

ICS 29.035.99

CCS K 15



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22689-2008

**Recommended test methods for determining the relative
resistance of insulating materials to breakdown by surface
discharges**

测定固体绝缘材料相对耐表面放电击穿能力的推荐试验方法

(English Translation)

Issued on: December 31, 2008

Implemented on: November 1, 2009

Issued by: Standardization Administration of China

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Foreword

This standard is identical with IEC 60343:1991 (2nd edition) "Determination solid insulating materials are relatively resistant to breakdown by surface discharges recommended test Test method "(in English).

This standard is technically and IEC 60343:1991 (2nd edition) agreement, only made the following editorial changes.

--- Remove the IEC 60343:1991 foreword and introduction, preface to increase national standards;

--- With a decimal point instead of a comma as the decimal point, "";

--- In the second chapter of normative references, the IEC 60212. 1971 is rewritten as GB/T 10580-2003.

The standard proposed by China Electrical Equipment Industrial Association.

This standard by the National Electrical insulation materials and insulation systems assessment Standardization Technical Committee (SAC/TC301) centralized.

This standard was drafted. Guilin Electric Institute of Science, Technology Electrical Machinery Industry Beijing Institute of Economic Research.

1 Scope

This standard specifies the relative resistance of solid insulating material surface of the test method for the ability to discharge breakdown.

This standard applies to the ability to assess the relative resistance of solid insulating materials breakdown when exposed to surface discharge.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 7354-2003 partial discharge measurements (IEC 60270:2000, IDT) GB/T 10580-2003 standard conditions of solid insulating material before the test and during the test used (IEC 60212. 1971, IDT) GB/T 16927 (all parts) high-voltage test techniques (eqv IEC 60060-1, IEC 60060-2) Principle 3 when the solid insulating material is exposed to industrial frequency electric field is generated in the surface discharge, we need to have some simple method to evaluate Given its relative resistance to breakdown and surface discharge capacity.

Experience has shown that, during the test, if around the electrode and the surface of the sample is passed through air drying cycle, use several different types of electrodes Generating surface discharge, and complete breakdown of the material as a criterion durability test, similar to the material relating to such stress can be obtained while repeating the classification.

4.1 Test electrode

The test shall use a stainless steel cylindrical electrode and a flat electrode. Stainless steel electrode should meet the following requirements.

4.1.1 Cylindrical electrode

6mm ± 0.3mm diameter cylindrical body, down to the edge of a circular arc of radius 1mm. The quality of the electrode is not more than 30g, and it should be placed perpendicular to the sample surface. For soft material, in order to prevent mechanical damage that may occur between the electrode and the sample allowed to have no more than a Over 100µm gap.

For thin samples (thickness of less than 100µm), more convenient approach is to be placed between the two electrodes fixed pitch of 100µm.

When it is necessary to use small samples to reduce heat capacitance, allowing the use of less than 6mm diameter cylindrical electrode, the electrode edges down into 1mm radius arc.

Figure 1 is an example of two electrode means may be employed. When the inter-electrode gap and the sample does not need to be used as shown in Figure 1b) in

Electrode means to prevent the occurrence of slight inclination, any other suitable means.

4.1.2 Plate electrodes

Area flat electrodes should be larger than the area of the cylinder at the test voltage discharge electrode covered.

4.1.3 Electrode means

Electrode means should have axial symmetry. Location where the air intake should meet the various electrodes have a uniform air distribution as possible in order to maintain Permit reproducible results. On top of one sample can be used to test one or more electrodes. If a plurality of electrodes, electrode spacing should GB/T 22689-2008/IEC 60343:1991