

**Monitoring and alarm receiving centre -
Part 1: Location and construction requirements**

Centre de contrôle et de réception
d'alarme -
Partie 1: Exigences pour l'emplacement
et la construction

Notruf- und Serviceleitstellen (NSL) -
Teil 1: Örtliche und bauliche
Anforderungen

This draft European Standard is submitted to CENELEC members for CENELEC enquiry.
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CENELEC

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Foreword

2 This draft European Standard was prepared by the Technical Committee CENELEC TC 79, Alarm
3 systems. It is submitted to the CENELEC enquiry.

4 EN 50518 will consist of the following parts, under the generic title "*Monitoring and alarm receiving*
5 *centre*":

- 6 - Part 1¹⁾: Location and construction requirements
- 7 - Part 2²⁾: Requirements for technical facilities
- 8 - Part 3²⁾: Procedures and requirements for operation

9

10

1) At draft stage.

2) In preparation.

11	Contents		
12	Introduction		4
13	1 Scope		6
14	2 Normative references		6
15	3 Definitions and abbreviations		7
16	3.1 Definitions		7
17	3.2 Abbreviations		11
18	4 Site selection		11
19	4.1 Risk assessment.....		11
20	4.2 Site location.....		11
21	4.3 Site accessibility.....		11
22	5 Construction		12
23	5.1 ARC structure.....		12
24	5.2 Facilities		12
25	5.3 Openings.....		13
26	5.4 Entrance lobby		13
27	5.5 Lock mechanisms		13
28	5.6 Emergency exit		14
29	5.7 Glazed areas.....		14
30	5.8 Ventilation		14
31	5.9 Service inlets and outlets		14
32	5.10 Transfer hatch / chute		14
33	6 Alarm systems of ARC		15
34	6.1 External attack		15
35	6.2 Fire		15
36	6.3 Access/exit.....		15
37	6.4 Gas.....		16
38	6.5 Communications		16
39	6.6 Hold-up.....		16
40	6.7 Personnel safety monitoring		16
41	6.8 Signals from the protection systems		16
42	6.9 Closed-circuit television surveillance		16
43	7 Electrical power supplies		17
44	7.1 Mains supply		17
45	7.2 Standby power supplies.....		17
46	Annex A (informative) Lock code requirements		18
47	Bibliography		20
48	Tables		
49	Table 1 – Minimum resistance against physical attack for ARCs		12
50	Table 2 – Resistance class.....		13
51	Table 3 – Physical attack and bullet attack		14
52	Table 4 – Performance parameters of the dual path system		16
53			
54			

55 **Introduction**

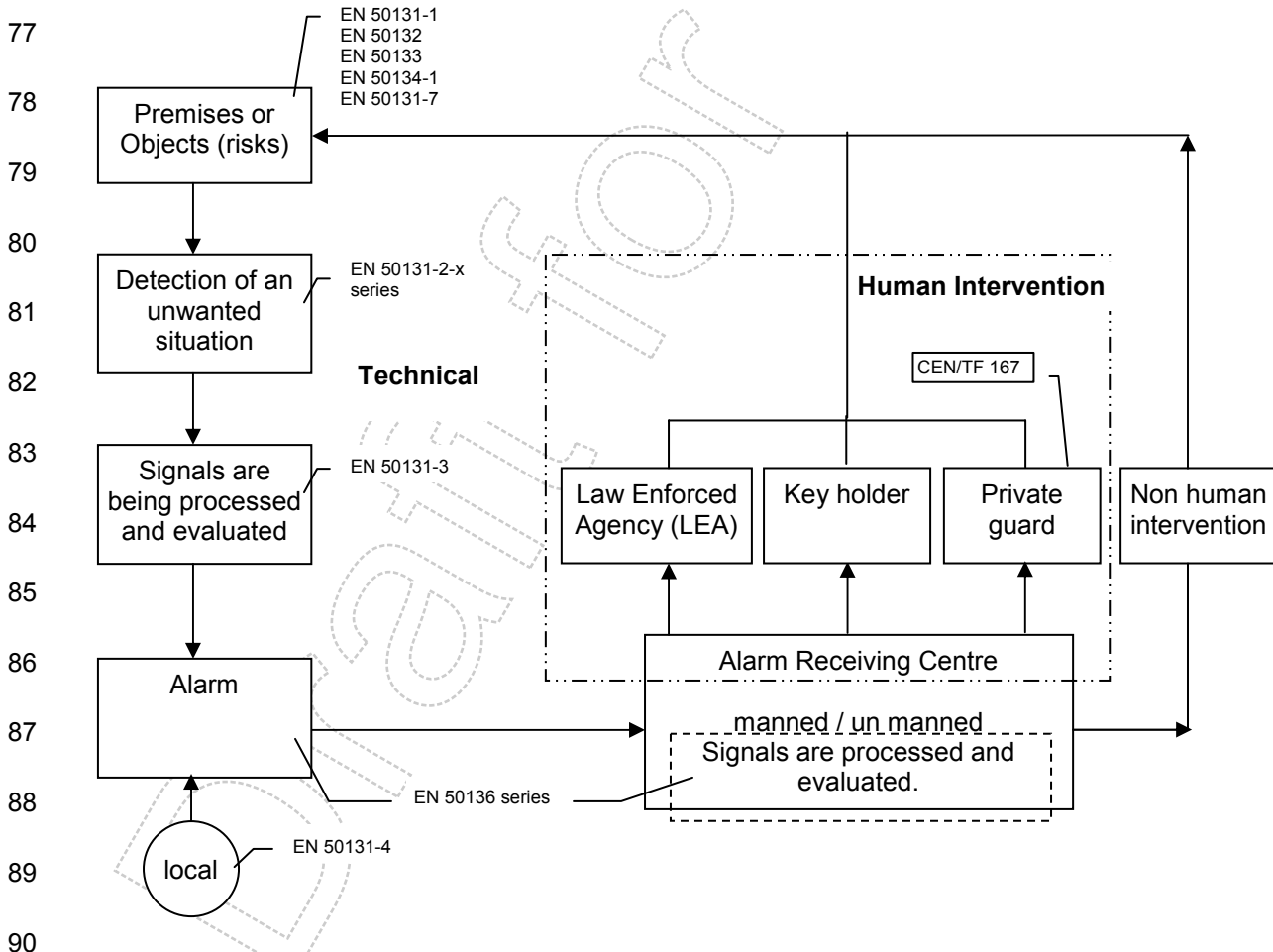
56 This European Standard applies to all Monitoring and Alarm Receiving Centres (MARC's) that monitor
57 and/or receive and/or process signals that require an emergency response.

