SLOVENSKI STANDARD
SIST EN 10163-1:1997

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Dobavni pogoji za videz površine vroče valjanih jeklenih pločevin in profilov - 1. del: Splošni pogoji

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

Lieferbedingungen für die Oberflächenbeschaffenheit von warmgewalzten Stahlerzeugnissen (Blech, Breitflachstahl und Profile) - Teil 1: Allgemeine Anforderungen

Conditions de livraison relatives à l'état de surface des tôles, larges plats et profilés en acier laminés a chaud - Partie 1: Généralités

Ta slovenski standard je istoveten z: EN 10163-1:1991

ICS:

77.140.50	Ploščati jekleni izdelki in polizdelki	Flat steel products and semi-products
77.140.70	Jekleni profili	Steel profiles

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EUROPEAN STANDARD

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English version

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This European Standard was approved by CEN on 1991-08-21
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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Contents

Foreword

This draft European Standard has been drawn up by ECISS/TC 10 "Structural steel -- qualities" whose Secretariat is held by NNI.

Part 1 and 2 of this European Standard replaces:
EURONORM 163 (1983) Delivery conditions for surface finish of hot rolled plates and wide flats

Part 1 and 2 of this document was originally drawn up as Euronorm 163 under the European Coal and Steel Community. With the formation of ECISS and the establishment of the ECISS work programme TC 10 was asked to prepare this document for eventual publication as a European Standard.

ECISS/TC 10 met 3 and 4 May, 1990 in Brussels and agreed on the text for publication as a European Standard. The following countries were represented in that meeting: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Sweden and United Kingdom.

This European Standard EN 10163-1 was approved by CEN on 1991-04-16.

According to the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard :

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherland, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

1.1 This European Standard specifies the general requirements for the surface condition of hot-rolled steel plates, wide flats and sections. It covers the requirements on the type, the permissible depth and the permissible size of the surface area affected by:
- discontinuities (imperfections and defects) and
- repairs by grinding and/or welding.

1.2 This European Standard shall be applied so far as no other requirements for the surface condition exist in the appropriate material or product standard. The requirements laid down in the appropriate material or product standard shall always prevail.

1.3 This part 1 covers the general delivery requirements for the surface quality of hot rolled steel products such as:
- plates and wide flats, see part 2;
- sections, see part 3;

2 Normative References

prEN 10 021 [1]	General technical delivery requirements for steel and iron and steel products
EN 10 079	Definition of steel products
EN 10 204	Metallic products -- Type of inspection documents
prEN 287-1 [1]	Approval testing of welders - Fusion welding. Part 1: Steels
prEN 288-1 [1]	Specification and qualification of welding procedures for fusion welding. Part 1: General rules
prEN 288-2 [1]	Specification and qualification of welding procedures for fusion welding. Part 2: Welding procedure specification for arc welding of metallic materials
prEN 288-3 [1]	Specification and qualification of welding procedures for fusion welding. Part 3: Welding procedure test for arc welding of steels

3 General

Responsibility for the required surface quality rests with the material producer, who has to take the necessary precautions.
The producer can only take account of discontinuities which are visible to the naked eye. Rolling or heat-treatment scale may conceal surface discontinuities.

If, during the subsequent descaling or working operations by the user, the material is found to be defective because of faulty rolling or processing by the producer, the producer shall be allowed to have the product repaired provided that this is not in conflict with the appropriate material or product standard.

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1) Draft is under discussion.

4 Definitions

For the purposes of this European Standard the following definitions apply.

4.1 **imperfections:** Surface discontinuities other than cracks, shell and seams with a depth and/or area equal to or less than a specified limiting value.

Imperfections may be left without repair.

4.2 **defects:** Surface discontinuities including all cracks, shell and seams with a depth and/or area greater than a specified limiting value.

Defects shall be repaired.

4.3 For the most common surface discontinuities see the descriptions in Annex A. In Annex B the terms can be found in their respective languages.

5 General requirements

5.1 To differentiate the surface discontinuities in terms of imperfections and defects, the depth of representative surface discontinuities shall when necessary be measured. The measurement shall be carried out from the surface of the product. The depth of the discontinuities chosen as representative ones shall be determined after the discontinuity has been removed by grinding.

