The Appendix is an integral part of
Certificate of Accreditation No. 464/2020 of 21/07/2020

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

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KEMA Labs
Podnikatelská 547, 190 11 Praha 9 - Běchovice

Testing Laboratory Locations:

1. **HPL section** Podnikatelská 547, 190 11 Praha 9 – Běchovice
2. **HVL section** Podnikatelská 547, 190 11 Praha 9 – Běchovice

The Laboratory is qualified to provide expert stand-points and interpretations of the test results.

1. **HPL section**

Tests:

Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
1.1	Short-time withstand current and peak withstand current tests	ČSN EN 62271-1 ed. 2 cl. 7.6 IEC 62271-1 cl. 7.6	HV switchgear and controlgear for voltages above 1 kV
		ČSN EN 62271-100 ed. 2 cl. 6.6 IEC 62271-100 cl. 6.6	HV circuit breakers
		ČSN EN 62271-102 ed. 2 cl. 7.6 IEC 62271-102 cl. 7.6	HV disconnectors and earthing switches
		ČSN EN 62271-103 cl. 6.6 IEC 62271-103 cl. 6.6	Switches for rated voltages above 1 kV up to and including 52 kV
		ČSN EN 62271-104 ed. 2 cl. 6.6 IEC 62271-104 cl. 6.6	Switches for rated voltages of 52 kV and higher
		ČSN EN 62271-106 cl. 6.6 IEC 62271-106 cl. 6.6	HV contactors and contactor-based motor-starters
		ČSN EN 62271-200 ed. 2 cl. 6.6 IEC 62271-200 cl. 6.6	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-201 ed. 2 cl. 6.6 IEC 62271-201 cl. 6.6	Insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-202 ed. 2 cl. 6.6 IEC 62271-202 cl. 6.6	HV/LV prefabricated substation
		ČSN EN 62271-203 ed. 2 cl. 6.6 IEC 62271-203 cl. 6.6	Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 60076-5 ed. 2 cl. 3-4 IEC 60076-5 cl. 3-4 GOST 20243-74 cl. 2	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.4.3 IEC 60076-11 cl. 14.4.3	Dry-type transformers
		ČSN EN 60076-13 cl. 12.4.9 IEC 60076-13 cl. 12.4.9	Self-protected transformers
		ČSN EN 60076-6 cl. 8.9.13, 9.10.10, 10.9.8, 11.8.13 + Annex F IEC 60076-6 cl. 8.9.13, 9.10.10, 10.9.8, 11.8.13 + Annex F IEEE C57.16 cl. 11.6, C.5.5.2, C.5.5.3, C.5.5.4	Reactors
		ČSN IEC 353 cl. 19.4 IEC 60353 cl. 19.4 IEEE C93.3 cl. 6.2.5	Line traps
		ČSN EN 60214-1 ed. 2 cl. 5.2.4, 7.2.3 IEC 60214-1 cl. 5.2.4, 7.2.3	Tap-changers
		ČSN EN 61869-2 cl. 7.2.201 IEC 61869-2 cl. 7.2.201	Current transformers
		ČSN EN 61869-3 cl. 7.2.301 IEC 61869-3 cl. 7.2.301	Inductive voltage transformers
		ČSN EN 61284 cl. 6.1.2 IEC 61284 cl. 6.1.2	Fittings for overhead lines

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 60099-4 ed. 3 cl. 8.10, 10.8.10, 11.8.10, 12.8.10, 13.8.10 IEC 60099-4 cl. 8.10, 10.8.10, 11.8.10, 12.8.10, 13.8.10	Metal-oxide surge arresters without gaps
		IEEE C37.23 cl. 6.2.3, 6.2.4	Metal-enclosed bus
		ČSN EN 60137 ed. 3 cl. 8.8 IEC 60137 cl. 8.8	Insulated bushings for alternating voltages above 1 kV
		ČSN EN 61219 cl. 6.4 IEC 61219 cl. 6.4	Earthing or earthing and short-circuiting equipment using lances as a short-circuiting device - Lance earthing
		ČSN EN 61230 ed. 2 cl. 5.7 IEC 61230 cl. 5.7	Portable equipment for earthing or earthing and short-circuiting
		ČSN EN 61914 ed. 2 cl. 9.5 IEC 61914 cl. 9.5	Cable cleats
		ČSN EN 61439-1 ed. 2 cl. 10.11 (except in cl. 10.11.4) IEC 61439-1 cl. 10.11 (except in cl. 10.11.4)	LV switchgear and controlgear assemblies
		ČSN EN 61439-1 ed. 2 cl. 10.5 (except in cl. 10.5.3.4) IEC 61439-1 cl. 10.5 (except in cl. 10.5.3.4)	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 10.11 (except in cl. 10.11.4) IEC 61439-2 cl. 10.11 (except in cl. 10.11.4)	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 10.5 (except in cl. 10.5.3.4) IEC 61439-2 cl. 10.5 (except in cl. 10.5.3.4)	Power LV switchgear and controlgear assemblies

