

Annex to declaration of accreditation (scope of accreditation)
Normative document: EN ISO/IEC 17025:2017
Registration number: **L 020**

of **KEMA B.V.**
High Power Laboratory and High Voltage Laboratory

This annex is valid from: **04-05-2020** to **01-04-2022**

Replaces annex dated: **01-05-2020**

Location(s) where activities are performed under accreditation

Head Office

Klingelbeekseweg 195 - Building no. R10
6812 DE
Arnhem
The Netherlands

Location	Abbreviation/ location code
Klingelbeekseweg 195 - Building no. R11, R32 and B31 6812 DE Arnhem The Netherlands	ARN
IPKW Westervoortsedijk 73 6827 AV Arnhem The Netherlands	IPKW

No.	Material or product	Type of activity ¹	Internal reference number	Location
High Power Laboratory				
1	Power Transformers	Short-circuit tests	IEC 60076-5 IEC 60076-11 IEEE Std C57.12.90 IEEE Std. C57.12.00	ARN
2	Current Transformers	Short-time current tests Transient instantaneous error measurement	IEC 61869-2 IEEE Std C57.13 IEC 61869-1	ARN

¹ If there is a referral to a code starting with NAW, NAP, EA or IAF, this concerns a scheme mentioned on the [RvA-BR010-lijst](#).
If no date or version number is mentioned for a normative document, the accreditation concerns the most current version of the document or scheme.

This annex has been approved by the Board of the
Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas
Director of Operations

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3	Reactors	Short-time current tests	IEC 60076-6 IEEE Std C57.21	ARN
4	Line traps for A.C. power systems	Short-time current tests	IEC 60353	ARN
5	Metal-enclosed A.C. switchgear 1 - 52 kV resp > 1 kV and prefabricated substations	Short-time current tests Verification of making and breaking capacities Mechanical operation tests Arcing due to internal fault	IEC 62271-200 IEC 62271-202 IEEE C37.74 IEEE Std C37.20.2 IEEE Std C37.20.7 ANSI C37.54 ANSI C37.55	ARN
6	Metal-enclosed A.C. switchgear >52kV	Short-time current tests Verification of making and breaking capacities Mechanical operation tests Arcing due to internal fault	IEC 62271-203 IEEE Std C37.122	ARN
7	Low-voltage A.C. switchgear and control gear assemblies	Short-time current tests	IEC 61439-1 IEC 61439-2	ARN
8	Insulation-enclosed A,C switchgear 1-52kV	Short time current tests Verification of making and breaking capacities Mechanical operation test Arcing due to internal fault	IEC 62271-201	ARN
9	High-voltage AC circuit breakers	Short-time current tests Making and breaking tests Switching tests Mechanical and environmental tests	IEC 62271-100 IEC 62271-110 IEC 62271-101 IEEE Std C37.09 IEEE Std C37.081	ARN
10	High-voltage generator Circuit breaker	Short circuit test	IEEE Std C37.013 IEEE Std C37.013a	ARN
11	AC circuit breakers for Railway applications	Making and Breaking test	EN 50152-1 IEC 60077-4	ARN
12	High-voltage A.C. switches for rated Voltages above 1 kV up to and including 52 kV	Short-time current tests Making and breaking tests Mechanical endurance tests	IEC 62271-103	ARN

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No.	Material or product	Type of activity ¹	Internal reference number	Location
13	Alternating current switches for rated voltages of 52 kV and above	Short-time current tests Making and breaking tests Mechanical endurance tests	IEC 62271-104 IEEE Std 1247	ARN
14	High-voltage A.C. disconnectors and earthing switches	Short-time current tests Switching tests Short-circuit making performance Operating and mechanical endurance tests Operation at the temperature limits Contact zone tests	IEC 62271-102 IEEE Std C37.34	ARN
15	Alternating current contactors and motor starters	Making and breaking capacities Coordination with short-circuit protective device	IEC 62271-106	ARN
16	Automatic circuit reclosers and fault interrupters	Interruption tests Operating duty tests	IEC 62271-111 / IEEE Std C37.60	ARN
17	Surge arresters	Pressure-relief tests	IEC 60099-1 IEC 60099-4 IEEE Std C62.11	ARN
18	High-voltage A.C. switchfuse combinations for rated Voltages above 1 kV Up to and including 52 kV	Making and breaking tests Tests on the mechanism	IEC 62271-105 IEEE Std C37.41	ARN
19	Current limiting fuses	Breaking tests	IEC 60282-1 IEC 60549 IEEE Std C37.41 ANSI C37.44	ARN
20	Expulsion fuses	Breaking tests	IEC 60282-2	ARN
21	High Voltage fuse-links for motor circuit applications	Breaking tests	IEC 60644	ARN
22	Equipment for networks for transmission and distribution of electrical power	Test as mentioned above (1-21)	In accordance with or equivalent to the reference methods as mentioned above (1-21).	ARN

