ICS 23.020.10 SLOVENSKÁ TECHNICKÁ NORMA Február 2026

STN	**Navrhovanie a výroba na mieste stavaných vertikálnych valcových nádrží s plochým dnom na skladovanie schladených skvapalnených plynov s prevádzkovými teplotami medzi 0 °C a -196 °C Časť 5: Skúšanie, sušenie, čistenie a ochladzovanie**	**STN EN 14620-5** 69 8118

Design and manufacture of site built, vertical, cylindrical, flat-bottomed tank systems for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and -196 °C - Part 5: Testing, drying, purging and cool-down

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/26

Obsahuje: EN 14620-5:2025

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD

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English Version

Design and manufacture of site built, vertical, cylindrical, flat-bottomed tank systems for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and -196 °C - Part 5: Testing, drying, purging and cool-down

Conception et fabrication de réservoirs cylindriques fond plat, verticaux, construits sur site, destinés au stockage des gaz réfrigérés, liquéfiés, dont les températures de service sont comprises entre 0 °C et -196 °C - Partie 5 : Essais, séchage, inertage et mise en froid

Auslegung und Herstellung standortgefertigter, stehender, zylindrischer Flachboden-Tanksysteme für die Lagerung von tiefkalt verflüssigten Gasen bei Betriebstemperaturen zwischen 0 °C und -196 °C - Teil 5: Prüfen, Trocknen, Inertisieren und Kaltfahren

This European Standard was approved by CEN on 27 July 2025.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 14620-5:2025) 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 April 2026, and conflicting national standards shall be withdrawn at the latest by April 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.

This document supersedes EN 14620-5:2006.

EN 14620-5:2025 includes the following significant technical changes with respect to EN 14620-5:2006:

— Table 1 ‘Hydrostatic test requirements’ updated and adjusted to relate to product temperature;

— product temperature range extended to −196°C to include LIN, LOX and LAR;

— permitted use of small temporary safety opening in primary steel liquid container after hydrostatic test added;

— requirements for inspection of concrete surfaces during pressure test added;

— negative pressure test details clarified;

— negative pressure test requirements for double-wall double-roof tanks clarified;

— purging of bottom insulation space clarified;

— decommissioning guidance improved;

— new informative annex for global test for membrane tanks added;

— new informative annex for guidance for duties and responsibilities between parties added;

— new normative annex for NDE of steel containers supplementary to EN 14620-Part 2:2006.

A list of all parts in the EN 14620 series, “*Design and manufacture of site built, vertical, cylindrical, flat-bottomed tank systems for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and −196 °C*”, can be found on the CEN website.

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.

1 Scope

This document is applicable to the design and manufacture of site built, vertical, cylindrical, flat-bottomed tank systems for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and –196°C. It specifies the requirements for testing, drying, purging, cool-down and decommissioning of refrigerated liquefied gas storage tank systems.

The tank systems covered by this document are used to store large volumes of hydrocarbon products, ammonia and other non-hydrocarbon gases with low temperature boiling points, generally called “Refrigerated Liquefied Gases” (RLGs). Typical products stored in the tank systems are: methane, ethane, propane, butane, ethylene, propylene, butadiene (this range includes Liquefied Natural Gas (LNG) and Liquefied Petroleum Gas (LPG), ammonia, nitrogen, oxygen and argon.

NOTE Properties of the gases are given in Annex A EN 14620-1:2024.

This document provides requirements and specifies measures to be taken following completion of major tank construction activities and before the tank is brought in to service. It provides requirements for full-height and partial height hydrostatic testing to check the structural integrity of tanks and the capacity of the foundations. Settlement monitoring of the foundations at this stage form the starting point of an annual settlement monitoring programme for the tank foundation. Recommendations are given for marker systems for such monitoring. Requirements for water quality of both fresh water and seawater used during hydrotest, are provided to avoid the risk of corrosion of tanks and appurtenances.

Guidance and requirements for positive and negative pneumatic tests to further check tank structural integrity, leak tightness of welds and the function of pressure and vacuum relief valve systems are also given. Requirements specific to testing of double-wall and membrane type tanks is included.

Rules and procedures for commissioning activities, including drying and purging with inert and product gas are provided, including required oxygen concentrations for various RLG’s. The document also provides guidance for cool-down procedures and suggestions for temperature monitoring, including an informative Annex A.

For major maintenance inspection or at the end of the life of the tank, decommissioning will be required. Guidance on safe decommissioning processes is provided.

Suggested procedures for Global testing for membrane tanks are provided in informative Annex B

This document is applicable to the design and manufacture of site built, vertical, cylindrical, flat-bottomed tank systems for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and –196°C.

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 14620-1:2024, *Design and manufacture of site built, vertical, cylindrical, flat-bottomed tank systems for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and -196 °C - Part 1: General*

EN 14620-2:2006, *Design and manufacture of site built, vertical, cylindrical, flat-bottomed steel tanks for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and -165 °C - Part 2: Metallic components*