



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

## ILNAS-EN 1090-5:2017

### **Execution of steel structures and aluminium structures - Part 5: Technical requirements for cold- formed structural aluminium elements**

Exécution des structures en acier et des  
structures en aluminium - Partie 5 :  
Exigences techniques pour éléments et  
structures en aluminium formés à froid

Ausführung von Stahltragwerken und  
Aluminiumtragwerken - Teil 5:  
Technische Anforderungen an tragende,  
kaltgeformte Bauelemente aus

03/2017



## National Foreword

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**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**

Exécution des structures en acier et des structures en  
aluminium - Partie 5 : Exigences techniques pour  
éléments en aluminium formés à froid et structures  
formées à froid pour applications en toiture, plafond,  
paroi verticale et plancher

Ausführung von Stahltragwerken und  
Aluminiumtragwerken - Teil 5: Technische  
Anforderungen an tragende, kaltgeformte Bauelemente  
aus Aluminium und tragende, kaltgeformte Bauteile für  
Dach-, Decken-, Boden- und Wandanwendungen

This European Standard was approved by CEN on 6 February 2017.

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## European foreword

This document (EN 1090-5:2017) 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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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

- EN 1090-1, *Execution of steel structures and aluminium structures - Part 1: Assessment and verification of constancy of performance for 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 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard specifies requirements for the execution i.e. the manufacture and the installation of cold-formed structural aluminium components made from profiled sheeting for roof, ceiling, floor and wall applications under predominately static loading conditions or seismic loading conditions and their documentation. It does cover products of structural class I and II according to EN 1999-1-4 used in structures.

Structural elements are understood here to mean profiled sheeting, such as trapezoidal, sinusoidal, liner trays or cassette profiles (Figure 1), that are produced by cold forming. Perforated and micro profiled sheeting are also covered by this part.

Welded sections are excluded from this part and are covered by EN 1090-3 except seal welding in low-stress areas.

This standard also covers spacer constructions between the outer and inner or upper and lower skins as well as supporting members for roofs, walls and ceilings made from cold-formed profiled sheeting and the connections and attachments of the afore mentioned elements as long as they are involved in load transfer, it also covers connections and attachments of these elements.

A combination of steel and aluminium structural elements are permitted, e.g. liner trays made of steel, stiffened by profiles made of aluminium. In this case, EN 1090-4 and this document apply.

Composite structural elements where the interaction between dissimilar materials are an integral part of the structural behaviour such as sandwich panels and composite floors are not covered by this standard.

NOTE The structures covered in this standard can be for example

- single- or multi-skin roofs, whereby the load-bearing structure (lower skin) as well as the actual roof covering (upper skin) or both consist of structural elements;
- single- or multi-skin walls whereby the load-bearing structure (inner skin) as well as the actual cladding (outer skin) or both consist of structural elements; or
- suspended ceilings for interior fitting.