



TURKISH ACCREDITATION AGENCY

ACCREDITATION CERTIFICATE

As a Testing Laboratory

ASTOR ENERJİ A.Ş. Test Laboratuvarı

Central Address: ALCI OSB MAH. 2001 CAD. No:5 A/ SİNCAN/ANKARA Ankara / Türkiye

is accredited in accordance with TS EN ISO/IEC 17025:2017 standard within the scope given in Annex following the assessment conducted by TURKAK.

Accreditation Number : AB-0650-T

Accreditation Date : 12.06.2013

Revision Date / Number : 13.11.2025 / 14

This certificate shall remain in force until **08.08.2029**, subject to continuing compliance with the standard **TS EN ISO/IEC 17025:2017**, related regulations and requirements.

Gülden Banu Müderrisoğlu
Secretary General



Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Agreement (MRA) in the scope of ISO/IEC 17025.


This document has been signed by Gülden Banu Müderrisoğlu with a secure electronic signature in accordance with the electronic signature law numbered 5070. Use the QR code to verify the e-signed document.

 <p>Türk Akademi TS EN ISO/IEC 17025 AB-0650-T</p>	ASTOR ENERJİ A.Ş. Test Laboratuvarı Accreditation Nr : AB-0650-T Revision Nr: 14 Date: 13.11.2025	
	Testing Laboratory Address : ALCI OSB MAH. 2001 CAD. No:5 A/ SINCAN/ANKARA Ankara / Türkiye	
	Phone : +90 312 267 0156 Fax : +90 312 267 0034 Email : test@astoras.com.tr Website : www.astoras.com.tr	

Electrical, Electronic and IT Products and Devices		
Tested Materials / Products	Name of Test	Testing Method (National, International Standards, In-house Methods)
Power transformers	Power transformers - Part 1: General Measurement of winding resistance	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.2
Power transformers	Power transformers - Part 1: General Measurement of voltage ratio and check of phase displacement	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.3
Power transformers	Power transformers - Part 1: General Measurement of short-circuit impedance and load loss	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.4
Power transformers	Power transformers - Part 1: General Measurement of no-load loss and current (at rated voltage, at 90% and 110% of rated voltage)	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.5
Power transformers	Power transformers - Part 1: General Measurement of D.C. insulation resistance between each winding to earth and between windings	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.2.2.b & Clause 11.1.4.h
Power transformers	Power transformers - Part 1: General Measurement of zero-sequence impedance(s) on three-phase transformers	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.6
Power transformers	Power transformers - Part 1: General Determination of capacitances windings-to-earth and between windings. Measurement of dissipation factor (tan δ) of the insulation system capacitances.	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.2.2.a, Clause 11.1.2.2.c, Clause 11.1.4.c, Clause 11.1.4.d
Power transformers	Power transformers - Part 1: General Tests on on-load tap-changers — Operation test	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.7
Power transformers	Power transformers - Part 1: General Leak testing with pressure for liquid immersed transformers, reactors (tightness test)	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.8




Accreditation Scope

 TÜRKAK <small>Test</small> <small>TS EN ISO/IEC 17025</small> <small>AB-0650-T</small>			ASTOR ENERJİ A.Ş. Test Laboratuvarı Accreditation Nr : AB-0650-T Revision Nr: 14 Date: 13.11.2025	
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			Website	: www.astoras.com.tr
Power transformers	Power transformers - Part 1: General Check of core and frame insulation	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.12		
Power transformers	Power transformers - Part 1: General Check of external coating	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.4.m		
Power transformers	Power transformers - Part 1: General Check of the ratio and polarity of built-in current transformers	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.2.1.i		
Power transformers	Power transformers - Part 1: General Measurement of the power taken by the fan and liquid pump motors	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.3.d		
Power transformers	Power transformers - Part 1: General Winding hot-spot temperature-rise measurements	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.4.b		
Power transformers	Power transformers - Part 1: General Determination of transient voltage transfer characteristics	TS EN 60076-1 EN 60076-1 IEC 60076-1 Clause 11.1.4.e		
Power transformers	Power transformers - Part 1: General Measurement of the harmonics of the no-load current	TS 267 EN 60076-1:1998 Clause 10.6 (*) IEC 60076-1:2000 Clause 10.6 (*) (* Although withdrawn on 12.04.2012, it has been temporarily included in the accreditation scope upon the organization's request.		
Power transformers	Power transformers - Part 2: Temperature rise for liquid-immersed transformers	TS EN 60076-2 EN 60076-2 IEC 60076-2		
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Applied voltage test (AV)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 10		
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Induced voltage withstand test (IVW)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 11.2		
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Induced voltage test with partial discharge measurement (IVPD)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 11.3		





