

IEEE Electric Machinery Standards Collection: VuSpec™

Abstract:

Electric machinery standards provide manufacturers and designers with the specifications they need to know on-the-job, while providing tests and diagnosis for various types of electric machines. This VuSpec collection contains 30 Active and 18 Archive IEEE standards, Guides and Recommended practices used worldwide pertinent to the generation of electric energy and its conversion into other forms of electric or mechanical energy. Specific topics include:

- Synchronous machines
- Induction machines
- DC and Permanent Magnet machines
- Motor generator sets -Rotating frequency changers
- Electric couplings, brakes and dynamometers
- Magneto-hydrodynamic energy conversion ducts
- Insulation, magnetic, conductor, and super conductor materials as used in electrical machinery
- Linear Electric Machinery
- Power Electronic controls for electric machinery
- Effects of power electronic controls on electric machine components.

C O N T E N T S:

Includes 30 Active and 18 Archive IEEE standards in the Electric Machinery family:

Active

- IEEE Std 11™-2000 (R2006), IEEE Standard for Rotating Electric Machinery for Rail and Road Vehicles
- IEEE Std 43™-2013, IEEE Recommended Practice for Testing Insulation Resistance of Rotating Machinery
- IEEE Std 56™-2016, IEEE Guide for Insulation maintenance of Electric Machines
- IEEE Std 62.2™-2004 (R2009), IEEE Guide for Diagnostic Field Testing of Electric Power Apparatus-Electrical Machinery
- IEEE Std 67™-2005 (R2010), IEEE Guide for Operation and Maintenance of Turbine Generators
- IEEE Std 95™-2002 (R2012), IEEE Recommended Practice for Insulation Testing of AC Electric Machinery (2300 V and Above) with High Direct Voltage
- IEEE Std 112™-2004, IEEE Standard Test Procedure for Polyphase Induction Motors and Generators
- IEEE Std 115™-2009, IEEE Guide for Test Procedures for Synchronous Machines Part I-Acceptance and Performance Testing Part II-Test Procedures and Parameter Determination for Dynamic Analysis
- IEEE Std 117™-2015, IEEE Standard Test Procedure for Thermal Evaluation of Systems of Insulating Materials for Random-Wound AC Electric Machinery
- IEEE Std 120™-1989 (R2007), IEEE Master Test Guide for Electrical Measurements in Power Circuits

- IEEE Std 252™-1995 (R2007), IEEE Standard Test Procedure for Polyphase Induction Motors Having Liquid in the Magnetic Gap
- IEEE Std 286™-2000 (R2012), IEEE Recommended Practice for Measurement of Power Factor Tip-Up of Electric Machinery Stator Coil Insulation
- IEEE Std 433™-2009, IEEE Recommended Practice for Insulation Testing of AC Electric Machinery with High Voltage at Very Low Frequency
- IEEE Std 434™-2006 (R2013), IEEE Guide for Functional Evaluation of Insulation Systems for AC Electric Machines Rated 2300 V and Above
- IEEE Std 492™-1999 (R2011), IEEE Guide for Operation and Maintenance of Hydro-Generators
- IEEE Std 522™-2004 (R2009), IEEE Guide for Testing Turn Insulation of Form-Wound Stator Coils for Alternating-Current Electric Machines
- IEEE Std 620™-1996 (R2008), IEEE Guide for the Presentation of Thermal Limit Curves for Squirrel Cage Induction Machines
- IEEE Std 1110™-2002 (R2007), IEEE Guide for Synchronous Generator Modeling Practices and Applications in Power System Stability Analyses
- IEEE Std 1120™-2004, IEEE Guide for the Planning, Design, Installation, and Repair of Submarine Power Cable Systems
- IEEE Std 1255™-2000 (R2013), IEEE Guide for Evaluation of Torque Pulsations During Starting of Synchronous Motors
- IEEE Std 1310™-2012, IEEE Recommended Practice for Thermal Cycle Testing of Form-Wound Stator Bars and Coils for Large Rotating Machines
- IEEE Std 1415™-2006, IEEE Guide for Induction Machinery Maintenance Testing and Failure Analysis
- IEEE Std 1434™-2014, IEEE Trial-Use Guide to the Measurement of Partial Discharges in Rotating Machinery
- IEEE Std 1553™-2002 (R2007), IEEE Standard for Voltage-Endurance Testing of Form-Wound Coils and Bars for Hydrogenerators
- IEEE Std 1665™-2009, IEEE Guide for the Rewind of Synchronous Generators, 50 Hz and 60 Hz, Rated 1 MVA and Above
- IEEE Std 1776™-2008, IEEE Recommended Practice for Thermal Evaluation of Unsealed or Sealed Insulation Systems for AC Electric Machinery Employing Form-Wound Pre-Insulated Stator Coils for Machines Rated 15 000 V and Below
- IEEE Std 1799™-2012, IEEE Recommended Practice for Quality Control Testing of External Discharges on Stator Coils, Bars, and Windings
- IEEE Std 1812™-2014, IEEE Trial-Use Guide for Testing Permanent Magnet Machines
- IEEE Std C50.12™-2005 (R2010), IEEE Standard for Salient-Pole 50 Hz and 60 Hz Synchronous Generators and Generator/Motors for Hydraulic Turbine Applications Rated 5 MVA and Above
- IEEE Std C50.13™-2014, IEEE standard for Cylindrical-Rotor 50 Hz and 60 Hz Synchronous Generators Rated 10 MVA and Above