58 The abbreviation MARC describes the full functional scope of a Monitoring and Alarm Receiving
59 centre. In all existing EN 50131 series accomplished under CLC/TC 79, Alarm systems, the
60 abbreviation ARC is used. To avoid confusion and to achieve consistency in terminology the
61 abbreviation ARC will be used throughout this standard, where MARC is equivalent for ARC.

62 The function of receiving, processing and initiating response actions by (human) intervention for
63 information provided by remote detection and monitoring systems is not limited to only those signals
64 as generated by Intruder and Hold-up Alarm Systems (I&HAS). The whole series of standards under
65 CLC/TC 79, Alarm systems, encompasses CCTV surveillance systems (EN 50312), social alarm
66 systems (EN 50134), access control systems (EN 50133) and audio and video door entry systems. All
67 mentioned systems can send information, including alarms, to one or more remote locations for further
68 processing, evaluation and (human) intervention.

69 All alarm information generated by other systems e.g. fire detection and fire alarm systems, (vehicle)
70 tracking and tracing systems, guarding or telecommunication network supervision is regularly
71 transmitted to one or more remote locations for further processing, evaluation and (human)
72 intervention.

73 In all above circumstances external and internal criminal action, emergency situations and/or
74 calamities can jeopardize the safety and security of human beings and or properties. The central
75 locations where the receiving, processing and initiation of (human) intervention take place should
76 comply with the requirements of this standard.



91 It is noted that this European Standard cannot supersede any legislative requirements deemed
92 necessary by a National Government to control the security sector on a national basis. This standard
93 can not interfere with items that are regulated by (inter)national regulations concerning external
94 services (e.g. water, waste water, fuel supplies for gas and/or oil and mains power supplies).

Draft for Enquiry

95 1 Scope

96 This Part 1 of EN 50518 specifies the minimum requirements for the design, construction, and
 97 functioning equipment for premises where the monitoring, receiving and processing of (alarm) signals
 98 generated by alarm systems takes place as an integrated part of the total safety and security process.
 99 The requirements apply for applications in a remote configuration where multiple systems report to a
 100 single or multiple Alarm Receiving Centre(s) (ARC) as well as to a single site facility aimed for the
 101 monitoring and processing of alarms generated by one or more alarm systems installed within the
 102 perimeter of that particular site.

