**IS/IEC 60034-18-41: 2014**

***भारतीय मानक Indian Standards***

*Superseding IS 15999*

*(Part 18/Sec 41): 2018*

**विद्युत घूर्णिय मशीनें**

**भाग 18 आंशिक डिस्चार्ज मुक्त विद्युत इन्सुलेशन सिस्टम (टाइप I) वोल्टेज कन्वर्टर्स से संचालित रोटेटिंग इलेक्ट्रिकल मशीनों में उपयोग किया जाता है**

**अनुभाग 41 योग्यता और गुणवत्ता नियंत्रण परीक्षण**

**Rotating Electrical Machines**

**Part 18 Partial Discharge free Electrical Insulation Systems (Type I) used in Rotating Electrical Machines Fed from Voltage Converters**

**Section 41 Qualification and Quality Control Tests**

ICS 29.160.01

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**November 2024 Price Group**

Rotating MachinerySectional Committee, ETD 15

NATIONAL FOREWORD

This Indian Standard (Part 18/Sec 41) which is identical with  [IEC 60034-18-41: 2014+AMD1: 2019 CSV](javascript:doHTTPGetLayer('PrintDetail','108747');)‘Rotating electrical machines –Part 18-41: Partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters – Qualification and quality control tests ’ issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Rotating Machinery Sectional Committee and approval of the Electrotechnical Division Council.

IS 15999 (Part 18/Sec 41) was originally published in 2018. This publication has been undertaken to align it with the latest version of IEC 60034-18-41: 2014+AMD1: 2019 CSV. This standard supersedes IS 15999 (Part 18/Sec 41): 2018.

This standard is published in various parts. Other parts in this series are:

|  |  |
| --- | --- |
| Part 5 | Degrees of protection provided by the integral design of rotating electrical machines (IP Code) - Classification |
| Part 8 | Terminal markings and direction of rotation |
| Part 27  Section 4 | Winding insulation of rotating electrical machines Section 4 Measurement of insulation resistance and polarization index |

The text of the IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

1. Wherever the words ‘International Standard’ appears referring to this standard, they should be read as ‘Indian Standard’.
2. Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

|  |  |  |
| --- | --- | --- |
| *International Standard* | *Corresponding Indian Standard* | *Degree of Equivalence* |
| IEC/TS 60034-18-42, Rotating electrical machines – Part 18-42: Qualification and acceptance  tests for partial discharge resistant electrical insulation systems (Type II) used in rotating electrical machines fed from voltage converters1 | IS 15999 (Part 18/Sec 42) : 2018/ IEC 60034-18-42 : 2008 Rotating electrical machines Part 18 Qualification and acceptance tests for partial discharge resistant electrical insulation systems (Type II) Section 42 Used in rotating electrical machines fed from voltage converters | Identical |
| IEC 60172, Test procedure for the determination of the temperature index of enamelled  winding wires | IS 5825 : 2024/ IEC 60172: 2020 Test procedure for the determination of the temperature index of enamelled and tape wrapped winding wires (*third revision*) | Identical |

The technical committee has reviewed the provisions of the following international standards referred in this adopted standard and decided that they are acceptable for use in conjunction with this standard.

|  |  |
| --- | --- |
| *International Standard* | *Title* |
| IEC 60034-18-1:2010 | Rotating electrical machines – Part 18-1: Functional evaluation of insulation systems. General guidelines |
| IEC 60034-18-21 | Rotating electrical machines – Part 18-21: Functional evaluation of  insulation systems – Test procedures for wire-wound windings – Thermal evaluation and classification |
| IEC 60034-18-31 | Rotating electrical machines – Part 18-31: Functional evaluation of insulation systems – Test procedures for form-wound windings – Thermal evaluation and classification of insulation systems used in rotating machines |
| IEC/TS 60034-25:2007 | Rotating electrical machines – Part 25: Guidance for the design and  performance of a.c. motors specifically designed for converter supply |
| IEC TS 60034-27 | Rotating electrical machines – Part 27: Off-line partial discharge measurements on the stator winding insulation of rotating electrical machines |
| IEC 60664-1 | Insulation co-ordination for equipment within low voltage systems – Part 1:  Principles, requirements and tests |
| IEC/TS 61800-8 | Adjustable speed electrical power drive systems – Part 8: Specification of  voltage on the power interface |
| IEC/TS 61934 | Electrical insulating materials and systems – Electrical measurement of partial discharges (PD) under short rise time and repetitive voltage impulses |

Only English language text has been retained while adopting it in this Indian Standard, and as such the page numbers given here are not the same as in the International Standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test, shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.