5.2 Areas affected by surface discontinuities shall when necessary be determined as follows:

a) for isolated discontinuities (figure 1a) the affected area is obtained by drawing a continuous line which follows the circumference of the discontinuity at a distance of 50 mm or by drawing a rectangle whose sides are 50 mm from the edges of the discontinuity.

b) For discontinuities appearing in a cluster (figure 1b), the affected area is obtained by drawing a continuous line which follows the circumference of the cluster at a distance of 50 mm or by drawing a rectangle whose sides are 50 mm from the continuous line which follows the cluster or by the product edge if this is closer.
For discontinuities appearing in a line (figure 1c), the affected area is obtained by drawing a rectangle the sides of which are 50 mm in the longitudinal direction and 20 mm in the transverse direction from the edge of the discontinuity or by the product edge if this is closer.

Aligned discontinuities shall be at least 10 times their biggest width. Single or multiple appearing discontinuities whose edges are closer together than 100 mm shall be considered as one discontinuity. Aligned discontinuities, whose edges in the longitudinal direction have a distance smaller than 100 mm or in the transverse direction smaller than 40 mm, shall be considered as one discontinuity.

Dimensions in mm

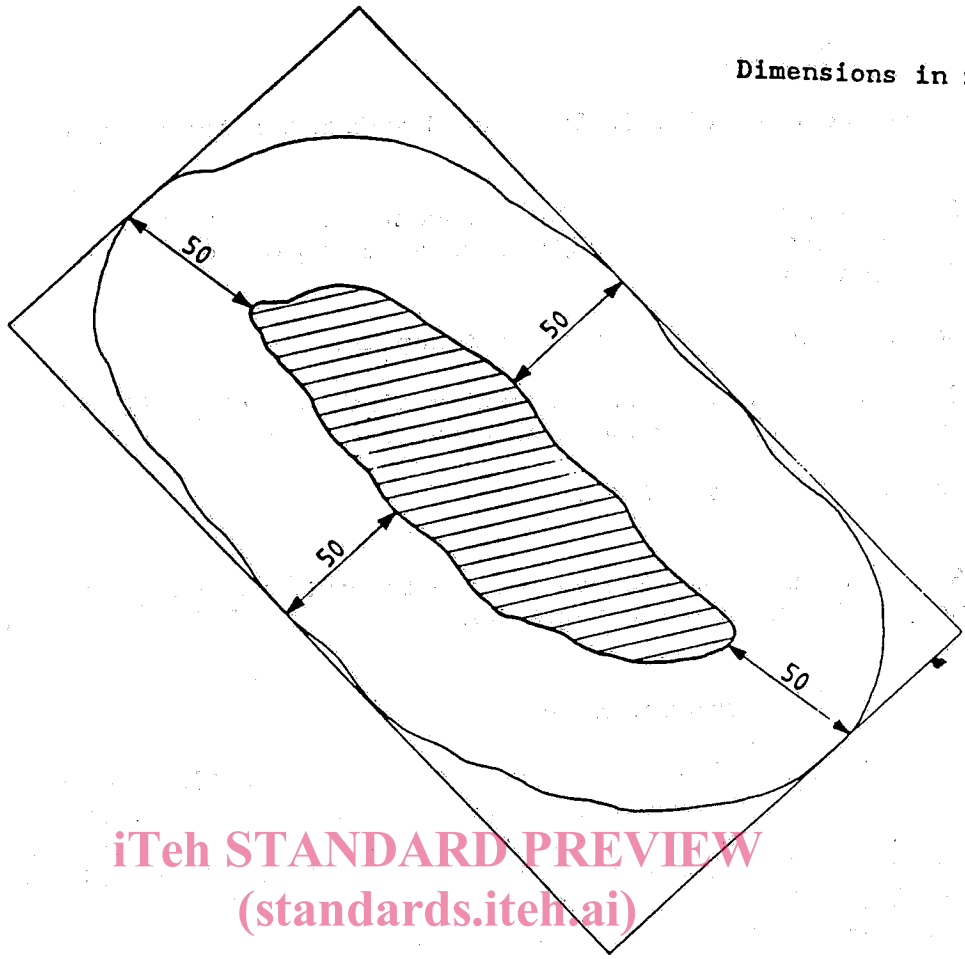

Figure 1a -- Determination of the area affected by an isolated discontinuity

Dimensions in mm

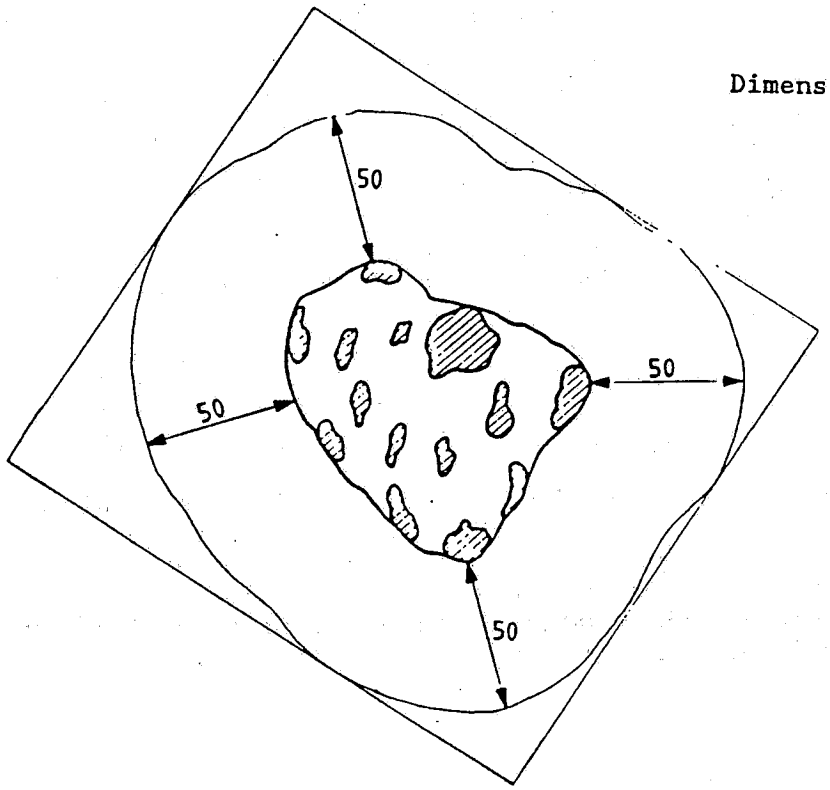