103 2 Normative references

104 The following referenced documents are indispensable for the application of this document. For dated
 105 references, only the edition cited applies. For undated references, the latest edition of the referenced
 106 document (including any amendments) applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>
EN 50131-1	2006	Alarm systems – Intrusion and hold-up systems – Part 1: System requirements
CLC/TS 50131-7	2003	Alarm systems – Intrusion systems – Part 7: Application guidelines
EN 50133-1	1996	Alarm systems – Access control systems for use in security applications – Part 1: System requirements
EN 50136-1	¹⁾	Alarm systems – Alarm transmission systems – Part 1: General requirements for alarm transmission systems
CLC/TS 50136-4	2004	Alarm systems – Alarm transmission systems and equipment – Part 4: Annunciation equipment used in alarm receiving centres
EN 50272-2	2001	Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
EN 62305	series	Protection against lightning (IEC 62305 series)
EN 54	series	Fire detection and fire alarm systems
EN 179	2008	Building hardware - Emergency exit devices operated by a lever handle or push pad, for use on escape routes - Requirements and test methods
EN 356	1999	Glass in building – Security glazing – Testing and classification of resistance against manual attack
EN 1063	1999	Glass in building - Security glazing – Testing and classification of resistance against bullet attack
EN 1303	2005	Building hardware – Cylinders for locks – Requirements and test methods
EN 1522	1998	Windows, doors, shutters and blinds – Bullet resistance – Requirements and classification
EN 1627	¹⁾	Burglar resistant construction products (not for precast concrete parts) – Requirements and classification
EN 1906	2002	Building hardware – Lever handles and knob furniture – Requirements and test methods
EN 1990	2002	Eurocode – Basis of structural design
EN 1991	series	Eurocode 1 – Actions on structures

¹⁾ At draft stage.

EN 1992	series	Eurocode 2 – Design of concrete structures
EN 1993	series	Eurocode 3 – Design of steel structures
EN 1994	series	Eurocode 4 – Design of composite steel and concrete structures
EN 1995	series	Eurocode 5 – Design of timber structures
EN 1996	series	Eurocode 6 – Design of masonry structures
EN 1997	series	Eurocode 7 – Geotechnical design
EN 1998	series	Eurocode 8 – Design of structures for earthquake resistance
EN 1999	series	Eurocode 9 – Design of aluminium structures
EN 12209	2003	Building hardware – Locks and latches – Mechanically operated locks, latches and locking plates – Requirements and test methods
EN 13501-2	2007	Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services
EN 13779	2007	Ventilation for non-residential buildings – Performance requirements for ventilation and room-conditioning systems
EN 14846	¹⁾	Building hardware - Locks and latches - Electromechanically operated locks and striking plates - Requirements and test methods

107 **3 Definitions and abbreviations**

108 **3.1 Definitions**

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

110 **3.1.1**

111 **access**

112 action of entry into or exit from a security controlled area

113 [EN 50133-1, 4.01]

114 **3.1.2**

115 **alarm company**

116 organisation which provides services for ASs

117 [EN 50131-1, 3.1.7, mod.]

118 **3.1.3**

119 **alarm condition**

120 condition of an AS, or part thereof, which results from the response of the system to the presence of a hazard

122 [EN 50131-1, 3.1.8, mod.]

123 **3.1.4**

124 **annunciation equipment**

125 equipment located at an ARC which displays the alarm status, or the changed alarm status of ASs in response to the receipt of incoming alarm messages

127 NOTE The AE is not part of the ATS.

128 [EN 50136-1, 4.1.10]

129 **3.1.5**

130 **alarm receiving centre (ARC)**

131 continuously manned centre to which information concerning the status of one or more AS is reported

132 [EN 50136-1, 4.1.2]

- 133 **3.1.6**
134 **ARC satellite**
135 normally unmanned centre to which information concerning the status of one or more systems is
136 reported and processed for onward transmission either direct or via further satellite to a ARC
- 137 **3.1.7**
138 **alarm transmission equipment**
139 collective term to describe SPT, AUT and RCT
140 [EN 50136-1, 4.1.4]
- 141 **3.1.8**
142 **alarm transmission system**
143 ATE and networks used to transfer information concerned with the state of one or more ASs to the AE
144 of one more ARCs
- 145 NOTE An ATS may consist of ATPs of different classes, e.g. for the use in so called "dual path systems".
146 [EN 50131-6, 4.1.9]
- 147 **3.1.9**
148 **audible verified**
149 alarm signal verified by the ARC operator after having received audio information transmitted from the
150 supervised premises and where the ARC operator made a decision that it is considered a genuine
151 intrusion or genuine attempted intrusion has occurred
- 152 **3.1.10**
153 **client**
154 individual or corporate body with whom the ARC has entered into a contract to provide alarm
155 monitoring services
- 156 **3.1.11**
157 **control and indicating equipment**
158 equipment for receiving, processing, controlling, indicating and initiating the onward transmission of
159 information
160 [EN 50131-1, 3.1.22]
- 161 **3.1.12**
162 **deliberately operated device**
163 device which, when manually operated, causes an alarm signal or message to be generated
- 164 **3.1.13**
165 **detector**
166 device designed to generate an alarm signal or message in response to the sensing of an abnormal
167 condition indicating the presence of a hazard
168 [TS 50131-7, 3.1.13, mod.]
- 169 **3.1.14**
170 **entrance lobby**
171 space between exterior and ARC that provides a controlled and secured access to the ARC
- 172 **3.1.15**
173 **fire resistance**
174 ability of an element of building construction, component or structure to fulfil, for a stated period of
175 time, the required stability, fire integrity and/or thermal insulation and/or other expected duty in a
176 standard fire resistance test