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 61439-5 ed. 2 cl. 10.11 (except in cl. 10.11.4) IEC 61439-5 cl. 10.11 (except in cl. 10.11.4)	Assemblies for power distribution in public networks
		ČSN EN 61439-5 ed. 2 cl. 10.5 (except in cl. 10.5.3.4) IEC 61439-5 cl. 10.5 (except in cl. 10.5.3.4)	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 10.11 (except in cl. 10.11.4) IEC 61439-6 cl. 10.11 (except in cl. 10.11.4)	Busbar trunking systems
		ČSN EN 61439-6 cl. 10.5 (except in cl. 10.5.3.4) IEC 61439-6 cl. 10.5 (except in cl. 10.5.3.4)	Busbar trunking systems
		ČSN EN 61921 cl. 7.2.3 IEC 61921 cl. 7.11	Low-voltage power factor correction banks
		ČSN EN 61921 cl. 7.2.4 IEC 61921 cl. 7.5	Low-voltage power factor correction banks
		IEC 62040-1 cl. 5.2.3.103 + Annex EE	UPS
		ČSN EN 60947-1 ed. 4 cl. 8.3.4 IEC 60947-1 cl. 8.3.4	Low-voltage switchgear and controlgear
		ČSN EN 60947-2 ed. 4 cl. 8.3.6.3 IEC 60947-2 cl. 8.3.6.3	LV circuit-breakers
		ČSN EN 60947-3 ed. 3 cl. 8.3.5, 8.3.6 IEC 60947-3 cl. 8.3.5, 8.3.6	LV switches, disconnectors, switch-disconnectors and fuse-combination units
		ČSN EN 50123-1 ed. 2 cl. 7.7 IEC 61992-1 cl. 7.7	DC switchgear
		ČSN EN 50123-2 ed. 2 cl. 8.3.9 IEC 61992-2 cl. 8.3.9	DC circuit breakers
		ČSN EN 50123-3 ed. 2 cl. 8.3.8 IEC 61992-3 cl. 8.3.8	Indoor DC disconnectors, switch-disconnectors and earthing switches

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 50123-4 ed. 2 cl. 8.3.9 IEC 61992-4 cl. 8.3.9	Outdoor DC disconnectors, switch-disconnectors and earthing switches
		ČSN EN 50123-6 ed. 2 cl. 8.3.4 IEC 61992-6 cl. 8.3.4	DC switchgears assemblies
		ČSN EN 60077-4 cl. 9.3.4.3 IEC 60077-4 cl. 9.3.4.3	El. equipment of rail vehicles - AC switches
		ČSN EN 61643-11 ed. 2 cl. 8.3.5.3 (except in cl. 8.3.5.3.1 and 8.3.5.3.2) IEC 61643-11 cl. 8.3.5.3 (except in cl. 8.3.5.3.1 and 8.3.5.3.2)	Surge protective devices connected to LV power systems
		ČSN EN 61800-5-1 ed. 2 cl. 5.2.3.6 IEC 61800-5-1, cl. 5.2.3.6	Adjustable speed electrical power drive systems
1.2	Short-circuit making and breaking tests	ČSN EN 62271-100 ed. 2 cl. 6.102 – 6.112 IEC 62271-100 cl. 6.102 – 6.112	HV circuit breakers
		ČSN EN 62271-102 ed. 2 cl. 7.101 IEC 62271-102 cl. 7.101	HV disconnectors and earthing switches
		ČSN EN 60947-1 ed. 4 cl. 8.3.2, 8.3.4 IEC 60947-1 cl. 8.3.2, 8.3.4	Low-voltage switchgear and controlgear
		ČSN EN 60947-2 ed. 4 cl. 8.3.4.2, 8.3.5.3 IEC 60947-2 cl. 8.3.4.2, 8.3.5.3	LV circuit-breakers
		ČSN EN 50123-2 ed. 2 cl. 8.3.8 IEC 61992-2 cl. 8.3.8	DC circuit breakers
		ČSN EN 60077-3 cl. 9.3.4 IEC 60077-3 cl. 9.3.4	El. equipment of rail vehicles - DC switches

