

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

**Explosive atmospheres – Part 14: Electrical installation design, selection and installation of equipment, including initial inspection**

**Atmosphères explosives – Partie 14: Conception des installations électriques, sélection et installation des appareils, comprenant l'inspection initiale**

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## CONTENTS

FOREWORD.....	10
INTRODUCTION.....	16
1 Scope.....	19
2 Normative references .....	20
3 Terms and definitions .....	21
3.1 General.....	21
3.2 Hazardous areas.....	22
3.3 Flameproof enclosure .....	24
3.4 Increased safety .....	24
3.5 Intrinsic safety .....	25
3.6 Intrinsic safety parameters.....	26
3.7 Pressurization.....	26
3.8 Type of Protection "n" .....	26
3.9 Type of Protection "o" .....	27
3.10 Type of Protection "q" .....	27
3.11 Type of Protection "m" .....	27
3.12 Type of Protection "t" .....	27
3.13 Electrical supply systems.....	27
3.14 Equipment .....	28
3.16 Cable(s).....	28
4 General .....	30
4.1 General requirements .....	30
4.1.1 Zones and Equipment Protection Levels .....	30
4.1.2 Requirements for all Ex Equipment.....	31
4.1.3 Electrical ratings.....	31
4.1.4 Conditions of control for exceptional circumstances.....	31
4.2 Conditions of Use .....	32
4.2.1 General .....	32
4.2.2 Specific Conditions of Use.....	32
4.2.3 Use of Ex Components .....	32
4.3 Ignition sources that have an influence on the installation.....	33
4.3.1 General .....	33
4.3.2 Static electricity.....	33
4.3.3 Optical radiation .....	33
4.3.4 Lightning protection .....	33
4.3.5 Radio frequency received and transmitted in hazardous areas.....	33
4.3.6 RFID tags .....	34
5 Documentation .....	34
5.1 General.....	34
5.2 Site information.....	35
5.3 Ex Equipment information .....	35
5.4 Installation information.....	35
5.5 Personnel competency.....	36
6 Design.....	36
6.1 General.....	36
6.2 Protection from dangerous (incendive) sparking.....	36

6.2.1	Equipment (other than Ex Equipment) above hazardous areas .....	36
6.2.2	Wiring systems traversing a hazardous area .....	37
6.2.3	Construction materials .....	37
6.2.4	Danger from live parts .....	37
6.2.5	Danger from exposed and extraneous-conductive-parts .....	38
6.2.6	Protective equipotential bonding .....	39
6.2.7	Cathodically protected metallic parts .....	40
6.3	Electrical protection .....	41
6.4	Emergency stop .....	41
6.5	Electrical isolation .....	41
6.6	Cables .....	42
6.6.1	External surface temperature .....	42
6.6.2	Cables subjected to thermal insulation .....	42
6.6.3	Overhead wiring .....	42
6.7	Electrical machines .....	42
6.7.1	General .....	42
6.7.2	Electrical machines with Type of Protection "d" – Flameproof enclosures, "p" – Pressurized enclosures and "t" – Protection by enclosures .....	43
6.7.3	Electrical machines with Level of Protection "eb" – Increased safety .....	44
6.7.4	Electrical machines with Level of Protection "ec" and Type of Protection "nA" .....	46
6.7.5	Switching electrical machines above 1 kV AC .....	47
6.7.6	Prevention of falling bodies .....	48
6.8	Electric heating systems .....	48
6.8.1	General .....	48
6.8.2	Earth fault protection .....	48
6.8.3	Limiting temperature .....	49
6.8.4	Temperature safety device .....	49
6.9	Plugs, socket outlets and couplers .....	50
6.9.1	Specific requirements for explosive dust atmospheres .....	50
6.9.2	Location .....	50
6.10	Cells and batteries .....	51
6.10.1	Charging of secondary cells and batteries .....	51
6.10.2	Ventilation .....	51
6.11	Gas detection systems .....	51
6.12	Type of Protection "d" – Flameproof enclosures .....	51
6.13	Type of Protection "e" – Increased safety .....	51
6.13.1	Maximum dissipated power of junction boxes .....	51
6.13.2	Maximum number of conductors .....	52
6.14	Type of Protection "i" – Intrinsic safety .....	53
6.14.1	General .....	53
6.14.2	Cables .....	54
6.14.3	Verification of intrinsically safe circuits .....	54
6.14.4	Earthing of conducting screens .....	56
6.14.5	Cable armour bonding .....	57
6.14.6	Marking of cables .....	57
6.14.7	Cables carrying more than one intrinsically safe circuit .....	58
6.14.8	Types of cables carrying more than one intrinsically safe circuit and applicable fault considerations .....	58