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Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Lightning impulse tests (LI, LIC, LIN, LIMT)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 13
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Line terminal AC withstand test (LTAC)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 12
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Switching impulse test (SI)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 14
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Overvoltage transferred from the high-voltage winding to a low-voltage winding	TS EN 60076-3 EN 60076-3 IEC 60076-3 Annex B
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Partial discharge (PD) measurement	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 11.3.4
Power transformers	Power transformers -- Part 3: Insulation levels, dielectric tests and external clearances in air Insulation of auxiliary wiring (AuxW)	TS EN 60076-3 EN 60076-3 IEC 60076-3 Clause 9
Power Transformers	Power transformers - Part 6: Reactors Determination of Reactance and Linearity of Reactance (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.5
Power Transformers	Power transformers - Part 6: Reactors Measurement of loss (Measurement of loss at ambient temperature, Measurement of loss close to reference temperature in the case of liquid immersed reactors) (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.6
Power Transformers	Power transformers - Part 6: Reactors Separate Source A.C. Withstand Voltage Test (Applied Voltage Test (AV)) (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.10.2
Power Transformers	Power transformers - Part 6: Reactors Lightning Impulse Test (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.10.4
Power Transformers	Power transformers - Part 6: Reactors Switching Impulse Test (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.10.6



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Power Transformers	Power transformers - Part 6: Reactors Induced A.C. Withstand voltage test (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.10.3
Power Transformers	Power transformers - Part 6: Reactors Measurement of Insulation Resistance and/or Capacitance and Dissipation Factor (tanδ) of the Winding Insulation to Earth for Liquid-Immersed Reactors (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.2
Power Transformers	Power transformers - Part 6: Reactors Measurement of vibration (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.13
Power Transformers	Power transformers - Part 6: Reactors Temperature Rise Test (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.14
Power Transformers	Power transformers - Part 6: Reactors Measurement of Zero-Sequence Reactance on Three-Phase Reactors (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.8
Power Transformers	Power transformers - Part 6: Reactors Measurement of Mutual Reactance on Three-Phase Reactors (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.9
Power Transformers	Power transformers - Part 6: Reactors Measurement of Harmonics of the Current (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.7
Power Transformers	Power transformers - Part 6: Reactors Measurement of Magnetic Characteristic (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.11
Power Transformers	Power transformers - Part 6: Reactors Measurement of Acoustic Sound Level (Measurement of acoustic sound level close to reference temperature (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.12
Power Transformers	Power transformers - Part 6: Reactors Measurement of Power Consumption of Fans and Oil Pumps, if any (Reactor)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 7.8.3
Power Transformers	Power transformers - Part 6: Reactors Measurement of Voltage Ratio and Check of Voltage Vector Relationship (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.2



