

## Title: 2022 IEEE Power, Distribution & Regulating Transformers Collection

### Summary (Abstract):

IEEE Power, Distribution and Regulatory Transformer Collection contains the 95+ the latest standards, guides, and recommended practices of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Transformers Committee. It also contains IEEE C57 series of standards. This collection represents the most complete resource available for professional engineers looking for best practices and techniques covering testing, repair, installation, operation, and maintenance of transformers, reactors, and associated components that are used within the electric utility and industrial power systems. These standards provide provides a crucial service to society's need for continuing development and maintenance of a reliable, safe, and efficient power system infrastructure.

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### Table of Contents:

Includes 95+ active IEEE standards for Power Distribution & Regulating Transformers family.

- IEEE Std 4-2013, IEEE Standard for High-Voltage Testing Techniques
- IEEE Std 638™-2013, IEEE Standard for Qualification of Class 1E Transformers for Nuclear Power Generating Stations
- IEEE Std 1276™-2020 IEEE Guide for the Application of High-Temperature Insulation Materials in Liquid-Immersed Power Transformers
- IEEE Std 1277™-2020, IEEE Standard General Requirements and Test Code for Dry-Type and Oil-Immersed Smoothing Reactors for DC Power Transmission
- IEEE Std 1538™-2000 (R2005), IEEE Guide for Determination of Maximum Winding Temperature Rise in Liquid-Filled Transformers
- IEEE Std 1538a™-2015, IEEE Guide for Determination of Maximum Winding-Temperature Rise in Liquid
- IEC 60076-16:2018(E), IEC/IEEE International Standard - Power transformers - Part 16: Transformers for wind turbine applications
- IEC 60076-57-1202:2016(E), IEC/IEEE International Standard - Power transformers - Part 57-1202: Liquid immersed phase-shifting transformers
- IEC 60076-57-129:2017(E), IEC/IEEE International Standard - Power transformers--Part 57-129: Transformers for HVDC applications
- IEC 60214-2:2019(E), IEEE/IEC International Standard for TAP-changers --Part 2: Application guidelines
- IEC 62032:2012, Guide for the Application, Specification, and Testing of Phase-Shifting Transformers
- IEC/IEEE 65700-19-03:2014, Bushings for DC application

- IEEE Std C57.12.00™-2021, IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
- IEEE Std C57.12.01™-2020, IEEE Standard for General Requirements for Dry-Type Distribution and Power Transformers
- IEEE Std C57.12.10™-2017, IEEE Standard Requirements for Liquid-Immersed Power Transformers
- IEEE Std C57.12.20™-2017, IEEE Standard for Overhead-Type Distribution Transformers 500 kVA and Smaller: High Voltage, 34 500 V and Below; Low Voltage, 7970/13 800Y V and Below
- IEEE Std C57.12.23™-2018, IEEE Standard for Submersible Single-Phase Transformers: 167 kVA and Smaller; High Voltage 25 000 V and Below; Low Voltage 600 V and Below
- IEEE Std C57.12.24™-2016, IEEE Standard for Submersible, Three-Phase Transformers, 3750 kVA and Smaller: High Voltage, 34 500 GrdY/19 920 Volts and Below; Low Voltage, 600 Volts and Below
- IEEE Std C57.12.28™-2014, IEEE Standard for Pad-Mounted Equipment-Enclosure Integrity
- IEEE Std C57.12.29™-2014, IEEE Standard for Pad-Mounted Equipment-Enclosure Integrity for Coastal Environments
- IEEE Std C57.12.30™-2020, IEEE Standard for Pole-Mounted Equipment Enclosure Integrity for Coastal Environments
- IEEE Std C57.12.31™-2020, IEEE Standard for Pole-Mounted Equipment-Enclosure Integrity
- IEEE Std C57.12.32™-2019, IEEE Standard for Submersible Equipment-Enclosure Integrity
- IEEE Std C57.12.34™-2015, IEEE Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers, 10 MVA and Smaller; High-Voltage, 34.5 kV Nominal System Voltage and Below; Low-Voltage, 15 kV ...
- IEEE Std C57.12.35™-2013, IEEE Standard Bar Coding for Distribution Transformers and Step-Voltage Regulators
- IEEE Std C57.12.36™-2017, IEEE Standard Requirements for Liquid-Immersed Distribution Substation Transformers
- IEEE Std C57.12.37™-2015, IEEE Standard for the Electronic Reporting of Distribution Transformer Test Data
- IEEE Std C57.12.38™-2014, IEEE Standard for Pad-Mounted-Type, Self-Cooled, Single-Phase Distribution Transformers 250 kVA and Smaller: High Voltage, 34 500 GrdY/19 920 V and Below; Low Voltage, 480/240 V and Below
- IEEE C57.12.38-2014™/Cor 1, IEEE Standard for Pad-Mounted-Type, Self-Cooled, Single-Phase Distribution Transformers 250 kVA and Smaller: High Voltage, 34 500 GrdY/19 920 V and Below; Low Voltage, 480/240 V and Below - Corrigendum 1: Figure 1A

