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Accreditation Scope

Test
TS EN ISO/IEC 17025
AB-0479-T

BOĞAZİÇİ ÜNİVERSİTESİ SABİH TANSAL YÜKSEK AKIM LABORATUVARI Büstyal

Accreditation Nr: AB-0479-T
Revision Nr: 05 Date: 07.02.2020

As a Testing Laboratory

Address:

Boğaziçi Üniversitesi Kuzey Kampüs B Kapısı
Bebek 34342 İSTANBUL/TÜRKİYE

Phone : 0212 359 46 45
Fax : 0212 359 64 15
E-Mail : buyal@boun.edu.tr
Website : www.buyal.boun.edu.tr

Tested Materials / Products	Name of Test	Testing Method (National, International standards, in house methods)
Instrument transformers- Current transformers	Short-time current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Dielectric tests (Power frequency withstand voltage test 0-5kV) Intern-turn overvoltage test	TS EN 61869-1, IEC 61869-1 TS EN 61869-2, IEC 61869-2 Clause 7.2.201 Clause 7.2.2 Clause 7.3.1 Clause 7.3.204
Instrument transformers- Inductive and capacitive voltage transformers	Short-time current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Dielectric tests (Power frequency withstand voltage test 0-5kV)	TS EN 61869-1, IEC 61869-1 TS EN 61869-3, IEC 61869-3 TS EN 61869-5, IEC 61869-5 Clause 7.2.301 Clause 7.2.502 Clause 7.2.2 Clause 7.3.1
Instrument transformers- Electronic current transformers	Short-time current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Dielectric tests (Power frequency withstand voltage test 0-5kV)	TS EN 60044-8, IEC 60044-8 Clause 8.1 Clause 8.2 Clause 9.2

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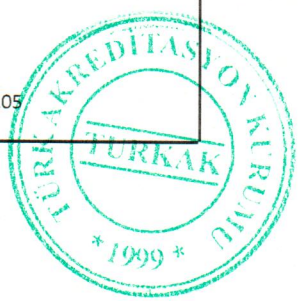
Tested Materials / Products	**Name of Test**	**Testing Method (National, International standards, in house methods)**
Low-voltage switchgear and controlgear assemblies Power switchgear and controlgear assemblies Distribution boards intended to be operated by ordinary persons (DBO) Particular requirements for assemblies for construction sites (ACS) Assemblies for power distribution in public networks Low-voltage switchgear and controlgear assemblies - Part 6: Busbar trunking systems (busways)	Short-circuit protection and short-circuit withstand strength tests Irms=0-100kA / 0-3s Internal arc tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Dielectric tests (Power frequency withstand voltage test 0-5kV) Protection against electric shock and integrity of protective circuits	TS EN 61439-1, IEC 61439-1 TS EN 61439-2, IEC 61439-2 TS EN 61439-3, IEC 61439-3 TS EN 61439-4, IEC 61439-4 TS EN 61439-5, IEC 61439-5 TS EN 61439-6, IEC 61439-6 IEC/TR 61641-Guide for internal arc tests Clause 10.11 Clause 10.10 Clause 9.1 Clause 10.5
High voltage switchgear and controlgear - Alternating current disconnectors and earthing switches	Short-time and peak withstand current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Measurement of the resistance of main circuits Measurement of the resistance of auxiliary circuits Mechanical endurance tests	TS EN 62271-102, IEC 62271-102 TS EN 62271-1, IEC 62271-1 Clause 7.6 Clause 7.5 Clause 7.4 ve 8.4 Clause 8 Clause 7.102 ve Madde 7.105
High voltage switchgear and controlgear - Alternating current switch-fuse combinations	Short-time and peak withstand current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Measurement of the resistance of main circuits Measurement of the resistance of auxiliary circuits Mechanical endurance tests	TS EN 62271-105, IEC 62271-105 TS EN 62271-1, IEC 62271-1 Clause 7.6 Clause 7.5 Clause 7.4 and 8.4 Clause 8 Clause 7.102 and Clause 7.105



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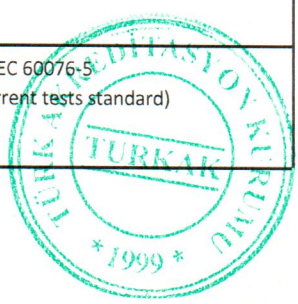
Tested Materials / Products	**Name of Test**	**Testing Method (National, International standards, in house methods)**
High voltage switchgear and controlgear - Alternating current current-breakers	Short-time and peak withstand current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Measurement of the resistance of main circuits Measurement of the resistance of auxiliary circuits Mechanical endurance tests	TS EN 62271-100, IEC 62271-100 TS EN 62271-1, IEC 62271-1 Clause 6.6 Clause 6.5 Clause 6.4 and Clause 7.3 Clause 6.10 Clause 6.101 and Clause 7.101
High voltage switchgear and controlgear - AC metal-enclosed switchgear and controlgear for voltages above 1kV and up to and including 52kV	Short-time and peak withstand current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Measurement of the resistance of main circuits Measurement of the resistance of auxiliary circuits Mechanical endurance tests	TS EN 62271-200, IEC 62271-200 TS EN 62271-1, IEC 62271-1 Clause 6.6 Clause 6.5 Clause 6.4 and Clause 7.3 Clause 6.10 Clause 6.102 and Clause 6.102
High voltage switchgear and controlgear - Switches for rated voltages above 1 kV up to and including 52 kV	Short-time and peak withstand current tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Measurement of the resistance of main circuits Measurement of the resistance of auxiliary circuits Mechanical endurance tests	TS EN 62271-1, IEC 62271-1 TS EN 62271-103, IEC 62271-103 Clause 6.6 Clause 6.5 Clause 6.4 Clause 6.10 Clause 6.102
Low-voltage fuses-Supplemantary requirements for fuses for use by authorized persons	Breaking capacity and breaking-current characterization tests Irms=0-100kA Ipeak=245kA Temperature-rise and power loss tests 0-6000A Conventional non-fusing and fusing current tests	TS HD 60269-1, IEC 60269-1 TS HD 60269-2, IEC 60269-2 Clause 8.5 and Clause 8.6 Clause 8.3 Clause 8.4
Electrical accessories - Circuit breakers for overcurrent protection for household and similar installations - Circuit-breakers for AC operation	Short circuit tests Irms=0-100kA Ipeak=245kA Dielectric tests (Power frequency withstand voltage test 0-5kV)	TS 5018-1 EN 60898-1, IEC 60898 TS EN 60898-2, IEC 60898-2 Clause 9.12 Clause 9.7
Power transformers-Part 5: Ability to withstand short-circuit	Thermal ability to withstand short-circuit, Ability to withstand the dynamic effect of short-circuit	TS EN 60076-5, IEC 60076-5 (Short-circuit current tests standard)



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Tested Materials / Products	**Name of Test**	**Testing Method (National, International standards, in house methods)**
Power transformers-Part 6: Reactors	Short-circuit withstand tests Irms=0-100kA / 0-3s Temperature-rise tests 0-6000A Dielectric tests (Power frequency withstand voltage test 0-5kV)	TS EN 60076-6 TS EN 60076-3 Clause 8.9.13 Clause 8.9.11 Clause 8.9.8
Low-voltage switchgear and controlgear	Low-voltage switchgear and controlgear - Part 2: Circuit-breakers Performance tests Routine tests Short-circuit tests (max Irms=100kA Ipeak=245kA) Temperature-rise tests (max. 6000A) Dielectric tests (Power frequency withstand voltage test max.5kV)	TS EN 60947-1, IEC 60947-1 TS EN 60947-2, IEC 60947-2 Clause 8.3 TS EN 60947-2, IEC 60947-2 Clause 8.4
Low-voltage switchgear and controlgear	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units Performance tests Routine tests Short-circuit tests (max Irms=100kA Ipeak=245kA) Temperature-rise tests (max. 6000A) Dielectric tests (Power frequency withstand voltage test max.5kV))	TS EN 60947-1, IEC 60947-1 TS EN 60947-3, IEC 60947-3 Clause 8.3
High-voltage fuses	High-voltage fuses - Part 1: Current-limiting fuses Temperature-rise and power loss tests (max. 6000A) Time-Current Characterization tests (max. 6000A) Excitation element and striker pin tests Thermal shock test Waterproof test (ingress of moisture)	TS EN 60282-1, IEC 60282-1 Clause 6.5 Clause 6.7 Clause 6.8 Clause 7.3 Clause 7.5
Compression and mechanical connectors for power cables	Compression and mechanical connectors for power cables - Part 1-1: Test methods and requirements for compression and mechanical connectors for power cables for rated voltages up to 1 kV (Um = 1,2 kV) tested on non-insulated conductors Heat cycle tests (max. 6000A) Short-circuit current tests (max. Irms=100kA / 0-3s)	TS EN 61238-1-1, IEC 61238-1-1 TS EN 61238-1-2, IEC 61238-1-2 TS EN 61238-1-3, IEC 61238-1-3 Clause 6

