SLOVENSKI STANDARD
SIST HD 381 S1:1998

01-oktober-1998

Methods of test for the determination of ionic impurities in electrical insulating materials by extraction with liquids (IEC 60589:1977)

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

Prüfverfahren zur Bestimmung von ionisierender Verunreinigungen in elektrisch isolierenden Werkstoffen durch flüssige Auszüge

Méthodes d'essai pour la détermination des impuretés ioniques dans les matériaux isolants électriques par extraction par des liquides

Ta slovenski standard je istoveten z: HD 381 S1:1979

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29.035.01	Izolacijski materiali na splošno	Insulating materials in general

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

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CORRIGENDUM 1

Page 12

ANNEXE B — SOLUTIONS NORMALISÉES DE KCl

Quatrième paragraphe, au lieu de:

La conductivité des solutions normalisées à 23 °C est égale à:

solution 0,1	N	$\gamma_{KCl} = 1{,}16$	$S \cdot m^{-1}$
solution 0,01	N	$\gamma_{KCl} = 0{,}135$	$S \cdot m^{-1}$
solution 0,001	N	$\gamma_{KCl} = 0{,}014$	$S \cdot m^{-1}$

lire:

La conductivité des solutions normalisées à 23 °C est égale à:

solution 0,1	N	$\gamma_{KCl} = 1{,}24$	$S \cdot m^{-1}$
solution 0,01	N	$\gamma_{KCl} = 0{,}136$	$S \cdot m^{-1}$
solution 0,001	N	$\gamma_{KCl} = 0{,}0141$	$S \cdot m^{-1}$

Page 13

APPENDIX B — KCl STANDARD SOLUTIONS

Fourth paragraph, instead of:

The conductivity of the standard solution at 23 °C is for:

0.1	N	$\gamma_{KCl} = 1.16$	$S \cdot m^{-1}$
0.01	N	$\gamma_{KCl} = 0.135$	$S \cdot m^{-1}$
0.001	N	$\gamma_{KCl} = 0.014$	$S \cdot m^{-1}$

read:

The conductivity of the standard solution at 23 °C is for:

0.1	N	$\gamma_{KCl} = 1.24$	$S \cdot m^{-1}$
0.01	N	$\gamma_{KCl} = 0.136$	$S \cdot m^{-1}$
0.001	N	$\gamma_{KCl} = 0.0141$	$S \cdot m^{-1}$

INTERNATIONAL ELECTROTECHNICAL COMMISSION

METHODS OF TEST FOR THE DETERMINATION OF IONIC IMPURITIES IN ELECTRICAL INSULATING MATERIALS BY EXTRACTION WITH LIQUIDS

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by Sub-Committee 15A, Short-time Tests, of IEC Technical Committee No. 15, Insulating Materials.

A first draft was discussed at the meeting held in Bucharest in 1974. As a result of this meeting, a draft, Document 15A(Central Office)31, was submitted to the National Committees for approval under the Six Months' Rule in August 1976.

The following countries voted explicitly in favour of publication:

Austria	Japan
Belgium	Norway
Canada	Portugal
Czechoslovakia	Turkey
Denmark	Union of Soviet Socialist Republics
Egypt	United Kingdom
France	United States of America
Germany	

METHODS OF TEST FOR THE DETERMINATION OF IONIC IMPURITIES IN ELECTRICAL INSULATING MATERIALS BY EXTRACTION WITH LIQUIDS

1. Scope and object

The purpose of this standard is to determine whether or not ionizable soluble organic and/or inorganic materials are present in electrical insulating materials. Their presence is confirmed by the increase in volume conductivity of the liquid extract and the test is considered to have particular significance when applied to electrical insulating materials which are to be immersed in coolants or impregnants.

2. Definitions and units

The volume conductivity of a liquid extract γ_{ex} is the difference between the volume conductivity of the extract solution and the volume conductivity of the control sample (blank sample). The SI unit of the volume conductivity is $S \cdot m^{-1}$. In practice, the unit $S \cdot cm^{-1}$ is often used.

3. Apparatus

— 250 ml conical flasks (Erlenmeyer) with reflux condensers having acid resistant and alkali resistant glass;

— conductivity cell with known cell constant k (m^{-1}) or (cm^{-1});

— a bridge or other measuring device capable of measuring resistances with an accuracy of 5%.

In the case of aqueous extracts, this measuring device shall permit the measurement of resistances up to 1 MΩ at frequencies between 50 Hz and 3 000 Hz.

In the case of organic extracts, the measuring device shall permit the measurement of resistances up to 1 TΩ using not more than 100 V. d.c.

Note. — If unknown, the cell constant k is determined by means of a standard KCl solution of known conductivity, in accordance with Appendix B.

4. Procedure

4.1 *Aqueous extract*

4.1.1 *Test water*

The quality of the test water has a considerable influence on the result of the test. The volume conductivity of the test water preparing the aqueous extracts shall be $\leqslant 2 \cdot 10^{-4}\ S \cdot m^{-1}$. The pH value of the test water shall be between 6.8 and 7.2.