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Power Transformers	Power transformers - Part 6: Reactors Measurement of No-Load Loss and Current (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.2
Power Transformers	Power transformers - Part 6: Reactors Measurement of Short-Circuit Impedance and Load Loss (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.2
Power Transformers	Power transformers - Part 6: Reactors Seperate source A.C. Withstand voltage test (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.7
Power Transformers	Power transformers - Part 6: Reactors Lightning Impulse Test (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.7
Power Transformers	Power transformers - Part 6: Reactors Induced A.C. Withstand voltage test (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.7
Power Transformers	Power transformers - Part 6: Reactors Measurement of Loss at Rated Continuous Neutral Current (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.9
Power Transformers	Power transformers - Part 6: Reactors Temperature Rise Test (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.6
Power Transformers	Power transformers - Part 6: Reactors Measurement of Zero-Sequence Impedance (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.5
Power Transformers	Power transformers - Part 6: Reactors Measurement of Acoustic Sound Level (Earthing Transformer)	TS EN 60076-6 EN 60076-6 IEC 60076-6 Clause 10.9.4
Power transformers	Power transformers - Part 10: Determination of sound levels	TS EN 60076-10 EN 60076-10 IEC 60076-10
Power transformers	Power transformers - Part 11: Dry-type transformers Measurement of winding resistance	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.1



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Power transformers	Power transformers - Part 11: Dry-type transformers Measurement of voltage ratio and check of phase displacement	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.2		
Power transformers	Power transformers - Part 11: Dry-type transformers Measurement of short-circuit impedance and load loss	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.3		
Power transformers	Power transformers - Part 11: Dry-type transformers Measurement of no-load loss and current	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.4		
Power transformers	Power transformers - Part 11: Dry-type transformers Applied voltage test (AV)	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.5		
Power transformers	Power transformers - Part 11: Dry-type transformers Induced voltage withstand test (IVW)	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.6		
Power transformers	Power transformers - Part 11: Dry-type transformers Measurement of sound level	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.4.2		
Power transformers	Power transformers - Part 11: Dry-type transformers Temperature-rise test	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.3.2		
Power transformers	Power transformers - Part 11: Dry-type transformers Partial discharge measurement	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.2.7		
Power transformers	Power transformers - Part 11: Dry-type transformers Full wave lightning impulse test (LI)	TS EN 60076-11 EN 60076-11 IEC 60076-11 Clause 14.3.1		
Power Transformers	Power transformers - Part 18: Measurement of frequency response	TS EN ISO 60076-18 IEC 60076-18		
Power transformers	Power transformers - Additional European requirements - Part 2-4: Medium power transformer - Special tests Special test for corrugated tank	EN 50708-2-4 Clause 5		




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Medium power transformers	Medium power transformers 50 Hz, with highest voltage for equipment not exceeding 36 kV - Part 1: General requirements Special Test for Corrugated Tank(Endurance Test)	TS EN 50588-1 (*) EN 50588-1(*) Clause 9.4 TS EN 50464-4:2007/A1 (**) EN 50464-4:2007/A1 (**) (*) Although withdrawn on 09.11.2020, it has been temporarily included in the accreditation scope upon the organization's request. (**) Although withdrawn on 18.12.2017, it has been temporarily included in the accreditation scope upon the organization's request.
Transformers	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers Leak test	IEEE C57.12.00 Table 17
Transformers	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers Core insulation resistance	IEEE C57.12.00 Table 17
Transformers	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers Control (Auxiliary) and cooling Consumption Losses	IEEE C57.12.00 Table 17
Transformers	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers Winding temperature rises	IEEE C57.12.00 Clause 5.11.1.1
Transformers	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers Low frequency test on auxiliary devices and control and current transformer circuits	IEEE C57.12.00 Table 17
Power Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Temperature-rise tests	IEEE C57.12.90 Clause 11
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Resistance measurements	IEEE C57.12.90 Clause 5
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Polarity and phase-relation tests, ratio tests	IEEE C57.12.90 Clause 6 & Clause 7
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Load losses and impedance voltage	IEEE C57.12.90 Clause 9
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers No-load losses and excitation current	IEEE C57.12.90 Clause 8





