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Údarás um Chaighdeáin Náisiúnta na hÉireann

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ICS 77.040.20  
77.140.85

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**NON-DESTRUCTIVE TESTING OF STEEL  
FORGINGS - PART 2: PENETRANT TESTING**

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EUROPEAN STANDARD

**EN 10228-2**

NORME EUROPÉENNE

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Descriptors: forgings, steels, non-destructive tests, liquid penetrant tests, surface condition, defects, inspection, setting-up conditions, acceptability, quality classes

English version

## Non-destructive testing of steel forgings - Part 2: Penetrant testing

Essais non destructifs des pièces forgées en acier - Partie  
2: Contrôle par ressuage

Zerstörungsfreie Prüfung von Schmiedestücken aus Stahl -  
Teil 2: Eindringprüfung

This European Standard was approved by CEN on 21 December 1997.

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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  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 028 "Steel forgings", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by November 1998 and conflicting national standards shall be withdrawn at the latest by November 1998.

The titles of the other Parts of this European Standard are:

- Part 1:           Magnetic particle inspection
- Part 3:           Ultrasonic testing of ferritic or martensitic steel forgings
- Part 4:           Ultrasonic testing of austenitic and austenitic-ferritic stainless steel forgings

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 Part of EN 10228 describes the method and acceptance criteria to be used for the penetrant testing of steel forgings. The method described is used for the detection of surface discontinuities.

## 2 Normative references

This Part of EN 10228 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 Part of EN 10228 only when incorporated in by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 473	Qualification and certification of NDT personnel - General principles
EN 571	Non-destructive testing - Penetrant testing Part 1: General principles for the examination
prEN 1330	Non-destructive testing - Terminology Part 6: Terms used in penetrant systems
prEN ISO 3452	Non-destructive testing - Penetrant testing Part 2: Testing of penetrant materials Part 4: Equipment

## 3 Definitions

For the purposes of this Part of EN 10228 the definitions given in prEN 1330-6 shall apply.

## 4 Items for agreement

The following aspects concerning penetrant testing shall be agreed between the purchaser and the supplier at the time of enquiry and order:

- a) the manufacturing stage(s) at which penetrant testing is to be performed. (see clause 8);
- b) the surface areas to be examined. (see clause 9);

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