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INTERNATIONAL STANDARD

NORME INTERNATIONALE



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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ELECTROTECHNICAL
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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Equipment sets, names and work conditions	9
4.1 Equipment sets	9
4.2 Name convention	9
4.3 Operating conditions	10
4.3.1 Environmental requirement.....	10
4.3.2 Power supply	10
5 Technical requirements.....	10
5.1 Appearance	10
5.2 Control system	10
5.2.1 Design principle	10
5.2.2 Operation of start and stop.....	10
5.2.3 Functions of control system.....	10
5.3 Performance	11
5.3.1 X-ray beam energy.....	11
5.3.2 X-ray homogeneity	11
5.3.3 X-ray beam air kerma rate	11
5.3.4 X-ray beam focal spot	12
5.3.5 X-ray beam asymmetry	12
5.3.6 X-ray sensitivity	12
5.3.7 Dose leakage.....	13
5.4 Electrical safety	13
5.4.1 Protective grounding	13
5.4.2 Insulation resistance	13
5.4.3 Dielectric strength	13
5.4.4 Protection against electric shock	13
5.5 Reliability.....	13
5.5.1 Continuous operation	13
5.5.2 Recovery	13
5.5.3 Restart	13
6 Test methods.....	13
6.1 General requirements.....	13
6.1.1 Testing conditions	13
6.1.2 Instruments and devices.....	14
6.2 Visual inspection	15
6.3 Control system test	15
6.4 Performance test.....	15
6.4.1 X-ray beam energy.....	15
6.4.2 X-ray homogeneity	16
6.4.3 X-ray beam air kerma rate	17
6.4.4 X-ray beam focal spot	17
6.4.5 X-ray beam asymmetry	19
6.4.6 X-ray sensitivity	19

6.4.7	Leakage dose rate	19
6.5	Electrical safety testing	20
6.5.1	Protective grounding	20
6.5.2	Insulation resistance	20
6.5.3	Dielectric strength	20
6.5.4	Protection against electric shock	20
6.6	Reliability test	20
6.6.1	Continuous operation	20
6.6.2	Recovery	20
6.6.3	Restart	20
7	Inspection rules	21
7.1	Inspection classification	21
7.2	Inspection items	21
7.3	Criterion rule	21
8	Marking Signage, packaging, transportation, storage and accompanying documents	21
8.1	Marking Signage	21
8.1.1	Accelerator signs	21
8.1.2	Component nameplates	22
8.1.3	Labels	22
8.1.4	Warning signs	22
8.2	Packaging	22
8.3	Transportation	22
8.4	Storage	22
8.5	Accompanying documents	23
8.5.1	Instructions	23
8.5.2	Product certification Supplier's declaration of conformity	23
8.5.3	Other documents	23
	Figure 1 – Naming convention	9
	Figure 2 – Sketch map of the test module	14
	Figure 3 – Sketch map of the copper block with a swivelling edge	15
	Figure 4 – Schematic diagram of X ray beam radial uniformity measurement	16
	Figure 5 – Schematic diagram of the testing module in front of the detector	17
	Figure 6 – Schematic diagram of the “Sandwich” test module placement	18
	Figure 7 – Schematic diagram of the copper block test module placement	18
	Figure 8 – Diagram of leakage dose measurement points	20
	Table 1 – Specifications of several commonly used accelerator models	10
	Table 2 – Half value layer of materials corresponding to commonly used X-ray beam energies	11
	Table 3 – X-ray homogeneity of commonly used X-ray beam energies	11
	Table 4 – X-ray beam air kerma rate of different models	12
	Table 5 – Detection range of equivalent steel thickness corresponding to commonly used X-ray beam energies	12
	Table 6 – Testing conditions	14

Table 7 – Inspection items of the accelerator.....21

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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]