
**Offshore containers and associated
lifting sets —**

Part 1:
**Design, manufacture and marking of
offshore containers**

Containers offshore et dispositifs de levage associés —

Partie 1: Conception, fabrication et marquage des containers offshore



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Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	3
4 Symbols	5
5 Design	5
5.1 General.....	5
5.2 Structural strength.....	6
5.2.1 General.....	6
5.2.2 Lifting loads.....	7
5.2.3 Impact loads.....	8
5.2.4 Internal forces on container walls.....	9
5.2.5 Minimum material thickness.....	9
5.3 Welding.....	9
5.4 Additional design details.....	9
5.4.1 Floor.....	9
5.4.2 Doors and hatches.....	10
5.4.3 Intermediate cargo decks.....	10
5.4.4 Driving ramps.....	10
5.4.5 Internal lashing points.....	10
5.4.6 Fork lift pockets.....	10
5.4.7 Top protection.....	11
5.4.8 Pad eyes.....	11
5.4.9 ISO-corner fittings.....	12
5.4.10 Equipment.....	12
5.4.11 Coating and corrosion protection.....	12
5.5 Tank containers.....	13
5.5.1 General.....	13
5.5.2 Frame.....	13
5.5.3 Tanks for fluids.....	13
5.5.4 Impact protection on tank containers for dangerous cargoes.....	13
5.6 Containers for bulk solids.....	13
6 Materials	14
6.1 Steel — General.....	14
6.2 Rolled and extruded steels in offshore container structures.....	15
6.2.1 General requirements.....	15
6.2.2 Groups of steels.....	15
6.2.3 Stainless steel.....	15
6.2.4 Steel forgings.....	15
6.2.5 Steel castings in ISO-corner fittings.....	16
6.3 Aluminium.....	16
6.4 Non-metallic materials.....	17
6.5 Material documents.....	18
7 Type testing	18
7.1 General.....	18
7.2 Test equipment and calibration.....	19
7.2.1 Test mass/test load.....	19
7.2.2 Calibration.....	19
7.3 Lifting test.....	19
7.3.1 General.....	19
7.3.2 All-point lifting.....	19

	7.3.3	Two-point lifting.....	20
	7.3.4	Post-lifting test inspection and examination.....	20
	7.4	Vertical impact test.....	20
	7.5	Other tests.....	20
8		Production.....	21
	8.1	General.....	21
	8.2	Primary structure.....	21
		8.2.1 General.....	21
		8.2.2 Approved welders.....	21
		8.2.3 Examination of welds.....	21
	8.3	Secondary structure.....	23
	8.4	Production testing.....	23
		8.4.1 Lifting test.....	23
		8.4.2 Weather proofness testing.....	23
	8.5	Failure of production containers.....	24
9		Marking.....	24
	9.1	Safety marking.....	24
	9.2	Identification markings.....	24
	9.3	Information markings.....	24
	9.4	Other markings.....	25
10		Container data plate.....	25
	10.1	General.....	25
	10.2	Contents of data plate.....	25
11		Certificate of conformity.....	26
	11.1	General.....	26
	11.2	Documentation.....	26
	11.3	Contents of the certificate of conformity.....	27
		Annex A (informative) Regulations for offshore containers.....	28
		Bibliography.....	30

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

A list of all the parts of ISO 10855 can be found on the ISO website.

Introduction

ISO 10855 (all parts) meets the requirements of IMO MSC/Circ.860 (1998) for the design, construction, inspection, testing and in-service examination of offshore containers and associated lifting sets which are handled in open seas.

This document does not specify certification requirements for offshore containers which are covered by the IMO Circular 860 and SOLAS. IMO MSC/Circ.860 requires certification of offshore containers “by national administrations or organizations duly authorized by the Administration”, which should take account of both the calculations and the testing, “taking into account the dynamic lifting and impact forces that can occur when handling such equipment in open seas”. The certificate of conformity described in [Clause 11](#) complies with IMO MSC/Circ.860. Further information about certification can be found in informative [Annex A](#) of this document.

ISO 10855 (all parts) does not cover operational use or maintenance, for which there are a number of industry guidelines which can be referred to. Some are listed in the Bibliography.

Under conditions in which offshore containers are often transported and handled, the 'normal' rate of wear and tear is high, and damage necessitating repair will occur. However, containers designed, manufactured and periodically inspected according to ISO 10855 (all parts) should have sufficient strength to withstand the normal forces encountered in offshore operations, and not suffer complete failure even if subject to more extreme loads.

Offshore containers and associated lifting sets —

Part 1:

Design, manufacture and marking of offshore containers

1 Scope

This document specifies requirements for the design, manufacture and marking of offshore containers with a maximum gross mass not exceeding 25 000 kg, intended for repeated use to, from and between offshore installations and ships.

