SLOVENSKI STANDARD
SIST EN 1291:1999

01-december-1999

Neporušitvene preiskave zvarov - Preskušanje zvarov z magnetnimi delci - Stopnje sprejemljivosti

Non-destructive examination of welds - Magnetic particle testing of welds - Acceptance levels

Zerstörungsfreie Prüfung von Schweißverbindungen - Magnetpulverprüfung von Schweißverbindungen - Zulässigkeitsgrenzen

Contrôle non destructif des assemblages soudés - Contrôle par magnétoscopie des soudures - Niveaux d'acceptation

Ta slovenski standard je istoveten z: **EN 1291:1998**

ICS:

25.160.40	Varjeni spoji in vari	Welded joints

SIST EN 1291:1999 **de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1291

February 1998

ICS 25.160.40

Descriptors: welded joints, refractory materials, steels, quality control, non-destructive tests, detection, weld defects, magnetic particle testing, acceptability, level : quality, surface condition

English version

Non-destructive examination of welds - Magnetic particle testing of welds - Acceptance levels

Contrôle non destructif des assemblages soudés - Contrôle par magnétoscopie des soudures - Niveaux d'acceptation

Zerstörungsfreie Prüfung von Schweißverbindungen - Magnetpulverprüfung von Schweißverbindungen - Zulässigkeitsgrenzen

This European Standard was approved by CEN on 26 January 1998.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS.

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 August 1998, and conflicting national standards shall be withdrawn at the latest by August 1998.

This European Standard 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).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European standard specifies acceptance levels for indications from imperfections in ferromagnetic steel welds detected by magnetic particle testing.

The acceptance levels are primarily intended for use during manufacture examination, but where appropriate they can be used for in service inspection.

The acceptance levels in this standard are based on detection capabilities that can be expected when using techniques specified in EN 1290 and parameters recommended in annex A. The acceptance levels can be related to welding standards, application standards, specifications or codes. Such a relationship is shown in EN 12062 for EN 25817.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1290	Non-destructive examination of welds - Magnetic particle examination of welds
prEN 1330-1	Non-destructive testing - Terminology - Part 1: General terms
prEN 1330-2	Non-destructive testing - Terminology - Part 2: Terms common to the non-destructive testing methods
EN 12062	Non-destructive examination of welds - General rules for metallic materials
EN 25817	Arc-welded joints in steels - Guidance on quality levels for imperfections (ISO 5817: 1992)

3 Definitions

For the purposes of this standard, in addition with those given in prEN 1330-1, prEN1330-2 and W.I. 138027 (Non-destructive testing - Terminology - Part 7: Terms used in magnetic particle testing) [1)] , the following definitions apply :

3.1 linear indication

Indication having a length greater than three times its width.

---

1) in preparation

3.2 non-linear indication

Indication having a length less than, or equal to three times its width.

4 Testing parameters

Many parameters, either individually or in combination, will affect the ability of a technique to detect imperfections of a given size and orientation with respect to the condition of the test surface.

Detection of small imperfections is highly dependent on the surface condition of the weld and the detection media used. Examples of the application of these parameters to give a high probability of detection are given in annex A.

5 Acceptance levels

5.1 General

The width of the test surface shall include the weld metal and the adjacent parent metal up to a distance of 10 mm on each side.

Acceptance levels are given in table 1.

Acceptance levels prescribed for linear indications are those corresponding to the evaluation level. Indications lower than this shall not be taken into account. Normally, acceptable indications shall not be recorded.

Local grinding may be used to improve the classification of all or just part of a test surface, when it is required to work to a higher detection limit than that expected by the existing weld surface condition.

Table 1: Acceptance levels for indications

Dimensions in millimetres

Type of indication	Acceptance level [1]		
	1	2	3
Linear indication l = length of indication	$l \leq 1,5$	$l \leq 3$	$l \leq 6$
Non-linear indication d = major axis dimension	$d \leq 2$	$d \leq 3$	$d \leq 4$
1) Acceptance levels 2 and 3 may be specified with a suffix "X" which denotes that all linear indications detected shall be assessed to level 1. However, the probability of detection of indications smaller than those denoted by the original acceptance level can be low.			

5.2 Grouped indications

Any adjacent indications separated by less than the major dimension of the smaller shall be assessed as a single, continuous indication.

Grouped indications shall be evaluated in accordance with application standards.

5.3 Removal of imperfections

Where the product specification permits, local grinding may be used to reduce or remove imperfections which are the cause of unacceptable indications. All such area shall be re-tested and evaluated with the same penetrant system and technique.