

## საქართველოს სტანდარტი

ფოლადის და ალუმინის სტრუქტურების დამზადება - ნაწილი 1: მოთხოვნები  
სტრუქტურული კომპონენტების შესაბამისობის შეფასების მიმართ

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

სსტ ენ 1090-1:2009+A1:2011/2018

### საინფორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2018 წლის 17 აგვისტოს № 85 განკარგულებით

3 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 1090-1:2009+A1:2011 „ ფოლადის და ალუმინის სტრუქტურების დამზადება - ნაწილი 1: მოთხოვნები სტრუქტურული კომპონენტების შესაბამისობის შეფასების მიმართ“

### 4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2018 წლის 17 აგვისტო №268-1.3-013903

აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით გავრცელება

English Version

Execution of steel structures and aluminium structures - Part 1:  
Requirements for conformity assessment of structural  
components

Exécution des structures en acier et des structures en  
aluminium - Partie 1: Exigences pour l'évaluation de la  
conformité des éléments structuraux

Ausführung von Stahltragwerken und Aluminiumtragwerken  
- Teil 1: Konformitätsnachweisverfahren für tragende  
Bauteile

This European Standard was approved by CEN on 15 June 2008 and includes Corrigendum 1 issued by CEN on 17 November 2010 and Amendment 1 approved by CEN on 3 October 2011.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

## Contents

Page

|                                                                      |    |
|----------------------------------------------------------------------|----|
| Foreword.....                                                        | 4  |
| Introduction .....                                                   | 5  |
| 1 Scope .....                                                        | 6  |
| 2 Normative references .....                                         | 6  |
| 3 Terms, definitions and abbreviations .....                         | 7  |
| 3.1 Terms and definitions .....                                      | 7  |
| 3.2 Abbreviations .....                                              | 8  |
| 4 Requirements .....                                                 | 9  |
| 4.1 Constituent products .....                                       | 9  |
| 4.1.1 General.....                                                   | 9  |
| 4.1.2 Constituent products for steel components.....                 | 9  |
| 4.1.3 Constituent products for aluminium components .....            | 9  |
| 4.2 Tolerances on dimensions and shape .....                         | 9  |
| 4.3 Weldability .....                                                | 9  |
| 4.4 Fracture toughness .....                                         | 10 |
| 4.5 Structural characteristics .....                                 | 10 |
| 4.5.1 General.....                                                   | 10 |
| 4.5.2 Load bearing capacity .....                                    | 10 |
| 4.5.3 Fatigue strength.....                                          | 10 |
| 4.5.4 Resistance to fire .....                                       | 10 |
| 4.5.5 Deformation at serviceability limit state.....                 | 11 |
| 4.6 Reaction to fire.....                                            | 11 |
| 4.7 Dangerous substances .....                                       | 11 |
| 4.8 Impact resistance.....                                           | 11 |
| 4.9 Durability .....                                                 | 11 |
| 5 Evaluation methods.....                                            | 12 |
| 5.1 General.....                                                     | 12 |
| 5.2 Constituent products .....                                       | 12 |
| 5.3 Tolerances on dimensions and shape .....                         | 12 |
| 5.4 Weldability .....                                                | 12 |
| 5.5 Fracture toughness .....                                         | 12 |
| 5.6 Structural characteristics .....                                 | 13 |
| 5.6.1 General.....                                                   | 13 |
| 5.6.2 Structural design .....                                        | 13 |
| 5.6.3 Manufacturing characteristics.....                             | 14 |
| 5.7 Resistance to fire .....                                         | 14 |
| 5.8 Reaction to fire.....                                            | 14 |
| 5.9 Dangerous substances .....                                       | 14 |
| 5.10 Impact resistance.....                                          | 14 |
| 5.11 Durability .....                                                | 14 |
| 6 Evaluation of conformity.....                                      | 15 |
| 6.1 General.....                                                     | 15 |
| 6.2 Initial type testing .....                                       | 15 |
| 6.2.1 General.....                                                   | 15 |
| 6.2.2 Characteristics .....                                          | 16 |
| 6.2.3 Use of historical data .....                                   | 16 |
| 6.2.4 Use of structural calculations for conformity assessment ..... | 16 |
| 6.2.5 Initial type calculation .....                                 | 16 |
| 6.2.6 Sampling, evaluation and conformity criteria.....              | 16 |
| 6.2.7 Declaration of performance characteristics .....               | 16 |