6.14.9	Earthing of intrinsically safe circuits .....	58
6.14.10	Installations to meet the requirements of EPL Ga or EPL Da .....	60
6.14.11	Simple apparatus .....	61
6.14.12	Junction boxes .....	62
6.14.13	Plugs and sockets used for external connections .....	63
6.14.14	Special application: Combining intrinsically safe and non-intrinsically safe circuits .....	63
6.15	Type of Protection "m" – Encapsulation .....	63
6.16	Type of Protection "n" .....	63
6.16.1	General .....	63
6.16.2	Type of Protection "nR" .....	64
6.17	Type of Protection "o"– Liquid immersion (former Oil immersion) .....	64
6.18	Type of Protection "p" .....	64
6.18.1	General .....	64
6.18.2	Ducting .....	65
6.18.3	Action to be taken on failure of pressurization .....	65
6.19	Pressurized rooms and artificially ventilated rooms .....	69
6.20	Analyser houses .....	69
6.21	Type of Protection "q" – Powder filling .....	69
7	Selection .....	69
7.1	General .....	69
7.2	Assurance of conformity of Ex Equipment .....	69
7.2.1	Ex Equipment based on IEC standards .....	69
7.2.2	Ex Equipment not based on IEC standards .....	69
7.2.3	Selection of used or repaired Ex Equipment .....	70
7.3	Selection of Ex Equipment .....	70
7.3.1	Information requirements .....	70
7.3.2	External influences .....	70
7.3.3	Selection of radiating equipment .....	71
7.3.4	Selection of ultrasonic equipment .....	72
7.3.5	Selection for pollution degree .....	73
7.3.6	Selection for specific process hazards .....	73
7.3.7	Selection of Ex Equipment according to EPLs .....	74
7.3.8	Selection according to equipment grouping .....	76
7.3.9	Selection according to the ignition temperature of the gas, vapour or dust .....	77
7.3.10	Selection according to the temperature range .....	80
7.4	Selection of cables .....	80
7.4.1	General .....	80
7.4.2	Wiring systems for installation in areas requiring EPL Ga or EPL Da .....	81
7.4.3	Cables for direct entries into flameproof enclosures .....	81
7.4.4	Cables for direct entries into restricted breathing enclosures .....	81
7.4.5	Resistance to flame propagation or flame spread .....	81
7.4.6	UV or solar radiation .....	81
7.4.7	Non-flexible cables for fixed equipment .....	81
7.4.8	Flexible cables for fixed and transportable equipment (excluding intrinsic safety circuits) .....	81
7.4.9	Flexible cables for use for portable equipment .....	82
7.4.10	Cables for intrinsic safety circuits .....	82