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 60077-4 cl. 9.3.4.4 IEC 60077-4 cl. 9.3.4.4	El. equipment of rail vehicles - AC switches
1.3	Making and breaking tests	ČSN EN 62271-102 ed. 2 cl. 7.106 – 7.108 IEC 62271-102 cl. 7.106 - 7.108	HV disconnectors and earthing switches
		ČSN EN 62271-103 cl. 6.101 IEC 62271-103 cl. 6.101	Switches for rated voltages above 1 kV up to and including 52 kV
		ČSN EN 62271-105 ed. 2 cl. 6.101 IEC 62271-105 cl. 6.101	HV switch-fuse combinations
		ČSN EN 62271-106 cl. 6.102 IEC 62271-106 cl. 6.102	HV contactors and contactor-based motor-starters
		ČSN EN 62271-200 ed. 2 cl. 6.101 IEC 62271-200 cl. 6.101	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-201 ed. 2 cl. 6.101 IEC 62271-201 cl. 6.101	Insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 60282-1 ed. 3 cl. 6.6, 7.6.3 IEC 60282-1 cl. 6.6, 7.6.3 IEEE Std. C37.41 cl. 9.3	HV current-limiting fuses
		ČSN IEC 282-2 cl. 8.6 IEC 60282-2 cl. 8.6 IEEE Std. C37.41 cl. 9.2	HV expulsion fuses
		ČSN EN 60269-1 ed. 3 cl. 8.5 IEC 60269-1 cl. 8.5	LV fuses
		ČSN EN 60269-4 ed. 3 cl. 8.5 IEC 60269-4 cl. 8.5	LV fuse-links for the protection of semiconductor devices

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 60269-6 ed. 1 cl. 8.5 IEC 60269-6 cl. 8.5	Fuse-links for the protection of solar systems
		ČSN EN 50123-1 ed. 2 cl. 7.3.2, 7.6 EN 50123-1 cl. 7.3.2, 7.6 IEC 61992-1 cl. 7.3.2, 7.6	DC switchgear
		ČSN EN 50123-3 ed. 2 cl. 8.3.7 IEC 61992-3 cl. 8.3.7	Indoor DC disconnectors, switch-disconnectors and earthing switches
		ČSN EN 50123-4 ed. 2 cl. 8.3.5, 8.3.8 EN 50123-4 cl. 8.3.5, 8.3.8 IEC 61992-4 cl. 8.3.5, 8.3.8	Outdoor DC disconnectors, switch-disconnectors and earthing switches
		ČSN EN 60077-5 cl. 9.3.4.3 IEC 60077-5 cl. 9.3.4.3	El. equipment of rail vehicles - HV fuses
1.4	Internal arc test	ČSN EN 62271-200 ed. 2 cl. 6.106, Annex AA IEC 62271-200 cl. 6.106, Annex AA	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-201 ed. 2 cl. 6.105, Annex AA IEC 62271-201 cl. 6.105, Annex AA	Insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-202 ed. 2 cl. 6.102, Annex AA IEC 62271-202 cl. 6.102, Annex AA	HV/LV prefabricated substation
		ČSN EN 62271-203 ed. 2 cl. 6.105, Annex B IEC 62271-203 cl. 6.105, Annex B	Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV
		IEC 62271-214, cl. 7.101	Metal-enclosed pole-mounted switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 61869-1 cl. 6.9, 7.4.6 IEC 61869-1 cl. 6.9, 7.4.6	Instrument transformers
		ČSN EN 61869-2 cl. 6.9, 7.4.6 IEC 61869-2 cl. 6.9, 7.4.6	Instrument current transformers
		ČSN EN 61869-3 cl. 6.9, 7.4.6 IEC 61869-3 cl. 6.9, 7.4.6	Instrument voltage transformers
		IEC 61641 cl. 8	Enclosed LV switchgear and controlgear assemblies
		ČSN EN 50123-6 ed. 2, cl. 8.3.9, Annex B EN 50123-6, cl. 8.3.9, Annex B	DC switchgears assemblies
1.5	Power arc tests	ČSN EN 61284 cl. 6.1.2 STL Procedure 4 Issue 2:2011 IEC 61284 cl. 6.1.2 STL Procedure 4 Issue 2:2011	Fittings for overhead lines
		ČSN EN 61467 cl. 3 – 10 IEC 61467 cl. 3 – 10	Insulator sets
1.6	Tests for time-current characteristics	ČSN EN 60282-1 ed. 3 cl. 6.7 IEC 60282-1 cl. 6.7 IEEE Std. C37.41 cl. 12	HV current-limiting fuses
		ČSN IEC 282-2 cl. 8.7 IEC 60282-2 cl. 8.7 IEEE Std. C37.41 cl. 12	HV expulsion fuses
1.7	Switching tests	ČSN EN 60214-1 ed. 2 cl. 5.2.3 IEC 60214-1 cl. 5.2.3	Tap-changers
1.8	*Reserved*		
1.9	Tests for explosion safety	GOST R 52725 cl. 9.8	Surge arresters for a.c. electrical installations for voltage from 3 kV to 750 kV
1.10	No-load, normal load and overload conditions tests	ČSN EN 60947-1 ed. 4 cl. 8.3.3 (except in cl. 8.3.3.4) IEC 60947-1 cl. 8.3.3 (except in cl. 8.3.3.4) ČSN EN 60947-3 ed. 3 cl. 8.3.3, 8.3.4, 8.3.7 IEC 60947-3 cl. 8.3.3, 8.3.4, 8.3.7	LV switches, disconnectors, switch-disconnectors and fuse-combination units

