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BUREAU OF INDIAN STANDARDS

DRAFT AGENDA

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
Rotating Machinery Sectional Committee ETD 15	32 nd	Tuesday	27 th June 2023	10:30 AM	WebEx (Online)

CHAIRMAN : Shri Anish K Varshney

MEMBER SECRETARY : Ms. Neha Agarwal

Item 0 GENERAL

0.1 Welcome and Opening Remarks by the Chairman

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The minutes of the 31st meeting of Rotating Machinery Sectional Committee, ETD 15 held on 29th Nov 2022 were circulated vide BISDG letter no. ETD 15/A-2.31 dated 12-12-2022.

No comments received.

The Committee may note and formally confirm the minutes of the last meeting.

1.2 Presentation on the ‘Process Reforms in Standardization Activity of BIS’

1.3 Actions Arising Out of Previous Meetings (31st Meeting)

Sl. No.	Item No. of Last Minutes	Subject	Decision taken during the last meeting	Action/Remarks
1.	1.2 (1)	Revision of IS 9283: 2013/ Motors for Submersible Pump sets – Specification (Second Revision) ETD 15 (17922)/ P Draft circulated vide email dated 18 August	The committee discussed the comments received on the draft document. Decisions are placed at Annex-1. Further, it was decided to revise the existing draft in line with the following changes:	The modified draft is awaited.

		2021 with last date of comments as 17 Sep 2021.	<p>1. Delete row (ii) of Table 6</p> <p>2. Reference of IS 15999 (Part 1) in place of IS 3043.</p> <p>3. Addition of separate annexure to specify cable sizes</p> <p>3. Title of performance characteristics tables needs to be in line with IS 8034.</p> <p>4. Clause 5.9 (note 2)- For single-phase motor output ratings below the rating specified may be permitted.</p> <p>SIEMA was requested to submit the revised draft in consultation with Shri Dilip Bhawe within 15 days.</p> <p>Upon receipt, the draft will be wide circulated for one month for seeking comments.</p>	
2.	1.2 (2)	Revision of IS 12075: 2008 Mechanical Vibration of Rotating Electrical Machines with Shaft Heights 56 mm and Higher - Measurement, Evaluation and Limits of Vibration Severity	<p>ETD 15 (16745)/ WC Draft circulated vide email dated 10 June 2021 with last date of comments as 12 July 2021.</p> <p>The committee discussed the comments.</p> <p>However, it was decided to re-circulate the draft. ABB, Siemens and Bharat Bijlee were agreed to relook the draft and submit comments within one month.</p>	<p>The draft was re-circulated vide email dated 23 December 2022. However, no comments received.</p> <p>The committee may approve the draft for printing.</p>

3.	1.2 (3)	<p>ETD 15 (15753) (Third Revision of IS 996: 2009)</p> <p>Single phase ac induction motors for general purpose</p>	<p>The committee discussed that its not possible to achieve efficiency in single phase motors as in 3-phase motors. Therefore, here efficiency can not be aligned with IEC 60034-30-1.</p> <p>In addition, IEC 60034-30-1 does not define frame to output ratio also.</p> <p>Further, to modify Table 12 and Table 13, PICL would be requested to provide nominal efficiency value.</p> <p>IEEMA was also requested to share the draft with leading manufacturer of single phase ac motors for obtaining comments.</p>	The reply is awaited from PICL.
5.	1.2 (4)	<p>NWIP- PERMANENT MAGNET PMAC / DC / PMSM MOTORS FOR SUBMERSIBLE PUMPSETS - SPECIFICATION</p>	<p>A small working group was constituted to study the NWIP draft along with the draft on DC Motor (including BLDC motors) for used in DC water pump circulated earlier in order to discuss the comments and to find out the possibility if both drafts can be merged to avoid duplicity.</p> <p>The composition is as follows:</p> <ol style="list-style-type: none"> 1. IPMA 2. SIEMA 3. SITARC 4. ERDA <p>The WG was requested to submit the feedback within one month time.</p>	<p>Mail was sent to working group on 28th Feb followed by 1 June 2023.</p> <p>The WG may kindly update the status.</p>
6.	1.2 (5)	Revision of IS 12065	Shri Ashish Shere informed that draft document based on Latest edition of IEC 60034-9 will be submitted in 3 months time. He was requested to expedite the work.	Reply is awaited.

			The same WG was also requested to review IS 4758: 1968 'Methods of measurement of noise emitted by machines' and recommend for withdrawal, if requirements are already covered in IS 12065.	
7.	4.1	New Work Item Proposal: Standards for Design, Manufacture, Assembly of Micro Back Pressure Steam Turbines in Processing Industries	Shri Anish Varshney informed that draft standard is required to move forward.	The subject will be transferred to MED 22.
8.		Revision of IS 8151 'Specification for single - Speed three - Phase induction motors for driving lifts'	The committee decided to wide circulate the standard for seeking comments.	ETD 15 Doc. (21497)/ Revised draft for IS 8151 was wide circulated vide letter dated 16-12-2022. No comments received.
9.		Revision of IS 12615: 2018 Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification" (Third Revision)	The committee decided to revise IS 12615: 2018 in order to bring more clarity in the scope as well as to incorporate all the suggestions received during the last meeting of ETD 15.	The committee may decide the future course of action in this regard.

Item 2 COMPOSITION OF ROTATING MACHINERY SECTIONAL COMMITTEE, ETD 15

2.1 The composition of the Sectional Committee ETD 15 is given in **Annexure 1**.

Cooption request received-

a) Smt Smita Nisal, GM (Design & Development) Kirloskar Oil Engines Limited, Pune

2.2 **Status of participation of members in the previous three meetings inviting suggestions for improvement**

Standardization is a collaborative effort and its success largely depends on the participation and contribution of the members of the concerned technical committees. Further, for standards to be relevant it is also important that viewpoints of all interested stakeholders are brought on board and duly considered while building consensus on the standard being developed.

The status participation of members in the previous three meetings of ETD 15 are given at **Annex 2**.

The committee may review the participation and provide suggestion to improve the participation in the upcoming meetings.

2.3 Creation of pool of experts

Item 3 APPROVALS OF DRAFT INDIAN STANDARDS FOR FINALIZATION/WIDE CIRCULATION

SI No.	Draft Standards
1.	ETD/15/21497/ IS 8151: 1976 Specification For Single-Speed Three-Phase Induction Motors For Driving Lifts
2.	ETD/15/15753 IS 996: 2009 Single Phase AC Induction Motors For General Purpose Third Revision
3.	ETD/15/22577 IS 7572: 1974 Guide For Testing Single-Phase Ac Motors First Revision
4.	ETD/15/17922 IS 9283: 2013 Motors For Submersible Pump-Sets - Specification Third Revision

Item 4 REVIEW OF PROGRAM OF WORK OF ETD 15

The Programme of work of ETD 15 is given in **Annex 2**.

