



NSAI
Standards

Irish Standard Recommendation
S.R. CEN/TS 17100:2017

Non-destructive testing - Penetrant testing - Reference photographs and sizing of indications

S.R. CEN/TS 17100:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

CEN/TS 17100:2017

Published:

2017-09-06

This document was published under the authority of the NSAI and comes into effect on:

2017-09-24

ICS number:

19.100

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

S.R. CEN/TS 17100:2017 is the adopted Irish version of the European Document CEN/TS 17100:2017, Non-destructive testing - Penetrant testing - Reference photographs and sizing of indications

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 17100

September 2017

ICS 19.100

English Version

**Non-destructive testing - Penetrant testing - Reference
photographs and sizing of indications**

Essais non destructifs - Contrôle par ressuage et par
magnétoscopie - Photographies de référence et
dimensionnement des indications

Zerstörungsfreie Prüfung - Eindringprüfung -
Referenzfotos und Dimensionierung von Anzeigen

This Technical Specification (CEN/TS) was approved by CEN on 2 July 2017 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Safety precautions	4
5 General principles	4
5.1 Purpose of a reference photograph	4
5.2 Lighting equipment	5
5.2.1 General requirement	5
5.2.2 White light sources	5
5.2.3 UV-A and actinic blue radiation sources	5
5.2.4 Layout of lighting devices	6
5.3 Filtering	7
5.3.1 General	7
5.3.2 White light, colour contrast technique	7
5.3.3 UV-A light, fluorescent technique	7
5.3.4 Actinic blue filters	7
5.4 Record resolution	8
5.5 Relative position of the camera and the part	9
5.6 Contrast ratio	11
5.6.1 Fluorescent process photographs	11
5.6.2 Colour contrast process photographs	11
6 Camera settings	11
7 Record: equipment and techniques	11
7.1 Digital photographic records	11
7.2 Digital processing	12
8 Printouts	12
8.1 General	12
8.2 Colour contrast techniques, printouts of photographs under white light	13
8.3 Fluorescent techniques, printouts of photographs under UV-A radiation	13
8.4 Resolution patterns	13
9 Screen displays	14
Bibliography	15

European foreword

This document (CEN/TS 17100:2017) has been prepared by Technical Committee CEN/TC 138 “Non-destructive testing”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CEN/TS 17100:2017 (E)

1 Scope

This document specifies minimum requirements in order to obtain and reproduce photographs used as reference records relative to PT (penetrant testing) colour contrast and fluorescent indications. It also provides requirements for the monitoring of resolution when measurements are to be indirectly performed by recording.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CEN/TR 16638:2014, *Non-destructive testing - Penetrant and magnetic particle testing using blue light*

EN ISO 3059, *Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions (ISO 3059)*

EN ISO 12706, *Non-destructive testing - Penetrant testing - Vocabulary (ISO 12706)*

ISO 12233, *Photography — Electronic still picture imaging — Resolution and spatial frequency responses*

ISO 18911, *Imaging materials — Processed safety photographic films — Storage practices*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12706, ISO 12233, ISO 18911, CEN/TR 16638 and the following apply:

3.1

reference photograph

approved record with sufficient sharpness and details showing all or part of PT indications used as a master document and the visual baseline

4 Safety precautions

All relevant international, regional, national and local regulations including health and safety recommendations and particularly photobiological rating for lighting sources shall be taken into account.

5 General principles

5.1 Purpose of a reference photograph

A reference photograph is a representative record of an approved indication, obtained after a PT process. It can be used for indirect sizing of the indication. Precautions shall be taken for the monitoring of resolution.

The indication record shall not modify the true indication, shape, sharpness and dimensions.

The record shall reproduce the indication in a proper form.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-