

**Design and manufacture of site built,
vertical, cylindrical, flatbottomed steel
tanks for the storage of refrigerated,
liquefied gases with operating
temperatures between -5°C and -165°C -
Part 5: Testing, drying, purging and
cool-down**

Design and manufacture of site built, vertical,
cylindrical, flatbottomed steel tanks for the storage of
refrigerated, liquefied gases with operating
temperatures between -5°C and -165°C - Part 5:
Testing, drying, purging and cool-down

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14620-5:2006 sisaldab Euroopa standardi EN 14620-5:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 27.10.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 14620-5:2006 consists of the English text of the European standard EN 14620-5:2006. This document is endorsed on 27.10.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
--	---

Käsitlusala: This European Standard specifies the requirements for testing, drying, purging and cool-down of the refrigerated liquefied gas storage tanks. This European Standards deals with the design and manufacture of site built, vertical, cylindrical, flatbottomed steel tanks for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and –165 °C.	Scope: This European Standard specifies the requirements for testing, drying, purging and cool-down of the refrigerated liquefied gas storage tanks. This European Standards deals with the design and manufacture of site built, vertical, cylindrical, flatbottomed steel tanks for the storage of refrigerated, liquefied gases with operating temperatures between 0 °C and –165 °C.
---	---

ICS 23.020.10

Võtmesõnad:

English Version

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 5: Testing, drying, purging and cool-down

Conception et fabrication de réservoirs en acier à fond plat, verticaux, cylindriques, construits sur site, destinés au stockage des gaz réfrigérés, liquéfiés, dont les températures de service sont comprises entre 0 °C et -165 °C - Partie 5: Essais, séchage, inertage et mise en froid

Auslegung und Herstellung standortgefertigter, stehender, zylindrischer Flachboden-Stahltanks für die Lagerung von tiefkalt verflüssigten Gasen bei Betriebstemperaturen zwischen 0 °C und -165 °C - Teil 5: Prüfen, Trocknen, Inertisieren und Kalfahren

This European Standard was approved by CEN on 20 February 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Hydrostatic and pneumatic testing	4
4.1 Hydrostatic test	4
Table 1 — Hydrostatic test requirements	5
4.2 Pneumatic test	8
5 Drying, purging and cool-down	9
5.1 Procedures	9
5.2 Drying	10
5.3 Purging	10
5.4 Cool-down	10
6 Decommissioning	10
Annex A (informative) Cool-down of the tank	12
Bibliography	13

Foreword

This European Standard (EN 14620-5:2006) has been prepared by Technical Committee CEN/TC 265 "Site built 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 March 2007, and conflicting national standards shall be withdrawn at the latest by March 2007.

EN 14620 *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* consists of the following parts:

- Part 1: General;
- Part 2: Metallic components;
- Part 3: Concrete components;
- Part 4: Insulation components;
- Part 5: Testing, drying, purging and cool-down.

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

1 Scope

This European Standard specifies the requirements for testing, drying, purging and cool-down of the refrigerated liquefied gas storage tanks.

This European Standards deals with the 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.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14620-1:2006, *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 1: General*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 14620-1:2006 apply.

4 Hydrostatic and pneumatic testing

4.1 Hydrostatic test

4.1.1 General

A hydrostatic test shall be carried out. The hydrostatic test shall demonstrate that:

- tank is designed and constructed to contain the product (no leakage);

NOTE A leakage test is not applicable for membrane tanks. Instead an 'ammonia test' is carried out on the membrane after completion of welding. An ammonia sensitive paint is applied on the weld seam on the inside of the tank. Ammonia vapour is introduced in the insulation space and in case of a leak the ammonia will react with the paint resulting in a change of colour from yellow to blue. In order to calibrate the test, reference holes are made in the membrane so that proper performance of the inspection method is ensured. After closing of all leaks, another test is carried out. The paint on the inside of the tank is removed by 'vacuum cleaning'. For reference, the NF A 09-107 note.

- foundation is able to support the tank contents.

4.1.2 Test requirements for each type of tank

For the various tank types, the hydrostatic test shall be carried out in accordance with Table 1.

The contractor shall prepare a specification with all the actions to be taken. The test results shall be documented.