Mechanical Engineering Division Council has discussed and agreed on the transfer of the turbine standards from ETD 15 to MED 22. In view of same, total 16 Indian Standards on steam, hydraulic and gas turbines will be transferred to MED 22 sectional committee.

The Committee may note.

4.1 (a) Review of scope of ETD 15

Present Scope: To prepare standards on rotating electrical machines like induction, synchronous, motors, generators, dc machines and turbines including carbon brushes for electrical machines (with the exception of traction machines and rotating machinery coming under the purview of other Committees).

Proposed Scope: To prepare standards on rotating electrical machines like induction, synchronous, motors, generators, dc machines including carbon brushes for electrical machines (with the exception of traction machines and rotating machinery coming under the purview of other Committees).

The committee may consider and approve.

4.1(b) Review of Standards - Taking up Revision of Pre-2000 Standards

BIS has identified a list of standards which are very old (pre year 2000). Status of such Indian Standards as discussed during the last meeting of ETD 15 are given at **Annex 3**.

The committee may consider.

4.1 (c) Reaffirmation of Standards

The based standard for the following Indian Standards have not been revised. In view of that, the committee may consider to reaffirm these standards:

4.2 Rolling Annual Action Plan – 2023-24 for ETD 15 (carried over from AAP 2022-23)

SI No.	Subject / IS	Priority	Action Taken/ Proposed
1.	Revision of IS 9283: 2013 Motors for Submersible Pump sets – Specification (Second Revision)	High	P Draft stage completed
2.	Revision of IS 996: 2010 Single Phase AC Induction Motors For General Purpose	High	WC stage completed
3.	Revision of IS 12065 Permissible limits of noise levels for rotating electrical machines	Medium	P draft is awaited
4.	Revision of IS 12075 Mechanical Vibration of Rotating Electrical Machines with Shaft Heights 56 mm and Higher - Measurement, Evaluation and Limits of Vibration Severity	Medium	WC stage completed

4.3 New Work Item Proposals (NWIPs) received from IEC TC 2

Project Reference	Scope
IEC TS 60034-16-2 ED1 Rotating electrical machines - Part 16-2: Excitation systems for synchronous machines - Models for power system studies	This report recommends modelling guidelines and appropriate models for excitation systems for use in power system stability studies and includes a nomenclature defining the parameters and variables used.
IEC 60034-27-8 ED1 Rotating machinery - Part 27-8: Detection of inter turn short-circuits	This document establishes the testing conditions, testing methods and evaluation principles for inter turn short-circuit

in rotor windings of cylindrical rotor synchronous generator	faults in the cylindrical rotors during hand-over, maintenance and operation of synchronous machines.
IEC TS 60034-38 ED1 Guidelines for condition-based evaluation and maintenance of cylindrical-rotor synchronous generators	This document specifies the basic methods for condition-based evaluation and condition-based maintenance for cylindrical-rotor synchronous generators, including condition information classification, criteria acquisition and quantization standards, component and overall evaluation, the strategy, content, category, and effect evaluation of condition-based maintenance.

The committee may consider.

4.5 Scientific and Periodic Journals to be subscribed

The committee may suggest scientific and periodic journals which may be subscribed by BIS to discover latest technological development taking place in the field of rotating machinery and its related activities all over the world.

4.6 Participation in National and International events related to Rotating Machinery

The committee may suggest national and international events planned in the field of rotating machinery for participation.

Item 5 INTERNATIONAL ACTIVITIES

5.1 The present position of work of the corresponding IEC Technical Committee IEC/ TC 2 on Rotating Machinery is given at **Annex 4**.

5.2 **Status of standardization in the areas dealt by the committee at international level and suggestions for improving participation in the related committees of ISO/IEC.**

India is the participating member in IEC TC 2 ‘Rotating Machinery’. The next plenary meeting of IEC TC 2 is scheduled during 02-06 October 2023 in Paris.

The committee may note.

5.3 **The measures to ensure effective participation by the Indian experts at IEC meetings**

Item 6 WTO-TBT ENQUIRY POINT

6.1 World Trade Organization (WTO) is the International Organization dealing with global rules of trade between nations. The Technical Barriers to Trade Agreement (TBT) tries to ensure that Regulations, Standards, Conformity Assessment procedures do not create unnecessary obstacles to trade. Manufacturers and exporters of each country need to know about the latest standards and technical regulations in their prospective markets. To help ensure that this information is made available conveniently, all WTO member governments are required to establish National Enquiry Point. India

is a signatory to the WTO-TBT Agreement. Under this Agreement, India has to fulfill certain obligations such as establishing an enquiry point and transparency of its standards and its regulations. BIS functions as the National enquiry point as nominated by Ministry of Commerce, the dealing Ministry with WTO.

The committee may note.

Item 7 INFORMATION ON E-SALE OF STANDARDS BY BIS

7.1 Bureau of Indian Standards, the National Standards Body of India has published more than 20000 Indian Standards which are available for sale. They are available for e-sale as under:

Indigenous Standards can be downloaded at free of cost from <https://standardsbis.bsbedge.com/>

The committee may note.

Item 8 TRAINING PROGRAMME

8.1 National Institute of Training for Standardization (NITS) has been set up by BIS with world class facilities to impart training on various aspects leading to standardization, quality and other management systems, consumer protection, public service delivery, etc. The training calendar and other details for the current year by visiting BIS web site <https://www.bis.gov.in/training-2/training-calender/>

The committee may note.

The committee may note.

Item 9 DATE AND PLACE OF NEXT MEETING

9.1 Annual Meeting Calendar of ETD 15

Committee	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ETD 15	27 June 23	-	Nov 2023	-