- 177 **3.1.16**
178 **fault condition**
179 condition of a system which prevents a system or part thereof from functioning normally
180 [EN 50131-1, 3.1.26, mod.]
- 181 **3.1.17**
182 **intruder alarm system**
183 AS to detect and indicate the presence, entry or attempted entry of an intruder into the supervised
184 premises
185 [EN 50131-1, 3.1.36]
- 186 **3.1.18**
187 **mains power supply**
188 public supply mains for the electrical power of the ARC
- 189 **3.1.19**
190 **monitoring**
191 process of verifying that interconnections and equipment are functioning correctly
192 [EN 50131-1, 3.1.45]
- 193 **3.1.20**
194 **operator**
195 person responsible for the handling of messages presented at the AE
196 [CLC/TS 50136-4]
- 197 **3.1.21**
198 **receiving centre transceiver**
199 ATE at the ARC including the interface to the AE and the interface to one or more transmission
200 networks and being part of an ATP
- 201 NOTE In some systems this transceiver may be able to indicate changes of the status of an AS and to store log-files. This may
202 be needed to increase the system availability in case of AE failure
203 [EN 50136-1, 4.1.21]
- 204 **3.1.22**
205 **remote centre**
206 location remote from the supervised premises and from the ARC, where AUTs are located
- 207 NOTE Typically the remote centre is also a monitoring centre and the place where a management system for the ATS is
208 located.
209 [EN 50136-1, 4.1.22]
- 210 **3.1.23**
211 **restore**
212 procedure of cancelling an alarm, tamper, fault or other condition and returning the alarm system to a
213 previous condition
214 [EN 50131-1, 3.1.56, mod.]
- 215 **3.1.24**
216 **sequentially verified**
217 signals emanating from two or more independent detectors which are configured such that it is
218 considered a genuine intrusion or genuine attempted intrusion has occurred
- 219 **3.1.25**
220 **set**
221 status of an (alarm) system or part thereof in which an alarm condition can be notified
222 [EN 50131-1, 3.1.59, mod.]

- 223 **3.1.26**
224 **standby power supply**
225 energy source that is capable of supporting a ARC for extended periods
- 226 **3.1.27**
227 **supervised premises**
228 that part of a building and/or area in which a hazard may be detected by a(n) (alarm) system
229 [EN 50131-1, 3.1.66, mod.]
- 230 **3.1.28**
231 **systems**
232 comprises a collection of components which are designed to produce specified solutions and/or
233 results within defined parameters, which may be stored, recorded or transmitted to another ARC or
234 emergency service
- 235 **3.1.29**
236 **transfer hatch / chute**
237 facility to transfer keys, documents or other objects
- 238 **3.1.30**
239 **unset**
240 status of a(n) (alarm) system or part thereof in which an alarm condition cannot be notified
241 [EN 50131-1, 3.1.79, mod.]
- 242 **3.1.31**
243 **user(s)**
244 person(s) authorised by the client to operate a(n) (alarm) system
245 [EN 50131-1, 3.1.80, mod.]
- 246 **3.1.32**
247 **visually verified**
248 alarm signal verified by the ARC operator after having received a visual image(s) transmitted from the
249 supervised premises and made a decision that it is considered a genuine intrusion or genuine
250 attempted intrusion has occurred

251 **3.2 Abbreviations**

252 For the purpose of this document, the following abbreviations are used:

- 253 AE - Annunciation equipment
- 254 ARC - Alarm receiving centre
- 255 AS - Alarm system
- 256 ATE - Alarm transmission equipment
- 257 ATS - Alarm transmission system
- 258 ATP - Alarm transmission path
- 259 AUT - Auxiliary alarm transmission system transceiver
- 260 CIE - Control and Indicating Equipment
- 261 CCTV - Close Circuit Television
- 262 I&HAS - Intruder and Hold-up alarm System
- 263 LEA - Law Enforcement Agency
- 264 RCT - Receiving centre transceiver
- 265 SPT - Supervised premises transceiver

266 **4 Site selection**

267 **4.1 Risk assessment**

268 Risk assessment is a series of logical steps to enable the examination of all risks associated with the
269 ARC. Risk assessment includes risk analysis and risk evaluation and should be a continuous process.