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
1.11	Test of searching critical currents	ČSN EN 50123-2 ed. 2 cl. 8.3.10 IEC 61992-2 cl. 8.3.10	DC circuit breakers
1.12	TOV failure test	ČSN EN 61643-11 ed. 2 cl. 8.3.8.2 IEC 61643-11 cl. 8.3.8.2	Surge protective devices connected to LV power systems
1.13	Measurement of the resistance	ČSN EN 62271-1 ed. 2 cl. 7.4.1 IEC 62271-1 cl. 7.4.1	HV switchgear and controlgear for voltages above 1 kV
1.14	Voltage test as condition check	ČSN EN 62271-1 ed. 2 cl. 7.2.12 IEC 62271-1 cl. 7.2.12	HV switchgear and controlgear for voltages above 1 kV
1.15	Measurement of inductance, reactance and impedance	ČSN EN 60076-6 cl. 7.8.5.1, 8.9.21, 9.10.5 IEC 60076-6 cl. 7.8.5.1, 8.9.21, 9.10.5	Reactors
		ČSN IEC 353 cl. 19.5 – 19.7 IEC 60353 cl. 19.5 – 19.7	Line traps

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2. **HVL section**

Tests:

Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
2.1	Temperature-rise tests	ČSN EN 62271-1 ed. 2 cl. 7.5 IEC 62271-1 cl. 7.5	HV switchgear and controlgear for voltages above 1 kV
		ČSN EN 62271-100 ed. 2 cl. 6.5 IEC 62271-100 cl. 6.5	HV circuit breakers
		ČSN EN 62271-102 ed. 2 cl. 7.5 IEC 62271-102 cl. 7.5	HV disconnectors
		ČSN EN 62271-103 cl. 6.5 IEC 62271-103 cl. 6.5	Switches for rated voltages above 1 kV up to and including 52 kV
		ČSN EN 62271-104 ed. 2 cl. 6.5 IEC 62271-104 cl. 6.5	Switches for rated voltages of 52 kV and higher
		ČSN EN 62271-105 ed. 2 cl. 6.5 IEC 62271-105 cl. 6.5	HV switch-fuse combinations
		ČSN EN 62271-106 cl. 6.5 IEC 62271-106 cl. 6.5	HV contactors and contactor-based motor-starters
		ČSN EN 62271-200 ed. 2 cl. 6.5 IEC 62271-200 cl. 6.5	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-201 ed 2 cl. 6.5 IEC 62271-201 cl. 6.5	Insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-202 ed. 2 cl 6.5 IEC 62271-202 cl. 6.5	HV/LV prefabricated substation
		ČSN EN 62271-203 ed. 2 cl. 6.5 IEC 62271-203 cl. 6.5	Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 60282-1 ed. 3 cl. 6.5, 7.3, 7.4, 7.6.2 IEC 60282-1 cl. 6.5, 7.3, 7.4, 7.6.2 IEEE Std. C37.41 cl. 11	HV current-limiting fuses
		ČSN IEC 282-2 cl. 8.5 IEC 60282-2 cl. 8.5 IEEE Std. C37.41 cl. 11	HV expulsion fuses
		ČSN EN 60076-2 ed. 2 cl. 7 IEC 60076-2 cl. 7	Power transformers (oil immersed)
		ČSN EN 60076-11 ed. 2 cl. 14.3.2 IEC 60076-11 cl. 14.3.2	Power transformers (dry-type)
		ČSN EN 60076-6 cl. 7.8.14, 8.9.11, 9.10.8, 10.9.6, 11.8.7, 12.8.13 IEC 60076-6 cl. 7.8.14, 8.9.11, 9.10.8, 10.9.6, 11.8.7, 12.8.13	Reactors
		ČSN IEC 353 cl. 19.1 IEC 60353 cl. 19.1	Line traps
		ČSN EN 60214-1 ed. 2 cl. 5.2.2, 7.2.2 IEC 60214-1 cl. 5.2.2, 7.2.2	Tap-changers
		ČSN EN 61869-1 cl. 7.2.2 IEC 61869-1 cl. 7.2.2	Instrument transformers
		ČSN EN 61869-2 cl. 7.2.2 IEC 61869-2 cl. 7.2.2	Current transformers
		ČSN EN 61869-3 cl. 7.2.2 IEC 61869-3 cl. 7.2.2	Inductive voltage transformers
		IEEE C37.23 cl. 6.2.2	Metal-enclosed bus
		ČSN EN 60137 ed. 3 cl. 8.7 IEC 60137 cl. 8.7 IEEE C57.19.00 cl. 7.2.3	Insulated bushings for alternating voltages above 1 kV

