

INTERNATIONAL STANDARD

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**High-voltage switchgear and controlgear –
Part 1: Common specifications for alternating current switchgear and
controlgear**

**Appareillage à haute tension –
Partie 1: Spécifications communes pour appareillage à courant alternatif**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 1: Common specifications for alternating current switchgear and controlgear

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 17: High-voltage switchgear and controlgear.

The text of this interpretation sheet is based on the following documents:

DISH	Report on voting
17/1090/DISH	17/1095/RVDISH

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

Interpretation of 4.2.2 of IEC 62271-1:2017 regarding the altitude correction factor

Subclause 4.2.2 of IEC 62271-1:2017 contains two references for calculation of the required insulation withstand level at altitudes higher than 1 000 m, IEC 60071-2:1996 and IEC TR 62271-306. The two references are in conflict, as the altitude correction factor according to IEC 60071-2:1996 starts at sea level and that of IEC TR 62271-306 starts at an altitude of 1 000 m. This results in different altitude correction factors.

As already stated in 5.3 of IEC 62271-1:2017, the rated insulation levels refer to normal service conditions. Altitudes up to 1 000 m above sea level are covered and need no altitude correction.

For altitudes higher than 1 000 m the equation provided in 4.5.1.1 b) of IEC TR 62271-306:2012 and in H.3.4 of IEC 60071-2:2018 shall be used, i.e.

$$k_{\text{alt}} = e^{m \left(\frac{H-1\,000}{8\,150} \right)}$$

where

k_{alt} is the altitude correction factor;

H is the altitude in m above sea level;

m is an exponent.

Conservative values for the exponent m are provided in Table 4 of IEC TR 62271-306:2012. For further details about the exponent m , see H.4 of IEC 60071-2:2018.

CONTENTS

FOREWORD.....	8
INTRODUCTION.....	11
1 Scope.....	12
2 Normative references.....	12
3 Terms and definitions	14
3.1 General terms and definitions	15
3.2 Assemblies of switchgear and controlgear	18
3.3 Parts of assemblies.....	18
3.4 Switching devices	18
3.5 Parts of switchgear and controlgear.....	18
3.6 Operational characteristics of switchgear and controlgear	22
3.6.5 Terms and definitions relative to pressure (or density)	23
3.6.6 Terms and definitions relating to gas and vacuum tightness	23
3.6.7 Terms and definitions relating to liquid tightness.....	25
3.7 Characteristic quantities	25
3.8 Index of definitions	26
4 Normal and special service conditions.....	28
4.1 Normal service conditions	28
4.1.1 General	28
4.1.2 Indoor switchgear and controlgear.....	28
4.1.3 Outdoor switchgear and controlgear	29
4.2 Special service conditions	29
4.2.1 General	29
4.2.2 Altitude	29
4.2.3 Exposure to pollution	30
4.2.4 Temperature and humidity.....	30
4.2.5 Exposure to abnormal vibrations, shock or tilting	30
4.2.6 Wind speed.....	31
4.2.7 Other parameters	31
5 Ratings.....	31
5.1 General.....	31
5.2 Rated voltage (U_r).....	31
5.2.1 General	31
5.2.2 Range I for rated voltages of 245 kV and below	31
5.2.3 Range II for rated voltages above 245 kV	32
5.3 Rated insulation level (U_d , U_p , U_s)	32
5.4 Rated frequency (f_r)	36
5.5 Rated continuous current (I_r).....	36
5.6 Rated short-time withstand current (I_k)	36
5.7 Rated peak withstand current (I_p).....	37
5.8 Rated duration of short-circuit (t_k)	37
5.9 Rated supply voltage of auxiliary and control circuits (U_a).....	37
5.9.1 General	37
5.9.2 Rated supply voltage (U_a)	37
5.10 Rated supply frequency of auxiliary and control circuits.....	38
5.11 Rated pressure of compressed gas supply for controlled pressure systems	38

