

INTERNATIONAL STANDARD

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Industrial non-destructive testing equipment – Electron linear accelerator

**Appareils destinés aux essais non destructifs pour le secteur industriel –
Accélérateur électronique linéaire**



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**Appareils destinés aux essais non destructifs pour le secteur industriel –
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INDUSTRIAL NON-DESTRUCTIVE TESTING EQUIPMENT – ELECTRON LINEAR ACCELERATOR

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IEC 62976 edition 1.1 contains the first edition (2017-05) [documents 45/821/FDIS and 45/824/RVD] and its amendment 1 (2021-10) [documents 45/920/CDV and 45/929/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62976 has been prepared by technical committee 45: Nuclear instrumentation.

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INDUSTRIAL NON-DESTRUCTIVE TESTING EQUIPMENT – ELECTRON LINEAR ACCELERATOR

1 Scope

This document gives the rules of naming, technical requirements, test methods, inspection, **marking signage**, packaging, transportation, storage and accompanying documents for electron linear accelerator equipment for Non-Destructive Testing (NDT).

This document applies to NDT electron linear accelerator equipment in the X-ray energy range of 1 MeV to 15 MeV, including the accelerator equipment for radiographic film, computed radiography with imaging plates, real-time imaging, digital detector array and industrial computerized tomography.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 Guide 37:2012, *Instructions for use of products by consumers*

ISO 780:2015, *Packaging – Distribution packaging – Graphical symbols for handling and storage of packages*

ISO 19232-1:2013, *Non-destructive testing – Image quality of radiographs – Part 1: Determination of the image quality value using wire-type image quality indicators*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

target

area on the surface of accelerating tube outlet on which the electron beam impinges and from which the primary beam of X-rays is emitted

3.2

linear electron accelerator

LINAC

apparatus for producing high energy electrons by accelerating them along a waveguide. The electrons strike a target to produce X-rays

Note 1 to entry: NDT electron linear accelerator, hereinafter referred to as the accelerator.

[SOURCE: ISO 5576:1997, 2.84]