
V delavnici izdelani jekleni rezervoarji - 4. del: Enoplaščni in dvoplaščni pokončni valjasti rezervoarji za nadzemno skladiščenje gorljivih in negorljivih tekočin, ki onesnažujejo vodo in ki se ne uporabljajo za ogrevanje in hlajenje stavb

Workshop fabricated steel tanks - Part 4: Vertical cylindrical single skin and double skin tanks for the aboveground storage of flammable and nonflammable water polluting liquids other than for heating and cooling of buildings

Werksgefertigte Tanks aus Stahl - Teil 4: Vertikale zylindrische Metalltanks mit ein- und doppelwandiger Hülle zur oberirdischen Lagerung von brennbaren und nicht brennbaren wassergefährdenden Flüssigkeiten, die nicht zum Heizen oder Kühlen von Gebäuden bestimmt sind

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Réservoirs en acier fabriqués en atelier - Réservoirs verticaux cylindriques à simple et double paroi pour le stockage aérien de liquides inflammables et non inflammables polluant l'eau, en dehors du chauffage et du refroidissement des bâtiments

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23.020.10	Nepremične posode in rezervoarji	Stationary containers and tanks

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EUROPEAN STANDARD

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This European Standard was approved by CEN on 20 November 2023.

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EN 12285-4:2025 (E)**European foreword**

This document (EN 12285-4:2025) has been prepared by Technical Committee CEN/TC 265 “Metallic tanks for the storage of liquids”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2026, and conflicting national standards shall be withdrawn at the latest by June 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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1 Scope

This document specifies the requirements for metallic shop fabricated cylindrical vertical steel tanks, single and double skin for the aboveground storage of water polluting liquids (both flammable and non-flammable) within the following limits:

- from Ø 1250 mm up to Ø 4 000 mm inner tank nominal diameter and,
- up to maximum overall length of 6 times the nominal inner tank diameter and
- tank possible to be divided from 1 to 5 compartments
- for liquids with maximum density of up to 1,9 kg/l and,
- with an operating pressure (P_0) of maximum 50kPa (0,5 bar (g)) and minimum – 5 kPa (- 50 mbar (g)) and,
- where double skin tanks with vacuum leak detection system are used, the cinematic viscosity of the stored media does not exceed $5 \times 10^{-3} \text{ m}^2/\text{s}$

This document is applicable for normal ambient temperature conditions (-40 °C to + 50 °C). Where temperatures are outside this range, additional requirements are taken into account.

This document is not applicable to tanks used for storage and/or supply of fuel/gas for building heating/cooling systems, and of hot or cold water not intended for human consumption, nor to loads and special measures necessary in areas subject to risk of earthquakes.

This document is not applicable for the storage of liquids having dangerous goods classes listed in Table 1 because of the special dangers involved.

Table 1 — List of dangerous goods which are not covered by this standard

UN-classification	Type of dangerous goods
Class 1	Explosives
Class 4.2	Substances liable to spontaneous combustion
Class 4.3	Substances which in contact with water emit flammable gases
Class 5.2	Organic peroxides
Class 6.2	Infectious substances
Class 7	Radioactive substances, hydrocyanic or hydrocyanic solvent liquids, metal carbons, hydrofluoric acid, bromide liquids

NOTE The classifications referred to are those adopted by the United Nations Committee of Experts on the Transport of Dangerous Goods (not to be interpreted as tank classes described in 6.2).

EN 12285-4:2025 (E)**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.

EN 10025-2:2004, *Hot rolled products of structural steels – Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10204:2004, *Metallic products - Types of inspection documents*

EN 12285-1:2018, *Workshop fabricated steel tanks - Part 1: Horizontal cylindrical single skin and double skin tanks for the underground storage of flammable and nonflammable water polluting liquids other than for heating and cooling of buildings*

EN 13160-1, *Leak detection systems - Part 1: General Principles*

EN 13160-2, *Leak detection systems - Part 2: Requirements and test/assessment methods for pressure and vacuum systems*

EN 13160-3, *Leak detection systems - Part 3: Requirements and test/assessment methods for liquid systems for tanks*

EN 13160-4, *Leak detection systems - Part 4: Requirements and test/assessment methods for sensor based leak detection systems*

EN 22768 (all parts), *General tolerances (ISO 2768 series)*

EN ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread (ISO 898-1:2013)*

EN 13616-1, *Overfill prevention devices for static tanks for liquid fuels - Part 1: Overfill prevention devices with closure device*

EN 13616-2, *Overfill prevention devices for static tanks for liquid fuels - Part 2: Overfill prevention devices without a closure device*

EN ISO 13920, *Welding - General tolerances for welded constructions - Dimensions for lengths and angles - Shape and position (ISO 13920)*

3 Terms, definitions, symbols, and abbreviations

3.1 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:

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

3.1.1

tank

workshop fabricated cylindrical containment for the storage of liquids

Note 1 to entry: Tanks are made of steel plates, equipped with dished ends and consist of one or more compartments.

3.1.2

aboveground tank

tank which is totally above ground installed

3.1.3

compartment

single fluid storage space within a tank

3.1.4

explosion pressure shockproof tank

tank which is designed to withstand an internal explosion without leakage

Note 1 to entry: Permanent deformations are permissible.

3.1.5

single skin tank

impermeable containment consisting of a self contained/ self supported tank of single containment

Note 1 to entry: A single skin tank also constitutes the inner skin of a double skin tank. See Figure 1 and Figure 2.

Note 2 to entry: See Figure 1, Tank type Double skin.