



# SLOVENSKI STANDARD

## oSIST prEN 10025-6:2018

01-september-2018

---

**Vroče valjani izdelki iz konstrukcijskih jekel - 6. del: Tehnični dobavni pogoji za ploščate izdelke iz konstrukcijskih jekel z veliko plastično trdnostjo v kaljenem in popuščenem stanju**

Hot rolled products of structural steels - Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition

Warmgewalzte Erzeugnisse aus Baustählen - Teil 6: Technische Lieferbedingungen für Flacherzeugnisse aus Stählen mit höherer Streckgrenze im vergüteten Zustand

Produits laminés à chaud en aciers de construction - Partie 6 : Conditions techniques de livraison pour produits plats des aciers à haute limite d'élasticité à l'état trempé et revenu

**Ta slovenski standard je istoveten z: prEN 10025-6**

---

**ICS:**

77.140.10	Jekla za toplotno obdelavo	Heat-treatable steels
77.140.50	Ploščati jekleni izdelki in polizdelki	Flat steel products and semi-products

**oSIST prEN 10025-6:2018**

**en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 10025-6**

June 2018

ICS 77.140.10; 77.140.50

Will supersede EN 10025-6:2004+A1:2009

English Version

## Hot rolled products of structural steels - Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition

Produits laminés à chaud en aciers de construction -  
Partie 6 : Conditions techniques de livraison pour  
produits plats des aciers à haute limite d'élasticité à  
l'état trempé et revenu

Warmgewalzte Erzeugnisse aus Baustählen - Teil 6:  
Technische Lieferbedingungen für Flacherzeugnisse  
aus Stählen mit höherer Streckgrenze im vergüteten  
Zustand

This draft European Standard is submitted to CEN members for second enquiry. It has been drawn up by the Technical Committee ECISS/TC 103.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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

<b>Contents</b>	<b>Page</b>
European foreword.....	4
<b>1 Scope</b> .....	<b>6</b>
<b>2 Normative references</b> .....	<b>6</b>
<b>2.1 General standards</b> .....	<b>6</b>
<b>2.2 Standards on tolerances on dimensions and shape</b> .....	<b>7</b>
<b>2.3 Standards on testing</b> .....	<b>7</b>
<b>3 Terms and definitions</b> .....	<b>7</b>
<b>4 Classification and designation</b> .....	<b>7</b>
<b>4.1 Classification</b> .....	<b>7</b>
<b>4.1.1 Main quality classes</b> .....	<b>7</b>
<b>4.1.2 Grades and qualities</b> .....	<b>7</b>
<b>4.2 Designation</b> .....	<b>8</b>
<b>5 Information to be supplied by the purchaser</b> .....	<b>8</b>
<b>5.1 Mandatory information</b> .....	<b>8</b>
<b>5.2 Options</b> .....	<b>9</b>
<b>6 Manufacturing process</b> .....	<b>9</b>
<b>6.1 Steel making process</b> .....	<b>9</b>
<b>6.2 Deoxidation and grain structure</b> .....	<b>9</b>
<b>6.3 Delivery conditions</b> .....	<b>9</b>
<b>7 Requirements</b> .....	<b>9</b>
<b>7.1 General</b> .....	<b>9</b>
<b>7.2 Chemical composition</b> .....	<b>9</b>
<b>7.3 Mechanical properties</b> .....	<b>10</b>
<b>7.3.1 General</b> .....	<b>10</b>
<b>7.3.2 Impact properties</b> .....	<b>10</b>
<b>7.4 Technological properties</b> .....	<b>11</b>
<b>7.5 Surface properties</b> .....	<b>12</b>
<b>7.6 Internal soundness</b> .....	<b>12</b>
<b>7.7 Tolerances on dimensions and shape, mass</b> .....	<b>12</b>
<b>8 Inspection</b> .....	<b>12</b>
<b>8.1 General</b> .....	<b>12</b>
<b>8.2 Type of inspection and inspection document</b> .....	<b>13</b>
<b>8.3 Tests to be carried out</b> .....	<b>13</b>
<b>9 Frequency of testing and preparation of samples and test pieces</b> .....	<b>13</b>
<b>9.1 Frequency of testing</b> .....	<b>13</b>
<b>9.1.1 Chemical analysis</b> .....	<b>13</b>
<b>9.1.2 Mechanical tests</b> .....	<b>14</b>
<b>9.2 Preparation of samples and test pieces</b> .....	<b>14</b>
<b>9.2.1 Selection and preparation of samples for chemical analysis</b> .....	<b>14</b>
<b>9.2.2 Location of samples and orientation of test pieces for mechanical tests</b> .....	<b>14</b>
<b>9.2.3 Preparation of test pieces for mechanical tests</b> .....	<b>14</b>
<b>9.3 Identification of samples and test pieces</b> .....	<b>15</b>
<b>10 Test methods</b> .....	<b>15</b>