This document specifies only transport-related requirements.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 209, *Aluminium and aluminium alloys — Chemical composition*

ISO 668, *Series 1 freight containers — Classification, dimensions and ratings*

ISO 1161, *Series 1 freight containers — Corner and intermediate fittings — Specifications*

ISO 1496-1, *Series 1 freight containers — Specification and testing — Part 1: General cargo containers for general purposes*

ISO 1496-3, *Series 1 freight containers — Specification and testing — Part 3: Tank containers for liquids, gases and pressurized dry bulk*

ISO 1496-4, *Series 1 freight containers — Specification and testing — Part 4: Non-pressurized containers for dry bulk*

ISO 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

ISO 5817, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines - Verification and calibration of the force-measuring system*

ISO 9606-2, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 10042, *Welding — Arc-welded joints in aluminium and its alloys — Quality levels for imperfections*

ISO 10474, *Steel and steel products — Inspection documents*

ISO 10675-1, *Non-destructive testing of welds — Acceptance levels for radiographic testing — Part 1: Steel, nickel, titanium and their alloys*

ISO 10855-1:2018(E)

ISO 10675-2, *Non-destructive testing of welds — Acceptance levels for radiographic testing — Part 2: Aluminium and its alloys*

ISO 11666, *Non-destructive testing of welds — Ultrasonic testing — Acceptance levels*

ISO 15607, *Specification and qualification of welding procedures for metallic materials — General rules*

ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding*

ISO 15614-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys*

ISO 15614-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys*

ISO 17637, *Non-destructive testing of welds — Visual testing of fusion-welded joints*

ISO 17638, *Non-destructive testing of welds — Magnetic particle testing*

ISO 23277, *Non-destructive testing of welds — Penetrant testing — Acceptance levels*

ISO 23278, *Non-destructive testing of welds — Magnetic particle testing — Acceptance levels*

ISO 17636-1, *Non-destructive testing of welds — Radiographic testing — Part 1: X- and gamma-ray techniques with film*

ISO 17636-2, *Non-destructive testing of welds — Radiographic testing — Part 2: X- and gamma-ray techniques with digital detectors*

ISO 17640, *Non-destructive testing of welds — Ultrasonic testing — Techniques, testing levels, and assessment*

EN 287-1, *Qualification test of welders — Fusion welding — Part 1: Steels*

EN 10025-1, *Hot rolled products of structural steels — Part 1: General technical delivery conditions*

EN 10025-2, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10025-3, *Hot rolled products of structural steels — Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels*

EN 10025-4, *Hot rolled products of structural steels — Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels*

EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes*

EN 10164, *Steel products with improved deformation properties perpendicular to the surface of the product — Technical delivery conditions*

EN 10210-1, *Hot finished structural hollow sections of non-alloy and fine grain structural steels — Part 1: Technical delivery requirements*

EN 10219-1, *Cold formed welded structural hollow sections of non-alloy and fine grain steels — Part 1: Technical delivery requirements*

EN 10250-2, *Open die steel forgings for general engineering purposes — Part 2: Non-alloy quality and special steels*

EN 10250-3, *Open die steel forgings for general engineering purposes — Part 3: Alloy special steels*

ASME Boiler and Pressure Vessel Code, Section IX, *Welding and Brazing Qualifications*, 2015

AWS D1.1 *Structural Welding Code - Steel*

International Maritime Dangerous Goods Code (IMDG Code)

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Offshore containers

3.1.1

offshore container

portable unit for repeated use in the transport of goods or equipment handled in open seas to, from and between fixed and/or floating installations and ships

Note 1 to entry: For the purposes of this document the maximum gross mass of offshore containers shall not exceed 25 000 kg.

Note 2 to entry: The unit incorporates permanently installed equipment for lifting and handling and can include equipment for filling, emptying, cooling, heating, etc.

Note 3 to entry: Offshore containers are subdivided into three categories (see 3.1.2, 3.1.3 and 3.1.4).

3.1.2

offshore freight container

offshore container built for the transport of goods

EXAMPLE Examples of offshore freight containers are:

- general cargo container: closed container with doors;
- cargo basket: open top container for general or special cargo;
- tank container: container for the transport of dangerous or non-dangerous fluids (other types of tanks, e.g. processing plants, storage tanks, that are empty during transport, are considered to be service equipment, and are not covered by this document);
- bulk container: container for the transport of solids in bulk;
- special container: container for the transport of special cargo e.g. garbage containers, equipment;
- boxes, gas cylinder racks.

3.1.3

offshore service container

offshore container built and equipped for a special service task, usually as a temporary installation

EXAMPLE Laboratories, workshops, stores, power plants, control stations.

3.1.4

offshore waste skip

open or closed offshore container used for the storage and removal of waste

Note 1 to entry: These are normally constructed from flat steel plates forming the load bearing sections of the container, with bracing in the form of steel profiles e.g. channel or hollow section, being fitted horizontally and/or vertically around sides and ends. In addition to the pad eyes for the lifting set, these containers can have side-mounted lugs suitable for use with the lifting equipment mounted on a skip lift vehicle.