

Order on the approval of offshore containers and portable units handled in open seas¹

In pursuance of section 1, section 3(1), section 4(1) and (2) and section 28 of the act on safety at sea (*lov om sikkerhed til søs*), cf. consolidated act no. 654 of 15 June 2010 as enacted by decree no. 71 of 29 January 2013 on the entry into force for Greenland of the act on safety at sea (*lov om sikkerhed til søs*) and following consultation with the Government of Greenland, the following provisions are laid down:

Section 1. Containers and portable units especially designed for repeated use in the transport of goods or equipment to, from or between fixed and/or floating offshore installations and ships in open seas as well as portable offshore units transferred to or from fixed and/or floating offshore installations at sea with a view to the use of the unit on the installation shall comply with and be approved in accordance with the provisions of the annex to this order.

Subsection 2. An approval of containers and portable units for the purposes mentioned in subsection 1 carried out by the authorities in another EU member State, an EEC country or Turkey in accordance with similar safety requirements may be considered equal to the provisions laid down in the annex if the product meets similar safety levels.

Subsection 3. The shipper shall ensure that only containers and portable units approved as determined in subsection 1 or subsection 2 are used.

Subsection 4. The master shall ensure that the containers and portable units transported by and handled on board the ship are approved in accordance with subsection 1 or subsection 2.

Administration

Section 2. The Danish Maritime Authority attends to the administration of this order.

Subsection 2. The Danish Maritime Authority shall accept approvals carried out in accordance with the annex to this order by other EU or EEA countries, Turkey as well as the organisations recognised in the Community.

Subsection 3. In connection with the approval, the Danish Maritime Authority shall accept tests carried out by recognised test institutes, including test institutes in other EU member States as well as in countries covered by the EEA agreement providing appropriate and satisfactory guarantees of a technical, professional and independent nature.

Penalty and entry into force provisions

Section 3. Contraventions of this order shall be liable to punishment by fine.

Subsection 2. Companies, etc. (legal personalities) may be liable to punishment according to the provisions of part 5 of the penal code (*straffeloven*).

¹ This order has as a draft been notified in accordance Directive no. 98/34/EC of the European Parliament and of the Council (directive on the procedure of information), as amended by Directive 98/48/EC.

Section 4. If the condition is covered by the decree on the entry into force for Greenland of the act on safety at sea (*lov om sikkerhed til søs*), measures may be laid down in accordance with the penal code for Greenland.

Subsection 2. If the contravention is committed by companies, etc. (legal personalities), liability to pay a fine may be incurred by the legal personality as such. If the contravention is committed by the State, the Government of Greenland, a municipality, a municipal cooperative covered under section 64 of the Landsting act on municipal councils and local authorities, etc. or a local authority, liability to pay a fine may be incurred by the relevant public authority as such.

Subsection 3. If the relevant party is not resident in Greenland or if his connection to Greenland society is otherwise so remote that the prerequisites for measures to be taken do not exist, legal proceedings may be instigated or the case may be referred for trial in Denmark.

Section 5. This order shall enter into force on 1 November 2013.

Subsection 2. Portable units shall be approved in accordance with this order by 1 June 2014 at the latest.

Subsection 3. Technical regulation of 11 January 2000 on the approval of offshore containers handled in open seas shall be repealed.

Danish Maritime Authority, 24 September 2013

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Approval of offshore containers and portable offshore units handled in open seas

Basis

1 At its 62nd session, the Maritime Safety Committee (MSC) approved the amendments to the “Recommendations on Harmonized Interpretation and Implementation of the International Convention for Safe Containers, 1972 (CSC)”. The revised Recommendations were issued as CSC/Circ.100, dated 30 June 1993, and have been included as a supplement to the 1996 version of the CSC Convention.