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Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Applied-voltage tests	IEEE C57.12.90 Clause 10.6
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Induced-Voltage Tests for Distribution and Class I Power Transformers	IEEE C57.12.90 Clause 10.7
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Induced-Voltage Test for Class II Power Transformers	IEEE C57.12.90 Clause 10.8
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Audible sound emissions	IEEE C57.12.90 Clause 13
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Insulation resistance tests	IEEE C57.12.90 Clause 10.11
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Zero-phase-sequence impedance	IEEE C57.12.90 Clause 9.5
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Insulation power-factor tests	IEEE C57.12.90 Clause 10.10
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Partial Discharge Measurement	IEEE C57.12.90 Clause 10.9
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Lightning impulse test procedures	IEEE C57.12.90 Clause 10.3
Transformers	IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers Switching impulse test procedures	IEEE C57.12.90 Clause 10.2
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Resistance measurements	IEEE C57.12.91 Clause 5
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Polarity and phase-relation tests, ratio tests	IEEE C57.12.91 Clause 6 & Clause 7
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Load losses and impedance voltage	IEEE C57.12.91 Clause 9
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Excitation (No-Load) losses and excitation current	IEEE C57.12.91 Clause 8




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Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Applied-voltage tests	IEEE C57.12.91 Clause 10.3
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Induced-voltage tests	IEEE C57.12.91 Clause 10.4
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Audible sound-level measurements	IEEE C57.12.91 Clause 13
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Temperature rise test	IEEE C57.12.91 Clause 11
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Impulse tests	IEEE C57.12.91 Clause 10.6 & Clause 10.7
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Insulation-power-factor tests	IEEE C57.12.91 Clause 10.9
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Insulation-resistance tests	IEEE C57.12.91 Clause 10.10
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Zero-phase-sequence impedance	IEEE C57.12.91 Clause 9.5
Power Transformers	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers Partial discharge tests	IEEE C57.12.91 Clause 10.5
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Resistance measurements	IEEE C57.21 Clause 10.2
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Impedance Test	IEEE C57.21 Clause 10.4.2
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Loss Measurements	IEEE C57.21 Clause 10.4.3
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Applied-Voltage Tests	IEEE C57.21 Clause 10.3.2
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Impulse test procedures	IEEE C57.21 Clause 10.3.4 & Clause 10.3.6
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Switching impulse tests on liquid-immersed shunt reactors	IEEE C57.21 Clause 10.3.8
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Overvoltage tests	IEEE C57.21 Clause 10.3.3





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Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Partial discharge measurements	IEEE C57.21 Clause 10.3.3.2.4		
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Insulation Power Factor Tests	IEEE C57.21 Clause 10.3.10		
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Vibration Tests on Liquids-Immersed Shunt Reactors	IEEE C57.21 Clause 10.7		
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Temperature-Rise Tests	IEEE C57.21 Clause 10.5		
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Zero-Sequence Impedance	IEEE C57.21 Clause 10.4.2.5		
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Magnetic Characteristic Measurements	IEEE C57.21 Clause 10.9		
Shunt Reactors	Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA Audible-Sound Emission and Testing of Shunt Reactors	IEEE C57.21 Clause 10.6		
Shunt Reactors	Paints and varnishes – Determination of film thickness	TS EN ISO 2808 EN ISO 2808		
Non-magnetic coatings on magnetic substrates	Non-magnetic coatings on magnetic substrates – Measurement of coating thickness – Magnetic method	TS EN ISO 2178 EN ISO 2178		
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Ratio tests on the rated voltage connection and on all tap connections.Polarity and phase relation tests on the rated voltage connection.	IEEE C57.32 Table 20		
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices No-load losses and excitation current	IEEE C57.32 Table 20		
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Load losses and impedance voltage	IEEE C57.32 Table 20		
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Applied voltage test	IEEE C57.32 Table 20		
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Lightning impulse test	IEEE C57.32 Table 20		
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Induced voltage tests	IEEE C57.32 Table 20		