7.4.11	Single insulated wires (excluding intrinsically safe circuits).....	82
7.4.12	Aluminium conductors.....	82
7.5	Selection of entry devices and other fittings .....	83
7.5.1	General .....	83
7.5.2	Cable entry devices .....	83
7.5.3	Adapters and Blanking Elements .....	84
7.5.4	Breathing and draining devices.....	84
7.5.5	Entry devices for fibre optic cables .....	85
7.5.6	Other entry devices .....	85
7.5.7	Cable entry device for Type of Protection "d".....	85
7.5.8	Cable entry device for Type of Protection "nR" .....	86
7.6	Conduits .....	87
7.6.1	Group II .....	87
7.6.2	Group III .....	87
7.7	Luminaires and lamps .....	88
7.7.1	Luminaires.....	88
7.7.2	Lamps .....	88
7.8	Rotating electrical machines .....	88
8	Installation of equipment.....	88
8.1	General.....	88
8.2	Cables and wiring systems.....	88
8.2.1	Avoidance of damage .....	88
8.2.2	Equipotential bonding connections.....	89
8.2.3	Terminations.....	89
8.2.4	Penetrations in structures .....	90
8.2.5	Passage and collection of flammables .....	90
8.2.6	Group III – Accumulation of dust.....	90
8.2.7	Jointing.....	90
8.3	Entry devices and other fittings .....	90
8.3.1	General .....	90
8.3.2	Cable entry devices .....	91
8.3.3	Additional entries.....	93
8.3.4	Unused openings.....	93
8.4	Conduit systems .....	93
8.4.1	General .....	93
8.4.2	Group II .....	94
8.4.3	Group III .....	94
8.4.4	Additional requirements for flameproof sealing devices for conduit .....	95
8.5	Electrical heating systems.....	95
8.5.1	General .....	95
8.5.2	Trace heating system .....	95
8.6	Protective coating of Ex Equipment.....	95
8.7	Type of Protection "d" – Flameproof enclosures .....	96
8.7.1	General .....	96
8.7.2	Solid obstacles .....	96
8.7.3	Protection of flamepaths .....	96
8.8	Types of Protection "e" and "nA" .....	97
8.8.1	Conductor terminations.....	97

8.8.2	Combinations of terminals and conductors for general connection and junction boxes .....	97
8.9	Types of Protection "i" – Intrinsic safety .....	97
8.9.1	Earthing of conducting screens .....	97
8.9.2	Cable armour bonding .....	97
8.9.3	Installation of cables and wiring .....	98
8.10	Type of Protection "nR" .....	99
8.11	Type of Protection "o"– Liquid immersion (formerly Oil immersion).....	99
9	Initial inspection .....	99
Annex A (normative) Knowledge, skills and competencies of designers, electricians and technicians.....		100
A.1	Scope .....	100
A.2	Knowledge and skills .....	100
A.2.1	Designers .....	100
A.2.2	Electricians and technicians.....	100
A.3	Competencies .....	101
A.3.1	General .....	101
A.3.2	Designers .....	101
A.3.3	Electricians and technicians.....	101
A.4	Assessment .....	101
Annex B (informative) Safe work procedure guidelines for explosive gas atmospheres .....		102
Annex C (normative) Pressure test procedure for cables into Ex "d" enclosures.....		103
C.1	General.....	103
C.2	Test apparatus.....	103
C.3	Test method.....	103
C.4	Test report .....	104
Annex D (normative) Potential stator winding discharge hazard assessment – Ignition risk factors.....		106
Annex E (normative) Verification of intrinsically safe circuits with more than one intrinsically safe power source with linear current/voltage characteristics.....		107
E.1	General.....	107
E.2	Intrinsic safety with Level of Protection "ib" .....	107
E.3	Intrinsic safety with Level of Protection "ic" .....	107
Annex F (informative) Methods of determining the maximum system voltages and currents in intrinsically safe circuits with more than one intrinsically safe power source with linear current and voltage characteristics.....		108
F.1	Intrinsically safe circuits with linear current and voltage characteristics.....	108
F.2	Intrinsically safe circuits with non-linear current or voltage characteristics .....	109
Annex G (informative) Determination of intrinsic safety cable parameters .....		110
G.1	Measurements .....	110
G.2	Cables carrying more than one intrinsically safe circuit .....	110
G.2.1	General .....	110
G.2.2	Type A cables.....	110
G.2.3	Type B cables.....	111
G.2.4	Type C cables .....	111
G.3	FISCO .....	111
Annex H (informative) Hybrid mixtures .....		112
H.1	General.....	112
H.2	Concentration limits .....	112



