

tradition. knowledge. responsibility.



HPL - High power laboratory

The High Power Laboratory operates within the KONČAR - Institute for more than 40 years. As a part of Institutes' Laboratory Center, it performs, type and special tests in accordance with valid national and international standards (HRN EN, IEC, UL, GOST, etc. for companies within KONČAR Group and other companies and institutions in Croatia and abroad.

Its testing capabilities, especially high-current tests at low voltages (short-circuit current tests and making/breaking capacity), make it unique in the Republic of Croatia. It also provides diagnostic field tests of HV circuit breakers, metal-enclosed SF₆ switchgear and controlgear and metal-enclosed busbars.

Making and breaking capacity tests with possibilities of arc energy and let-through specific energy I²t measurements

3-PHASE AC VOLTAGE					
voltage	240 V	420 V	550 V	725 V	1100 V
current	75 kA	60 kA	70 kA	33 kA	30 kA

1-PHASE AC VOLTAGE					
voltage	240 V	420 V	550 V	725 V	1100 V
current	70 kA	50 kA	130 kA	30 kA	15 kA



Special tests

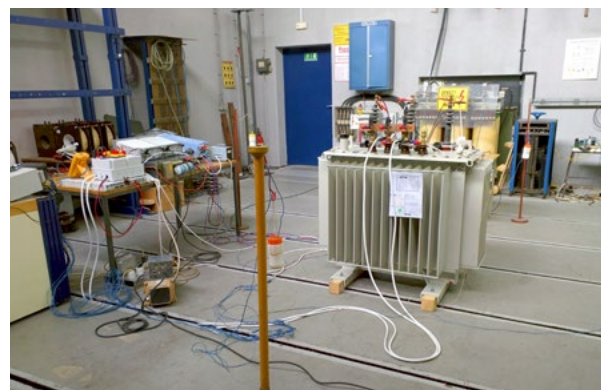
Electrical and mechanical tests of switching devices. Investigation of effects of arc propagation during short circuit in parts and compartments of switching devices and instrument transformers (especially those in explosion-proof versions).

Temperature rise tests

AC CURRENT	
3-phase	up to 10 kA
1-phase	up to 15 kA

MEASUREMENT SYSTEM	
> 70 measurement points (copper-constantan)	

POWER TRANSFORMERS	
up to 1,6 MVA	



Peak and short-time withstand current tests

LV, MV and HV switching devices, switchgear and controlgear, instrument transformers, suspension and connecting equipment for transformer substations and overhead lines. Power transformers of rated powers up to 1000 kVA, i.e. short-circuit tests on the higher-voltage side, up to 1000 A, depending on short-circuit voltage of the tested transformer.

3-PHASE AC VOLTAGE

peak current values	up to 200 kA
short-time withstand currents, 1s	up to 80 kA

1-PHASE AC VOLTAGE

peak current values	up to 240 kA
short-time withstand currents, 1s	up to 120 kA

Field tests

Diagnostic tests of HV circuit breakers, switchgear and controlgear, metal-enclosed SF₆ switchgear and controlgear and metal-enclosed busbars.

Tests of mechanical operations

- switching time measurements
- time spread between poles measurements
- measurements of making and breaking coil currents and voltages

Temperature-rise tests

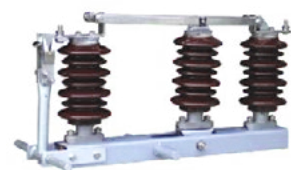
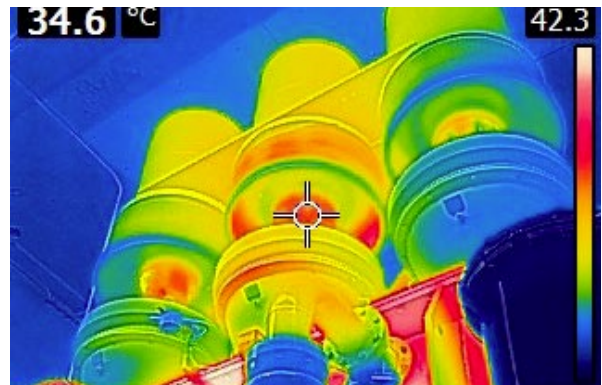
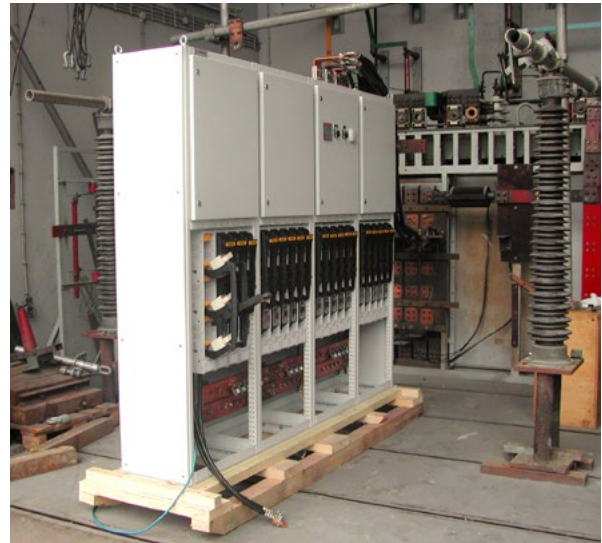
- measurements of voltage drop of main circuit (electrical resistance)
- measurements of temperature rise on joints and contacts in service (thermovision)

Tests of SF₆ condition

- measurements of SF₆ decomposition products
- measurements of SF₆ dew point
- measurements of SF₆ relative humidity

Mechanical endurance test

- Circuit breakers - IEC 62271-100
- Disconnectors/Earthing switches disconnectors/Fast earthing switches - IEC 62271-102
- Metal enclosed switchgear and control gear - IEC 62271-200
- Switches - IEC 62271-103



Accreditation

Laboratory Center of KONČAR – Electrical Engineering Institute Inc. is accredited by the Croatian Accreditation Agency (HAA) in accordance with HRN EN ISO/IEC 17025 for the scope of tests specified in the Accreditation Certificate No. 1035 and the scope of calibration specified in the Accreditation Certificate No. 2057, covered by EA-MLA.

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Contact us for more information!



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