270 A record of risk assessments shall be maintained and available for third party auditing.

271 **4.2 Site location**

272 The risk assessment shall be executed as a first step for site selection for an ARC.

273 An ARC shall be located inside a permanent building.

274 The ARC shall be located on a site affording low risks of fire, explosion, flooding, vandalism and
275 exposure hazards from other sites. Where the ARC does not occupy all the building in which it is
276 located, it should be separated from the rest of the building by a physical boundary consisting of walls,
277 floors, ceilings and essential openings.

278 **4.3 Site accessibility**

279 Access to the building or part of the building in which the ARC is located should be occupied solely by
280 the company operating the ARC.

281 5 Construction

282 5.1 ARC structure

283 The shell of the ARC comprises perimeter walls, floors, ceilings, entry and exit doors, ventilation
284 inlets/outlets, entry points for service cables and pipes.

285 The construction of the ARC shall comply with EN 1990 up to and including EN 1999.

286 5.1.1 Protection against physical attack

287 The shell of the ARC shall supply resistance against physical attack in compliance with Table 1.

288 **Table 1 – Minimum resistance against physical attack for ARCs**

Construction elements	Materials	Thickness
Perimeter walls including wall between station and entrance lobby	Solid masonry	> 200 mm
	Cast concrete	> 150 mm
	Reinforced concrete	> 100 mm
	Solid steel	> 10 mm
Internal Walls	No requirements	No requirement
Floors and ceilings	Cast concrete	> 150 mm
	Reinforced concrete	> 100 mm

289

290 NOTE The construction elements listed in Table 1 cover the minimum to resist physical attack. If other construction material is
291 applied the same resistance against physical attack must be guaranteed.

292 The resistance for doors, windows, shutters and blinds of an ARC and ARC satellite against manual
293 attack shall be in compliance with EN 1627 resistance class 4 (RC4).

294 5.1.2 Protection against bullet attack

295 The resistance for doors, windows, shutters and blinds of an ARC and ARC satellite against bullet
296 attack shall be in compliance with EN 1522 FB4.

297 5.1.3 Protection against fire

298 The shell of the ARC shall have a fire resistance according to EN 13501-2 but never less than 30 min.

299 5.1.4 Protection against lightning

300 It is recommended to protect the ARC against the effects of a lightning strike in accordance with
301 EN 62305. For each individual ARC a risk analysis in accordance with EN 62305-2 shall be made.

302 5.2 Facilities

303 Toilet and washing facilities shall be provided within the ARC. Facilities for the preparation of food and
304 drink should be provided and should be located within the ARC. Where a cooking appliance is
305 provided it shall be separated from the operational area by a construction with a fire resistance
306 according to 5.1.3.

307 **5.3 Openings**

308 The only openings permitted in the structure of an ARC shall be:

- 309 - entrance lobby (see 5.4);
- 310 - emergency exit (see 5.6);
- 311 - glazed areas (see 5.7);
- 312 - service inlets and outlets (see 5.9);
- 313 - transfer hatch (see 5.10);
- 314 - ventilation (see 5.8).

315 **5.4 Entrance lobby**

316 The entrance lobby shall comprise two doors, the dimensions of which shall not exceed 2,5 m high by
317 1,1 m wide, separated by an entrance lobby the floor area of which shall not exceed 6 m². The doors
318 shall be interlocked to prevent both being opened at the same time except under controlled
319 circumstances. The ARC door to the entrance lobby shall open into the entrance lobby. The external
320 entrance lobby door shall always open outwards. One door shall have a fire resistance according to
321 5.1.3. The second door shall have a RC4 according to EN 1627.

322 Locks and latches conforming to EN 12209, cylinders for locks conforming to EN 1303 and lever
323 handles and knob furniture conforming to EN 1906 shall be in accordance with the requirements
324 outlined in Table 2 to fulfill RC4.

325

Table 2 – Resistance class

Resistance Class	4
EN 1303 Cylinder (Digit 7)	6
Cylinder (Digit 8)	2
EN 1906 Furniture (Digit 7)	4
EN 12209 Locks (Digit 7)	7

326 Both doors shall be fitted with an unlocking device operable only from within the ARC, and shall be
327 fitted with automatic self-closing and locking devices. The doors shall be electrically interlocked to
328 prevent both being unsecured at the same time. A means shall be provided within the ARC to allow
329 the locking devices to be over- ridden in the event of an emergency exit.