1.1 Section 3.3 of the revised Recommendations on Harmonized Interpretation and Implementation of the International Convention for Safe Containers determines that the Convention does not apply to offshore containers that are handled in open seas. There are several reasons for applying special design and testing parameters to offshore containers:

- 1) The tests set out in Annex II to the CSC are designed to cover the forces on containers encountered in general marine transport, loading and unloading in ports and in inland transport. However, offshore containers are used to supply offshore installations and are typically shipped on the open deck of purpose-built supply vessels and are lifted onto and off the offshore installation by cranes on the installations. Such operations will often take place in very unfavourable weather and sea conditions;
- 2) Spreader beams, as used for lifting ordinary containers, cannot be used when lifting offshore containers; and
- 3) The types of offshore containers used are often purpose-built and include closed and open dry cargo containers, dry bulk cargo containers and portable tanks. Offshore containers, unlike ISO containers, are not standardized with regard to sizes or gross mass; many have a smaller base area than the 7 m² in the lower limiting definition of a container in the CSC.

1.2 Section 6.7 of the IMDG Code recognizes the special nature of offshore containers and portable tanks. At the same time, it is stated that the design and testing of offshore containers and offshore tank containers shall take into account the dynamic lifting and impact forces that may occur when a container or tank is handled in open seas in adverse weather and sea conditions, including that the requirements for such containers and tanks shall be determined by the approving competent authority.

2 With a view to laying down guidelines hereon, the MSC has therefore drawn up MSC Circular 860, “Guidelines for the Approval of Offshore Containers Handled in Open Seas” as well as current industry standards for offshore containers.

2.1 On the basis of the MSC Circular, it shall be ensured that offshore containers and portable offshore units are approved in accordance with generally recognized standards hereon.

Definitions

3 For the purposes of this annex, an “offshore container” shall mean a portable unit especially designed for repeated use in the transport of goods or equipment to, from or between fixed and/or floating offshore installations and ships. Such units include containers and portable tanks for dangerous goods, as defined in section 6 to the IMDG Code.

4 For the purposes of this annex, a “portable offshore unit” shall mean a structure, a portable container, a foundation or another platform the primary purpose of which is to serve as a service unit on board an offshore installation or ship. Such units are especially characterized by not having the transport of goods as their primary function, just as their special application does not make it possible for them to fully meet the requirements for offshore containers.

5 For the purposes of this annex, “the approving competent authority” shall mean the Danish Maritime Authority or the recognised organisations that the Danish Maritime Authority has authorised to approve offshore containers and portable offshore units.

Approval

6 The approving competent authority shall base its approval of offshore containers and portable offshore units both on calculations and on testing, taking into account the dynamic lifting and impact forces that may occur when handling in open seas.

7 Modifications and/or repairs of previously approved containers and portable offshore units leading to a replacement of the primary structure presuppose a new approval by the approving competent authorities.

Design

8 Offshore containers and portable offshore units shall be fitted with special pad eyes, suitable for the attachment of purpose-built straps or chains connected with shackles. Where ISO corner fittings are mounted in conjunction with pad eyes, these corner fittings are not intended for lifting offshore.

9 In order to facilitate handling in open seas, offshore containers and portable offshore units shall be fitted with lifting straps/chains beforehand. Such straps or chains shall be permanently attached to the container and portable offshore units and be considered to be part of the container or unit. The dynamic forces which occur when handling containers and portable offshore units in open seas will be higher than those encountered during normal quayside handling. This shall be taken into account when determining the requirements for straps and chains on offshore containers and portable offshore units by multiplying the normal safety factor for straps and chains by an additional factor. The fact that light containers and portable offshore units will be subject to relatively higher dynamic forces than heavier containers shall also be taken into account. Minimum material requirements for impact toughness shall be specified when high strength steel is used in, for example, chains, links and shackles.

10 Since offshore containers and portable offshore units are not always secured on supply vessels, such containers and portable offshore units shall be designed so as to withstand 30° tilting in any direction when fully loaded. Cargo may normally be assumed to be evenly distributed with the centre of gravity at the half height of the container and portable offshore unit, but on containers and portable offshore units for dedicated transport (e.g. special bottle rack containers for gas bottles in fixed positions) the actual centre of gravity shall be used. Where the design of portable offshore units makes compliance with these stability requirements difficult, the units shall be designed with appropriate securing points and be transported in accordance with special operative procedures ensuring that the maritime transport can be carried out safely.

11 Protruding parts on an offshore container and on a portable offshore unit that may catch on other containers, units or structures should be avoided. Doors and hatches shall be secured against opening during transport and lifting. Hinges and locking devices shall be protected against damage from impact loads.