H.3	Electrostatic hazard .....	112
H.4	Energy/temperature limits .....	112
H.5	Selection of equipment .....	112
H.6	Use of flameproof equipment .....	112
H.7	Installation requirements .....	112
Annex I	(informative) Transportable, portable and personal equipment .....	113
I.1	General .....	113
I.2	Transportable and portable equipment .....	113
I.3	Personal equipment .....	114
Annex J	(informative) Electrical machines operated from converters .....	115
J.1	General .....	115
J.2	Earthing, bonding and cabling .....	116
J.2.1	Objectives of earthing .....	116
J.2.2	Bonding of machines .....	116
J.2.3	Machine power cables .....	116
J.2.4	Cable terminations .....	118
J.2.5	Interruption of the shielded machine supply line .....	119
Annex K	(informative) Surge protection of an intrinsically safe circuit .....	120
K.1	General .....	120
K.2	Installation to be protected .....	120
K.3	Lightning induced surges .....	120
K.4	Preventive measures .....	120
K.5	Supporting documentation .....	121
K.6	Further protection .....	121
Annex L	(informative) Adverse environmental conditions .....	122
L.1	Climate classifications .....	122
L.2	Cables and cable entry devices .....	122
L.3	Seals and sealing materials .....	122
L.4	Storage and transportation .....	122
L.5	Low temperatures .....	122
L.5.1	General .....	122
L.5.2	Electrical machines .....	123
L.6	High humidity .....	123
L.7	Solar radiation .....	123
L.7.1	General .....	123
L.7.2	Equipment protection .....	124
L.7.3	Cables and cable entry devices .....	124
L.8	Atmospheres containing salt and chlorides .....	124
L.9	Snow conditions .....	124
L.10	Icing and winterization .....	125
L.11	Rapid cooling .....	125
Annex M	(informative) Guidance on the different duty types S1 to S10 of electrical machines .....	126
Annex N	(normative) High voltage installations with rated voltage up to 245 kV .....	127
Annex O	(informative) Inspection tables for initial inspections (from IEC 60079-17) .....	128
Annex P	(informative) Minimum degree of protection (IP Code) in accordance to Type of Protection .....	135
Annex Q	(normative) Additional requirements for simple apparatus .....	136

Q.1	Temperature classification .....	136
Q.1.1	Group II .....	136
Q.1.2	Group III .....	137
Q.2	Isolation and separation .....	137
Q.3	Enclosures and cable entry devices .....	137
Q.4	Assessment and documentation .....	138
Bibliography .....		141