330 **5.5 Lock mechanisms**

331 **5.5.1 Electromechanical lock**

332 Electromechanical locking devices in compliance with EN 14846 classification 2-R-2-B-0-C-7-H-B-3-E-
333 4-3 (see A.1 for the lock code requirement) shall be used to secure the entrance lobby doors. The
334 fixing screws shall be protected against tampering while the door is in the closed position. There shall
335 be a mechanical override for emergency release, protected against accidental use. If the locking
336 device is being fitted in the door, the electrical cable to the lock shall be contained in a metal armoured
337 door loop, and otherwise be mechanically protected where exposed.

338 **5.5.2 Mechanical lock**

339 Mechanical locking devices in compliance with EN 12209 classification 2-R-2-1-0-C-7-H-B-3-E (see
340 A.2 for the lock code requirement) shall be used to secure other doors.

341 Where alternative locking devices are used the above criteria shall be maintained.

342 5.6 Emergency exit

343 Additional emergency exit door(s), together with their hinges, frames, fixings, multiple locking points
 344 and unlocking devices, shall meet the same requirements for physical strength and resistance as
 345 specified in 5.5.2. The emergency exit door(s) shall open outwards and shall be provided with
 346 unlocking devices in compliance with EN 179 intended to be released only in the event of an
 347 emergency. The unlocking devices shall be operable only from inside the ARC

348 5.7 Glazed areas

349 Glazed areas shall offer resistance to physical attack and bullet attack as specified in Table 3.

350 **Table 3 – Physical attack and bullet attack**

	Physical attack	Bullet attack
Glazed areas	EN 356 classification P6B	EN 1063 classification BR 4 - S

351 The glazing shall have a fire resistance according to 5.1.3.

352 The interior of the ARC shall not be visible from any point external to the outer building.

353 5.8 Ventilation

354 For safety and security reasons a strict non smoking order shall apply to the ARC.

355 Ventilation systems for the ARC shall comply with EN 13779. Indoor air quality (7.4.1 of EN 13779)
 356 design assumptions for floor area per person shall be in accordance with the kind of use “small office
 357 room” (Table A.12 of EN 13779). The use of air filters shall be in accordance with Table A.5 of
 358 EN 13779 outdoor air quality ODA 1, indoor air quality IDA 3 resulting in filter classes F7. The sound
 359 pressure level in the ARC shall be (30-40) dB(A) (Table A.12 of EN 13779). With regard to internal
 360 loads the heat production of persons shall be in accordance with Table A.13 of EN 13779 activity
 361 “seated, relaxed”.

362 Openings in the structure of an ARC for ventilation systems should meet the requirements of 5.1.1 for
 363 resistance to physical attacks. Where the cross-sectional area of a ventilating inlet or outlet exceeds
 364 0,02 m², suitable alarm detection equipment shall be fitted to detect any attempt to enter the
 365 ventilation inlet. The ventilation inlet and outlet openings in the shell of the ARC shall be physically
 366 protected. Ventilation inlet and outlet openings shall be protected with air-tight flaps which can be
 367 locked in the closed position from inside the ARC.

368 5.9 Service inlets and outlets

369 A breach in the shell of the ARC for the admission of any service cables or pipe shall not exceed
 370 0,02 m² in cross-sectional area.

371 The clearance around a cable or pipe should not exceed 1,5 mm. Where clearance around a cable or
 372 pipe exceeds 1,5 mm, it should be filled with material of equivalent specification to that of the shell.

373 5.10 Transfer hatch / chute

374 A transfer hatch or chute may be located in either (i) the wall of the ARC structure (ii) or in the
 375 entrance lobby and shall not exceed 0,02 m² in cross-sectional area.

376 When located in the ARC wall the hatch/chute should open into a restricted access area. The opening
 377 shall be constructed to a standard similar to that of the ARC. The points of entry should be interlocked
 378 to prevent direct access being available at any time and the opening and closing actions shall be
 379 controlled from within the ARC. The outer entrance shall always open outwards away from the ARC.

380 When located in the internal lobby wall of the ARC, the hatch/chute facility shall be operated with one
381 entry point which shall be interlocked to the outer lobby doors such that neither the entry to the
382 hatch/chute nor the entrance door can open at the same time. The opening and closing action shall be
383 controlled from within the ARC. The hatch shall be constructed to a standard similar to that of the ARC

384 Voice communication system(s) shall be available between the operations area of the ARC and the
385 outer entry of the hatch/chute.

386 **6 Alarm systems of ARC**

387 Electronic detection for all essential elements of the ARC shall be as follows:

- 388 - external attack (intruder);
- 389 - fire;
- 390 - access/exit;
- 391 - gas;
- 392 - communications;
- 393 - hold-up;
- 394 - personnel safety monitoring;
- 395 - signals from the electronic protection systems;
- 396 - CCTV.

397 All systems referred to in this chapter shall be maintained in accordance with the applicable standards.
398 Where no standards exist maintenance shall be in accordance with manufactures guidelines to ensure
399 reliability at all times.

