



SLOVENSKI STANDARD
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Izvedba jeklenih in aluminijastih konstrukcij - 2. del: Tehnične zahteve za izvedbo jeklenih konstrukcij - Dopolnilo A1

Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures

Ausführung von Stahltragwerken und Aluminiumtragwerken - Teil 2: Technische Regeln für die Ausführung von Stahltragwerken

Exécution des structures en acier et des structures en aluminium - Partie 2: Exigences techniques pour les structures en acier

Ta slovenski standard je istoveten z: EN 1090-2:2018/prA1

ICS:

91.080.13 Jeklene konstrukcije Steel structures

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English Version

Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures

Exécution des structures en acier et des structures en
aluminium - Partie 2: Exigences techniques pour les
structures en acier

Ausführung von Stahltragwerken und
Aluminiumtragwerken - Teil 2: Technische Regeln für
die Ausführung von Stahltragwerken

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 135.

This draft amendment A1, if approved, will modify the European Standard EN 1090-2:2018. If this draft becomes an amendment, 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.

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

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

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EN 1090-2:2018/prA1:2022 (E)

European foreword

This document (EN 1090-2:2018/prA1:2022) 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 document is currently submitted to the CEN Enquiry.

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1 Modification to 2.1.1

After "EN 10210-2, Hot finished structural hollow sections of non-alloy and fine grain steels - Part 2: Tolerances, dimensions and sectional properties",

Add:

"EN 10210-3, Hot finished steel structural hollow sections of non-alloy and fine grain steels - Part 3 : Technical delivery conditions for high strength and weather resistant steels".

After "EN 10219-2, Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 2: Tolerances, dimensions and sectional properties"

Add:

"EN 10219-3, Cold formed welded steel structural hollow sections of non-alloy and fine grain steels - Part 3 : Technical delivery conditions for high strength and weather resistant steels".

2 Modification to 2.3

Add in Clause 2.3 after EN ISO 13916:

"EN ISO 13920, Welding - General tolerances for welded constructions - Dimensions for lengths and angles - Shape and position (ISO 13920)".

Delete [25] in the bibliography.

Replace:

"EN ISO 17660 (all parts), Welding - Welding of reinforcing steel (ISO 17660 series)"

with:

"EN ISO 17660-1, Welding - Welding of reinforcing steel - Part 1: Load bearing welded joints (ISO 17660-1)".

3 Modification to Clause 3

Replace:

"3.4

constructor

person or organization executing the works"

with:

"3.4

constructor

person or organization responsible for the execution of the works."

Add after 3.15.4:

"3.16

high-strength steels

materials with the mechanical properties for hollow sections, flat and long steel products with minimum yield strength greater than 460 MPa

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Note 1 to entry: High-strength steels in this standard are divided into four categories, which are used to differentiate quality requirements (see Table HSS).

Table HSS — Categories of High-Strength Steels

Steel grades ^a	Thermomechanically rolled	Quenched and tempered
> S460 and ≤ S700	A1	A2
> S700 and ≤ S960	B1	B2
^a S500W can be treated as S460W.		

4 Modification to 4.2.1

Replace:

"f) specified hold-points or requirement to witness inspections or tests, and any consequent access requirements."

with:

"f) if specified, hold-points or requirement to witness inspections or tests, and any consequent access requirements."

5 Modification to 5.2

In Table 1, 1st column, 2nd line: add a new footnote "g":

"Structural steels (Tables 2 and 3) ^g"

In the last line, add:

^g When yield strength greater than 460 MPa is specified and used in welded structural steel, the chemical composition (heat analysis) for the following 14 elements shall be required and certified: C, Si, Mn, P, S, Al, N, Cr, Cu, Mo, Ni, Nb, Ti, V and the designation in accordance with EN 10027."

6 Modification to 5.3, Table 2

Add at the bottom of Table 2:

"The national product standards/recommendations or manufacturers guidelines must consider".

9th line: replace "EN 10210-1" with "EN 10210-3"

10th line: replace "EN 10219-1" with "EN 10219-3"

7 Modification to 6.2

5th paragraph, replace:

"Soft or low stress stamps may be used for stainless steels unless otherwise specified."

with:

"Appropriate soft or low stress stamps may be used for stainless steels unless otherwise specified."