Item 10 ANY OTHER BUSINESS

ANNEX 1

SR. NO.	NAME OF ORGANIZATION	REPRESENTED BY	MEETINGS ATTENDED/ HELD
1.	Asea Brown Boveri Limited, Faridabad	Shri Sumit Tyagi (<i>Alternate Member</i>)	3/3
		Shri Lokesh B M (<i>Principal Member</i>)	
2.	Bharat Bijlee Limited, Mumbai	Ms Anjali Ranade (<i>Alternate Member</i>)	3/3
		Shri Salil Kumar (<i>Principle Member</i>)	
3.	Bharat Heavy Electrical Limited, New Delhi	Shri Nisheeth Khare (<i>Alternate Member</i>)	1/3
		Shri Baboo Sonwane (<i>Alternate Member</i>)	
		Shri Krushna Chandra Panda (<i>Principle Member</i>)	
		Shri P Dali Naidu (<i>Alternate Member</i>)	
4.	Bureau of Energy Efficiency, New Delhi	Shri Kamran Shaikh (<i>Alternate Member</i>)	0/3
		Ms Pravatanalini Samal (<i>Principle Member</i>)	
		Mukhe K Sai Satvik (<i>Alternate Member</i>)	
5.	CG Power and Industrial Solutions, Mumbai	Shri A. Sudhakaran (<i>Principle Member</i>)	3/3
		Shri Sandeep R. Bachkar (<i>Alternate Member</i>)	
6.	Central Electricity Authority, New Delhi	Shri Prabhjot Singh Sahi (<i>Principle Member</i>)	1/3
		shri Jugal Kishor (<i>Alternate Member</i>)	
7.	Development Commissioner Micro-Small and Medium Enterprises	Shri S K Saini (<i>Principle Member</i>)	0/3
8.	Electrical Research and Development Association, Vadodara	Shri S H Chetwani (<i>Alternate Member</i>)	3/3
		Shri Ravi Prakash Singh (<i>Principle Member</i>)	
9.	Engineers India Limited, New Delhi	Shri S Srihari (<i>Alternate Member</i>)	1/3
		Shri Raman Sood (<i>Principle Member</i>)	
		Shree Ravish K. Raman (<i>Alternate Member</i>)	
10.	Havells India Limited, Noida	Shri Anil Sukumar Akole (<i>Principle Member</i>)	1/3

		Sassikumar J. (<i>Alternate Member</i>)	
11.	Hindustan Electric Motors, Mumbai	Shri Sanjay P. Jadia (<i>Principle Member</i>)	2/3
12.	Indian Electrical and Electronics Manufacturers Association, New Delhi	Ms. Pragati Sohoni (<i>Principle Member</i>)	3/3
		Shri Ashutosh Vasisht (<i>Alternative Member</i>)	
13.	Indian Institute of Technology Delhi, New Delhi	Prof Anil Verma (<i>Principle Member</i>)	0/3
		Dr. Pravin P Ingole (<i>Alternate Member</i>)	
14.	Indian Pump Manufacturers Association, Mumbai	Shri Utkarsh Chaya (<i>Alternate Member</i>)	3/3
		Shri K.V. Karthik (<i>Principle Member</i>)	
		Shri Anoop Agarwal (<i>Alternate Member</i>)	
15.	Ingersoll Rand India Limited, Ahmedabad	Shri Kaushal Pandya (<i>Principle Member</i>)	1/3
		Shri Harsh Shukla (<i>Alternate Member</i>)	
16.	Integrated Electric Limited, Gurugram	Dr. Praveen Vijayraghavan (<i>Principle Member</i>)	3/3
17.	International Copper Association India, Mumbai	Shri Debdas Goswami (<i>Alternate Member</i>)	3/3
		Shri Abhishek Dhupar (<i>Principle Member</i>)	
18.	KSB Pumps Limited, Pune	Shri Rajesh B Gote (<i>Principle Member</i>)	2/3
		Uday Joshi (<i>Alternate Member</i>)	
19.	Marathon Electric Motors (India) Limited, Kolkata	Shri Rajiv Ranjan (<i>Principle Member</i>)	1/3
20.	NTPC Limited, New Delhi	Shri Rajesh Sharma (<i>Alternate Member</i>)	1/3
21.	Nuclear Power Corporation of India Limited, Mumbai	SHRI S K TIWARI (<i>Principle Member</i>)	1/3
		Dr Dhanashree V Vyawahare (<i>Alternate Member</i>)	
22.	SJVN Limited, Shimla	Shri R. P. Singh (<i>Principle Member</i>)	0/3
23.	Scientific and Industrial Testing and Research Centre, Coimbatore	Shri A. M. Selvaraj (<i>Principle Member</i>)	2/3
24.	Siemens Limited, Mumbai	Shri Ashish Shere (<i>Alternate Member</i>)	3/3
		Shri Pradeep Ranade (<i>Principle Member</i>)	
		Shri Prasad Hardikar (<i>Alternate Member</i>)	

25.	Southern India Engineering Manufacturers Association, Coimbatore	Dr. R. Subramanian (<i>Principle Member</i>)	3/3
		ARUNKUMAR (<i>Alternate Member</i>)	
26.	Steel Authority of India Limited (SAIL), New Delhi	Shri Madhupriya (<i>Principle Member</i>)	0/3
27.	Testing Electrical Standards Laboratory and R&D Institute Private Limited, Gandhinagar	Ankit Jain (<i>Principle Member</i>)	0/3
		Mintej Jani (<i>Alternate Member</i>)	
28.	Thyssenkrupp Industrial Solutions (India) Private Limited, Mumbai	Shri Vaijnath G. Sangekar (<i>Alternate Member</i>)	2/3
		Shri Charuta Vikram Mulay (<i>Principle Member</i>)	
29.	Toshiba Mitsubishi-Electric Industrial Systems Corporation, Bengaluru	Mr. Sudheer Tapaskar (<i>Principle Member</i>)	1/3
		Manish Joshi (<i>Alternate Member</i>)	
		Mr. Venkatesulu Thumbur (<i>Alternate Member</i>)	
30.	IN PERSONAL CAPACITY	Shri Dilip Bhawe	3/3

ANNEX 2

Program of Work- ETD 15

Scope: To prepare standards on rotating electrical machines like induction, synchronous, motors, generators, dc machines and turbines including carbon brushes for electrical machines (with the exception of traction machines and rotating machinery coming under the purview of other Committees)

SI. No.	IS No.	Title
1.	IS 900 : 2019	Code of Practice for Storage, Installation and Maintenance of Induction Motors (Third Revision)
2.	IS 996 : 2009 IEC 34-1 (1969 BS 170: 1962 JIS 4203-1973 BS 1608 : 1966	Single phase a.c. induction motors for general purpose (Third Revision)
3.	IS 1231 : 2019	Dimensions and Output Series of Foot Mounted Induction Motors — Frame Numbers 56 to 315 L (Fourth Revision)
4.	IS 2223 : 1983	Dimensions of flange mounted AC induction motors
5.	IS 2253 : 1974 IEC Pub 34-7 (1972)	Designations for types of construction and mounting arrangements of rotating electrical machines (First Revision)