Archive

- IEEE Std 58TM-1978, IEEE Standard Induction Motor Letter Symbols
- IEEE Std 86TM-1987, IEEE recommended practice: definitions of basic per-unit quantities for AC rotating machines
- IEEE Std 85TM-1973, IEEE Test Procedure for Airborne Sound Measurements on Rotating Electric Machinery
- IEEE Std 334TM-1994, IEEE standard for qualifying continuous duty class 1E motors for nuclear power generating stations
- IEEE Std 432-1992, IEEE guide for insulation maintenance for rotating electric machinery (5 hp to less than 10 000 hp)
- IEEE Std 117TM-1974, Test Procedure for Evaluation of Systems of Insulating Materials for Random-Wound AC Electric Machinery
- IEEE Std 1107TM-1996, IEEE recommended practice for thermal evaluation of sealed insulation systems for AC electric machinery employing random-wound stator coils
- IEEE Std 1129TM-1992, Recommended Practice for Monitoring and Instrumentation of Turbine Generators
- IEEE Std 792TM-1988, IEEE Recommended Practice for the Evaluation of the Impulse Voltage Capability of Insulation Systems for AC Electric Machinery Employing FormWound Stator Coils
- IEEE Std 275TM-1992, IEEE recommended practice for thermal evaluation of insulation systems for alternating-current electric machinery employing form-wound preinsulated stator coils for machines rated 6900 V and below
- IEEE Std 56TM-1977, IEEE guide for insulation maintenance of large alternating-current rotating machinery (10,000 kVA and larger)
- IEEE Std 113TM-1985, IEEE Guide: Test Procedures For Direct-current Machines
- IEEE Std 429TM-1994, IEEE recommended practice for thermal evaluation of sealed insulation systems for AC electric machinery employing form-wound preinsulated stator coils for machines rated 6900 V and below
- IEEE Std 116TM-1975, IEEE standard test procedure for carbon brushes
- IEEE Std 304TM-1977, IEEE test procedure for evaluation and classification of insulation systems for direct-current machines
- IEEE Std 115ATM-1987, IEEE standard procedures for obtaining synchronous machine parameters by standstill frequency response testing (Supplement to ANSI/IEEE Std 115-1983, IEEE guide: test procedures for synchronous machines)
- IEEE Std 252TM-1995, Standard Test Procedure for Polyphase Induction Motors having Liquid in the Magnetic Gap

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