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 61439-1 ed. 2 cl. 10.10 (except in cl. 10.10.4) IEC 61439-1 cl. 10.10 (except in cl. 10.10.4)	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 10.10 (except in cl. 10.10.4) IEC 61439-2 cl. 10.10 (except in cl. 10.10.4)	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-4 cl. 10.10 (except in cl. 10.10.4) IEC 61439-4 cl. 10.10 (except in cl. 10.10.4)	Assemblies for construction sites
		ČSN EN 61439-5 ed. 2 cl. 10.10 (except in cl. 10.10.3, 10.10.4) IEC 61439-5 cl. 10.10 (except in cl. 10.10.3, 10.10.4)	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 10.10 (except in cl. 10.10.4) IEC 61439-6 cl. 10.10 (except in cl. 10.10.4)	Busbar trunking systems
		ČSN EN 61921 cl. 7.2.1 IEC 61921 cl. 7.10	Low-voltage power factor correction banks
		ČSN EN 60947-1 ed. 4 cl. 8.3.3.3 IEC 60947-1 cl. 8.3.3.3	LV switchgear and controlgear
		ČSN EN 60947-2 ed. 4 cl. 8.3.3.7, 8.3.4.5, 8.3.6.4, 8.3.7.3, 8.3.8.7, 8.3.2.5 IEC 60947-2 cl. 8.3.3.7, 8.3.4.5, 8.3.6.4, 8.3.7.3, 8.3.8.7, 8.3.2.5	LV circuit-breakers
		ČSN EN 60947-3 ed. 3 cl. 8.3.3.6, 8.3.4.4, 8.3.5.5, 8.3.6.5, 8.3.7.4, 8.3.3.1 IEC 60947-3 cl. 8.3.3.6, 8.3.4.4, 8.3.5.5, 8.3.6.5, 8.3.7.4, 8.3.3.1	LV switches, disconnectors, switch-disconnectors and fuse-combination units
		ČSN EN 60269-1 ed. 3 cl. 8.3 IEC 60269-1 cl. 8.3	LV fuses

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 50123-1 ed. 2 cl. 7.4 IEC 61992-1 cl. 7.4	DC switchgear
		ČSN EN 50123-2 ed. 2 cl. 8.3.4 IEC 61992-2 cl. 8.3.4	DC circuit breakers
		ČSN EN 50123-3 ed. 2 cl. 8.3.4 IEC 61992-3 cl. 8.3.4	Indoor DC disconnectors and switch-disconnectors
		ČSN EN 50123-4 ed. 2 cl. 8.3.4 IEC 61992-4 cl. 8.3.4	Outdoor DC disconnectors, switch-disconnectors and earthing switches
		ČSN EN 50123-6 ed. 2 cl. 8.3.7 IEC 61992-6 cl. 8.3.7	DC switchgears assemblies
		ČSN EN 60077-1 ed.2 cl. 9.3.2 IEC 60077-1 cl. 9.3.2	El. equipment of rail vehicles
		ČSN EN 60077-2 ed.2 cl. 9.3.3.4 IEC 60077-2 cl. 9.3.3.4	El. equipment of rail vehicles - el. components
		ANSI/NEMA CC 1 cl. 3.1	Electric power connection components for substations
2.2	Tests with alternating voltage	ČSN EN 60060-1 cl. 6 IEC 60060-1 cl. 6	Equipment having its highest voltage for equipment above 1 kV
		ČSN EN 62271-1 ed. 2 cl. 7.2, 7.10.5 (except in cl. 7.2.8, 7.2.9) IEC 62271-1 cl. 7.2, 7.10.5 (except in cl. 7.2.8, 7.2.9)	HV switchgear and controlgear for voltages above 1 kV
		ČSN EN 62271-100 ed. 2 cl. 6.2 (except in cl. 6.2.2, 6.2.7, 6.2.8) IEC 62271-100 cl. 6.2 (except in cl. 6.2.2, 6.2.7, 6.2.8)	HV circuit breakers
		ČSN EN 62271-102 ed. 2 cl. 7.2 (except in cl. 7.2.8, 7.2.9) IEC 62271-102 cl. 7.2 (except in cl. 7.2.8, 7.2.9)	HV disconnectors and earthing switches

