shall be at least 25 m$^3$/h. The pressure at hydrants shall be minimum 2.7 bars with any two hydrants in simultaneous operation.

3.8.2 Craft with an overall length of more than 40 m, or where the main fire pump is installed in a space not protected by a fixed fire extinguishing system, shall be fitted with an emergency fire pump with minimum capacity of 15 m$^3$/hr.

3.8.3 With regard to hoses, hydrants and nozzles, 2000 HSC Code Ch.7.7.5 applies.
3.9 Portable fire extinguishers

3.9.1 The number and type of extinguishers shall be according to IMO MSC/Circ 1275, but in no case less than 1 for each deck in addition to 1 in main engine room.

3.9.2 The capacity shall be according to *IMO Fire Safety Systems (FSS) Code* Ch.4.3.1.1.

3.10 Miscellaneous

3.10.1 A duplicate set of fire control plans is not required to be stored outside the deckhouse.

3.10.2 Crew boats need not carry fireman's outfits.

4 Lifesaving appliances

4.1 Introduction

4.1.1 Crew boat shall comply with the requirements of this section in lieu of the requirements given in *Pt.3 Ch.8*.

4.2 Communications

4.2.1 The craft shall be provided with two portable two-way VHF radiotelephone apparatuses and one search and rescue transponder (SART) capable of being carried in the survival craft.

4.2.2 The craft shall be provided with not less than 12 rocket parachute flares in addition to those carried in the survival craft.

4.3 Personal life saving appliances

4.3.1 The craft shall be provided with at least one life buoy with 18 m line on one side and one life buoy with light on the other.

4.3.2 A life jacket with light shall be provided for every person on board. In addition, two spare life jackets with light shall be provided.

4.4 Survival craft

4.4.1 The craft shall carry life raft(s) with sufficient capacity to accommodate not less than 100% of the total number of persons the craft is certified to carry.

4.4.2 Life rafts shall be stowed on open deck and fitted with hydrostatic float free arrangement capable of releasing the life raft if the craft sinks.

4.4.3 One suitable embarkation ladder for use on either side or other means of embarking the life rafts (steps integrated in hull structure) shall be provided for all craft where the embarkation height exceeds 1.5 m.
4.5 Certification

4.5.1 Any equipment installed in excess of the [4.2.2], [4.3] and [4.4] shall be type approved (TA) by the Society or be provided with marine equipment directive (MED) certificates. The approval standard shall be *IMO Life-Saving Appliances (LSA) Code.*
CHANGES – HISTORIC

December 2015 edition

General
This is a new document.
The rules enter into force 1 January 2016.
About DNV GL

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