|              |                                                                                                                                |    |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|----|
| 6.2.8        | Recording of results from evaluations.....                                                                                     | 17 |
| 6.2.9        | Corrective actions .....                                                                                                       | 17 |
| 6.3          | Factory production control.....                                                                                                | 19 |
| 6.3.1        | General .....                                                                                                                  | 19 |
| 6.3.2        | Personnel .....                                                                                                                | 19 |
| 6.3.3        | Equipment .....                                                                                                                | 19 |
| 6.3.4        | Structural design process .....                                                                                                | 19 |
| 6.3.5        | Constituent products used in manufacture.....                                                                                  | 20 |
| 6.3.6        | Component specification.....                                                                                                   | 20 |
| 6.3.7        | Product evaluation .....                                                                                                       | 20 |
| 6.3.8        | Non-conforming products .....                                                                                                  | 20 |
| 7            | Classification and designation .....                                                                                           | 21 |
| 8            | Marking.....                                                                                                                   | 22 |
| Annex A      | (informative) Guidelines for preparation of the component specification .....                                                  | 23 |
| A.1          | General .....                                                                                                                  | 23 |
| A.2          | Purchaser provided component specification (PPCS).....                                                                         | 23 |
| A.3          | Manufacturer provided component specification (MPCS) .....                                                                     | 23 |
| Annex B      | (normative) Assessment of factory production control.....                                                                      | 25 |
| B.1          | General .....                                                                                                                  | 25 |
| B.2          | Initial inspection .....                                                                                                       | 25 |
| B.3          | Continuous surveillance.....                                                                                                   | 26 |
| B.4          | Frequency of inspection .....                                                                                                  | 27 |
| B.4.1        | General .....                                                                                                                  | 27 |
| B.4.2        | Surveillance intervals.....                                                                                                    | 27 |
| B.4.3        | Declaration by manufacturer.....                                                                                               | 28 |
| B.4.4        | Action in case of non-compliance .....                                                                                         | 28 |
| B.5          | Reports .....                                                                                                                  | 28 |
| Annex ZA     | (informative) Clauses of this European Standard Addressing the provisions of EU<br>Construction Products Directive (CPD) ..... | 29 |
| ZA.1         | Scope and relevant characteristics .....                                                                                       | 29 |
| ZA.2         | Procedures for the attestation of conformity of structural steel and aluminium<br>components .....                             | 31 |
| ZA.2.1       | System of attestation of conformity .....                                                                                      | 31 |
| ZA.2.2       | Assignment of tasks .....                                                                                                      | 31 |
| ZA.2.3       | Declaration of conformity .....                                                                                                | 32 |
| ZA.3         | CE marking and labelling.....                                                                                                  | 33 |
| ZA.3.1       | General .....                                                                                                                  | 33 |
| ZA.3.2       | Declaration of product properties by material properties and geometrical data .....                                            | 33 |
| ZA.3.3       | Declaration of the strength value(s) of the component.....                                                                     | 37 |
| ZA.3.4       | Declaration of compliance with a given component specification .....                                                           | 39 |
| ZA.3.5       | Declaration of the strength value(s) of the component from purchaser`s order.....                                              | 41 |
| Bibliography | .....                                                                                                                          | 43 |

## Foreword

This document (EN 1090-1:2009+A1:2011) has been prepared by Technical Committee CEN/TC 135 "Execution of steel 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 May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

This document includes Corrigendum 1<sup>1</sup> issued by CEN on 2010-11-17 and Amendment 1, approved by CEN on 2011-10-03.

This document supersedes EN 1090-1:2009.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

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(s).

For relationship with EU Directive(s), 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

---

<sup>1</sup> This corrigendum has been superseded by the changes of EN 1090-1:2009/FprA1:2011.

## Introduction

This harmonised European Standard is a part of a group of European standards dealing with design and manufacturing of load bearing components and structures made of steel or aluminium.

This harmonised European Standard deals with provisions for conformity assessment of components which imply conformity to performance characteristics declared by the manufacturer of the components.

The components have structural characteristics which make them fit for their particular use and function.

The structural characteristics are governed by the design and the manufacture of the components.

This harmonised European Standard does not contain rules for structural design and manufacture. Such rules are called up from the relevant parts of Eurocode for design requirements and from EN 1090-2 (steel) and EN 1090-3 (aluminium) for execution requirements.

To use this harmonised European Standard for assessment and declaration of conformity of structural steel or aluminium components all relevant design and execution standards within the group need to be available.

This harmonised European Standard has been prepared to satisfy Mandate M 120 – Structural metallic products and ancillaries (2/4) – issued by the European Commission.