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 62271-200 ed. 2 cl. 6.2 (except in cl. 6.2.7, 6.2.8, 6.2.101) IEC 62271-200 cl. 6.2 (except in cl. 6.2.7, 6.2.8, 6.2.101) IEEE C37.20.2 cl. 6.2.1	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		IEEE C37.23 cl. 6.2.1	Metal-enclosed bus
		ČSN EN 62271-202 ed. 2 cl. 6.2 (except in cl. 6.2.102.3) IEC 62271-202 cl. 6.2 (except in cl. 6.2.102.3)	HV/LV prefabricated substation
		ČSN EN 60076-3 ed. 2 cl. 9, 10 IEC 60076-3 cl. 9, 10 GOST 1516.1-76 cl. 1.7, 2.4 (except in cl. 2.4.2 and 2.4.6)	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.5 IEC 60076-11 cl. 14.2.5	Dry-type transformers
		ČSN EN 60282-1 ed. 3 cl. 6.4 IEC 60282-1 cl. 6.4 IEEE Std. C37.41 cl. 8 (except in cl. 8.4, 8.6, 8.7)	HV current-limiting fuses
		ČSN IEC 282-2 cl. 8.4 (except in cl. 8.4.7) IEC 60282-2 cl. 8.4 (except in cl. 8.4.7) IEEE Std. C37.41 cl. 8 (except in cl. 8.4, 8.6, 8.7)	HV expulsion fuses
		ČSN EN 60269-1 ed. 3 cl. 8.2 IEC 60269-1 cl. 8.2	LV fuses
2.3	Tests with lightning-impulse voltage	ČSN EN 60060-1 cl. 7 IEC 60060-1 cl. 7	Equipment having its highest voltage for equipment above 1 kV

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 62271-1 ed. 2 cl. 7.2 (except in cl. 7.2.8, 7.2.9) IEC 62271-1 cl.7.2 (except in cl. 7.2.8, 7.2.9)	HV switchgear and controlgear for voltages above 1 kV
		ČSN EN 62271-100 ed. 2 cl. 6.2 (except in cl. 6.2.2, 6.2.7, 6.2.8) IEC 62271-100 cl. 6.2 (except in cl. 6.2.2, 6.2.7, 6.2.8)	HV circuit breakers
		ČSN EN 62271-102 ed. 2 cl. 7.2 (except in cl. 7.2.8, 7.2.9) IEC 62271-102 cl. 7.2 (except in cl. 7.2.8, 7.2.9)	HV disconnectors and earthing switches
		ČSN EN 62271-200 ed. 2 cl. 6.2 (except in cl. 6.2.7, 6.2.8, 6.2.101) IEC 62271-200 cl. 6.2 (except in cl. 6.2.7, 6.2.8, 6.2.101)	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		IEEE C37.23 cl. 6.2.1	Metal-enclosed bus
		ČSN EN 62271-202 ed. 2 cl. 6.2 (except in cl. 6.2.102.3) IEC 62271-202 cl. 6.2 (except in cl. 6.2.102.3)	HV/LV prefabricated substation
		ČSN EN 60076-3 ed. 2 cl. 13 (except in cl. 13.3) IEC 60076-3 cl. 13 (except in cl. 13.3) ČSN EN 60076-13 cl. 12.4.8 IEC 60076-13 cl. 12.4.8	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.3.1 IEC 60076-11 cl. 14.3.1	Dry-type transformers
		ČSN EN 60282-1 ed. 3 cl. 6.4 IEC 60282-1 cl. 6.4 IEEE Std. C37.41 cl. 8 (except in cl. 8.4, 8.6, 8.7)	HV current-limiting fuses

