



SLOVENSKI STANDARD
oSIST prEN IEC 60079-14:2023
01-junij-2023

Načrtovanje, izbira in namestitvev električnih inštalacij, vključno z začetnim pregledom

Electrical installation design, selection and installation of equipment, including initial inspection

Projektierung, Auswahl und Errichtung elektrischer Anlagen

Conception, sélection et construction des installations
électriques

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91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

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FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input checked="" type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input checked="" type="checkbox"/> SAFETY	
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TITLE:

Electrical installation design, selection and installation of equipment, including initial inspection

PROPOSED STABILITY DATE: 2028

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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EXPLOSIVE ATMOSPHERES –

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**Part 14: Electrical installations design, selection and installation of
equipment, including initial inspection**

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FOREWORD

341 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising
342 all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international
343 co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and
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373 International Standard IEC 60079-14 has been prepared by subcommittee 31J: Classification
374 of hazardous areas and installation requirements, of IEC technical committee 31: Equipment
375 for explosive atmospheres.

376 This sixth edition cancels and replaces the fifth edition published in 2013. This edition
377 constitutes a technical revision.

378 Edition 6 is a major restructure and introduces a number of technical changes from the previous
379 edition. The "Table of Significant Changes" is provided to highlight the technical and more
380 significant editorial changes from the previous edition. Minor editorial changes are not listed as
381 there are too many changes to include in the "Table of Significant Changes".

382

Table 1 – Table of Significant Changes

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
List of possible ignition sources completed	Introduction	x		
Introduction of a new title “Electrical installation design, selection and installation of equipment, including initial inspection”	Scope			C1
New definition: certificates	3.1.4		x	
New definition: Ex Equipment	3.1.5		x	
New definition: Ex Equipment Certificates	3.1.6		x	
New definition: Equipment Protection Level	3.2.13	x		
definition: associated apparatus	3.5.2	x		
Modification definition: liquid immersion (formerly oil immersion)	3.9	x		
Definition equipment, portable	3.14.3	x		
Definition equipment, personal	3.14.4	x		
New definition: cables	3.16		x	
Zones and Equipment Protection Levels	4.1.1		x	
Requirements for all Ex Equipment	4.1.2		x	
Electrical ratings	4.1.3		x	
Use of Ex Components	4.1.4		x	
Static electricity (Reference to IEC 60079-32-1)	4.3.2	x		
RFID tags	4.3.6		B1	
Installation information (additional bullet points c) and e)	5.4		x	
TN type of system earthing	6.2.5.2	x		
Cathodically protected metallic parts	6.2.7		x	
Cables subjected to thermal insulation	6.6.2		x	
Overhead wiring	6.6.3		x	
Electrical machines with converter supply	6.7.3.4 b)		B2	
Electric heating systems	6.8		x	
Plugs, socket outlets and couplers	6.9	x		
Type of protection “e” – Increased safety	6.13	x		
Intrinsically safe circuits with only one source of power with linear characteristic	6.14.3.3	A1		
Earthing of conducting screens – Special cases	6.14.4	x		
Simple apparatus	6.14.11 Annex Q			C2
Junction boxes	6.14.12	x		
Junction boxes with non-intrinsically safe and intrinsically safe circuits	6.14.12.2	x		
Pressurized rooms	6.19	x		
Analyser houses	6.20	x		
Selection of pollution degree	7.3.5		x	
Selection of specific process hazards	7.3.6		x	
Selection of cables	7.4	A2		

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Cables for direct entries into flameproof enclosures	7.4.2		x	
Cables for direct entries into restricted breathing enclosures	7.4.3		x	
UV or solar radiation	7.4.5		x	
Cables for intrinsic safety circuits	7.4.9		x	
Breathing and draining devices	7.5.3		x	
Entry devices for fibre optic cables	7.5.4		x	
Other entry devices	7.5.5		x	
New Flowchart: Selection of cable entry devices	7.5.6			C3
Conduits	7.6	x		
Luminaires	7.7.1	x		
Rotating electric machines	7.8	x		
New clause "General" in 8 "Installation of equipment"	8.1		x	
Equipotential bonding connections	8.2.2	x		
Penetration in structures	8.2.4	x		
Jointing	8.2.7		x	
Entry devices and other fittings	8.3	A3		
Conduit systems	8.4	x		
Electric heating systems	8.5		x	
Protective coating of Ex Equipment	8.6		x	
New informative Annex: Inspection tables for initial inspections (from IEC 60079-17)	Annex O			C4
New normative Annex: Pressure test for cables – test procedure	Annex C			C5
New informative Annex: Transportable, portable and personal equipment	Annex I		x	
New informative Annex: Electrical machines operated from converters	Annex J		x	
New informative Annex: Surge protection of an intrinsically safe circuit	Annex K		x	
New informative Annex: Guidance on the different duty types S1 to S10 of motors	Annex M		x	
New informative Annex: IP rating in accordance to Type of Protection	Annex P		x	
New normative Annex: Simple apparatus	Annex Q			C2

383 NOTE 1 The technical changes referred to include the significance of technical changes in the revised IEC
384 Standard, but they do not form an exhaustive list of all modifications from the previous version. More guidance may
385 be found by referring to the Redline Version of the standard.

386 Explanations:

387 A) Definitions

388 Minor and editorial changes

clarification
decrease of technical requirements
minor technical change
editorial corrections

389
390
391

392
393 These are changes which modify requirements in an editorial or a minor technical way. They
394 include changes of the wording to clarify technical requirements without any technical change,
395 or a reduction in level of existing requirement.

396
397 **Extension** addition of technical options

398
399 These are changes which add new or modify existing technical requirements, in a way that new
400 options are given, but without increasing requirements for the design, selection and erection of
401 existing installations that was fully compliant with the previous standard. Therefore, these will
402 not have to be considered for existing installations in conformity with the preceding edition.

403
404 **Major technical changes** addition of technical requirements
405 increase of technical requirements

406
407 These are changes to technical requirements (addition, increase of the level or removal) made
408 in a way that an existing installation in conformity with the preceding edition will not always be
409 able to fulfil the requirements given in the later edition. These changes have to be considered
410 for existing installations in conformity with the preceding edition.

411
412 NOTE 2 These changes represent current technological knowledge. However, these changes should not normally
413 have an influence on equipment already placed on the market.

414

415 **B) Information about the background of Changes**

416 A1 Clarification of the application of the 1% rule to make users aware that the application of
417 permissible pairs is first choice and when not available then the 1% rule.

418 A2 The cable requirements from previous edition in 9.3.2 have been changed to just a few
419 minimum aspects to have not any product requirement in this installation standard.

420 A3 The application of adapters and reducers have been changed to align with product standard
421 requirements.

422 B1 The manufacturer of the RFID tag has to demonstrate and document that there is no
423 explosion hazard.

424 B2 Additionally to the use of a certified combination of an electrical machine in type of
425 protection eb together with the converter, an electrical machine in the Type of Protection
426 eb (type tested for converter supply) can be operated with an unspecified type of converter.

427 C1 The title is changed to "Electrical installation design, selection and installation of
428 equipment, including initial inspection" to ensure that all areas, including initial inspection,
429 are mentioned in the title. The term "Installation of equipment" is replacing the word
430 "Erection" in the title as more common wording.

431 C2 The requirements for simple apparatus have been aligned with IEC 60079-11.

432 C3 The flowchart is revised to include consideration of equipment groups, cable lengths and
433 enclosures with a volume $\leq 2000 \text{ cm}^3$. (Additional information can be found in the
434 supporting document SC 31J SD 001.)

435 C4 The previous normative tables in the section "Initial inspection" are included in the
436 informative Annex O. This allows checklists to be customized for specific installations.