



**SLOVENSKI STANDARD**  
**SIST EN 2832:2001**

**01-junij-2001**

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**Aerospace series - Hydrogen embrittlement of steels - Notched specimen test**

Aerospace series - Hydrogen embrittlement of steels - Notched specimen test

Luft- und Raumfahrt - Wasserstoffversprödung von Stählen - Kerbzugversuch

Série aérospatiale - Fragilisation des aciers par l'hydrogene - Essai par éprouvette entaillée

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**Ta slovenski standard je istoveten z: EN 2832:1993**

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**ICS:**

49.025.10      Jekla

Steels

**SIST EN 2832:2001**

**en**

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EUROPEAN STANDARD

EN 2832:1993

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 1993

UDC 669.14:621.793/794:620.172:629.7

Descriptors: Aircraft industry, steels, hydrogen embrittlement, tests, test specimens

English version

**Aerospace series - Hydrogen embrittlement of  
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This European Standard was approved by CEN on 1993-02-19. 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.

The European Standards exist 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

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

### Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

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 1993, and conflicting national standards shall be withdrawn at the latest by August 1993.

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

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## 1 Scope

This standard specifies the method for the notched specimen test, which is used to assess the hydrogen embrittlement of steels during chemical or electrolytic surface treatments.

It is applicable whenever referenced.

## 2 Apparatus

Any device allowing a constant load to be applied to the test specimens may be used, i.e. direct load machines, dynamometric rings, etc.

## 3 Test specimens

### 3.1 Material and heat treatment

They shall be identical with those of the parts. However, the purchaser may require to use a reference material and heat treatment.

### 3.2 Dimensions

See figure 1 and table 1.

### 3.3 Surface treatment

It shall be carried out as on the parts and ensure that the thickness of the deposit at the notch root is the same as that specified for the parts.

### 3.4 De-embrittlement

It shall be carried out as for the parts.

## 4 Procedure

The test specimens shall be subjected for 200 h, at ambient temperature, to an axial load equal to  $(75 \pm 2)\%$  of the tensile strength of a notched uncoated specimen.

## 5 Fault sanction

No fracture is permissible before 200 h.

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## 6 Test report

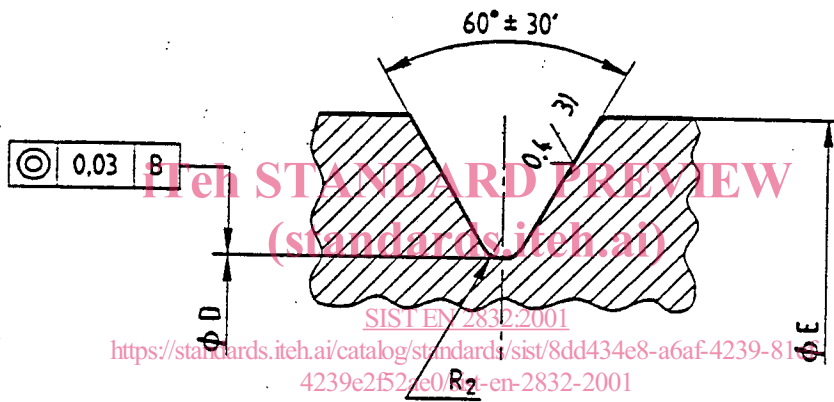
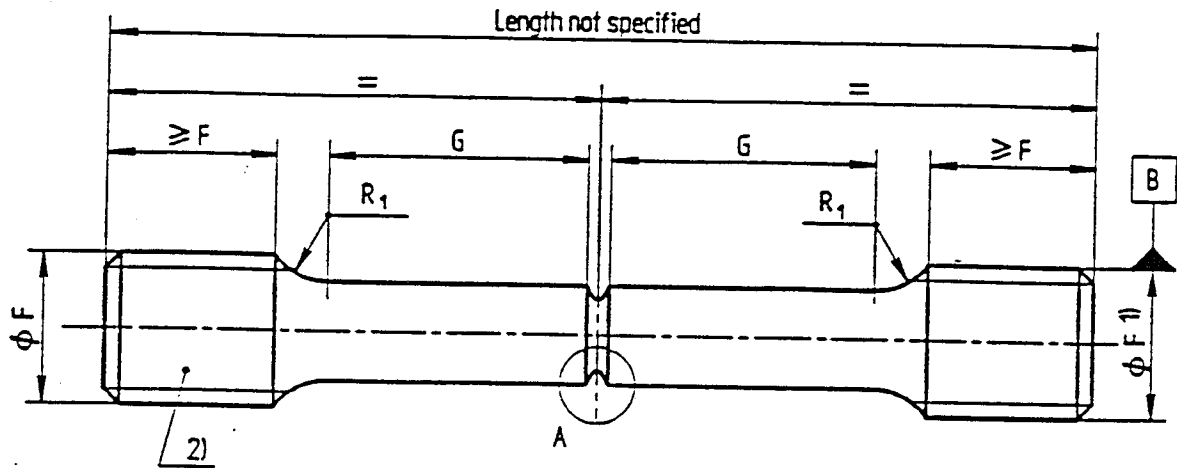
It shall include the following :

- reference to this standard;
- reference numbers and types of the test specimens;
- nature of the coating;
- thickness of the coating;
- test result.

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A (10:1)

- 1) The value is not specified however, the diameter of the thread root shall be greater than E.
- 2) Other head types compatibles with the tensile test may be used.
- 3) The notch (side and root) shall have the same roughness.

Figure 1

Table 1

Dimensions en millimetres

Type	D		E		G		R <sub>1</sub>		R <sub>2</sub>	
	nom.	tol.	nom.	tol.	nom.	tol.	min.	max.	nom.	tol.
1	6,40	± 0,03	9,07	± 0,08	14	+ 1	3,18	6,35	0,23	± 0,013
2	4,52		6,35		17,5	+ 1			0,13	