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN IEC 282-2 cl. 8.4 (except in cl. 8.4.7) IEC 60282-2 cl. 8.4 (except in cl. 8.4.7) IEEE Std. C37.41 cl. 8 (except in cl. 8.4, 8.6, 8.7)	HV expulsion fuses
		ČSN EN 60269-1 ed. 3 cl. 8.2 IEC 60269-1 cl. 8.2	LV fuses
2.4	Induced voltage tests (IVW and IVPD)	ČSN EN 60076-3 ed. 2 cl. 7.3.1.3, 11 IEC 60076-3 cl. 7.3.1.3, 11 GOST 1516.1-76 cl. 1.7, 2.4.2	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.6 IEC 60076-11 cl. 14.2.6	Dry-type transformers
2.5	Partial discharge measurement	ČSN EN 60270 IEC 60270	Electrical apparatus, components or systems tested with alternating voltages
		ČSN EN 62271-100 ed. 2 cl. 6.2.9 IEC 62271-100 cl. 6.2.9	HV circuit breakers
		ČSN EN 62271-200 ed. 2 cl. 6.2.9, Annex BB IEC 62271-200 cl. 6.2.9, Annex BB	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 60076-13 cl. 12.1 IEC 60076-13 cl. 12.1	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.7 IEC 60076-11 cl. 14.2.7	Dry-type transformers
2.6	Measurement of winding resistance	ČSN EN 60076-1 cl. 11.2 IEC 60076-1 cl. 11.2 GOST 3484.1-88 cl. 4	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.1 IEC 60076-11 cl. 14.2.1	Dry-type transformers

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
2.7	Measurement of voltage ratio and check of phase displacement	ČSN EN 60076-1 cl. 11.3 IEC 60076-1 cl. 11.3 GOST 3484.1-88 cl. 2, 3	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.2 IEC 60076-11 cl. 14.2.2	Dry-type transformers
2.8	Measurement of short-circuit impedance and load loss	ČSN EN 60076-1 cl. 11.4 IEC 60076-1 cl. 11.4 GOST 3484.1-88 cl. 5	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.3 IEC 60076-11 cl. 14.2.3	Dry-type transformers
2.9	Measurement of no-load loss and current	ČSN EN 60076-1 cl. 11.5 IEC 60076-1 cl. 11.5 GOST 3484.1-88 cl. 6	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.2.4 IEC 60076-11 cl. 14.2.4	Dry-type transformers
2.10	Measurement of zero-sequence impedance	ČSN EN 60076-1 cl. 11.6 IEC 60076-1 cl. 11.6 GOST 3484.1-88 cl. 7	Power transformers
2.11	Measurement of insulation resistance of winding	GOST 3484.3-88 (except in cl. 4.2 and 5.2)	Power transformers
2.12	Transformer pressure test	ČSN EN 60076-13 cl. 12.2 IEC 60076-13 cl. 12.2	Power transformers
2.13	Determination of sound levels	ČSN EN 60076-10 ed. 2 (except in cl. 11.2.5.2, 11.2.5.4 and 11.3) IEC 60076-10 (except in cl. 11.2.5.2, 11.2.5.4 and 11.3)	Power transformers
		ČSN EN 60076-11 ed. 2 cl. 14.4.2 IEC 60076-11 cl. 14.4.2	Dry-type transformers
2.14	Tests on on-load tap-changers	ČSN EN 60076-1 cl. 11.7 IEC 60076-1 cl. 11.7	Power transformers

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
2.15	Verification of dielectric properties	ČSN EN 61439-1 ed.2 cl. 9.1.2, 9.1.3, 9.1.4, 10.9 (except in cl.10.9.3.4 and 10.9.3.5) IEC 61439-1 cl. 9.1.2, 9.1.3, 9.1.4, 10.9 (except in cl.10.9.3.4 and 10.9.3.5)	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5) IEC 61439-2 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5)	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-4 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5) IEC 61439-4 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5)	Assemblies for construction sites
		ČSN EN 61439-5 ed. 2 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5) IEC 61439-5 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5)	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5) IEC 61439-6 cl. 9.1.2, 9.1.3, 10.9 (except in cl. 10.9.3.4 and 10.9.3.5)	Busbar trunking systems
		ČSN EN 61921 cl. 7.2.2 IEC 61921 cl. 7.9	Low-voltage power factor correction banks

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
2.16	Design verification by lifting	ČSN EN 61439-1 ed. 2 cl. 10.2.5 IEC 61439-1 cl. 10.2.5	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 10.2.5 IEC 61439-2 cl. 10.2.5	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-5 ed. 2 cl. 10.2.5 IEC 61439-5 cl. 10.2.5	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 10.2.5 IEC 61439-6 cl. 10.2.5	Busbar trunking systems
2.17	Verification of the degree of protection	ČSN EN 60529 cl. 11 – 15 (except in cl. 13.4 – 13.6, 14.2.7 – 14.2.9) IEC 60529 cl. 11 – 15 (except in cl. 13.4 – 13.6, 14.2.7 – 14.2.9)	Degree of protection up to IP 46
		ČSN EN 61439-1 ed. 2 cl. 8.2.2, 8.2.3, 8.4.2.3, 10.3 IEC 61439-1 cl. 8.2.2, 8.2.3, 8.4.2.3, 10.3	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 8.2.2, 8.2.3, 8.4.2.3, 8.2.101, 8.101, 10.3 IEC 61439-2 cl. 8.2.2, 8.2.3, 8.4.2.3, 8.2.101, 8.101, 10.3	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-5 ed. 2 cl. 8.2.2, 8.2.3, 8.4.2.3, 8.2.101, 8.101, 10.3 IEC 61439-5 cl. 8.2.2, 8.2.3, 8.4.2.3, 8.2.101, 8.101, 10.3	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 8.2.2, 8.2.3, 8.4.2.3 and 10.3 IEC 61439-6 cl. 9.1.2, 8.2.2, 8.2.3, 8.4.2.3 and 10.3	Busbar trunking systems
		ČSN EN 61921 cl. 7.2.7 IEC 61921 cl. 7.3	Low-voltage power factor correction banks

