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BSI Standards Publication

Rotating electrical machinery — Natural graphite brush for slip-ring in wound rotor-type induction motor – Application information

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ROTATING ELECTRICAL MACHINERY –

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FOREWORD

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IEC TR 63021, which is a Technical Report, has been prepared by IEC technical committee 2: Rotating machinery.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
2/1794/DTR	2/1823A/RVC

Full information on the voting for the approval of this Technical Report 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.

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,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This Technical Report has been prepared after considering implications of the withdrawal of IEC PAS 62072:2005 and its potential conversion into an International Standard, and after analysing practical information obtained through the application of natural graphite (NG) brush for slip-ring in wound-rotor type induction motor, compared with copper brush.

Practical values obtained through the application of NG-brushes into slip-rings in various kinds of wound rotor-type induction motor are given in Annex A.

ROTATING ELECTRICAL MACHINERY –

Natural graphite brush for slip-ring in wound rotor-type induction motor – Application information

1 Scope

This document presents technical characteristics, application results and practical information on NG-brush for slip-ring obtained through the application of NG-brush in various kinds of wound rotor-type induction motor (large-size water pump, belt conveyer, lift, winder motor, grinding mill and crusher in coal or ore mine; crane, rolling mill, compressor and winder motor for boring in oil or gas facility).

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 60413, *Test procedures for determining physical properties of brush materials for electrical machines*

IEC 60773, *Test methods and apparatus for measurement of the operational characteristics of brushes*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
fire-spark
glittering phenomenon observed macroscopically between the brush and slip-ring during the operation of a wound rotor-type induction motor

3.2
life
critical time since the brushes have been installed into the wound rotor-type induction motor and started to operate until the brush and the slip-ring can no longer contribute to the motor's operation

3.3
dust diffusion
phenomenon whereby fine powders, caused by wear of the brush, diffuse in air during the operation of a wound rotor-type induction motor