SI. No.	IS No.	Title
6.	IS 2254 : 1985	Dimensions of vertical shaft motors for pumps (Second Revision)
7.	IS 2968 : 1964 DIN 42923	Dimensions of slide rails for electric motors
8.	IS 2972 (Part 1) : 1979	Specification for textile motors: Part 1 loom motors (First Revision)
9.	IS 2972 (Part 2) : 1979	Specification for textile motors: Part 2 card motors (First Revision)
10.	IS 4029 : 2010	Guide for testing three phase induction motors (First Revision)
11.	IS 4665 (Part 1) : 1984 60745-1: 2006	Specification for portable electric motor - Operated tools: Part 1 general requirements and tests (First Revision)
12.	IS 4665 (Part 1) : 2023 60745-1: 2006	Hand-Held Motor-Operated Electric Tools Safety Part 1: General requirements Second Revision
13.	IS 4665 (Part 2) : 1984	Specification for portable electric motor - Operated tools: Part 2 specific requirements for tools
14.	IS 4665 (Part 2/Sec 1) : 2023 60745-2-1	Hand-Held Motor-Operated Electric Tools Safety Part 2 Particular requirements Section 1 drills and impact drills
15.	IS 4665 (Part 2/Sec 2) : 2023 60745-2-2	Hand-held motor-operated electric tools - Safety - Part 2 Particular requirements Section 2 screwdrivers and impact wrenches
16.	IS 4665 (Part 2/Sec 3) : 2023 60745-2-3	Hand-held motor-operated electric tools - Safety Part 2 Particular requirements Section 3 grinders polishers and disk-type sanders
17.	IS 4665 (Part 2/Sec 5) : 2023 60745-2-5	Hand-Held Motor-Operated Electric Tools Safety Part 2 Particular Requirements Section 5 Circular Saws
18.	IS 4665 (Part 2/Sec 7) : 2023 60745-2-7	Safety of Hand-Held Motor-Operated Electric Tools Part 2 Particular Requirements Section 7 Spray Guns for Non-Flammable Liquids
19.	IS 4758 : 1968	Methods of measurement of noise emitted by machines
20.	IS 4889 : 1968	Methods of determination of efficiency of rotating electrical machines
21.	IS 5422 : 1996	Turbine type generators - Specification (First Revision)

Sl. No.	IS No.	Title
22.	IS 6362 : 1995 IEC Pub 34-6 : 1991 zy	Designation of methods of cooling of rotating electrical machines (First Revision)
23.	IS 7132 : 1973	Guide for testing synchronous machines
24.	IS 7306 : 1974	Methods for determining synchronous machine quantities from tests
25.	IS 7538 : 1996	Three - Phase squirrel cage induction motors for centrifugal pumps for agricultural application - Specification (First Revision)
26.	IS 7572 : 1974	Guide for testing single - Phase AC and universal motors
27.	IS 8151 : 1976	Specification for single - Speed three - Phase induction motors for driving lifts
28.	IS 8223 : 1999	Dimensions and output series for rotating electrical machines (First Revision)
29.	IS 8789 : 2021	Values of performance characteristics for three-phase induction motors with degree of protection 2X
30.	IS 9283 : 2013	Motors for submersible pumpsets - Specification (Second Revision)
31.	IS 9320 : 1979	Guide for testing direct - Current (DC) machines
32.	IS 9582 (Part 1) : 1980	Specification for single - Phase electric motors for definite purposes: Part 1 domestic laundry machine motors
33.	IS 9628 : 1980 BS 5000 : Part 16 : 1972	Three-phase induction motors with type of protection 'n'
34.	IS 9670 : 1980	Specification for direct current micromotor for cassette tape recorders and other applications
35.	IS 9919 : 1999	Guide for selection and use of carbon brushes in electrical rotating machines (First Revision)
36.	IS 11537 : 1985	Specification for centrifugal switch for single - Phase induction motors
37.	IS 12065 : 1987	Permissible limits of noise levels for rotating electrical machines
38.	IS 12066 : 1987	Specification for three - Phase induction motors for machine tools

SI. No.	IS No.	Title
39.	IS 12075 : 2008	Mechanical vibration of rotating electrical machines with shaft heights 56 mm and higher - Measurement, evaluation and limits of vibration severity (First Revision)
40.	IS 12615 : 2018	Line operated three phase AC motors (IE Code) "Efficiency classes and performance specification" (Third Revision)
41.	IS 12642 : 1989	Brush - Holders for slip rings group R, type RA - Specification
42.	IS 12998 (Part 1) : 1991 ISO 1680/1 :1986	Methods of measurement of airborne noise emitted by rotating electrical machinery: Part 1 engineering method for free - Field conditions over a reflecting plane
43.	IS 12998 (Part 2) : 1991 ISO 1680/2 :1987	Methods of measurement of airborne noise emitted by rotating electrical machinery: Part 2 survey method
44.	IS 13079 : 1991	Stepping motors - Specification
45.	IS 13364 (Part 1) : 1992	Ac generators driven by reciprocating internal combustion engines - Specification: Part 1 alternators rated up to 20 kVa
46.	IS 13364 (Part 2) : 1992	Ac generators driven by reciprocating internal combustion engines - Specification: Part 2 alternators rated above 20 kVa and up to 1250 kVa
47.	IS 13466 : 1992	Brushes for electrical machines - Specification
48.	IS 13525 : 1992	Flexible conductors for carbon brushes - Specification
49.	IS 13529 : 2021	Rotating Electrical Machines Part 26 Effects Of Unbalanced Voltages On The Performance Of Three-Phase Cage Induction Motors
50.	IS 13555 : 1993	Guide for selection and application of 3 - Phase AC induction motors for different types of driven equipment
51.	IS 13584 : 1993	Brush materials for electrical machinery -Specification
52.	IS 13586 : 1993 60276: 2018	Definitions and nomenclature for carbon brushes, brush - Holders, commutators and slip - Rings for electrical machinery
53.	IS 13586 : 2023 60276: 2018	Carbon Brushes Brush Holders Commutators and Slip-Rings Definitions and Nomenclature
54.	IS 13937 (Part 1) : 1994 ISO 7574/1	Statistical methods of determining and verifying stated noise emission values of machinery and equipment: Part 1 general considerations and definitions

SI. No.	IS No.	Title
55.	IS 13937 (Part 2) : 1994 ISO 7574/2	Statistical methods of determining and verifying stated noise emission values of machinery and equipment: Part 2 methods for stated values for individual machines
56.	IS 13937 (Part 3) : 1994 ISO 7574/3	Statistical methods for determining and verifying stated noise emission values of machinery and equipment: Part 3 simple (Transition) method for stated values for batches of machines
57.	IS 13937 (Part 4) : 1994 ISO 7574/4	Statistical methods of determining and verifying stated noise emission values of machinery and equipment: Part 4 methods for stated values for batches of machines
58.	IS 14195 : 1994 IECPub 1015: 1990 z	Brush - Holders for electrical machines - Guide to the measurement of the static thrust applied to brushes
59.	IS 14196 : 1994 IEC Pub 560 : 1977	Definitions and terminology of brush holders for electrical machines
60.	IS 14197 : 2023 60193: 2019	Hydraulic Turbines Storage Pumps and Pump-Turbines - Model Acceptance Tests
61.	IS 14376 : 1996	Brush holders for electrical machines - Specification
62.	IS 14377 : 1996	Specification for three - Phase induction motors for fans used in air - Conditioning and ventilation
63.	IS 14568 (Part 2) : 1998 IEC 72-2 (1990)	Dimensions and output series for rotating electrical machines: Part 2 frame numbers 355 to 1000 and flange numbers 1180 to 2360
64.	IS 14569 : 1999	Commutators for electrical machines - Specification
65.	IS 14578 : 1999	Three - Phase induction motors for use in nuclear power plants - Specification
66.	IS 14582 : 2021	Single-phase small ac electric motors for centrifugal pumps for agricultural applications
67.	IS 14889 : 2000	Copper tamping powder for carbon brushes - Specification
68.	IS 15429 : 2004	Storage, installation and maintenance of DC motors - Code of practice
69.	IS 15880 : 2009 IEC 60034-17	Three phase cage induction motors when fed from IGBT converters - Application guide
70.	IS 15881 : 2009	Three phase cage induction motors specifically designed or IGBT converter supply - Specification

SI. No.	IS No.	Title
71.	IS 15999 (Part 1) : 2021 IEC 60034-1: 2017	Rotating electrical machines - Part 1 : Rating and performance
72.	IS 15999 (Part 2/Sec 1) : 2011	Rotating electrical machines: Part 2 method of tests: Sec 1 standard methods for determining losses and efficiency from tests (Excluding Machines For Traction Vehicles)
73.	IS 15999 (Part 3) : 2016 60034-3	Rotating Electrical Machines Part 3 Specific Requirements for Synchronous Generators Driven by Steam Turbines or Combustion Gas Turbines
74.	IS 15999 (Part 3) : 2023 60034-3	ROTATING ELECTRICAL MACHINES Part 3: Specific requirements for synchronous generators driven by steam turbines or combustion gas turbines and for synchronous compensators first revision
75.	IS 15999 (Part 4) : 2017 IEC 60034-4 : 2008	Rotating electrical machines: Part 4 methods for determining synchronous machine quantities from tests
76.	IS 15999 (Part 4/Sec 1) : 2023 60034-4-1	ROTATING ELECTRICAL MACHINES Part 4 Electrically excited synchronous machine quantities Section 1 Test methods first revision
77.	IS 15999 (Part 15) : 2017 IEC 60034-15 : 2009	Rotating Electrical Machines Part 15 Impulse Voltage Withstand Levels of Form-Wound Stator Coils for Rotating ac Machines
78.	IS 15999 (Part 18/Sec 41) : 2018 IEC 60034-18-41: 201	Rotating electrical machines: Part 18 partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters Sec 41 qualification and quality control tests
79.	IS 15999 (Part 18/Sec 42) : 2018 IEc 60034-18-42 : 20	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
80.	IS 15999 (Part 26) : 2016 IEC 60034-26 : 2006	Rotating Electrical Machines Part 26 Effects of Unbalanced Voltages on the Performance of Three-Phase Cage Induction Motors
81.	IS/IEC 60034-5 : 2000	Rotating electrical machines: Part 5 degrees of protection provided by the integral design of rotating electrical machines (IP Code) - Classification (Second Revision)
82.	IS/IEC 60034-8 : 2014 IEC 60034-8: 2014	Rotating Electrical Machines Part 8 Terminal Markings and Direction of Rotation (Third Revision)

SI. No.	IS No.	Title
83.	IS/IEC 60034-27-4) : 2018 IEC 60034-27-4	Rotating Electrical Machines Part 27 Winding Insulation of Rotating Electrical Machines Section 4 Measurement of insulation resistance and polarization index

ANNEX 3
ETD 15 Rotating Machinery/ Pre 2000 Status

Sl.No	IS No	Title	Based on IEC	Latest IEC	Status/Recommendation
1.	IS/IEC 41 : 1991	Field acceptance tests to determine the hydraulic performance of hydraulic turbines storage pumps and pump - Turbines			Transferred to MED 22.
2.	IS 2223 : 1983	Dimensions of flange mounted AC induction motors	IEC Pub 72 : 1971	60072-1991	Shri Dilip Bhave kindly agreed to review and provide the revised draft. Draft is awaited.
3.	IS 2253 : 1974 IEC Pub 34-7 (1972)	Designations for types of construction and mounting arrangements of rotating electrical machines First Revision	IEC Pub 34-7 1972	IEC 60034-7:2022 Vaild	Under Printing
4.	IS 2254 : 1985	Dimensions of vertical shaft motors for pumps Second Revision			Shri K V Karthik, IPMA was requested to review and provide revised draft. Draft is awaited.
5.	IS 2968 : 1964 DIN 42923	Dimensions of slide rails for electric motors		DIN 42923	-
6.	IS 2972 (Part 1) : 1979	Specification for textile motors Part 1 loom motors First Revision		Indigenous	Shri Prasad Hardikar, Siemens kindly agreed to review and provide the revised drafts.
7.	IS 2972 (Part 2) : 1979	Specification for textile motors Part 2 card motors First Revision		Indigenous	
8.	IS 2972 (Part 3) : 1979	Specification for textile motors Part 3 spinning frame motors First Revision		Indigenous	DECIDED FOR WITHDRAWAL
9.	IS 4665 (Part 1) : 1984	Specification for portable electric motor - Operated tools Part 1 general requirements and tests First Revision	CEE Publication 20-1973 BS 2769: 1964 P		Revised draft Published.
10.	IS 4665 (Part 2) : 1984	Specification for portable electric motor - Operated tools Part 2 specific requirements for tools	CEE Pub 20 II-1975 BS 2769: 1964		Revised draft published.
11.	IS 4758 : 1968	Methods of measurement of noise emitted by machines	ISO Recommendation 495		The same WG was also requested to review IS 4758: 1968 'Methods of

					measurement of noise emitted by machines' and recommend for withdrawal, if requirements are already covered in IS 12065.
12.	IS 4889 : 1968	Methods of determination of efficiency of rotating electrical machines	Publication 34-2	IEC 60034-2-1:2014	Under print
13.	IS 5422 : 1996	Turbine type generators - Specification First Revision	IEC Pub 34-3 1988	IEC 60034-3:2020 Valid	IS 15999 (Part 3): 2023/ IEC 60034-3: 2020 “ <i>Specific Requirements for Synchronous Generators Driven by Steam Turbines or Combustion Gas Turbines and for Synchronous Compensators</i> ” is published. In view of above, the committee may approve withdrawal of IS 5422.
14.	IS 7132 : 1973	Guide for testing synchronous machines	IEC Pub 34-1 1969 IEC Pub 344 (1967 IEEE 115-1965	This IEC Valid IEC 60034-1:2022	Requirements already covered in IS 15999 (Part 4)/ IEC 60034-4. Decided for withdrawal.
15.	IS 7306 : 1974	Methods for determining synchronous machine quantities from tests	IEC Publication 34-4 (1967	This is Valid IEC 60034-4-1:2018	
16.	IS 7538 : 1996	Three - Phase squirrel cage induction motors for centrifugal pumps for agricultural application - Specification First Revision		Indigenous	UNDER REVISION
17.	IS 7572 : 1974	Guide for testing single - Phase AC and universal motors	IS : 4029-1967 AIEE Publication IEEE No.. 114-19.58 NEMA Standard M.G. 1	This Is IEC AIEE Publication IEEE No.. 114-19.58	Under P Draft Stage. Last date for sharing comments- 2 July 2023
18.	IS 8151 : 1976	Specification for single - Speed three - Phase induction motors for driving lifts	BS 2655: Part 2. 1959		Under WC draft Stage.
19.	IS 9320 : 1979	Guide for testing direct - Current DC machines	GOST : 183-1966, GOST : 10159-1962		Dr Praveen Vijayragvan, kindly agreed to review and provide revised drafts. Draft is awaited.
20.	IS 9582 (Part 1) :	Specification for single - Phase electric motors for definite purposes			-

