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Plavajoče kontejnerske enote in z njimi povezan dvizni pribor - 1. del: Plavajoče kontejnerske enote - Načrtovanje, izdelava in označevanje (ISO/DIS 10855-1:2015)

Offshore containers and associated lifting sets - Part 1: Offshore container - Design, manufacture and marking (ISO/DIS 10855-1:2015)

Offshore container - Teil 1: Auslegung, Herstellung und Kennzeichnung (ISO/DIS 10855-1:2015)

Containers offshore - Partie 1: Conception, fabrication et marquage (ISO/DIS 10855-1:2015)

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Offshore containers and associated lifting sets —

Part 1:

Offshore container - Design, manufacture and marking

*Containers offshore —**Partie 1: Conception, fabrication et marquage*

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 10855-1 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 7, *Offshore structures*.

This second/third/... edition cancels and replaces the first/second/... edition (), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

ISO 10855 consists of the following parts, under the general title *Offshore containers and associated lifting sets* — :

- *Part 1: Offshore container - Design, manufacture and marking*
- *Part 2: Lifting sets – Design, manufacture and marking*
- *Part 3: Periodic inspection, examination and testing*

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Introduction

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

This standard does not specify certification requirements for this equipment which is 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. Further information about certification can be found in informative Annex A of this standard.

This standard 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 and manufactured according to this standard will have sufficient strength to withstand the normal forces encountered in offshore operations, and not suffer complete failure even if subject to more extreme loads.

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Offshore containers and associated lifting sets — — Part 1: Offshore container - Design, manufacture and marking

1 Scope

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

This part of ISO 10855 specifies only transport related requirements.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

2.1 Material standards

EN 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test at ambient 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*

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*

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

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*

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

ISO 209, Aluminium and aluminium alloys -- Chemical composition

ISO 10474, Steel and steel products — Inspection documents

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

2.2 Standards for welders and welding

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

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

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

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

AWS D1.1 Structural Welding Code - Steel

2.3 Standards for inspection and NDE

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

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

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

ISO 23277 - Non-destructive testing of welds - Penetrant testing - Acceptance levels

ISO 17638 - Non-destructive testing of welds - Magnetic particle testing

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 11666 - Non-destructive testing of welds - Ultrasonic testing - Acceptance levels

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

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

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

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

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

2.4 Other standards and regulations

ISO 1161, *Series 1 freight containers — Corner fittings — Specification*

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 9001, *Quality management systems – Requirements*

International Maritime Dangerous Goods Code (IMDG Code)

3 Terms and definitions

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

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

Offshore containers are subdivided into 3 categories:

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 etc. that are empty during transport, are considered to be service equipment, and are not covered by this standard.)
- 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.

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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 to entry: Normally constructed from flat steel plate 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 may have side mounted lugs suitable for use with the lifting equipment mounted on a skip lift vehicle.

3.2

permanent equipment

equipment that is attached to the container and which is not cargo

Example Lifting sets, refrigeration units, shelves, securing points, garbage compactors.

3.3 Primary structure

3.3.1

primary structure

load carrying and supporting frames and load carrying panels

Primary structure is divided into two subgroups:

3.3.2

essential /non-redundant primary structure

structural elements which transfer the cargo load to the crane hook, forming the 'load path' from the payload to the lifting sling, and will include, at least:

- top and bottom side rails;
- top and bottom end rails;
- corner posts;
- pad eyes;
- fork pockets;

Note to entry: Other primary structure may also be considered as essential /non-redundant.

3.3.2

non-essential primary structure

structural elements whose main function is not essential and can be redundant.

Example Floor plates and protective frame members.

Note to entry: Side and roof panels, including corrugated panels, are not considered to be part of the primary structure.

3.4

secondary structure

parts which are not considered as load carrying for the purposes of the design calculations, including the following components: