ICS 77.140.75, 91.140.60 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2023

STN	**Náklady na životný cyklus (LCC) a hodnotenie životného cyklu (LCA) pre emisie CO_2 v potrubných systémoch z tvárnej liatiny**	**STN EN 17800** 13 8104

Life cycle cost (LCC) and life cycle assessment (LCA) for CO_2 emissions in ductile iron pipe systems

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. 03/23

Obsahuje: EN 17800:2022

136595

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 17800

December 2022

ICS 77.140.75; 91.140.60

English Version

Life cycle cost (LCC) and life cycle assessment (LCA) for CO_2 emissions in ductile iron pipe systems

Coût du cycle de vie (CCV) et analyse du cycle de vie (ACV) pour les émissions de CO_2 dans les systèmes de canalisations en fonte ductile

Lebenszykluskosten (LCC) und Lebenszyklusanalyse (LCA) der CO_2-Emissionen von Rohrsystemen für Rohrsysteme aus duktilem Eisen

This European Standard was approved by CEN on 28 November 2022.

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.

CEN members are the national standards bodies of 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 United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 17800:2022 E

Contents

Page

European foreword

This document (EN 17800:2022) 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 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 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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.

Introduction

Studies on economic and environmental impacts are important for utility decision-makers as they seek to balance budget concerns over immediate and long-term needs across acquisition, operations, and maintenance, and planned end of life. For authorities and engineers designing pipeline systems, the life cycle cost (LCC) and live cycle assessment (LCA) serve as a tool to study various scenarios to determine the right solution for site-specific conditions and community values, as well as to provide the necessary data to support those decisions. Impacts on the circular economy should be taken into consideration too.

The intention of this document, dedicated to ductile iron pipe systems, is to define objective methodologies for LCC and LCA- carbon footprint, respectively, in order to support customers and users to optimize ductile iron pipe solutions with global cost evaluation, safety requirements and environmental criteria.

1 Scope

This document specifies the evaluation method of life cycle cost (LCC) and Life cycle assessment (LCA) of ductile iron pipes and fittings used for water applications and which are in compliance with EN 545.

LCC evaluation is based on concepts and methods developed in ISO 15686-5.

LCA evaluation is based on concepts and methods developed in ISO 15686-6, EN 15804:2012+A2:2019, EN ISO 14040 and EN ISO 14044.

In this document, LCA is limited to the evaluation of environmental impact due to CO_2 emissions associated with the consumption of natural resources or energy and waste disposal. The other categories of impacts are not in the scope of this document.

Informative annexes are included in this document as a compilation of references, consensual factors, and scenarios with different DI pipelines.

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 545:2010, *Ductile iron pipes, fittings, accessories and their joints for water pipelines — Requirements and test methods*

EN ISO 14044:2006[1], *Environmental management — Life cycle assessment — Requirements and guidelines (ISO 14044:2006)*

[1] As impacted by EN ISO 14044:2006/A1:2018 and EN ISO 14044:2006/A2:2020.