Figure 1	– Correlation between the maximum permissible surface temperature and thickness of dust layers .....	79
Figure 2	– Selection of cable entry devices .....	86
Figure C.1	– Example of a low pressure test arrangement .....	103
Figure F.1	– Series connection – Summation of voltage .....	108
Figure F.2	– Parallel connection – Summation of currents .....	109
Figure F.3	– Series and parallel connections – Summations of voltages and summations of currents .....	109
Figure J.1	– Basic structure of a converter fed drive system .....	115
Figure J.2	– Examples of shielded machine cables and connections .....	117
Figure J.3	– Cable shield connection at the machine side .....	119
Figure K.1	– Surge protection requirements of an instrument loop .....	121
Figure Q.1	– Assessment process for simple apparatus .....	138
Table 1	– Table of significant changes .....	11
Table 2	– Clauses of this document for requirements for special types of equipment .....	14
Table 3	– Clauses of this document for additional requirements for Types of Protection .....	14
Table 4	– Equipment Protection Levels (EPLs) where only zones are assigned .....	30
Table 5	– Radio frequency power thresholds .....	33
Table 6	– Radio-frequency energy thresholds .....	34
Table 7	– Requirements for the temperature safety devices .....	50
Table 8	– Example of defined terminal/conductor arrangement – Maximum number of wires in relation to the cross-section and the permissible continuous current .....	52
Table 9	– Determination of Type of Protection (with no flammable release within the enclosure) .....	64
Table 10	– Use of spark and particle barriers .....	65
Table 11	– Summary of protection requirements for enclosures without an internal source of release .....	66
Table 12	– Relationship between EPLs and Types of Protection .....	75
Table 13	– Relationship between gas/vapour or dust subdivision and equipment group .....	77
Table 14	– Relationship between gas or vapour ignition temperature and temperature class of Ex Equipment .....	78
Table 15	– Selection of cable entry devices, Type of Protection according to the enclosure Type of Protection .....	84
Table 16	– Minimum distance of obstruction from the flameproof flange joints related to the gas group of the hazardous area .....	96
Table C.1	– Example of a test report template .....	105
Table D.1	– Ignition risk factors .....	106

Table M.1 – Duty types of electrical machines .....	126
Table O.1 – Initial inspection schedule for Ex "d", Ex "e", Ex "n" and Ex "t"/"tD" installations .....	128
Table O.2 – Initial inspection schedule for Ex "i" installations .....	130
Table O.3 – Inspection schedule for Ex "p" and "pD" installations .....	131
Table O.4 – Inspection schedule for Ex "o" installations .....	132
Table P.1 – Minimum degree of protection (IP Code) in accordance with Type of Protection .....	135
Table Q.1 – Variation in maximum power dissipation with ambient temperature for Group II .....	136
Table Q.2 – Variation in maximum power dissipation with ambient temperature for Group III .....	137
Table Q.3 – Summary of requirements .....	139
Table Q.4 – Simple apparatus and junction box selection: A practical solution .....	140

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## FOREWORD

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IEC 60079-14 has been prepared by subcommittee 31J: Classification of hazardous areas and installation requirements, of IEC technical committee 31: Equipment for explosive atmospheres. It is an International Standard.

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

Edition 6 is a major restructure and introduces a number of technical changes from the previous edition (2013). Table 1, "Table of significant changes" is provided to highlight the technical and more significant editorial changes from the previous edition. Minor editorial changes are not listed as there are too many changes to include in the "Table of significant changes".

**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		
Additional standard mentioned (IEC 60204 series for electrical safety of machinery)	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)	3.9.1	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 TS 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	

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Selection of cables	7.4	A2		
Cables for direct entries into flameproof enclosures	7.4.3		x	
Cables for direct entries into restricted breathing enclosures	7.4.4		x	
UV or solar radiation	7.4.6		x	
Cables for intrinsic safety circuits	7.4.10		x	
Breathing and draining devices	7.5.4		x	
Entry devices for fibre optic cables	7.5.5		x	
Other entry devices	7.5.6		x	
New Flowchart: Selection of cable entry devices	7.5.7			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		
Joining	8.2.7		x	
Entry devices and other fittings	8.3	A3		
Cable entry devices	8.3.2	x		
Conduit systems	8.4	x		
Electric heating systems	8.5		x	
Protective coating of Ex Equipment	8.6		x	
Unused cores in cables	8.9.3.4	x		
Initial inspection	9		x	
Knowledge, skills and competencies of designers, electricians and technicians	Annex A	x		
New normative Annex: Pressure test for cables – test procedure	Annex C			C4
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: Inspection tables for initial inspections (from IEC 60079-17)	Annex O			C5
New informative Annex: Degree of protection (IP Code) in accordance to Type of Protection	Annex P		x	
New normative Annex: Simple apparatus	Annex Q			C2

NOTE 1 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 edition. More guidance can be found by referring to the Redline Version of the standard.