	1980	Part 1 domestic laundry machine motors			
21.	IS 9628 : 1980 BS 5000 : Part 16 : 1972	Three-phase induction motors with type of protection n	(BS 5000 : Part 16 : 1972)		IS/ IEC 60079-15 2019 covers the requirements of IS 9628. Therefore, decided for withdrawal of IS 9628.
22.	IS 9670 : 1980	Specification for direct current micromotor for cassette tape recorders and other applications			Phase-2 review Document circulated
23.	IS 9919 : 1999	Guide for selection and use of carbon brushes in electrical rotating machines First Revision			Dr Praveen Vijayragvan, kindly agreed to review and provide revised drafts. Draft is awaited.
24.	IS 10534 : 1983	Method of measurement of airborne noise emitted by gas turbine installations	(ISO/DIS 6190	Withdrawn	DECIDED FOR WITHDRAWAL
25.	IS 11537 : 1985	Specification for centrifugal switch for single - Phase induction motors		Ingenious	Dr C Murugesan, SIEMA kindly agreed to review and provide revised draft. Draft is awaited.
26.	IS 12065 : 1987	Permissible limits of noise levels for rotating electrical machines		This is IEC of Pub. 34-9 1972	UNDER REVISION. GIVEN TO PANEL.
27.	IS 12066 : 1987	Specification for three - Phase induction motors for machine tools	IEMA: 1-1978 IEMA	The based on IEMA: 1-1978	DECIDED FOR WITHDRAWAL
28.	IS 12998 (Part 1) : 1991 ISO 1680/1 :1986	Methods of measurement of airborne noise emitted by rotating electrical machinery Part 1 engineering method for free - Field conditions over a reflecting plane	(ISO 1680/1 :1986)	Withdrawn	Revised edition of ISO 1680 covers requirement of both parts of IS 12998. Therefore, ISO 1680 may be adopted replacing both IS.
29.	IS 12998 (Part 2) : 1991 ISO 1680/2 :1987	Methods of measurement of airborne noise emitted by rotating electrical machinery Part 2 survey method	(ISO 1680/2 :1987)	Withdrawn	Published.
30.	IS 13079 : 1991	Stepping motors - Specification	(BS 5000 : Part 60 : 1982)	Withdrawn	IEC 60034-20-1 may be adopted. UNDER PRINT

31.	IS 13364 (Part 1) : 1992	Ac generators driven by reciprocating internal combustion engines - Specification Part 1 alternators rated up to 20 kVa	IEC Pub 34-1-1983	This is IEC 60034-1:2022 Valid	ARP Report received. Will be circulated shortly.
32.	IS 13364 (Part 2) : 1992	Ac generators driven by reciprocating internal combustion engines - Specification Part 2 alternators rated above 20 kVa and up to 1250 kVa	IEC Pub 34-1-1983	This is IEC Pub 34-1983 Valid	
33.	IS 13466 : 1992	Brushes for electrical machines - Specification	(IEC Pub 136 (1986 Pub 467 (1974) IEC Pub 773 (1983)		Dr Praveen Vijayragvan, kindly agreed to review and provide revised drafts. Draft is awaited.
34.	IS 13525 : 1992	Flexible conductors for carbon brushes - Specification	(JIS C 2802 : 1970)		Dr C Murugesan, SIEMA kindly agreed to review and provide revised draft. Draft is awaited.
35.	IS 13555 : 1993	Guide for selection and application of 3 - Phase AC induction motors for different types of driven equipment			-
36.	IS 13584 : 1993	Brush materials for electrical machinery - Specification	IEC -Pub 413 : 1972 , IEC Pub 773 : 1983	Withdrawn	IEC 60773: 2021 IEC 60413: 1972
37.	IS 13586 : 1993	Definitions and nomenclature for carbon brushes brush - Holders commutators and slip - Rings for electrical machinery	(IEC Pub 276 (1968)	IEC 60276:2018	IEC 60276:2018 may be adopted. UNDER WC
38.	IS 14197 : 1994	Code for model acceptance tests of hydraulic turbines	(IEC Pub 193 : 1965)	IEC 60193:2019	Transferred to MED 22.

	IEC Pub 193 : 1965				
39.	IS 14198 (Part 1) : 1994 IEC Pub 953- 1(1990)	Rules for steam turbine thermal acceptance tests Part 1 method A - High accuracy for large condensing steam turbines	(IEC Pub 953- 1(1990)	This is IEC Pub IEC 60953- 1:1990	
40.	IS 14198 (Part 2) : 1994 IEC Pub 953- 2(1990)	Rules for steam turbines thermal acceptance tests	(IEC Pub 953- 2(1990)	Withdrawn	
41.	IS 14205 (Part 1) : 1994 IEC Pub 45-1:1991	Steam turbine Part 1 specification	(IEC Pub 45-1:1991)	IEC 60045- 1:2020	
42.	IS 14376 : 1996	Brush holders for electrical machines - Specification	(IEC Pub 136 (1986)	valid	Dr Praveen Vijayragvan, kindly agreed to review and provide revised drafts. Draft is awaited.
43.	IS 14377 : 1996	Specification for three - Phase induction motors for fans used in air - Conditioning and ventilation	(IEEMA 8 : 1987)		
44.	IS 14569 : 1999	Commutators for electrical machines - Specification		Indigenous	Dr Praveen Vijayragvan, kindly agreed to review and provide revised drafts. Draft is awaited.
45.	IS 14578 : 1999	Three - Phase induction motors for use in nuclear power plants - Specification		Indigenous	To be allotted.