400 **6.1 External attack**

401 Security shall be such that the ARC's structure is protected by an intruder alarm system in accordance
402 with EN 50131-1 grade 3. Where the ARC is located other than at ground level, or where access may
403 be gained from below (e.g. from a basement) then the floor of the ARC shall also be protected by the
404 intruder alarm system.

405 The area of the building occupied by the company which operates the ARC, and in which the ARC is
406 located, shall be protected by an intruder alarm system installed in accordance with EN 50131-1. Such
407 intruder alarm systems shall incorporate a warning device to alert the ARC staff immediately on
408 notification of an alarm.

409 Recommendations for design, planning, operation, installation and maintenance are given in
410 Application Guidelines CLC/TS 50131-7.

411 NOTE A risk assessment should be carried out to determine the security grade of the intruder alarm system.

412 **6.2 Fire**

413 A fire detection system shall comprise components certified according to EN 54 series and shall be
414 installed in accordance with EN 54-1.

415 **6.3 Access/exit**

416 An audible or visible alarm shall operate when any entrance door to the ARC or lobby is not secured.
417 An alarm condition shall be signalled when an emergency exit door is opened or both the entry door to
418 the lobby and ARC are open at the same time.

419 **6.4 Gas**

420 The ARC shall have detection systems for at least carbon monoxide, which will give warning to the
421 ARC staff prior to levels reaching a concentration necessitating evacuation.

422 **6.5 Communications**

423 All cable based connections and wireless connections carrying alarm information to and from the ARC
424 and the remote alarm systems connected to the ARC shall be protected, inside of the premises where
425 the ARC is located, in such a way that interference is detected in accordance with EN 50136-1.

426 **6.6 Hold-up**

427 Hold-up devices installed in accordance with EN 50131-1 shall be provided inside the ARC in
428 positions adjacent to the entrance lobby, emergency exit(s) and the operating area of monitoring
429 centre personnel.

430 **6.7 Personnel safety monitoring**

431 The safety and security of the ARC personnel shall be automatically monitored at a maximum of
432 60 min intervals. In case of non response to the safety and security check within 60 s, an alarm shall
433 be automatically extended to another ARC.

434 **6.8 Signals from the protection systems**

435 Signals from the protection systems as described in 6.1, 6.6 and 6.7 shall be transmitted to another
436 ARC via a dual path system according to 6.10 of EN 50136-1 and compliant with the performance
437 parameters in Table 4.

438 The ARC receiving the signals from the protection systems shall not be located in the same building or
439 direct vicinity.

440 **Table 4 – Performance parameters of the dual path system**

ATP	Transmission time	Transmission time Max. values	Reporting time	Substitution security	Information security	Availability
ATP main	D3	M3	T5	S2	I3	A4
Second ATP	D2	M2	T4	S2	I3	A3

441

442 **6.9 Closed-circuit television surveillance**

443 Surveillance shall be provided so that all approaches to the building in which the ARC is located can
444 be monitored from within.

445 Surveillance shall exist to enable ARC staff to identify authorised persons before permitting them to
446 enter the entrance lobby and to view any activity therein and to ensure a safe exit.

447 Surveillance shall also be provided to enable ARC staff to identify any personnel using a transfer
448 hatch / chute.

449 **7 Electrical power supplies**

450 **7.1 Mains supply**

451 The mains supply shall be used as the principal source of electrical power, although reliable
452 alternatives can be used, and a standby power source should be provided as a backup. Changeover
453 to, or from, a standby power supply shall not cause the malfunction of equipment. There shall be an
454 indication in the operations area of the current source of power.

455 The mains supply shall be such that it is capable of providing sufficient power for the normal load of
456 the ARC and for simultaneously recharging the standby batteries to the required capacity within 24 h.

457 NOTE Standby power cables external to the shell should be protected against physical and fire damage.

458 **7.2 Standby power supplies**

459 A standby power supply shall be of sufficient capacity for the uninterrupted operation of all
460 communication, signalling, monitoring, recording, essential ventilation and essential lighting
461 equipment, including that required for the necessary surveillance for a period of 24 h based on a
462 demand of 1,5 times the average requirement.

463 The standby power supply shall be either

- 464 - a standby battery with associated charging equipment (7.2.1), or
- 465 - a standby generator or generators supported by a standby battery and associated charging
466 equipment (7.2.2).

467 Standby batteries and any automatic changeover equipment should be located within the ARC.

468 **7.2.1 Standby battery**

469 The standby battery shall be brought into use automatically immediately the primary voltage falls
470 below the level required to operate the ARC. The ARC shall return to primary power operation and the
471 standby battery shall recharge automatically when the primary voltage is restored.