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Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Temperature rise test	IEEE C57.32 Table 20
Neutral Grounding Devices	IEEE Standard for Requirements, Terminology, and Test Procedures for Neutral Grounding Devices Resistance measurement	IEEE C57.32 Table 20
Power Transformers	IEEE Guide for Diagnostic Field Testing of Fluid-Filled Power Transformers, Regulators, and Reactors Frequency Response Testing (FRA)	IEEE C57.152 Annex F
Power Transformers	IEEE Guide for the Application and Interpretation of Frequency Response Analysis for Oil-Immersed Transformers	IEEE C57.149
Power Transformers	IEEE Guide for Diagnostic Field Testing of Fluid-Filled Power Transformers, Regulators, and Reactors Excitation current test	IEEE C57.152 Clause 7.2.11.2
Non-magnetic coatings on magnetic substrates	Standard Test Method for Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals	ASTM B499
Transformers	IEEE Guide for Diagnostic Field Testing of Fluid-Filled Power Transformers, Regulators, and Reactors Dielectric frequency response	IEEE C57.152 ANNEX G
Power Transformers	IEEE Guide for Dielectric Frequency Response Test	IEEE Std. C57.161

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 <p>TÜRKAK Test TS EN ISO/IEC 17025 AB-0650-T</p>	<p>ASTOR ENERJİ A.Ş. Test Laboratuvarı</p> <p>Accreditation Nr : AB-0650-T Revision Nr: 14 Date: 13.11.2025</p>
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Lubricants		
Tested Materials / Products	Name of Test	Testing Method (National, International Standards, In-house Methods)
Insulating Liquids	Dissolved Gas Analysis (DGA) (H ₂ , CH ₄ , CO, CO ₂ , C ₂ H ₄ , C ₂ H ₆ , C ₃ H ₈ , C ₃ H ₆ , C ₂ H ₂ , N ₂ , O ₂) Gas Chromatography Method	TS EN 60567 ASTM D3612 IEC 60567
Insulating Liquids	Determination of Total Acid Number by Potentiometric Titration	ASTM D664
Insulating Liquids	Determination of ASTM Color	ASTM D1500 TS 1713 ISO 2049 ISO 2049
Insulating Liquids	Determination of DBPC (2,6-di-tert-Butyl- p-Cresol) Content by FT-IR Method	ASTM D2668 TS EN 60666 IEC 60666
Insulating Liquids	Determination of Interfacial Tension	ASTM D971
Insulating Liquids	Determination of Density and Relative Density by Oscillating U-tube Method	TS EN ISO 12185 ASTM D4052 ISO 12185
Insulating Liquids	Determination of Kinematic Viscosity and Calculation of Dynamic Viscosity	ASTM D445 ISO 3104 TS EN ISO 3104
Insulating Liquids	Determination of Flash Point by Cleveland Open Cup Tester	ASTM D92 TS EN ISO 2592 ISO 2592
Insulating Liquids	Determination of Aniline Point	ASTM D611 TS 1615 ISO 2977 ISO 2977
Insulating Liquids	Determination of Pour Point by Automatic Tilt Method	ASTM D5950
Transformer insulating oils	Standard Test Method for Visual Examination of Used Electrical Insulating Liquids in the Field	ASTM D1524
Transformer insulation oils	Determination of Breakdown Voltage	TS EN IEC 60156 IEC 60156 ASTM D1816
Transformer insulation oils	Fluids for electrotechnical applications – Mineral insulating oils for electrical equipment Appearance	TS EN IEC 60296 IEC 60296 Clause 6.7
Transformer insulation oils	Determination of acidity Automatic potentiometric titration Method	TS EN 62021-1 IEC 62021-1
Transformer insulating oils	Insulation liquids - Determination of relative permeability, dielectric loss factor (tan δ), and direct current (d.c.) resistivity	ASTM D 924 TS EN 60247 IEC 60247



Accreditation Scope

 <p>TÜRKAK</p> <p>Test TS EN ISO/IEC 17025 AB-0650-T</p>	ASTOR ENERJİ A.Ş. Test Laboratuvarı Accreditation Nr : AB-0650-T Revision Nr: 14 Date: 13.11.2025	
Transformer insulation oils	Determination of water amount Culometrical Karl Fischer titration Method	TS EN 60814 IEC 60814 ASTM D1533

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