<b>10.1</b>	<b>Chemical analysis .....</b>	<b>15</b>
<b>10.2</b>	<b>Mechanical tests.....</b>	<b>15</b>
<b>10.2.1</b>	<b>Tensile test.....</b>	<b>15</b>
<b>10.2.2</b>	<b>Impact test.....</b>	<b>16</b>
<b>10.3</b>	<b>Ultrasonic testing.....</b>	<b>16</b>
<b>10.4</b>	<b>Retests .....</b>	<b>16</b>
<b>11</b>	<b>Marking, labelling, packaging .....</b>	<b>16</b>
<b>12</b>	<b>Complaints .....</b>	<b>17</b>
<b>13</b>	<b>Options .....</b>	<b>17</b>
<b>Annex A</b>	<b>(normative) Location of samples and test pieces.....</b>	<b>23</b>
<b>Annex B</b>	<b>(informative) Minimum recommended inside bend radii for flanging.....</b>	<b>24</b>
<b>Bibliography</b>	<b>.....</b>	<b>25</b>

**prEN 10025-6:2018 (E)****European foreword**

This document (prEN 10025-6:2018) has been prepared by Technical Committee ECISS/TC 103 “Structural steels other than reinforcements”, the secretariat of which is held by DIN.

This document is currently submitted to the second CEN Enquiry.

This document will supersede EN 10025-6:2004+A1:2009.

This European Standard consists of the following parts, under the general title *Hot rolled products of structural steels*:

*Part 1: General*

*Part 2: Technical delivery conditions for non-alloy structural steels*

*Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels*

*Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels*

*Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance*

*Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition*

For a short transition period there will be a coexistence of EN 10025-1:2004 with EN 10025-2:2018 to EN 10025-6:2018, since the new EN 10025-1 has to fulfil the requirements of the CPR and will therefore be published later. For this short transition period up-to-the publication of the next edition of part 1 the following has to be taken into account for EN 10025-1:2004:

- a) all dated and undated references to EN 10025-1:2004 to EN 10025-6:2004 are unchanged to this version with following exception: In 9.2.2.1 the reference must be 8.3.1 and 8.3.2 instead of 8.4.1 and 8.4.2;
- b) Clauses 5, 12 and 13 of EN 10025-1:2004 are no longer relevant.

The main changes with respect to the previous edition are listed below:

- a) part 6 is now a stand-alone standard for technical delivery conditions including the preparation of samples and test pieces, the test methods, the marking, labelling and packaging and the drawings;
- b) for construction purposes this standard and part 1 must be used together;
- c) requirements for elements not defined were added to 7.2.1 and 7.2.2;
- d) Option 33 was added, Option 3 was renumbered to Option 24 and Option 9 was deleted;
- e) Si-content in 7.2.4 was changed;
- f) 7.4.3 concerning hot-dip zinc coating was modified;
- g) in Tables 3 and 4 the values were extended for thicknesses up to 200 mm;

h) references were updated and document editorial revised.

**prEN 10025-6:2018 (E)****1 Scope**

This document specifies technical delivery conditions for flat products of high yield strength alloy special steels. The grades and qualities are given in Tables 1 to 3 (chemical composition) and Tables 4 to 6 (mechanical properties) and are supplied in the quenched and tempered condition.

The steels specified in this document are applicable to hot-rolled flat products with a minimum nominal thickness of 3 mm and a maximum nominal thickness of 200 mm for grades S460, S500, S550, S620 and S690, a maximum nominal thickness of 125 mm for grades S890 and S960, in steels which, after quenching and tempering, have a specified minimum yield strength of 460 MPa to 960 MPa.

**2 Normative references**

The following referenced documents are indispensable for the application 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.

**2.1 General standards**

EN 1011-2, *Welding — Recommendations for welding of metallic materials — Part 2: Arc welding of ferritic steels*

EN 10020:2000, *Definition and classification of grades of steel*

EN 10021, *General technical delivery conditions for steel products*

EN 10025-1:2004, *Hot rolled products of structural steels — Part 1: General technical delivery conditions*

EN 10027-1, *Designation systems for steels — Part 1: Steel names*

EN 10027-2, *Designation systems for steels — Part 2: Numerical system*

EN 10079, *Definition of steel products*

EN 10163-1, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections — Part 1: General requirements*

EN 10163-2, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections — Part 2: Plate and wide flats*

EN 10164, *Steel products with improved deformation properties perpendicular to the surface of the product — Technical delivery conditions*

EN 10168, *Steel products — Inspection documents — List of information and description*

EN 10204, *Metallic products — Types of inspection documents*

EN ISO 14713-2:2009, *Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures — Part 2: Hot dip galvanizing (ISO 14713-2:2009)*

CR 10320, *Optical emission analysis of low alloy steels (routine method) — Method for determination of C, Si, S, P, Mn, Cr, Ni and Cu*