

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**High-voltage switchgear and controlgear –
Part 209: Cable connections for gas-insulated metal-enclosed switchgear for
rated voltages above 52 kV – Fluid-filled and extruded insulation cables – Fluid-
filled and dry-type cable terminations**

**Appareillage à haute tension –
Partie 209: Raccordement de câbles pour appareillage sous enveloppe
métallique à isolation gazeuse de tension assignée supérieure à 52 kV – Câbles
remplis d'un fluide ou à isolation extrudée – Extrémité de câble de type sec ou
remplie d'un fluide**



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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	7
4 Normal and special service conditions	8
4.1 General.....	8
4.2 Normal service conditions	8
4.3 Special service conditions.....	8
5 Ratings.....	8
5.1 General.....	8
5.2 Rated voltage of the equipment of the cable connection (U_{RM}).....	9
5.3 Rated insulation level (U_d , U_p , U_s).....	9
5.4 Rated frequency (f_r).....	9
5.5 Rated continuous current (I_r)	9
5.6 Rated short-time withstand current (I_k)	9
5.7 Rated peak withstand current (I_p)	9
5.8 Rated duration of short circuit (t_k).....	9
6 Design and construction	10
6.1 Gas and vacuum tightness	10
6.101 Limits of supply.....	10
6.101.1 General	10
6.101.2 Over-voltage protection and earthing.....	10
6.102 Filling pressure of insulating gas in the cable connection enclosure	11
6.103 Pressure withstand requirements	11
6.104 Mechanical forces on cable terminations.....	11
6.105 Switchgear connection interface and cable termination connection interface.....	12
7 Type tests	12
7.1 General.....	12
7.2 Electrical type tests of cable terminations	12
7.2.1 General	12
7.2.2 Electrical type test of cable terminations in a single-phase enclosure	12
7.2.3 Electrical type test of cable termination in a three-phase enclosure	12
7.2.4 Additional electrical type tests on the insulator to be installed by switchgear manufacturer (plug in cable termination)	13
7.3 Pressure test on the insulator of a cable termination	13
7.4 Leak rate type test on the insulator of a cable termination.....	14
8 Routine tests	14
8.1 General.....	14
8.2 Pressure test	14
8.3 Visual inspection.....	14
9 Standard dimensions	14
9.1 General.....	14
9.2 Fluid-filled cable terminations	14
9.3 Dry-type cable terminations	15
9.4 Three-phase cable connection enclosure	15

10	Information to be given with enquiries, tenders and orders	15
11	Rules for transport, storage, erection, service and maintenance	15
11.1	General.....	15
11.2	Tests after cable system installation	16
12	Safety practices and constraints during installation of cable connection to switchgear	16
13	Influence of the product on the environment	16
Annex A (informative) Mechanical forces applied on the flange of the cable connection enclosure		21
A.1	General.....	21
A.2	Recommendation when connecting cable systems to switchgear	21
Bibliography.....		23
Figure 1 – Operating pressure of the SF ₆ gas insulation in the cable connection enclosure		11
Figure 2 – Fluid-filled cable connection assembly – Typical arrangement.....		17
Figure 3 – Fluid-filled cable connection – Assembly dimensions		18
Figure 4 – Dry-type cable connection assembly – Typical arrangement.....		19
Figure 5 – Dry-type cable connection assembly – Assembly dimensions.....		20
Table 1 – Test voltages for additional electrical type tests according to 7.2.4.....		13
Table A.1 – Moment and forces applied on the flange of the cable connection enclosure attached to the cable termination during normal operation		22

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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International Standard IEC 62271-209 has been prepared by subcommittee 17C: Assemblies, of IEC technical committee 17: High-voltage switchgear and controlgear.

This second edition cancels and replaces the first edition published in 2007. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) New numbering in accordance with ISO/IEC directives, Part 2 (2016) and to IEC 62271-1:2017;
- b) Clause 3: addition of a definition for plug-in cable termination, filling pressure and minimum function pressure for insulation;

- c) Clause 7: An additional dielectric type test for plug-in cable termination was added; also a pressure type test as well as a leak rate test on the insulator of a cable termination was implemented;
- d) Clause 12: New clause about safety practices;
- e) Clause 13: New clause about influence of the product on the environment;
- f) New informative Annex A: Mechanical forces applied on the flange of the cable connection enclosure.

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

FDIS	Report on voting
17C/696/FDIS	17C/701/RVD

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

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

This standard is to be read in conjunction with IEC 62271-1:2017, to which it refers and which is applicable unless otherwise specified in this standard. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in IEC 62271-1. Amendments to these clauses and subclauses are given under the same references whilst additional subclauses are numbered from 101.

A list of all parts in the IEC 62271 series, published under the general title *High-voltage switchgear and controlgear*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
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1 Scope

This part of IEC 62271 covers the connection assembly of fluid-filled and extruded cables to gas-insulated metal enclosed switchgear (GIS), in single- or three-phase arrangements where the cable terminations are fluid-filled or dry-type and there is a separating insulating barrier between the cable insulation and the gas insulation of the switchgear.

The purpose of this document is to establish electrical and mechanical interchangeability between cable terminations and the gas-insulated metal-enclosed switchgear and to determine the limits of supply. It complements and amends, if applicable, the relevant IEC standards. For the purpose of this document the term "switchgear" is used for "gas-insulated metal enclosed switchgear".

It does not cover directly immersed cable terminations, as described in CIGRE brochure 89 [4]¹.

2 Normative references

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

IEC 60038, *IEC standard voltages*

IEC 60068-2-17:1994, *Basic environmental testing procedures – Part 2-17:Tests – Test Q: Sealing*

IEC 60141 (all parts), *Tests on oil-filled and gas-pressure cables and their accessories*

IEC 60376, *Specification of technical grade sulphur hexafluoride (SF₆) and complementary gases to be used in its mixtures for use in electrical equipment*

IEC 60480, *Guidelines for the checking and treatment of sulphur hexafluoride (SF₆) taken from electrical equipment and specification for its re-use*

IEC 60840, *Power cables with extruded insulation and their accessories for rated voltages above 30 kV (U_m = 36 kV) up to 150 kV (U_m = 170 kV) – Test methods and requirements*

IEC 62067, *Power cables with extruded insulation and their accessories for rated voltages above 150 kV (U_m = 170 kV) up to 500 kV (U_m = 550 kV) – Test methods and requirements*

¹ Numbers in square brackets refer to the Bibliography.