



Test & Monitoring Services

Power Cables



In Test and Measurement energetic's field, we are offering the following services:

- *Measurement*
- *Testing*
- *Monitoring*
- *Diagnostic*
- *Analysis*
- *Engineering*
- *Projecting*
- *Expert training*
- *Consultances*
- *Experts seminars*

TECTRA has a longterm exoeriences in above topics. Our engineers passed the trainings at the world famous T&M equipment manufacturers. We have experts, knowledge and equipment to complete the most complex projects

Our service is always complete. If its about measurements, it includes observe the conditions, problem analysis, test and measurement, test results analysis and solution proposal (optional the complete solution execution)

TECTRA has colaboration with the most worldwide reputable organisations like: IEC, IEEE, CIGRE, SEV, CENELEC, PTB, METAS, MPL, NMI, VSL, DKD, TUV, NIST, UL, EPRI, ELECTROTEK

For each project we can, according to the needs and customer requirements, include each of above mentioned organisaions and their experts as well



1 MV/HV POWER CABLES

1.1 COMMISSIONING

1.1.1 TESTING

ON-LINE

- a) Power cable trace and depth determination, with GPS location data
Type of testing: portable unit for cable trace and depth determination
- b) Feeder, conductor and phase identification.
Type of testing: unit for feeder, conductor and phase identification
- c) Hot spots location on cable joints and cable terminations
Type of testing: termovision camera
- d) Testing of partial discharge on cable terminations and cable joints
Type of testing: partial discharge camera

1.1.2 MECHANICAL PREPARATION

- a) Disconnect the cable heads from the switchgear / busbars at both ends
- b) Ground the cable at both ends before testing
- c) Processing and checking of cable terminations do not cause partial discharges
- d) Connect the test equipment to the near end of the cable
- e) Remove the ground at the far end of the cable immediately before the test
- f) Remove the ground at the near end of the cable immediately before the test
- g) Reconnect cable heads to switchgear / busbar after test

1.1.3 TESTING

OFF-LINE

- a) Measurement of cable insulation resistance with DC voltage
Type of testing: insulation resistance measurement up to 10kV
- b) Testing of cable withstand voltage with DC voltage
Type of testing: unit for testing with DC voltage*
- c) Insulation resistance measurement with AC voltage
Type of testing: unit for insulation resistance measurement with AC source
- d) Testing of cable withstand with AC voltage
Type of testing: unit for withstand testing with AC voltage
- e) Measurement of tanD/PF on cables
Type of testing: unit to measure tanD/PF with AC voltage
- f) Testing and location of partial discharges on cables
Type of testing: unit to test and locate partial discharge with AC voltage

1.2 PERIODIC MAINTENANCE

1.2.1 TESTING

ON-LINE

- a) Hot spots location on cable joints and cable terminations
Type of testing: termovision camera
- b) Testing of partial discharge on cable terminations and cable joints
Type of testing: partial discharge camera

1.2.2 MECHANICAL PREPARATION

- a) Disconnect the cable heads from the switchgear / busbars at both ends
- b) Ground the cable at both ends before testing
- c) Processing and checking of cable terminations do not cause partial discharges
- d) Connect the test equipment to the near end of the cable
- e) Remove the ground at the far end of the cable immediately before the test
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- g) Reconnect cable heads to switchgear / busbar after test

1.2.3 TESTING

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Type of testing: insulation resistance measurement up to 10kV
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Type of testing: unit for testing with DC voltage
- c) Insulation resistance measurement with AC voltage
Type of testing: unit for insulation resistance measurement with AC source
- d) Testing of cable withstand with AC voltage
Type of testing: unit for withstand testing with AC voltage
- e) Measurement of tanD/PF on cables
Type of testing: unit to measure tanD/PF with AC voltage
- f) Testing and location of partial discharges on cables
Type of testing: unit to test and locate partial discharge with AC voltage

1.3 MONITORING

- a) On-line monitoring of partial discharges on power cables
Type of monitoring: equipment for permanent PD monitoring on power cables
- b) On-line monitoring of temperature on power cables
Type of monitoring: equipment for permanent temperature monitoring on power cables
- c) On-line monitoring of acoustic events on power cables
Type of monitoring: equipment for permanent acoustic monitoring on power cables

2 LV POWER CABLES

2.1 COMMISSIONING

2.1.1 TESTING

ON-LINE

- a) Hot spots location on cable joints and cable terminations
Type of testing: termovision camera
- b) Testing of partial discharge on cable terminations and cable joints
Type of testing: partial discharge camera

2.1.2 MECHANICAL PREPARATION

- a) Disconnect the cable heads from the switchgear / busbars at both ends
- b) Ground the cable at both ends before testing
- c) Processing and checking of cable terminations do not cause partial discharges
- d) Connect the test equipment to the near end of the cable
- e) Remove the ground at the far end of the cable immediately before the test
- f) Remove the ground at the near end of the cable immediately before the test
- g) Reconnect cable heads to switchgear / busbar after test

2.1.3 TESTING

OFF-LINE

- a) Measurement of cable insulation resistance with DC voltage
Type of testing: insulation resistance measurement
- b) Testing of cable withstand voltage with DC voltage
Type of testing: unit for testing with DC voltage*
- c) Testing of cable withstand with AC voltage
Type of testing: unit for withstand testing with AC voltage
- d) Testing and location of partial discharges on cables
Type of testing: unit to test and locate partial discharge with AC voltage

2.2 PERIODIC MAINTENANCE

ON-LINE

- a) Hot spots location on cable joints and cable terminations
Type of testing: termovision camera
- b) Testing of partial discharge on cable terminations and cable joints
Type of testing: partial discharge camera

OFF-LINE

- a) Measurement of cable insulation resistance with DC voltage
Type of testing: insulation resistance measurement
- b) Testing of cable withstand voltage with DC voltage
Type of testing: unit for testing with DC voltage*
- c) Testing of cable withstand with AC voltage
Type of testing: unit for withstand testing with AC voltage
- d) Testing and location of partial discharges on cables
Type of testing: unit to test and locate partial discharge with AC voltage