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

GB/T 7196-2012

Replacing GB/T 7196-1987

**Methods of test for the determination of ionic impurities in
electrical insulating materials by extraction with liquids**

用液体萃取测定电气绝缘材料离子杂质的试验方法

(English Translation)

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Foreword

This standard rule according to GB/T 1.1-2009 given draft.

This Part replaces GB/T 7196-1987 "Test Method for Determination of electrical insulating materials extraction liquid ionic impurities", and GB/T 7196-1987 compared to the main technical changes are as follows.

--- Will be part of the "note" to modify the contents of text articles.

This standard uses the translation method is equivalent to using IEC 60589. 1977 "was measured by liquid extraction of ionic impurities in electrical insulating materials test side law".

The standard proposed by China Electrical Equipment Industrial Association.

This standard by the national system of assessment and an insulating material Standardization Technical Committee (SAC/TC301) centralized.

This standard was drafted. Guilin Electric Apparatus Research Institute, Shunde quality and technical supervision of standards and codes, Beijing Machinery Industry Electrical Technology and Economy Institute.

1 Scope

This standard specifies the test method for measuring liquid extraction of ionic impurities in electrical insulating materials.

This standard applies to the determination of the electrical insulating material ionized soluble organic or inorganic substances, based on the volume of the extraction solution conductivity Increases to justify their existence. The test has a special significance for the refrigerant or impregnant immersed in an electrically insulating material.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 Liquid extract volume conductivity volume conductivity of the liquid extract

Liquid extract volume conductivity γ_{ex} equal volume of extraction solution conductivity and Comparative test solution (blank test solution) the volume conductivity Difference in SI units in unit volume conductivity is Siemens per meter (S/m). In fact common units of volume conductivity Simon Sub per centimeter (S/cm).

3 Instrument

250mL conical flask of hard glass equipped with a reflux condenser (see Figure 1).

Conductivity cell. a known constant k (1/m or 1/cm).

Accuracy of 5% resistor bridge or other measurable resistance means.

For the water extract, the measuring device should be at a frequency of 50Hz ~ 3000Hz measured resistance to 1Mohm.

Note: I do not know if the cell constant k , can be determined by known conductivity standard solution of potassium chloride in Appendix B.

For organic extracts, the measuring device should be used no more than 100V DC voltage measuring resistor until 1Tohm.

4.1.1 Test water

Volume conductivity of the test water shall be less than or equal to 2.0×10^{-4} S/m. Wherein the pH should be between 6.8 to 7.2.

Test water can be prepared by ion exchange agent or in compliance with the above pH of distilled water twice.

Note: It should be noted the impact of carbon dioxide, water, freshly prepared, if short-term exposure to air, it will change to a pH between 5.7 to 6.9 If.

Water pH change caused by carbon dioxide, but not less than 6.4, it may be passed through to the water a short time to recover pure nitrogen pH = 7. As the water stored in the Polyethylene bottle carbon dioxide removal, the pH can be kept at the desired range.

4.1.2 Preparation of aqueous extract solutions

The absence of special provisions, water extraction solution is prepared according to the following procedure.

GB/T 7196-2012/IEC 60589. 1977