

**TR ISO/TS 11774:2022**  
**ISO/TS 11774:2011, IDT**  
(ICS 03.100.30; 19.100)

**TECHNICAL REFERENCE**

# **Non-destructive testing – Performance-based qualification**

## **TR ISO/TS 11774:2022**

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(ICS 03.100.30; 19.100)

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ISBN 978-981-5073-12-6

## National Foreword

This Technical Reference (TR) was prepared by the Working Group on Non-destructive Testing (also known as National Mirror Working Group on ISO/TC 135) set up by the Technical Committee on Workplace Safety and Health under the purview of the Quality and Safety Standards Committee.

This TR is an identical adoption of ISO/TS 11774:2011, “Non-destructive testing – Performance-based qualification” published by the International Organization for Standardization.

NOTE 1 – Where appropriate, the words “Technical Specification” are read as “Technical Reference”.

NOTE 2 – Reference to International/Overseas Standards are replaced by applicable Singapore Standards or Technical References.

This TR is a provisional standard made available for application over a period of three years. The aim is to use the experience gained to update the TR so that it can be adopted as a Singapore Standard. Users of the TR are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the TR. At the end of the three years, the TR will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

Attention is drawn to the possibility that some of the elements of this TR may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

### NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as “Mature Standards”. Mature Standards will not be subject to further review, unless there are requests to review such standards.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

# TECHNICAL SPECIFICATION

**ISO/TS  
11774**

First edition  
2011-11-01

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## **Non-destructive testing — Performance-based qualification**

*Essais non destructifs — Qualification sur une base de performances*



Reference number  
ISO/TS 11774:2011(E)

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Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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

ISO/TS 11774 was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 7, *Personnel qualification*.

## Introduction

Performance demonstration establishes the ability of a specific examination system (i.e. equipment, procedures and personnel) to achieve a desirable level of performance. The pre-established criteria for acceptable performance are based on an industry obtaining desired test results on qualification specimens with or without discontinuities including an established acceptable false call rate using qualified procedures and equipment.

NOTE      Wherever gender specific words such as “his”, “her”, “he” or “she” appear in this Technical Specification the other gender is also applicable.





# Non-destructive testing — Performance-based qualification

## 1 Scope

This Technical Specification provides a method for qualification of non-destructive testing (NDT) personnel, procedures, and equipment for specific non-destructive tests conducted in accordance with documented procedures established within a performance-based qualification programme.

Implementation of this Technical Specification requires cooperation between applicable industry sector committees (ISCs) and qualification bodies to ensure that specific performance expectations are addressed.

The qualification methodology described in this Technical Specification is based upon the ability of a candidate to demonstrate capability in detecting and sizing critical discontinuities equivalent to those to be detected and sized in the performance-based qualification programme as established by the ISC.

It is possible that second party (employer-based) qualification and approval (e.g. in accordance with ANSI/ASNT CP-189<sup>[3]</sup>) or qualification and third party certification (e.g. in accordance with ISO 9712<sup>[1]</sup> or EN 473<sup>[2]</sup>), followed by on-the-job training does not provide the required degree of confidence for safety critical inspections, and this Technical Specification provides criteria to assist in preparing an individual for performance-based qualification examinations.

Qualification to this Technical Specification is limited to the specific applications, using the specific documented procedure in the performance-based qualification programme.

## 2 Normative references

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

ISO/IEC 17024, *Conformity assessment — General requirements for bodies operating certification of persons*