



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 877:1999/A1:2006

Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings - Requirements, test methods and quality assurance

Rohre und Formstücke aus Gusseisen,
deren Verbindungen und Zubehör zur
Entwässerung von Gebäuden -
Anforderungen, Prüfverfahren und

Tuyaux et raccords en fonte, leurs
assemblages et accessoires destinés à
l'évacuation des eaux des bâtiments -
Prescriptions, méthodes d'essai et

10/2006

National Foreword

This European Standard EN 877:1999/A1:2006 was adopted as Luxembourgish Standard ILNAS-EN 877:1999/A1:2006.

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ILNAS-EN 877:1999/A1:2006

EUROPEAN STANDARD **EN 877:1999/A1**
NORME EUROPÉENNE
EUROPÄISCHE NORM

October 2006

ICS 23.040.10; 23.040.40

English Version

**Cast iron pipes and fittings, their joints and accessories for the
evacuation of water from buildings - Requirements, test methods
and quality assurance**

Tuyaux et raccords en fonte, leurs assemblages et
accessoires destinés à l'évacuation des eaux des
bâtiments - Prescriptions, méthodes d'essai et assurance
qualité

Rohre und Formstücke aus Gusseisen, deren
Verbindungen und Zubehör zur Entwässerung von
Gebäuden - Anforderungen, Prüfverfahren und
Qualitätssicherung

This amendment A1 modifies the European Standard EN 877:1999; it was approved by CEN on 24 August 2006.

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 Central Secretariat 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 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.



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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 877:1999/A1:2006) has been prepared by Technical Committee CEN/TC 203 “Cast iron pipes, fittings and their joints”, the secretariat of which is held by AFNOR.

This Amendment to the European Standard EN 877:1999 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2007, and conflicting national standards shall be withdrawn at the latest by July 2008.

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(s).

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

Annex ZA includes the requirements of the Mandate given under the EU Construction Products Directive (89/106). Only if the requirements specified in Annex ZA are met, the CE marking will be affected.

Where evaluation of conformity is required for regulatory purposes Annex D applies.

For reasons of conformity with the rules for ENs and Mandate M/131 “Pipes, tanks and ancillaries not in contact with water intended for human consumption”, EN 877:1999 has been amended by extension with the Annex ZA (see Resolution CEN/BT 113/1994 and CEN/BT 63/1996) and a modification of the Annex D for the evaluation of conformity. This amendment is described in the following pages.

In addition, the amendment of the following parts of EN 877:1999 became necessary.

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.

2 Normative references

Delete

EN ISO 9001

EN ISO 9002

ISO 4633

Add

EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN ISO 1716, *Reaction to fire tests for building products — Determination of the heat of combustion (ISO 1716:2002)*

EN ISO 9001:2000, *Quality management systems — Requirements (ISO 9001:2000)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2:2002)*

3.11 Re-title Initial type test

All references in the standard to type testing shall read 'initial type testing'

4.1.3 Delete completely

Replace with

4.1.3 Reaction to fire

Uncoated cast iron pipes and fittings, their joints and accessories are Class A1 CWFT according to CEC Decision 96/603/EC as amended.

Considering the products in their end-use conditions (assembled into a discharge system), internal coatings are not relevant as they are not exposed to fire (a very low quantity of smoke is possible but it will go outside buildings through stack vents). Gaskets of joints are not relevant either as in the end-use conditions they are not exposed to fire and represent a very low quantity of organic material.

According to EN 13501-1, as the gross calorific potential (PCS) of the products in their assembled state (pipes, fittings, joints, their components and materials), due to their densities and weight quantities, will always satisfy the requirement on PCS for the product as a whole ($\leq 3,0$ MJ/kg), the reaction to fire classification shall be obtained as follows:

- external coatings, if containing more than 1 % by weight or volume (whichever is the more onerous) of homogeneously distributed organic material, shall satisfy the requirements of 4.6.3 on ignitability or gross calorific potential, depending on the intended class of reaction to fire

and

- assembled products (including coated pipes, coated fittings and couplings), shall be tested according to EN 13823 (SBI), using the mounting adaptations given in Annex H, and shall satisfy the requirements of classification criteria and additional classifications listed in EN 13501-1 for the intended class of reaction to fire.

NOTE See F.2.

4.1.4 Noise protection

Delete existing paragraphs

Replace with

For installed networks, there may be national installation regulations concerning noise protection, and manufacturers could provide information about solutions for requirements (see also Annex F).

NOTE 1 For installed networks, there can be national installation regulations concerning noise protection, and manufacturers could provide information about solutions for requirements (see also Annex F).

NOTE 2 Noise protection is not mandated under CPD. There are no national regulations concerning noise in direct relation to the product.

Add

4.1.5 Dangerous substances (regulated substances)

The materials which the products are made from shall not release dangerous substances (regulated substances) in excess of the maximum permitted levels specified by a relevant European Standard for the materials or permitted by national regulations in the territory of destination.

4.2.2 External diameter (DE)

Omit NOTE 2 of Table 1 and renumber NOTE 3 as NOTE 2.

4.6.3 External coatings

Delete

- flame resistance: not easily flammable if subjected to an external flame.

Replace with

For a classification of the products assembled as a discharge system within classes E to B (see EN 13501-1, table on “classes on reaction to fire on performance for construction products excluding floorings”), each coating shall conform to the following requirements when tested in accordance with 5.7.3.3:

- Ignitability: requirements of classification criteria and additional classifications listed in EN 13501-1 specific to the class.

For an A2 classification of the products assembled as a discharge system (see EN 13501-1, table on “classes on reaction to fire on performance for construction products excluding floorings”), the gross calorific potential of the external coatings, noted PCS_{system ext. coating}, shall conform to the requirements of EN 13501-1 on external components when tested and calculated in accordance with 5.7.3.3:

- gross calorific potential of external coatings, PCS_{system ext. coating}:

- if external coatings are substantial components, $PCS_{\text{system ext. coating}} \leq 3 \text{ MJ/kg}$;
- if external coatings are non-substantial components, $PCS_{\text{system ext. coating}} \leq 4 \text{ MJ/m}^2$.

4.7.3.1

Substitute grades “X8CrTi17 and X8CrNb17” by grades “X3CrTi17 and X3CrNb17”.

4.7.3.3

Delete

- Conform to ISO 4633

Replace with

- Conform to EN 681-1

4.10.1 General

Delete

Pipes, fittings and accessories as well as the couplings or clamping components and the gaskets shall be legibly and indelibly marked and shall bear at least the following information:

Replace with

If the manufacturer declares conformity of his products with this European Standard, pipes, fittings and accessories as well as the couplings or clamping components and the gaskets shall be legibly and indelibly marked and shall bear at least the following information:

Add the following NOTE at the end:

NOTE See Annex ZA for regulatory marking. Where Annex ZA.3 requires the marking to be accompanied by the same information as required by this clause, the requirements of this clause are met.

5.6 After the sentence:

The ring crush strength shall be calculated by the following formula:

Add the formula:

$$\sigma = \frac{3F(DE - e)}{\pi l e^2}$$

5.7.3.3 Delete existing wording

Replace with

5.7.3.3 Reaction to fire – external coatings

- Ignitability:

This property shall be tested in accordance with EN ISO 11925-2.