ANNEX 4

TC2 Work Programme

SR. NO.	Project Reference	Title	Document Reference
1.	IEC 60034-2-1 ED3	Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)	2/2108/CDV

2.	IEC 60034-2-2 ED2	Rotating electrical machines - Part 2-2: Specific methods for determining separate losses of large machines from tests - Supplement to IEC 60034-2-1	2/2109/CDV
3.	IEC 60034-2-3 ED2	Rotating electrical machines - Part 2-3: Specific test methods for determining losses and efficiency of converter-fed AC motors	2/2110/CDV
4.	IEC 60034-12 ED4	Rotating electrical machines - Part 12: Starting performance of single-speed three-phase cage induction motors	2/2132/CDV
5.	IEC 60034-15 ED4	Rotating electrical machines - Part 15: Impulse voltage withstand levels of form-wound stator coils for rotating a.c. machines	2/2140/CD
6.	IEC TS 60034-16-2 ED1	Rotating electrical machines - Part 16-2: Excitation systems for synchronous machines - Models for power system studies	2/1911/CD
7.	IEC TS 60034-16-3 ED2	Rotating electrical machines - Part 16-3: Excitation systems for synchronous machines - Dynamic performance	2/1912/CD
8.	IEC 60034-18-31 ED3	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	2/2124/RR
9.	IEC 60034-18-41 ED2	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	2/2038/RR
10.	IEC 60034-27-2 ED1	Rotating electrical machines - Part 27-2: On-line partial discharge measurements on the stator winding insulation of rotating electrical machines	2/2099/CDV
11.	IEC TS 60034-27-6 ED1	Rotating electrical machines - Part 27-6: On-line partial discharge measurements of rotating machine windings supplied from an inverter	2/2102/NP
12.	IEC 60034-27-7 ED1	Rotating electrical machines - Part 27-7: Insulation systems used in rotating electrical	2/2073/CD

		machines for sealed and moisture resistant winding type and quality control tests	
13.	IEC 60034-27-8 ED1	Rotating machinery - Part 27-8: Detection of interturn short-circuits in rotor windings of cylindrical rotor synchronous generator	2/2091/NP
14.	IEC 60034-30-3 ED1	Rotating electrical machines - Part 30-3: Efficiency classes of high voltage AC motors (IE code)	2/2131/CDV
15.	IEC 60034-35 ED1	Rotating electrical machines - Part 35: Technical requirements for electrical sheet metal and strip metal used in electrical machines	2/2005/NP
16.	IEC TS 60034-38 ED1	Guidelines for condition-based evaluation and maintenance of cylindrical-rotor synchronous generators	2/2101/NP
17.	IEC 60136 ED3	Dimensions, marking and testing of carbon brushes and dimensions of brush-holders for electrical machinery	2/2103/CDV
18.	IEC 60413 ED2	Test procedures for determining physical properties of brush materials for electrical machines	2/2121/CD

TC2 Publications

SR. NO.	Reference	Title
1.	IEC 60034:2023 SER	Rotating electrical machines - ALL PARTS
2.	IEC 60034-1:2022	Rotating electrical machines - Part 1: Rating and performance
3.	IEC 60034-1:2022 RLV	Rotating electrical machines - Part 1: Rating and performance
4.	IEC 60034-2-1:2014	Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)
5.	IEC 60034-2-2:2010	Rotating electrical machines - Part 2-2: Specific methods for determining separate losses of large machines from tests - Supplement to IEC 60034-2-1

6.	IEC 60034-2-3:2020	Rotating electrical machines - Part 2-3: Specific test methods for determining losses and efficiency of converter-fed AC motors
7.	IEC 60034-3:2020	Rotating electrical machines - Part 3: Specific requirements for synchronous generators driven by steam turbines or combustion gas turbines and for synchronous compensators
8.	IEC 60034-4-1:2018	Rotating electrical machines - Part 4-1: Methods for determining electrically excited synchronous machine quantities from tests
9.	IEC 60034-5:2020	Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification
10.	IEC 60034-5:2020 RLV	Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification
11.	IEC 60034-6:1991	Rotating electrical machines - Part 6: Methods of cooling (IC Code)
12.	IEC 60034-7:2020	Rotating electrical machines - Part 7: Classification of types of construction, mounting arrangements and terminal box position (IM Code)
13.	IEC 60034-7:2020/COR1:2023	Corrigendum 1 - Rotating electrical machines - Part 7: Classification of types of construction, mounting arrangements and terminal box position (IM Code)
14.	IEC 60034-8:2007+AMD1:2014 CSV	Rotating electrical machines - Part 8: Terminal markings and direction of rotation
15.	IEC 60034-8:2007	Rotating electrical machines - Part 8: Terminal markings and direction of rotation
16.	IEC 60034-8:2007/AMD1:2014	Amendment 1 - Rotating electrical machines - Part 8: Terminal markings and direction of rotation
17.	IEC 60034-9:2021 CMV	Rotating electrical machines - Part 9: Noise limits
18.	IEC 60034-9:2021	Rotating electrical machines - Part 9: Noise limits
19.	IEC 60034-11:2020	Rotating electrical machines - Part 11: Thermal protection
20.	IEC 60034-11:2020 RLV	Rotating electrical machines - Part 11: Thermal protection

21.	IEC 60034-12:2016	Rotating electrical machines - Part 12: Starting performance of single-speed three-phase cage induction motors
22.	IEC 60034-12:2016 RLV	Rotating electrical machines - Part 12: Starting performance of single-speed three-phase cage induction motors
23.	IEC 60034-14:2018 RLV	Rotating electrical machines - Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher - Measurement, evaluation and limits of vibration severity
24.	IEC 60034-14:2018	Rotating electrical machines - Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher - Measurement, evaluation and limits of vibration severity
25.	IEC 60034-15:2009	Rotating electrical machines - Part 15: Impulse voltage withstand levels of form-wound stator coils for rotating a.c. machines
26.	IEC 60034-16-1:2011	Rotating electrical machines - Part 16-1: Excitation systems for synchronous machines - Definitions
27.	IEC TR 60034-16-2:1991	Rotating electrical machines - Part 16: Excitation systems for synchronous machines - Chapter 2: Models for power system studies
28.	IEC TS 60034-16-3:1996	Rotating electrical machines - Part 16: Excitation systems for synchronous machines - Section 3: Dynamic performance
29.	IEC 60034-18-1:2022 CMV	Rotating electrical machines - Part 18-1: Functional evaluation of insulation systems - General guidelines
30.	IEC 60034-18-1:2022	Rotating electrical machines - Part 18-1: Functional evaluation of insulation systems - General guidelines
31.	IEC 60034-18-21:2012	Rotating electrical machines - Part 18-21: Functional evaluation of insulation systems - Test procedures for wire-wound windings - Thermal evaluation and classification
32.	IEC 60034-18-31:2012	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