8 Modification to 6.4.4

Add at the end of 6.4.4:

For all steel categories listed in 3.16 Table HSS, it will be checked with the steel manufacturer whether preheating of the material is necessary for thermal cutting. As an alternative, the cut edges may be machined to remove the hardened layer and thus ensure the parent metal properties.

9 Modification to 6.5.1

1st paragraph, replace:

"Steel may be bent, pressed or forged to the required shape by either a hot or cold forming process, provided the properties are not reduced below those specified."

with:

"Steel may be bent, pressed or forged to the required shape, by either a hot or cold forming process, provided the properties conform to those specified."

10 Modification to 6.5.2

1st paragraph, replace:

"Shaping by hot forming shall conform to the requirements relating to hot forming in the relevant product standard and to the recommendations of the steel manufacturer."

with:

"Shaping by hot forming shall conform to the requirements relating to hot forming in the relevant product standard and to the recommendations of the steel producer."

11 Modification to 6.5.4

Remove all the text of paragraphs "b)", "e)" and "f)".

Renumber the retained paragraphs in "a)" to "g)".

12 Modification to 6.6.3

Add at the end of 6.6.3:

"For all steel categories listed in 3.16 Table HSS, it shall be checked with the steel manufacturer whether punching is acceptable. Otherwise, drilling or machining is necessary."

13 Modification to 7.1

In 7.1 (3rd paragraph) replace "EN ISO 17660 series" with "EN ISO 17660-1".

Add at the end of 7.1:

"For all steel categories listed in 3.16 Table HSS, the weld quality management system shall be in accordance with EN ISO 3834-2."

14 Modification to 7.4

In 7.4.1.1 (1st paragraph) replace "EN ISO 17660 series" with "EN ISO 17660-1".

In 7.4.1.2 Table 12, 7.4.1.4, 7.4.2.1 delete "EN ISO 17660-2".

EN 1090-2:2018/prA1:2022 (E)**15 Modification to 7.4.1.1**

Add at the end of 7.4.1.1:

"For all steel categories listed in 3.16 Table HSS, to avoid a deterioration of the mechanical properties in the HAZ, a $t_{8/5}$ cooling times as determined by the steel manufacturer shall be complied with. The cooling time is determined in accordance with EN 1011-2.

When welding high-strength steels, the choice of filler metals shall not fall short of the technical requirements of the base materials unless specified otherwise. Furthermore, it is necessary to consider the heat input and the weld build-up sequence, as these aspects have a decisive influence on the mechanical properties of the weld and the heat affected zone. The characteristic $t_{8/5}$ cooling time is the critical parameter from the temperature-time curve."

16 Modification to 7.4.3

Additional footnote to Table 14:

"For steel categories A2 and B2, the technical knowledge of the coordination personel in Table 14 shall be in accordance with EXC3 (comprehensive level)."

17 Modification to 7.5.5

Add at the end of 7.5.5:

"For all steel categories listed in 3.16 Table HSS, to avoid hydrogen-induced cracks, hardening cracks and shrinkage cracks, preheating and interpass temperatures as determined by the steel manufacturer shall be complied with."

18 Addition of new clause 7.5.9.4

<https://standards.iteh.ai/catalog/standards/sist/6c917f08-4523-4479-ba58->

"7.5.9.4 Back gouging for high strength steels"

Back gouging is permitted for all high strength steels given in 3.16 Table HSS.

Grinding of both faces of the back gouged groove is required for the steels in categories B1 and B2 when matching or overmatching welding consumables are used and the back gouging is made by using carbon electrodes. In this case, grinding needs to be at least to a depth of 1mm compared to the surface prior to grinding.

When back gouging is done by the thermal method and strength of back gouged weld is crucial for matching weld properties, steel producer's guidance regarding heat input and working temperatures needs to be complied with as regards welding."

19 Modification to 7.6.1

In the 2nd paragraph:

— *Replace:*

"a) EXC1 quality level D except quality level C for "Insufficient throat" (5213);"

with:

"a) EXC1 quality level D;";

— *Replace:*