

Aerospace series - Qualification and approval of
personnel for non-destructive testing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 4179:2017 sisaldab Euroopa standardi EN 4179:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 4179:2017 consists of the English text of the European standard EN 4179:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Aerospace series - Qualification and approval of personnel for non-destructive testing

Série aérospatiale - Qualification et agrément du
personnel pour les essais non destructifs

Luft- und Raumfahrt - Qualifizierung und Zulassung
des Personals für zerstörungsfreie Prüfungen

This European Standard was approved by CEN on 22 July 2016.

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 CEN-CENELEC Management Centre or to any CEN member.

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European foreword

This document (EN 4179:2017) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, 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of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

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.

This document supersedes EN 4179:2009.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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.

1. SCOPE

1.1 PURPOSE

This European Standard establishes the minimum requirements for the qualification and certification of personnel performing nondestructive testing (NDT), nondestructive inspection (NDI), or nondestructive evaluation (NDE) in the aerospace manufacturing, service, maintenance and overhaul industries. For the purposes of this standard, the term NDT will be used and will be considered equivalent to NDI and NDE.

In Europe, the term “approval” is used to denote a written statement by an employer that an individual has met specific requirements and has operating approval. Certification per EN ISO/CEI 17024 is required by this standard when specified by local or regulatory requirements. The term “certification” as defined in 3.1 is used throughout this standard as a substitute for the term “approval”. Except when otherwise specified in the written practice, certification in accordance with this standard includes operating approval.

1.2 APPLICABILITY

This standard applies to personnel using NDT methods to test and/or accept materials, products, components, assemblies or sub-assemblies. This standard also applies to personnel: directly responsible for the technical adequacy of the NDT methods used, who approve NDT procedures and/or work instructions, who audit NDT facilities, or who provide technical NDT support or training.

This standard does not apply to individuals who only have administrative or supervisory authority over NDT personnel or to research personnel developing NDT technology for subsequent implementation and approval by a certified Level 3. Personnel performing specialized inspections using certain direct readout instruments as determined by a Level 3 certified in the method, do not require qualification or certification to this standard.

1.2.1 IMPLEMENTATION

This standard addresses the use of a National Aerospace NDT Board (NANDTB). NANDTBs are only used as specified herein and it is not mandatory to have such a board for compliance with this document. Personnel certified to previous revisions of NAS410 or EN 4179 need not recertify to the requirements of this standard until their current certification expires.

1.3 COMMON METHODS

This standard contains detailed requirements for the following common NDT methods:

Liquid penetrant	(PT)
Magnetic particle	(MT)
Thermography	(IRT)
Shearography	(ST)
Eddy current	(ET)
Ultrasonic	(UT)
Radiography	(RT)

1.3.1 OTHER METHODS

When invoked by engineering, quality, cognizant engineering organization or prime contractor requirements, this standard applies to other current and emerging NDT methods used to determine the acceptability or suitability for intended service of a material, part, component, sub-assembly or assembly. Such methods may include, but are not limited to, acoustic emission, neutron radiography, leak testing and holography. The requirements for personnel training, experience, and examination for these other methods shall be established in accordance with 6.4 and shall be documented by the employer.

2. REFERENCE DOCUMENTS

2.1 STANDARDS

The following documents are referenced in this standard:

EN 4179, Aerospace Series - "Qualification and Approval of Personnel for Nondestructive Testing"

ISO 18490 – Nondestructive Testing – Evaluation of Vision Acuity of NDT Personnel

NAS 410 - "Certification and Qualification of Nondestructive Test Personnel"

EN ISO/CEI 17024, Conformity Assessment- General Requirements for Bodies Operating Certification of Persons

ISO 9712 - Non-Destructive Testing - Qualification and Certification of Personnel

2.2 ORDER OF PRECEDENCE

In the event of a conflict between the text of this document and the references cited herein, the requirements of this document take precedence. Nothing in this document supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS AS APPLIED TO THIS STANDARD

3.1 CERTIFICATION

A written statement by an employer that an individual has met the applicable requirements of this standard.

3.2 CLOSED BOOK EXAMINATION

An examination administered without access to any reference materials.

3.3 COGNIZANT ENGINEERING ORGANIZATION

The engineering or NDT organization of the prime contractor, OEM (Original Equipment Manufacturer), or end user authorized to make NDT-related decisions and give NDT-related approvals.