- IEEE C57.12.39-2017™, IEEE Standard for Requirements for Distribution Transformer Tank Pressure Coordination
- IEEE Std C57.12.40™-2017, IEEE Standard for Network, Three-Phase Transformers, 2500 kVA and Smaller; High Voltage, 34 500 GrdY/19 920 and Below; Low Voltage, 600 V and Below; Subway and Vault Types (Liquid Immersed)
- IEEE Std C57.12.44™-2014, IEEE Standard Requirements for Secondary Network Protectors
- IEEE Std C57.12.51™-2019, IEEE Standard for Ventilated Dry-Type Power Transformers, 501 kVA and Larger, Three-Phase, with High-Voltage 601 V to 34 500 V; Low-Voltage 208Y/120 V to 4160 V- General Requirements
- IEEE Std C57.12.52™-2012, IEEE Standard for Sealed Dry-Type Power Transformers, 501 kVA and Higher, Three-Phase, with High-Voltage 601 to 34500 Volts, Low-Voltage 208Y/120 to 4160 Volts- General Requirements
- IEEE Std C57.12.58™-2017 IEEE Guide for Conducting a Transient Voltage Analysis of a Dry-Type Transformer Coil
- IEEE Std C57.12.59™-2015, IEEE Guide for Dry-Type Transformer Through-Fault Current Duration
- IEEE Std C57.12.60™-2020, IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Dry-Type Power and Distribution Transformers, Including Open-Wound, Solid-Cast, and Resin-Encapsulated Transformers
- IEEE Std C57.12.70™-2020, IEEE Standard for Standard Terminal Markings and Connections for Distribution and Power Transformers
- IEEE Std C57.12.90™-2021, IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers
- IEEE Std C57.12.91™-2020, IEEE Standard Test Code for Dry-Type Distribution and Power Transformers
- IEEE Std C57.13™-2016, IEEE Standard Requirements for Instrument Transformers
- IEEE Std C57.13.1™-2017, IEEE Guide for Field Testing of Relaying Current Transformers
- IEEE Std C57.13.3™-2014, IEEE Guide for Grounding of Instrument Transformer Secondary Circuits and Cases
- IEEE Std C57.13.5™-2019, IEEE Standard for Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above
- IEEE C57.13.7™-2018, IEEE Standard for Current Transformers with Maximum Milliampere Secondary Current of 250 mA
- IEEE C57.15™-2017, IEEE/IEC International Standard- Power transformers - Part 21: Standard requirements, terminology, and test code for step-voltage regulators

- IEEE Std C57.16™-2011, IEEE Standard for Requirements, Terminology, and Test Code for Dry-Type Air-Core Series-Connected Reactors
- IEEE Std C57.17™-2012, IEEE Standard Requirements for Arc Furnace Transformers
- IEEE Std C57.18.10™-2021 IEEE Standard Practices and Requirements for Semiconductor Power Rectifier Transformers
- IEEE Std C57.19.01™-2017, IEEE Standard Performance Characteristics and Dimensions for Outdoor Apparatus Bushings
- IEEE Std C57.19.04™-2018, IEEE Standard for Performance Characteristics and Dimensions for High Current Power Transformer Bushings with Rated Continuous Current in Excess of 5000 A in Bus Enclosures
- IEEE Std C57.19.100™-2012, IEEE Guide for Application of Power Apparatus Bushings
- IEEE Std C57.21™-2021, IEEE Standard Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA
- IEEE Std C57.32-2015, IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices
- IEEE Std C57.32a-2020, IEEE Standard for Requirements, Terminology, and Test Procedure for Neutral Grounding Devices--Amendment 1: Neutral Grounding Resistors Clause (AM)
- IEEE Std C57.91™-2011, IEEE Guide for Loading Mineral-Oil-Immersed Transformers and Step-Voltage Regulators
- IEEE Std C57.93™-2019, IEEE Guide for Installation and Maintenance of Liquid-Immersed Power Transformers
- IEEE Std C57.94™-2015, IEEE Recommended Practice for Installation, Application, Operation, and Maintenance of Dry-Type Distribution and Power Transformers
- IEEE Std C57.96™-2013, IEEE Guide for Loading Dry-Type Distribution and Power Transformers
- IEEE Std C57.98™-2011, IEEE Guide for Transformer Impulse Tests
- IEEE Std C57.100™-2011, IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Liquid-Immersed Distribution and Power Transformers
- IEEE Std C57.104™-2019, IEEE Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers
- IEEE Std C57.105™-2019, IEEE Guide for Application of Transformer Connections in Three-Phase Distribution Systems
- IEEE Std C57.106-2015, IEEE Guide for Acceptance and Maintenance of Insulating Mineral Oil in Electrical Equipment

