

<b>STN</b>	<b>Nevyhrievané tlakové nádoby. Časť 6: Požiadavky na navrhovanie a výrobu tlakových nádob a častí nádob zhotovených z tvárnej liatiny s guľôčkovým grafitom. Zmena A1</b>	<b>STN EN 13445-6/A1</b>
		69 0010

Unfired pressure vessels. Part 6: Requirements for the design and fabrication of pressure vessels and pressure parts constructed from spheroidal graphite cast iron

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. 02/16

Obsahuje: EN 13445-6:2014/A1:2015

**122406**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2016

Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

**EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM**

**EN 13445-6:2014/A1**

October 2015

ICS 23.020.30

English Version

**Unfired pressure vessels - Part 6: Requirements for the design and fabrication of pressure vessels and pressure parts constructed from spheroidal graphite cast iron**

Récepteurs sous pression non soumis à la flamme -  
Partie 6: Exigences pour la conception et la fabrication  
des récepteurs sous pression et des parties sous  
pression moulés en fonte à graphite sphéroïdal

Unbefeuerte Druckbehälter - Teil 6: Anforderungen an  
die Konstruktion und Herstellung von Druckbehältern  
und Druckbehälterteilen aus Gusseisen mit  
Kugelgraphit

This amendment A1 modifies the European Standard EN 13445-6:2014; it was approved by CEN on 22 August 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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.

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



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

	Page
<b>European foreword.....</b>	<b>3</b>
<b>1 Modification to Clause 1 Scope.....</b>	<b>4</b>
<b>2 Modifications to Clause 2 Normative references.....</b>	<b>4</b>
<b>3 Modification to 3.3 Symbols .....</b>	<b>5</b>
<b>4 Modifications to 5.1 Materials .....</b>	<b>5</b>
<b>5 Modification to 5.2.2.1.1 Principle.....</b>	<b>6</b>
<b>6 Modification to 5.2.2.1.3 to 5.2.2.1.6 .....</b>	<b>6</b>
<b>7 Modifications to 5.2.2.1.2.3 Design by experiment (DBE) .....</b>	<b>6</b>
<b>8 Modification to 5.2.2.1.2.4 Determination of the hydraulic burst pressure and maximum allowable pressure for static loading .....</b>	<b>7</b>
<b>9 Modification to 5.2.2.1.7 Dynamic loading.....</b>	<b>8</b>
<b>10 Modification to 5.2.2.1.8 to 5.2.2.1.10.....</b>	<b>8</b>
<b>11 Modification to 5.2.2.1.3.2 Simplified fatigue assessment (SFA) .....</b>	<b>8</b>
<b>12 Modification to 5.3.2 Welding.....</b>	<b>8</b>
<b>13 Modification to 7.1.3 Testing requirements for <math>C_Q = 0,9</math> .....</b>	<b>8</b>
<b>14 Modification to 7.1.7 Magnetic particle testing (only for ferritic grades) .....</b>	<b>9</b>
<b>15 Modification to 7.1.8 Penetrant testing.....</b>	<b>9</b>
<b>16 Modification to 7.2.2 Hydraulic test pressure .....</b>	<b>9</b>
<b>17 Modification to A.2.1 Ferritic spheroidal graphite cast iron according to EN 1563:1997 .....</b>	<b>10</b>
<b>18 Modification to A.2.2 Austenitic spheroidal graphite cast iron according to EN 13835:2002.....</b>	<b>10</b>
<b>19 Modifications to D.5 General.....</b>	<b>10</b>
<b>20 Modifications to D.6.3 Fatigue design curves.....</b>	<b>11</b>
<b>21 Modifications to D.7.3 Fatigue design curves.....</b>	<b>12</b>
<b>22 Modification to G.1 Scope .....</b>	<b>13</b>
<b>23 Modification to H.1 Purpose.....</b>	<b>13</b>
<b>24 Modification to H.3 Tests requirements .....</b>	<b>14</b>
<b>25 Modification to H.3.2 Number of parts .....</b>	<b>14</b>
<b>26 Modification to Annex Y History of EN 13445-6.....</b>	<b>14</b>
<b>27 Modification to Annex ZA .....</b>	<b>15</b>
<b>28 Modification to the Bibliography.....</b>	<b>16</b>

## **European foreword**

This document (EN 13445-6:2014/A1:2015) has been prepared by Technical Committee CEN/TC 54 "Unfired pressure vessels", the secretariat of which is held by BSI.

This amendment to EN 13445-6:2014 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 97/23/EU.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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

## 1 Modification to Clause 1 Scope

*Replace the existing Scope with the following:*

"This European Standard specifies requirements for the design, materials, manufacturing and testing of pressure vessels and pressure vessel parts intended for use with a maximum allowable pressure, PS, equal or less than:

- 100 bar when containing gases or liquids in group 1 or 2
- 1000 bar when containing liquids in group 2 only.

and shell wall thicknesses not exceeding 60 mm, which are constructed of ferritic or austenitic spheroidal graphite cast iron. The thickness limitation of the shell does not apply to thickness of flanges, reinforcements, bosses etc.

NOTE 1 Austenitic spheroidal graphite cast iron grades are principally used for high and low temperature applications and for their corrosion resistance properties.

NOTE 2 The allowable grades of spheroidal graphite cast iron are listed in Tables 3 and 4. Service conditions are given in Clause 4.

This European standard, EN 13445-6, does not include lamellar graphite cast iron grades for ferritic and austenitic grades with, with an elongation after fracture equal or less than 15 % which are explicitly excluded. Requirements for the use of cast irons with an elongation after fracture equal or less than 15 % are given in EN 15776."

## 2 Modifications to Clause 2 Normative references

*Insert the following additional standard references:*

"EN 287-6:2010, Qualification test of welders — Fusion Welding — Part 6: Cast iron

EN 1011-8:2004, Welding — Recommendations for welding of metallic materials — Part 8: Welding of cast irons

EN ISO 15614-3:2008, Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 3: Fusion welding of non-alloyed and low-alloyed cast irons (ISO 15614-3:2008)".

*Modify the edition of the following standard references:*

"EN 1563:2011, Founding — Spheroidal graphite cast irons

EN 13835:2012, Founding — Austenitic cast irons".

**koniec náhľadu – text d'alej pokračuje v platenej verzii STN**