33.	IEC 60034-18-32:2022 CMV	Rotating electrical machines - Part 18-32: Functional evaluation of insulation systems (Type II) - Electrical endurance qualification procedures for form-wound windings
34.	IEC 60034-18-32:2022	Rotating electrical machines - Part 18-32: Functional evaluation of insulation systems (Type II) - Electrical endurance qualification procedures for form-wound windings
35.	IEC TS 60034-18-33:2010	Rotating electrical machines - Part 18-33: Functional evaluation of insulation systems - Test procedures for form-wound windings - Multifactor evaluation by endurance under simultaneous thermal and electrical stresses
36.	IEC 60034-18-34:2012	Rotating electrical machines - Part 18-34: Functional evaluation of insulation systems - Test procedures for form-wound windings - Evaluation of thermomechanical endurance of insulation systems
37.	IEC 60034-18-41:2014+AMD1:2019 CSV	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
38.	IEC 60034-18-41:2014	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
39.	IEC 60034-18-41:2014/AMD1:2019	Amendment 1 - Rotating electrical machines - Part 18-41: Partial discharge free electrical insulation systems (Type I) used in electrical rotating machines fed from voltage converters - Qualification and quality control tests
40.	IEC 60034-18-41:2014/AMD1:2019/COR1:2020	Corrigendum 1 - Amendment 1 - Rotating electrical machines - Part 18-41: Partial discharge free electrical insulation systems (Type I) used in electrical rotating machines fed from voltage converters - Qualification and quality control tests
41.	IEC 60034-18-42:2017+AMD1:2020 CSV	Rotating electrical machines - Part 18-42: Partial discharge resistant electrical insulation systems (Type II) used in rotating electrical machines fed from voltage converters - Qualification tests
42.	IEC 60034-18-42:2017	Rotating electrical machines - Part 18-42: Partial discharge resistant electrical insulation systems (Type II) used in rotating electrical machines fed from voltage converters - Qualification tests

43.	IEC 60034-18-42:2017/AMD1:2020	Amendment 1 - Rotating electrical machines - Part 18-42: Partial discharge resistant electrical insulation systems (Type II) used in rotating electrical machines fed from voltage converters - Qualification tests
44.	IEC 60034-19:2014	Rotating electrical machines - Part 19: Specific test methods for d.c. machines on conventional and rectifier-fed supplies
45.	IEC TS 60034-20-1:2002	Rotating electrical machines - Part 20-1: Control motors - Stepping motors
46.	IEC 60034-22:2009	Rotating electrical machines - Part 22: AC generators for reciprocating internal combustion (RIC) engine driven generating sets
47.	IEC 60034-23:2019	Rotating electrical machines - Part 23: Repair, overhaul and reclamation
48.	IEC TS 60034-24:2009	Rotating electrical machines - Part 24: Online detection and diagnosis of potential failures at the active parts of rotating electrical machines and of bearing currents - Application guide
49.	IEC TS 60034-25:2022 CMV	Rotating electrical machines - Part 25: AC electrical machines used in power drive systems - Application guide
50.	IEC TS 60034-25:2022	Rotating electrical machines - Part 25: AC electrical machines used in power drive systems - Application guide
51.	IEC 60034-26:2006	Rotating electrical machines - Part 26: Effects of unbalanced voltages on the performance of three-phase cage induction motors
52.	IEC 60034-26:2006/COR1:2014	Corrigendum 1 - Rotating electrical machines - Part 26: Effects of unbalanced voltages on the performance of three-phase cage induction motors
53.	IEC 60034-27-1:2017	Rotating electrical machines - Part 27-1: Off-line partial discharge measurements on the winding insulation
54.	IEC TS 60034-27-2:2012	Rotating electrical machines - Part 27-2: On-line partial discharge measurements on the stator winding insulation of rotating electrical machines
55.	IEC 60034-27-3:2015	Rotating electrical machines - Part 27-3: Dielectric dissipation factor measurement on stator winding insulation of rotating electrical machines

56.	IEC 60034-27-4:2018	Rotating electrical machines - Part 27-4: Measurement of insulation resistance and polarization index of winding insulation of rotating electrical machines
57.	IEC TS 60034-27-5:2021	Rotating electrical machines - Part 27-5: Off-line measurement of partial discharge inception voltage on winding insulation under repetitive impulse voltage
58.	IEC 60034-28:2012	Rotating electrical machines - Part 28: Test methods for determining quantities of equivalent circuit diagrams for three-phase low-voltage cage induction motors
59.	IEC 60034-29:2008	Rotating electrical machines - Part 29: Equivalent loading and superposition techniques - Indirect testing to determine temperature rise
60.	IEC 60034-30-1:2014	Rotating electrical machines - Part 30-1: Efficiency classes of line operated AC motors (IE code)
61.	IEC TS 60034-30-2:2016	Rotating electrical machines - Part 30-2: Efficiency classes of variable speed AC motors (IE-code)
62.	IEC TS 60034-31:2021	Rotating electrical machines - Part 31: Selection of energy-efficient motors including variable speed applications - Application guidelines
63.	IEC TS 60034-32:2016	Rotating electrical machines - Part 32: Measurement of stator end-winding vibration at form-wound windings
64.	IEC 60034-33:2022	Rotating electrical machines - Part 33: Synchronous hydrogenerators including motor-generators - Specific requirements
65.	IEC TS 60034-34:2020	Rotating electrical machines - Part 34: AC adjustable speed rolling mill motors
66.	IEC 60072-1:2022	Rotating electrical machines - Dimensions and output series - Part 1: Frame numbers 56 to 400 and flange numbers 55 to 1080
67.	IEC 60072-2:1990	Dimensions and output series for rotating electrical machines - Part 2: Frame numbers 355 to 1000 and flange numbers 1180 to 2360

68.	IEC 60072-3:1994	Dimensions and output series for rotating electrical machines - Part 3: Small built-in motors - Flange numbers BF10 to BF50
69.	IEC 60136:1986	Dimensions of brushes and brush-holders for electrical machinery
70.	IEC 60136:1986/AMD1:1995	Amendment 1 - Dimensions of brushes and brush-holders for electrical machinery
71.	IEC 60276:2018	Carbon brushes, brush holders, commutators and slip-rings - Definitions and nomenclature
72.	IEC 60356:1971	Dimensions for commutators and slip-rings
73.	IEC 60413:1972	Test procedures for determining physical properties of brush materials for electrical machines
74.	IEC 60560:1977	Definitions and terminology of brush-holders for electrical machines
75.	IEC 60773:2021	Rotating electrical machines - Test methods and apparatus for the measurement of the operational characteristics of brushes
76.	IEC TR 60778:1984	Brush-holders for slip-rings, Group R - type RA
77.	IEC TR 61015:1990	Brush-holders for electrical machines. Guide to the measurement of the static thrust applied to brushes
78.	IEC TR 63021:2016	Rotating electrical machinery - Natural graphite brush for slip-ring in wound rotor-type induction motor - Application information
79.	IEC 88528-11:2004	Reciprocating internal combustion engine driven alternating current generating sets - Part 11: Rotary uninterruptible power systems - Performance requirements and test methods