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
		ČSN EN 62271-1 ed. 2 cl. 7.7.1 (except in Annex C) IEC 62271-1 cl. 7.7.1 (except in Annex C)	HV switchgear and controlgear for voltages above 1 kV
		ČSN EN 62271-200 ed. 2 cl. 6.7.1 (except in Annex C) IEC 62271-200 cl. 6.7.1 (except in Annex C)	Metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
		ČSN EN 62271-202 ed. 2 cl. 6.7.1 IEC 62271-202 cl. 6.7.1	HV/LV prefabricated substation
		ČSN EN 60282-1 ed. 3 cl. 7.5 IEC 60282-1 cl. 7.5	HV current-limiting fuses
2.18	Verification of the clearances and creepage distances	ČSN EN 61439-1 ed. 2 cl. 8.3, 10.4, Annex F IEC 61439-1 cl. 8.3, 10.4, Annex F	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 8.3, 10.4, Annex F IEC 61439-2 cl. 8.3, 10.4, Annex F	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-5 ed. 2 cl. 8.3, 10.4, Annex F IEC 61439-5 cl. 8.3, 10.4, Annex F	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 8.3, 10.4, Annex F IEC 61439-6 cl. 8.3, 10.4, Annex F	Busbar trunking systems
		ČSN EN 61921 cl. 7.2.5 IEC 61921 cl. 7.4	Low-voltage power factor correction banks
		ČSN EN 60282-1 ed. 3 cl. 5.3, Annex D IEC 60282-1 cl. 5.3, Annex D	HV current-limiting fuses

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Ordinal Number [1]	Test procedure/method name	Test procedure/method identification [2]	Tested object
2.19	Verification of the marking resistance	ČSN EN 61439-1 ed. 2 cl. 10.2.7 IEC 61439-1 cl. 10.2.7	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 10.2.7 IEC 61439-2 cl. 10.2.7	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-5 ed. 2 cl. 10.2.7 IEC 61439-5 cl. 10.2.7	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 10.2.7 IEC 61439-6 cl. 10.2.7	Busbar trunking systems
		ČSN EN 60282-1 ed. 3 cl. 5.2 IEC 60282-1 cl. 5.2	HV current-limiting fuses
2.20	Verification of mechanical operation	ČSN IEC 282-2 cl. 8.8 IEC 60282-2 cl. 8.8 IEEE Std. C37.41 cl. 13.2	HV expulsion fuses
		ČSN EN 61439-1 ed. 2 cl. 10.13 IEC 61439-1 cl. 10.13	LV switchgear and controlgear assemblies
		ČSN EN 61439-2 ed. 2 cl. 10.13 IEC 61439-2 cl. 10.13	Power LV switchgear and controlgear assemblies
		ČSN EN 61439-5 ed. 2 cl. 10.13 IEC 61439-5 cl. 10.13	Assemblies for power distribution in public networks
		ČSN EN 61439-6 cl. 10.13 IEC 61439-6 cl. 10.13	Busbar trunking systems
		ČSN EN 61921 cl. 7.2.6 IEC 61921 cl. 7.13	Low-voltage power factor correction banks
2.21	Tests of strikers	ČSN EN 60282-1 ed. 3 cl. 6.8 IEC 60282-1 cl. 6.8	HV current-limiting fuses
2.22	Magnetic losses test	ČSN EN 61284 cl. 12 IEC 61284 cl. 12	Fittings for overhead lines
2.23	Heat cycle tests	ČSN EN 61284 cl. 13 IEC 61284 cl. 13	Fittings for overhead lines
		ANSI C119.0 cl. 5.1	Electric connectors
		ANSI C119.4 cl. 6.3.1	Electric connectors - for Al and Cu conductors

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[1] asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises

[2] if the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

Explanations:

GOST – Russian standards

IEEE – Institute of Electrical and Electronics Engineers

STL – Short-Circuit Testing Liaison

IVW – Induced voltage withstand test

IVPD – Induced voltage test with partial discharge measuremen