

Non-destructive testing
Penetrant testing
Part 1: General principles
English version of DIN EN 571-1

DIN
EN 571-1

ICS 19.100

Supersedes DIN 54152-1,
July 1989 edition.

Descriptors: Non-destructive testing, testing, penetrant flaw detection.

Zerstörungsfreie Prüfung – Eindringprüfung – Teil 1: Allgemeine Grundlagen

European Standard EN 571-1:1997 has the status of a DIN Standard.**National foreword**

This standard has been prepared by CEN/TC 138.

The responsible German body involved in its preparation was the *Normenausschuß Materialprüfung* (Materials Testing Standards Committee), Technical Committee *Oberflächenverfahren*.**Amendments**

DIN 54152-1, July 1989 edition, has been superseded by the specifications of EN 571-1.

Previous editions

DIN 54152-1: 1979-03, 1989-07.

EN comprises 16 pages.

zurückgezogen - withdrawn

ICS 19.100

Descriptors: Non-destructive testing, testing, penetrant flaw detection.

English version

Non-destructive testing
Penetrant testing
Part 1: General principles

Essais non destructifs – Examen par res-
suage – Partie 1: Principes généraux

Zerstörungsfreie Prüfung – Eindring-
prüfung – Teil 1: Allgemeine Grundlagen

This European Standard was approved by CEN on 1995-01-14.

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 the United Kingdom.

CEN

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

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

Contents

	Page		Page
Foreword	2	7 Compatibility of testing materials with the part(s) to be tested	7
1 Scope	3	8 Test procedure	8
2 Normative references	3	9 Test report	14
3 Definitions	3	Annex A (normative) Main stages of the penetrant examination ..	15
4 Safety precautions	4	Annex B (informative) Example of a test report	16
5 General principles	4		
6 Products, sensitivity and designation	5		

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 138 'Non-destructive testing', the Secretariat of which is held by AFNOR.

The EN 571 series of European Standards comprises the following Parts:

- EN 571-1 Non-destructive testing – penetrant testing – Part 1: General principles
- EN 571-2 Non-destructive testing – penetrant testing – Part 2: Testing of penetrant materials
- EN 571-3 Non-destructive testing – penetrant testing – Part 3: Reference test blocks

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 the relevant EU Directives.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting standards withdrawn, by July 1997 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of 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 the United Kingdom.

Zurückgezogen - Withdrawn

1 Scope

This standard defines a method of penetrant testing used to detect discontinuities, e.g. cracks, laps, folds, porosity and lack of fusion, which are open to the surface of the material to be tested. It is mainly applied to metallic materials, but can also be performed on other materials, provided that they are inert to the test media and they are not excessively porous. Examples of which are castings, forgings, welds, ceramics, etc.

This standard is not intended to be used for acceptance criteria and gives no information relating to the suitability of individual test systems for specific applications nor requirements for test equipment.

The term "discontinuity" is used here in the sense that no evaluation concerning acceptability or non-acceptability is included.

Methods for determining and monitoring the essential properties of penetrant testing products to be used are specified in EN 571-2 and EN 571-3.

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 473 | Qualification and certification of NDT personnel - General principles |
| prEN 571-2 | Non-destructive testing - Penetrant testing - Part 2: Testing of penetrant materials ¹⁾ |
| prEN 571-3 | Non-destructive testing - Penetrant testing - Part 3: Reference test blocks ¹⁾ |
| prEN 956 | Non-destructive testing - Penetrant testing - Equipment |
| prEN 1330-6 | Non-destructive testing - Terminology - Part 6: Terms used in penetrant systems ¹⁾ |
| prEN 1956 | Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions ¹⁾ |

3 Definitions

For the purposes of this standard the definitions of prEN 1330-6 apply.

¹⁾ In preparation