6	Design and construction	39
6.1	Requirements for liquids in switchgear and controlgear	39
6.2	Requirements for gases in switchgear and controlgear	39
6.3	Earthing of switchgear and controlgear	39
6.4	Auxiliary and control equipment and circuits	39
6.4.1	General	39
6.4.2	Protection against electric shock	40
6.4.3	Components installed in enclosures	41
6.5	Dependent power operation	44
6.6	Stored energy operation	44
6.6.1	General	44
6.6.2	Energy storage in gas receivers or hydraulic accumulators	44
6.6.3	Energy storage in springs (or weights)	44
6.6.4	Manual charging	44
6.6.5	Motor charging	45
6.6.6	Energy storage in capacitors	45
6.7	Independent unlatched operation (independent manual or power operation)	45
6.8	Manually operated actuators	45
6.9	Operation of releases	46
6.9.1	General	46
6.9.2	Shunt closing release	46
6.9.3	Shunt opening release	46
6.9.4	Capacitor operation of shunt releases	46
6.9.5	Under-voltage release	46
6.10	Pressure/level indication	46
6.10.1	Gas pressure	46
6.10.2	Liquid level	47
6.11	Nameplates	47
6.11.1	General	47
6.11.2	Application	47
6.12	Locking devices	48
6.13	Position indication	49
6.14	Degrees of protection provided by enclosures	49
6.14.1	General	49
6.14.2	Protection of persons against access to hazardous parts and protection of the equipment against ingress of solid foreign objects (IP coding)	49
6.14.3	Protection against ingress of water (IP coding)	49
6.14.4	Protection against mechanical impact under normal service conditions (IK coding)	49
6.15	Creepage distances for outdoor insulators	49
6.16	Gas and vacuum tightness	50
6.16.1	General	50
6.16.2	Controlled pressure systems for gas	50
6.16.3	Closed pressure systems for gas	50
6.16.4	Sealed pressure systems	50
6.17	Tightness for liquid systems	51
6.17.1	General	51
6.17.2	Leakage rates	51
6.18	Fire hazard (flammability)	51

6.19	Electromagnetic compatibility (EMC).....	51
6.20	X-ray emission	51
6.21	Corrosion	51
6.22	Filling levels for insulation, switching and/or operation	52
7	Type tests	52
7.1	General.....	52
7.1.1	Basics	52
7.1.2	Information for identification of test objects.....	52
7.1.3	Information to be included in type-test reports	52
7.2	Dielectric tests	53
7.2.1	General	53
7.2.2	Ambient air conditions during tests	53
7.2.3	Wet test procedure.....	54
7.2.4	Arrangement of the equipment	54
7.2.5	Criteria to pass the test	54
7.2.6	Application of the test voltage and test conditions	55
7.2.7	Tests of switchgear and controlgear of $U_r \leq 245$ kV	59
7.2.8	Tests of switchgear and controlgear of $U_r > 245$ kV	59
7.2.9	Artificial pollution tests for outdoor insulators.....	60
7.2.10	Partial discharge tests.....	60
7.2.11	Dielectric tests on auxiliary and control circuits	60
7.2.12	Voltage test as condition check	60
7.3	Radio interference voltage (RIV) test	61
7.4	Resistance measurement	61
7.4.1	Measurement of the resistance of auxiliary contacts class 1 and class 2	61
7.4.2	Measurement of the resistance of auxiliary contacts class 3.....	61
7.4.3	Electrical continuity of earthed metallic parts test.....	61
7.4.4	Resistance measurement of contacts and connections in the main circuit as a condition check	61
7.5	Continuous current tests.....	62
7.5.1	Condition of the test object.....	62
7.5.2	Arrangement of the equipment	62
7.5.3	Test current and duration	63
7.5.4	Temperature measurement during test	64
7.5.5	Resistance of the main circuit.....	65
7.5.6	Criteria to pass test.....	65
7.6	Short-time withstand current and peak withstand current tests	69
7.6.1	General	69
7.6.2	Arrangement of the equipment and of the test circuit.....	69
7.6.3	Test current and duration	70
7.6.4	Conditions of the test object after test.....	71
7.7	Verification of the protection.....	71
7.7.1	Verification of the IP coding.....	71
7.7.2	Verification of the IK coding.....	71
7.8	Tightness tests.....	72
7.8.1	General	72
7.8.2	Controlled pressure systems for gas.....	73
7.8.3	Closed pressure systems for gas.....	73
7.8.4	Sealed pressure systems	74