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High Voltage Laboratory				
23	Coils and / or windings of rotating electrical machines	AC voltage test Lightning impulse voltage test	IEC 60034	ARN
24	Power transformers	AC voltage test Lightning impulse voltage test Temperature-rise test Capacitance and tan δ measurement Power measurement DC resistance measurement Temperature measurement Sound level measurement R.I.V. measurement Partial discharge measurement SFRA measurement Verification of voltage ratio and phase displacement Low ambient test on dry-type transformer Thermal shock test on dry type transformer Condensation test on dry-type transformer Humidity penetration test on dry-type transformer Inspection of the active part	IEC 60076-1, -2, -3, -10, -11, -13, -15, -16, -18 CISPR 18.2 EN 50541-1 IEEE Std. C57.12.00 IEEE Std. C57.12.90 IEEE Std. C57.12.91	ARN
25	AC Metal-enclosed switchgear and controlgear above 1 kV and \leq 52 kV and prefabricated substations	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection R.I.V. measurement	IEC 62271-200 IEC 62271-202 IEEE C37.20.2 IEEE C37.21 ANSI C37.54 ANSI C37.55 IEC 60529	ARN
26	AC Solid Insulation-enclosed switchgear and controlgear above 1 kV and \leq 52 kV	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection R.I.V. measurement	IEC 62271-201 IEC 60529	ARN

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27	Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	AC voltage test Lightning impulse voltage test Switching impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement R.I.V. measurement	IEC 62271-203 IEEE Std C37.122	ARN
28	High-voltage AC circuit breakers	AC voltage test Lightning impulse voltage test Switching impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement R.I.V. measurement Test under wet conditions	IEC 62271-100 IEEE Std C37.09 IEEE Std C37.013 EN 50152-1	ARN
29	High-voltage AC disconnectors and earthing switches	AC voltage test Lightning impulse voltage test Switching impulse voltage test Temperature-rise test Partial discharge measurement DC resistance measurement R.I.V. measurement Test under wet conditions Temperature measurement	IEC 62271-102 IEEE Std C37.34 IEEE Std C37.41	ARN
30	High-voltage AC switches	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection	IEC 62271-103 IEC 62271-104 IEEE Std C37.74	ARN
31	High-voltage AC contactors	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection	IEC 62271-106	ARN

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32	Automatic circuit reclosers and fault interrupters	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection	IEC 62271-111/ IEEE Std C37.60	ARN
33	Busducts	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection	IEEE Std C37.23	ARN
34	High-voltage AC switch-fuse combinations and high-voltage AC fuses	AC voltage test Lightning impulse voltage test Partial discharge measurement Temperature-rise test Temperature measurement DC resistance measurement Verification of degree of protection	IEC 62271-105 IEEE Std C37.41 IEEE Std C37.74 IEC 60282-1 IEC 60282-2	ARN
35	Insulators and insulated bushings	AC voltage test Lightning impulse voltage test Partial discharge measurement Test under wet conditions Thermal-mechanical performance test Electro-mechanical failing load test R.I.V. measurement Pollution tests Temperature measurement Visible corona test Steep front wave flashover test Porosity test Visual and dimensional test Galvanizing test Thermal shock test Thermal cycle test Water absorption test Impact test Test of housing: tracking and erosion tests	IEC 60137 IEEE Std C57.19.00 IEEE Std C57.19.01 IEC 60168 IEC 60383 IEC 60507 IEC 60660 IEC 61109 IEC 62217 IEC 62730 ANSI C29.1, -6, -7, -12 ANSI/NEMA C29.2, -13 CAN/CSA C411.1	ARN

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36	Cables	AC voltage test DC voltage test Lightning impulse test Heat cycle voltage test Capacitance and tan δ measurement Partial discharge measurement Insulation resistance measurement DC resistance measurement Temperature measurement Condition test of XLPE cable Water penetration test Bending test	IEC 60055 IEC 60141 IEC 60502 IEC 60840 IEC 62067 HD 620 HD 632 NEN 3619 BS 6622 BS 7835 BS 7870 BS 7912 BS 7970	ARN
37	Cable accessories	AC voltage test DC voltage test Lightning impulse voltage test Heat cycle voltage test Temperature measurement Partial discharge measurement Insulation resistance measurement Test under wet conditions Pollution tests R.I.V. measurement Water penetration test Impact test	IEC 60502-4 IEC 60055 IEC 60840 IEC 62067 HD 629-1 HD 629-2 HD 632 IEEE Std 48 IEEE Std 404	ARN
38	Current transformers	AC voltage test Lightning impulse voltage test Switching impulse voltage test Temperature-rise test Capacitance and tan δ measurement Partial discharge measurement Accuracy test Test under wet conditions Temperature measurement Inspection of active part	IEC 60044-8 IEC 61869-2 IEC 61869-1	ARN

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39	Voltage transformers	AC voltage test Lightning impulse voltage test Switching impulse voltage test Temperature-rise test Capacitance and tan δ measurement Partial discharge measurement Temperature measurement Accuracy test Test under wet conditions Leakage test Inspection of active part	IEC 61869-1 IEC 61869-3 IEC 61869-5 IEC 60044-7	ARN
40	Capacitors	AC voltage test Lightning impulse voltage test Capacitance and tan δ measurement Temperature measurement Test under wet conditions Thermal stability test Short-circuit discharge test Endurance test Sealing test Self-healing test Destruction test Ageing test	IEC 60358 IEC 60831 IEC 60871	ARN
41	Surge arresters	AC voltage test Lightning impulse voltage test Switching impulse voltage test Current impulse test Pollution tests Partial discharge measurement Temperature measurement Ageing test R.I.V. measurement	IEC 60099 IEEE Std C62.11	ARN

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42	Reactors	AC voltage test Lightning impulse voltage test Switching impulse voltage test Temperature-rise test Impedance measurement AC resistance measurement Power measurement DC resistance measurement Temperature measurement Acoustic sound level measurement Verification of voltage ratio and phase displacement check	IEC 60076-6 IEEE Std C57.21	ARN
43	Compression and mechanical connectors	Temperature-rise test Temperature measurement DC resistance measurement Mechanical tests	IEC 61238-1	ARN