BS EN 1090-3:2019

BSI Standards Publication

Execution of steel structures and aluminium structures

Part 3: Technical requirements for aluminium structures

National foreword

This British Standard is the UK implementation of EN 1090-3:2019. It supersedes BS EN 1090-3:2008, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/525/9, Structural use of aluminium.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2019

ISBN 978 0 580 95871 7

ICS 91.080.13; 77.150.10; 91.080.17

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2019.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1090-3

April 2019

ICS 91.080.17

Supersedes EN 1090-3:2008

English Version

Execution of steel structures and aluminium structures - Part 3: Technical requirements for aluminium structures

Exécution des structures en acier et des structures en aluminium - Partie 3: Exigences techniques pour l'exécution des structures en aluminium

Ausführung von Stahltragwerken und Aluminiumtragwerken - Teil 3: Technische Anforderungen an Aluminiumtragwerke

This European Standard was approved by CEN on 6 January 2019.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, 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: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 1090-3:2019 E

Contents

Page

European foreword

This document (EN 1090-3:2019) has been prepared by Technical Committee CEN/TC 135 “Execution of steel structures and aluminium structures”, the secretariat of which is held by SN.

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 October 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

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 1090-3:2008.

The main changes with respect to the previous edition are contained in the following clauses: Clause 1, Clause 2, Clause 3, 4.1.1, 4.1.2, Table 1, Table 5, 5.6.2, 6.1, 7.3, 7.4.1, 7.4.3, 7.4.4, 7.5.1, 7.5.9, 7.5.10, 7.5.11, 7.5.12, 7.5.13, 7.6, 8.3.1, 11.2.3.1, 12.4.2.1, 12.4.2.2, 12.4.3.2, 12.4.4.3, 12.4.5 and 12.7. Annex E has been deleted and the annexes correspondingly renumbered. The main changes in the annexes are contained in the following sub-clauses: E.2.2, Table F.3, I.1, Table I.1, Table I.2, Table K.1, Table K.2 and K.4. Annex N is a new annex. The Bibliography has been revised. In addition to the major changes in the clauses listed above, some editorial changes have been made.

This document is part of the EN 1090 series, which comprises the following parts:

— EN 1090-1, *Execution of steel structures and aluminium structures - Part 1: Requirements for conformity assessment of structural components*

— EN 1090-2, *Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures*

— EN 1090-3, *Execution of steel structures and aluminium structures - Part 3: Technical requirements for aluminium structures*

— EN 1090-4, *Execution of steel structures and aluminium structures - Part 4: Technical requirements for cold-formed structural steel elements and cold-formed structures for roof, ceiling, floor and wall applications*

— EN 1090-5, *Execution of steel structures and aluminium structures - Part 5: Technical requirements for cold-formed structural aluminium elements and cold-formed structures for roof, ceiling, floor and wall applications*

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard specifies requirements for the execution of aluminium structures, in order to ensure adequate levels of mechanical resistance and stability, serviceability and durability.

This document specifies requirements for the execution of aluminium structures, in particular those that are designed according to EN 1999-1-1, EN 1999-1-2, EN 1999-1-3, EN 1999-1-4 and EN 1999-1-5.

This document presupposes that the work is carried out with the necessary skill and adequate equipment and resources to perform the work in accordance with the execution specification and the requirements of this document.

1 Scope

This document specifies requirements for the execution of aluminium structural components and structures made from:

a) rolled sheet, strip and plate;

b) extrusions;

c) cold drawn rod, bar and tube;

d) forgings;

e) castings.

NOTE 1 The execution of structural components is referred to as manufacturing, in accordance with EN 1090-1.

This document specifies requirements independent of the type and shape of the aluminium structure, and this document is applicable to structures under predominantly static loads as well as structures subject to fatigue. It specifies requirements related to the execution classes that are linked with consequence classes.

NOTE 2 Consequence classes are defined in EN 1990.

NOTE 3 Recommendations for selection of execution class in relation to consequence class are given in EN 1999-1-1.

This document covers components made of constituent products with thickness not less than 0,6 mm for welded components not less than 1,5 mm.

For components made from cold formed profiled sheeting that are within the scope of EN 1090-5, the requirements of EN 1090-5 take precedence over corresponding requirements in this document.

This document applies to structures designed according to the relevant parts of EN 1999. If this document is used for structures designed according to other design rules or used for other alloys and tempers not covered by EN 1999, a judgement of the reliability elements in these design rules is intended to be made.

This document specifies requirements for surface preparation prior to application of a protective treatment, and gives guidelines for application for such treatment in an informative annex.

This document gives options for specifying requirements to match project specific requirements.

This document is also applicable to temporary aluminium structures.

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 485-1, *Aluminium and aluminium alloys - Sheet, strip and plate - Part 1: Technical conditions for inspection and delivery*

EN 485-3, *Aluminium and aluminium alloys - Sheet, strip and plate - Part 3: Tolerances on dimensions and form for hot-rolled products*