472 The standby battery shall be electrically protected by fuses or circuit breakers.

473 Battery installations shall conform to EN 50272-2.

474 Where a standby generator is used, the standby battery capacity shall be sufficient to power the ARC
475 equipment for at least 2 h based on a demand of 1,5 times the average requirement.

476 Where a second standby generator is used, the standard battery capacity shall be sufficient to provide
477 the required power for at least 30 min based on a demand of 1,5 times the average requirement.

478 **7.2.2 Standby generators**

479 A generator situated within the shell of the ARC shall be separated from the operations area by
480 construction that would afford a fire resistance (see 5.1.3).

481 All standby generators shall be provided with a fuel supply on site sufficient to operate the generator
482 for at least 24 h.

483 All standby generators shall have an independent means of starting which shall be automatic when
484 the normal power supply fails. Operation of the standby generators shall be annunciated in the ARC.
485 The battery required for starting a standby generator shall be charged by the primary power supply.

486 A standby generator not installed within the shell of the ARC shall be in a restricted access area,
487 protected against intrusion and fire at the same grade as the ARC.

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489

Annex A (informative)

490

Lock code requirements

A.1 Electromechanical locks

492 Recommended classification: 2-R-2-C-0-C-7-H-B-3-E-4-3:

493 Digit 1, category of use, grade 2: For use by people with some incentive to exercise care but where
494 there is some chance of misuse, e.g. office doors (EN 14846);

495 Digit 2, durability and load on latch bolt, grade R: 100 000 test cycles; 50 N load on latch bolt
496 (EN 14846);

497 Digit 3, door mass and closing force, grade 2: up to 200 kg door mass; 50 N maximum closing force
498 (EN 14846);

499 Digit 4, suitability for use on fire/smoke doors, grade B: suitable for smoke doors and fire doors of
500 30 min classification time (EN 14846);

501 Digit 5, safety, grade 0: no safety requirement (EN 14846);

502 Digit 6, environmental suitability, grade C: low resistance to corrosion, + 5 °C to + 55 °C, level 1
503 humidity (EN 14846);

504 Digit 7, security on drill resistance, grade 7: very high security with drill resistance (EN 12209);

505 Digit 8, field of application, grade H: mortice, hinged door, forend support, no egress control by key
506 (EN 12209);

507 Digit 9, type of key operation and locking, grade B: cylinder lock or latch, automatically locking
508 (EN 12209);

509 Digit 10, type of spindle operation, grade 3: lock or latch for heavy duty unsprung lever handle
510 operation (EN 12209)

511 Digit 11, key identification requirement, grade E: minimum six detaining elements, extended number of
512 effective differs (EN 12209);

513 Digit 12, security electronic function, grade 4: yes to status indication, yes to prevention of locking in
514 open position, yes to operation time of locking (EN 14846);

515 Digit 13, security electronic manipulation, grade 3: Protection against; voltage drop, cutting of cables,
516 wire manipulation, electromagnetical manipulation, level 4 resistance to electrostatic discharging
517 according to EN 61000-4-2, level 4 resistance to electrostatic manipulation according to EN 61000-4-2
518 (EN 14846).

519 **A.2 Mechanical locks (EN 12209)**

520 Recommended classification: 2-R-2-1-0-C-7-H-B-3-E:

521 Digit 1, category of use, grade 2: for use by people with some incentive to exercise care but where
522 there is some chance of misuse, e.g. office doors;

523 Digit 2, durability and load on latch bolt, grade R: 100 000 test cycles; 50 N load on latch bolt;

524 Digit 3, door mass and closing force, grade 2: up to 200 kg door mass; 50 N maximum closing force;

525 Digit 4, suitability for use on fire/smoke doors, grade 1: suitable for use on fire/ smoke resisting door
526 assemblies, subject to satisfactory assessment of the contribution of the cylinder to the fire resistance
527 of specified fire/ smoke resisting door assemblies;

528 Digit 5, safety, grade 0: no safety requirement;

529 Digit 6, corrosion resistance and temp., grade C: low resistance to corrosion, + 5 °C to + 55 °C, level 1
530 humidity;

531 Digit 7, security and drill resistance, grade 7: very high security with drill resistance;

532 Digit 8, field or door application, grade H: mortice, hinged door, for end support, no egress control by
533 key;

534 Digit 9, type of key operation and locking, grade B: cylinder lock or latch, automatically locking;

535 Digit 10, type of spindle operation, grade 3: lock or latch for heavy duty unsprung lever handle
536 operation;

537 Digit 11, key identification grade E: minimum six detaining elements, extended number of effective
538 differs.

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Bibliography

EN 1154 A1	1996 2002	Building hardware – Controlled door closing devices – Requirements and test methods
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Draft for Enquiry