- IEEE Std C57.109™-2018, IEEE Guide for Liquid-Immersed Transformer Through-Fault-Current Duration
- IEEE Std C57.110™-2018, IEEE Recommended Practice for Establishing Liquid-Filled and Dry-Type Power and Distribution Transformer Capability When Supplying Nonsinusoidal Load Currents
- IEEE Std C57.116™-2014, IEEE Guide for Transformers Directly Connected to Generators
- IEEE Std C57.119™-2018, IEEE Recommended Practice for Performing Temperature Rise Tests on Oil-Immersed Power Transformers at Loads Beyond Nameplate Ratings
- IEEE Std C57.120™-2017, IEEE Loss Evaluation Guide for Power Transformers and Reactors
- IEEE Std C57.123™-2019, IEEE Guide for Transformer Loss Measurement
- IEEE Std C57.125™-2015, IEEE Guide for Failure Investigation, Documentation, Analysis, and Reporting for Power Transformers and Shunt Reactors
- IEEE Std C57.127™-2018, IEEE Guide for the Detection and Location of Acoustic Emissions from Partial Discharges in Oil-Immersed Power Transformers and Reactors
- IEEE Std C57.130™-2015, IEEE Guide for the Use of Dissolved Gas Analysis Applied to Factory Temperature Rise Tests for the Evaluation of Mineral Oil-Immersed Transformers and Reactors
- IEEE Std C57.131™-2012, IEEE Standard Requirements for Tap Changers
- IEEE Std C57.134™-2013, IEEE Guide for Determination of Hottest-Spot Temperature in Dry-Type Transformers
- IEEE Std C57.138™-2016, IEEE Recommend Practice for Routine Impulse Test for Distribution Transformers
- IEEE Std C57.139-2015, IEEE Guide for Dissolved Gas Analysis in Transformer Load Tap Changers
- IEEE Std C57.140™-2017, IEEE Guide for the Evaluation and Reconditioning of Liquid Immersed Power Transformers
- IEEE Std C57.143™-2012, IEEE Guide for Application for Monitoring Equipment to Liquid-Immersed Transformers and Components
- IEEE Std C57.146™-2005, IEEE Guide for the Interpretation of Gases Generated in Silicone-Immersed Transformers
- IEEE Std C57.147™-2018, IEEE Guide for Acceptance and Maintenance of Natural Ester Fluids in Transformers
- IEEE Std C57.148™-2020, IEEE Standard for Control Cabinets for Power Transformers
- IEEE Std C57.149™-2012, IEEE Guide for the Application and Interpretation of Frequency Response Analysis for Oil-Immersed Transformers
- IEEE Std C57.150™-2012, IEEE Guide for the Transportation of Transformers and Reactors Rated 10 000 kVA or Higher

- IEEE Std C57.152™-2013, IEEE Guide for Diagnostic Field Testing of Fluid-Filled Power Transformers, Regulators, and Reactors
- IEEE Std C57.153™-2015, IEEE Guide for Paralleling Regulating Transformers
- IEEE Std C57.154™-2012, IEEE Standard for the Design, Testing, and Application of Liquid-Immersed Distribution, Power, and Regulating Transformers Using High-Temperature Insulation Systems and Operating at Elevated Temperatures
- IEEE Std C57.155™-2014, IEEE Guide for Interpretation of Gases Generated in Natural Ester and Synthetic Ester-Immersed Transformers
- IEEE Std C57.156™-2016, IEEE Guide for Tank Rupture Mitigation of Liquid-Immersed Power Transformers and Reactors
- IEEE Std C57.157™-2015, IEEE Guide for Conducting Functional Life Tests on Switch Contacts Used in Insulating Liquid-Immersed Transformers
- IEEE Std C57.158™-2017, IEEE Guide for the Application of Tertiary and Stabilizing Windings in Power Transformers
- IEEE Std C57.159™-2016, IEEE Guide on Transformers for Application in Distributed Photovoltaic (DPV) Power Generation Systems
- IEEE Std C57.161™-2018, IEEE Guide for Dielectric Frequency Response Test
- IEEE Std C57.163™-2015, IEEE Guide for Establishing Power Transformer Capability while under Geomagnetic Disturbances
- IEEE Std C57.163™-2015/Cor 1-2016, IEEE Guide for Establishing Power Transformer Capability while under Geomagnetic Disturbances
- IEEE C57.164™-2021, IEEE Guide for Establishing Short-Circuit Withstand Capabilities of Liquid-Filled Power Transformers, Regulators, and Reactors
- IEEE Std C57.637™-2015, IEEE Guide for the Reclamation of Mineral Insulating Oil and Criteria for Its Use