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Tested Materials / Products	**Name of Test**	**Testing Method (National, International standards, in house methods)**
Compression and mechanical connectors for power cables	Compression and mechanical connectors for power cables - Part 1-2: Test methods and requirements for insulation piercing connectors for power cables for rated voltages up to 1 kV (Um = 1,2 kV) tested on insulated conductors Heat cycle tests (max. 6000A) Short-circuit current tests (max. Irms=100kA / 0-3s)	TS EN 61238-1-2, IEC 61238-1-2 Clause 6.3 Clause 6.4
Compression and mechanical connectors for power cables	Compression and mechanical connectors for power cables - Part 1-3: Test methods and requirements for compression and mechanical connectors for power cables for rated voltages above 1 kV (Um = 1,2 kV) up to 36 kV (Um= 42 kV) tested on non-insulated conductors Heat cycle tests (max. 6000A) Short-circuit current tests (max. Irms=100kA / 0-3s)	TS EN 61238-1-3, IEC 61238-1-3 Clause 6.3 Clause 6.4
Cables	Test methods for accessories for power cables with rated voltages from 6 kV up to 36 kV Short-circuit current tests Irms=0-100kA / 0-3s Temperature-rise and cycle tests 0-6000A Heating cycles voltage test (max. 600A) Thermal short-circuit test (screen) Thermal short-circuit test (conductor) Dynamic short-circuit test (max. Irms=100kA/3s)	TS EN 61442, IEC 61442 Clause 9 Clause 10 Clause 11 Clause 12
Cables	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um= 1, 2 kV) up to 30 kV (Um= 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um> = 1, 2 kV) and 3 kV (Um> = 3, 6 kV) Measuring max. conductor temperature (heat cycle max.6000A) (short circuit current max. Irms=100kA/3s)	TS IEC 60502-1, IEC 60502-1 Clause 4.2

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Tested Materials / Products	**Name of Test**	**Testing Method (National, International standards, in house methods)**
Cables	Paper-insulated metal-sheathed cables for rated voltages up to 18/30 kV (with copper or aluminium conductors and excluding gas-pressure and oil-filled cables) - Part 1: Tests on cables and their accessories Heat cycle test (max. 6000A) Thermal short-circuit (conductor) Dynamic short-circuit (max. Irms=100kA/3s)	TS IEC 60055-1, IEC 60055-1 TS EN 61442 Clause 9 TS EN 61442 Clause 11 TS EN 61442 Clause 12
Cables	Short-circuit temperature limits of electric cables with rated voltages above 30 kV (Um = 36 kV) (max. Irms=100kA / 3s)	TS IEC 61443+A1, IEC 61443+A1
Cables	Power cables with extruded insulation and their accessories for rated voltages above 30kV(Um=36 kV) up to 150 kV(Um=170 kV)-Test methods and requirements Heating cycle voltage test (max. 6000A) Maximum conductor temperature (Short-circuit max. Irms=100kA /3s	TS IEC 60840, IEC 60840 Clause 12.4.6 Clause 16
Tap-changers	Tap-changers - Part 1: Performance requirements and test methods Temperature-rise tests (max. 6000A) Short-circuit current test (max. Irms=100kA /3s)	TS EN 60214-1, IEC 60214-1 Clause 5.2.2 Clause 5.2.4 Clause 6.3.3
Cable cleats	Cable cleats for electrical installations Test for resistance to electromechanical force (max. Irms=100kA /3s)	TS EN 61914, IEC 61914 Clause 9.5
Portable equipment for earthing or earthing and short-circuiting	Live working - Portable equipment for earthing or earthing and short-circuiting Short-circuit current tests (max. Irms=100kA / 3s)	TS EN 61230, IEC 61230 Clause 5.7

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Tested Materials / Products	**Name of Test**	**Testing Method (National, International standards, in house methods)**
Overhead lines - Fitting equipments	Overhead lines - Requirements and tests for fittings Heat cycle tests (max. 6000A) (Short-circuit current Irms=100kA/3s)	TS EN 61284, IEC 61284 Clause 13

End of Scope

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G. Banu MÜDERRİSOĞLU
Secretary General