Figure 1b -- Determination of the areas affected by clustered discontinuities

Dimensions in mm

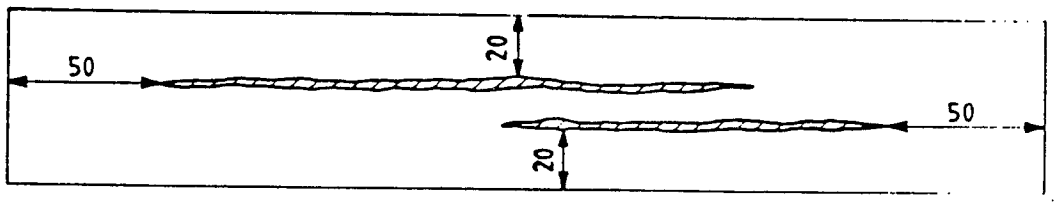

Figure 1c -- Determination of the areas affected by aligned single or multiple discontinuities

6 Repair procedures

6.1 Grinding

If a discontinuity has to be repaired, it shall be removed completely by grinding to its full depth. The ground areas shall have a smooth transition to the surrounding surface of the product. In case of dispute complete elimination of the defect may be demonstrated by magnetic particle or by dye penetrant test techniques.

6.2 Welding

Defects shall be completely eliminated before any weld repair is commenced. This procedure shall not reduce the thickness of the product to less than 80 % of its nominal thickness.

Prior to weld repair of edges of flat products, the depth of the groove, measured from the edge inward, shall not exceed the nominal thickness of the product with a maximum of 30 mm.

The welding shall be carried out by operators qualified in accordance with prEN 287-1. Welding procedures shall be carried out in accordance with prEN 288 parts 1, 2 and 3.

The weld shall be free of any lack of fusion, undercutting, cracks and other defects which could impair the workability or use of the product in question as specified by the purchaser.

The deposited weld material shall reach above the plate surface and shall subsequently be ground smooth and level with the product surface. After grinding smooth, ordered product thickness tolerances apply to the ground area.