12 Strength calculations shall include lifting with the attached lifting sling and any other applicable means of handling (e.g. lifting with fork lift trucks). Impact loads on the sides and bottom of containers and portable offshore units shall also be considered in these calculations and impact properties shall be included in the requirements for structural steel materials. Calculations, including static equivalency of point loads in combination with the tests as set out in item 14, shall normally be considered sufficient.

13 Containers and portable offshore units are sometimes temporarily used on floating or fixed offshore installations as storage space, laboratories, accommodation or control stations, etc. When used this way, the containers will also be subject to the regulations applicable for the offshore installation in addition to transport related requirements based on this annex.

Testing

14 At least one offshore container, respectively portable offshore unit, of each design type shall be subjected to the following tests:

14.1 4-point lifting test

Internal load: A uniformly distributed load such that the total mass of the container and test load is equal to $2.5R$, where R is the maximum allowable combined mass of the container/portable offshore unit and its cargo. The container/portable offshore unit shall be lifted with a lifting sling attached to each of its four pad eyes with an angle to the vertical equal to the design angle.

14.2 2-point lifting test

Internal load: A uniformly distributed load such that the total mass of the container/portable offshore unit and test load is equal to $1.5R$. A container/portable offshore unit fitted with four pad eyes shall be lifted from only two pad eyes situated diagonally opposite each other.

14.3 Vertical impact test

Internal load: A uniformly distributed load such that the total mass of the container/portable offshore unit and test load is equal to R . The container/portable offshore unit shall be suspended at an inclined angle with the lowest corner at least 50 mm above a rigid floor. The container/portable offshore unit shall then be quickly released so that it will have a speed of at least 1 m/s on initial impact.

14.4 Other tests

Other tests, designed to demonstrate the ability of a container type/portable offshore unit to withstand other handling or transport forces, such as those described in relevant standards or the CSC, may also be required by the approving competent authority. Where the design of portable offshore units makes compliance with the above test requirements difficult, the units shall be subject to alternative type tests and/or be subject to operational restrictions ensuring a similar safety level.

15 The tested offshore container/portable offshore unit shall suffer no permanent damage or deformation in any of the tests which would render it incapable of being used for its designed purpose.

16 In order to ensure that offshore containers/portable offshore units of the same design type are manufactured to the approved design, the approving competent authority shall examine and test as many units as it considers necessary.

17 Offshore containers/portable offshore units that have been designed, manufactured, tested and approved according to this annex shall be clearly marked on an approval plate in accordance with the appendix. The details shown in the appendix represent minimum requirements.

Inspection

18 Offshore containers and portable offshore units shall be inspected at least annually by the approving competent authority. The date of inspection and the mark of the inspector shall be marked on the container, preferably on a plate fitted for this purpose. The inspection plate may be combined with the approval plate (item 19) and any other official approval or data plates on a single base plate. It shall be noted that the inspection plates on offshore containers and portable offshore units commonly show the date of the last inspection unlike Safety Approval Plates on containers subject to the CSC which are marked with the date when the first periodic examination is due and in the case of containers covered by a periodic examination scheme (PES), with the date by which the next examination is due.

19 Inspection activities may also be carried out by organisations and persons authorised for this by the Danish Maritime Authority.

Standards and rules

20 The following or similar standards shall be used as the basis of the design, testing and approval of offshore containers:

- Det Norske Veritas (DNV): Certification Note 2.7-1, Offshore Containers;
- EN 12079: Offshore Containers Design, construction, testing, inspection and marking.

21 Portable offshore units shall, where possible, meet the same requirements for design, testing and approval as offshore containers. In areas where the special design and use of a portable offshore unit does not make full compliance with the standards for offshore containers possible, they shall instead comply with:

- Det Norske Veritas (DNV): Standard for Certification No. 2.7-3, "Portable Offshore Units2.

Appendix

Marking

Offshore container/portable offshore unit Data Plate

Name of manufacturer:

Month/year of manufacture:

Identification No.:

Maximum gross mass: Kg lb

Sling angle:

Tare mass: Kg lb

Payload: Kg lb

Approval No.:

Design temperature: