



SLOVENSKI STANDARD
oSIST prEN IEC 60079-17:2021
01-april-2021

Eksplzivne atmosfere - 17. del: Pregledovanje in vzdrževanje električnih inštalacij

Explosive atmospheres - Part 17: Electrical installations inspection and maintenance

Explosionsgefährdete Bereiche - Teil 17: Prüfung und Instandhaltung elektrischer Anlagen

Atmosphères explosives - Partie 17: Inspection et entretien des installations électriques

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Ta slovenski standard je istoveten z: prEN IEC 60079-17:2021

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ICS:

29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

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en,fr,de

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31J/312/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: IEC 60079-17 ED6	
DATE OF CIRCULATION: 2021-02-05	CLOSING DATE FOR VOTING: 2021-04-30
SUPERSEDES DOCUMENTS: 31J/287/CD, 31J/308/CC	

IEC SC 31J : CLASSIFICATION OF HAZARDOUS AREAS AND INSTALLATION REQUIREMENTS	
SECRETARIAT: Croatia	SECRETARY: Mr Marino Kelava
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 18, SC 61D	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input checked="" type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input checked="" type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING	
<p>Attention IEC-CENELEC parallel voting</p> <p>The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.</p> <p>The CENELEC members are invited to vote through the CENELEC online voting system.</p>	

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TITLE:

Explosive atmospheres - Part 17: Electrical installations inspection and maintenance

PROPOSED STABILITY DATE: 2026

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPLOSIVE ATMOSPHERES –

Part 17: Electrical installations inspection and maintenance

FOREWORD

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International Standard IEC 60079-17 has been prepared by subcommittee 31J: Classification of hazardous areas and installation requirements, of IEC technical committee 31: Equipment for explosive atmospheres.

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

171

172 The significant technical changes with respect to the previous edition are as follows:

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Simplifying description of explosive gas and dust atmospheres in the Scope and uses these terms throughout document	1	X		
Clarifies the exclusion of ventilated rooms in the Scope	1	X		
Aligns maintenance terms and definitions in 3.7 & 3.8 with IEC 60079.	3	X		
Introducing new clause 4.4.1.2. Manufacturer's documentation for cross referencing in text without repetition	4	X		
Further guidance added into Note 4 regarding factors contributing to the deterioration of Ex equipment.	4.4.1.1.		X	
Clarifies the change in terminology from previously used Special Condition of Safe Use to current terminology Specific Conditions of Use .	4.11		X	
Further requirements added regarding type of protection "o".	5.7			X
Clarification added regarding use of inspection tables	6		X	
Minor editorial changes and correction made to tables 1 to 4 but with no change to item numbering or content	Tables 1 to 4	X		
Modified reference in this standard to align all types of inspection with Continuous Supervision terms i.e. Skilled Persons and Technical Person with Executive Function.	Annex B			X
Example of typical assessment report removed from informative Annex c.	Annex B	X		
Introducing new items in the Bibliography	Bibliography		X	X
NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version.				

173

174 The text of this standard is based on the following documents:

FDIS	Report on voting

175

176 Full information on the voting for the approval of this standard can be found in the report on
177 voting indicated in the above table.

178 This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

179 This International Standard is intended to be used in conjunction with IEC 60364-6.

180

181 A list of all parts of the IEC 60079 series, under the general title *Explosive atmospheres*, can
182 be found on the IEC website.

183 The committee has decided that the contents of this publication will remain unchanged until the
184 stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to
185 the specific publication. At this date, the publication will be

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– 7 –

- 186 • reconfirmed, or
187 • replaced by a revised edition,
188

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189

INTRODUCTION

190 Electrical installations in hazardous areas possess features specially designed to render them
191 suitable for operations in such atmospheres. It is essential for reasons of safety in those areas
192 that, throughout the life of such installations, the integrity of those special features is preserved.
193 This standard provides the details for initial inspection and on-going inspections as either;

194 a) regular periodic inspections thereafter, or,

195 b) continuous supervision by skilled personnel.

196 When necessary, maintenance may also be needed.

197 Correct functional operation of hazardous area installations does not mean, and should not be
198 interpreted as meaning, that the integrity of the special features referred to above is preserved.

199

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200 EXPLOSIVE ATMOSPHERES –

201 202 **Part 17: Electrical installations inspection and maintenance**

203 204 **Scope**

205 This part of the IEC 60079 series applies to users and covers only those factors directly related
206 to the inspection and maintenance of electrical installations specifically designed for hazardous
207 areas, where the hazard may be caused by explosive gas or explosive dust atmospheres.

208 It does not include:

- 209 • other fundamental installation and inspection requirements for electrical installations;
- 210 • the verification of electrical equipment;
- 211 • protection or ventilation of rooms;
- 212 • gas detection systems;
- 213 • the repair and overhaul of explosion protected equipment (see IEC 60079-19).

214 While this standard does not include inspection of safety devices such as used in ventilated
215 rooms (see 60079-13), this standard does include the requirements for inspection and
216 maintenance of individual items of equipment that will be part of such systems, for example
217 motors or sensors.

218 This standard supplements the requirements for inspection and testing in non-hazardous areas
219 in IEC 60364-6.

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220 NOTE 1 Standards applied at the date of installation might not have been IEC standards.

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222 This standard is intended to be applied where there can be a risk due to the presence of
223 explosive gas or dust mixtures with air or combustible dust layers under normal atmospheric
224 conditions. It does not apply to:

- 225 • underground mining areas,
- 226 • dusts of explosives,
- 227 • pyrophoric substances.

228 **Normative references**

229 The following documents are referred to in the text in such a way that some or all of their content
230 constitutes requirements of this document. For dated references, only the edition cited applies.
231 For undated references, the latest edition of the referenced document (including any
232 amendments) applies.

233 IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements*

234 IEC 60079-14, *Explosive atmospheres – Part 14: Electrical installations design, selection and*
235 *erection*

236 IEC 60364-6, *Low-voltage electrical installations – Part 6: Verification*

237 **Terms and definitions**

238 For the purposes of this document, the terms and definitions given in IEC 60079-0 and the
239 following apply.

240 NOTE Additional definitions applicable to explosive atmospheres can be found in IEC 60050-426.

241 **3.1**

242 **close inspection**

243 inspection which encompasses those aspects covered by a visual inspection and, in addition,
244 identifies those defects, such as loose bolts, which will be apparent only by the use of access
245 equipment, for example steps (where necessary), or tools.

246 Note 1 to entry Close inspections do not normally require the enclosure to be opened, or the equipment to be de-
247 energized.

248 **3.2**

249 **continuous supervision**

250 frequent attendance, inspection, service, care and maintenance of the electrical installation by
251 skilled personnel who have experience in the specific installation and its environment in order
252 to maintain the explosion protection features of the installation in satisfactory condition

253 **3.3**

254 **detailed inspection**

255 inspection which encompasses those aspects covered by a close inspection and, in addition,
256 identifies those defects, such as loose terminations, which will only be apparent by opening the
257 enclosure, and/or, where necessary, using tools and test equipment.

258 **3.4**

259 **hazardous area**

260 area in which an explosive atmosphere is present, or may be expected to be present, in
261 quantities that special precautions for the construction, installation and use of equipment are
262 required

263 Note 1 to entry: For the purposes of this standard, an area is a three-dimensional region or space.

264 **3.5**

265 **initial inspection**

266 inspection of all electrical equipment, systems and installations before they are brought into
267 service

268 **3.6**

269 **inspection**

270 action comprising careful scrutiny of an item carried out either without dismantling, or with the
271 addition of partial dismantling as required, supplemented by means such as measurement, in
272 order to arrive at a reliable conclusion as to the condition of an item

273 **3.7**

274 **live maintenance**

275 maintenance activities carried out while circuits are energized

276 **3.8**

277 **maintenance for electrical installations in hazardous areas**

278 combination of any actions carried out to retain an item in, or restore it to, conditions in which
279 it is able to meet the requirements of the relevant specification and perform its required
280 functions

281 **3.9**

282 **non-hazardous area**

283 area in which an explosive atmosphere is not expected to be present in quantities such that
284 special precautions for the construction, installation and use of equipment are required

285 **3.10**

286 **periodic inspection**

287 inspection of all electrical equipment, systems and installations carried out on a routine basis

288 **3.11**
 289 **sample inspection**
 290 inspection of a representative proportion of the electrical equipment, systems and installations

291 **3.12**
 292 **skilled personnel**
 293 persons whose training has included instruction on the various types of protection and
 294 installation practices, the requirements of this standard, the relevant national
 295 regulations/company rules applicable to the installation and on the general principles of area
 296 classification

297 **3.13**
 298 **technical person with executive function**
 299 person providing technical management of the skilled personnel, having adequate knowledge
 300 in the field of explosion protection, having familiarity with the local conditions, having familiarity
 301 with the installation and who has overall responsibility and control of the inspection systems for
 302 the electrical equipment within hazardous areas

303 **3.14**
 304 **visual inspection**
 305 inspection which identifies, without the use of access equipment or tools, those defects, such
 306 as missing bolts, which will be apparent to the eye

307 **General requirements**

308 **4.1 Documentation**

309 For the purposes of inspection and maintenance, up-to-date documentation (verification dossier)
 310 including any modification records, of the following items shall be available:

- 311 a) zone classification of areas and, if included, the Equipment Protection Level (EPL) required
 312 for each location (see IEC 60079-10-1 and IEC 60079-10-2),
 313 b) for gases: equipment group (IIA, IIB or IIC) and temperature class requirements,
 314 c) for dusts: equipment group (IIIA, IIIB or IIIC) and maximum surface temperature
 315 requirements,
 316 d) equipment characteristics for example temperature ratings, Type of Protection, IP rating,
 317 corrosion resistance,
 318 e) records sufficient to enable the explosion protected equipment to be maintained in
 319 accordance with its Type of Protection (see IEC 60079-14), (for example list and location of
 320 equipment, spares, certificates, technical information),
 321 f) copies of previous inspection records,
 322 g) copy of the initial inspection records as detailed in IEC 60079-14.

323 Requirements for other documentation that may be necessary are provided in IEC 60079-14
 324 and IEC 60079-19.

325 **4.2 Competence of personnel**

326 The inspection and maintenance of installations covered by this standard shall be carried out
 327 only by experienced personnel. The knowledge, skills, and competencies of technical persons
 328 with executive function and skilled persons are given in annex B.

329 Appropriate continuing education or training shall be undertaken by all personnel on a regular
 330 basis with all evidence documented and available for regular review..

331 **4.3 Integrated Systems**

332 Integrated systems which provide protection in relation to the hazardous area installation, e.g.
 333 ventilation or pressurisation of rooms or gas detection systems, should be inspected and