



ORGREZ, a.s.,
Ambient air monitoring and fuel analysis division
Proficiency Testing Group
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Proficiency Testing Group

proficiency testing provider

Information on proficiency testing programme: interlaboratory comparison of electrical and non-electrical tests of metallic and non-metallic materials of electric cables in 2023

Dear employees of testing laboratories,

We would like to invite you to our forthcoming proficiency testing programme PT/CABLE F/2023. This programme is designed as interlaboratory comparison. This programme is intended for testing laboratories, which perform electrical and non-electrical tests of metallic and non-metallic materials (insulations and sheaths) of electrical cables. The objective of this programme is to demonstrate the proficiency of accredited and non-accredited laboratories, including verification of used uncertainties of measurement.

As this is a pilot programme of proficiency testing for electrical cables, it will be provided **beyond the scope of accreditation of the Proficiency Testing Group (SZZ)**.

The Proficiency Testing Programme

The object of PT/CABLE F/2023 is

- determination of density,
- green and yellow measurement,
- checking durability of colours and marking,
- measurement of Shore D hardness of PE sheath,
- determination of tear resistance of the protective sheath,
- tensile test on metallic components,
- testing of adherence of insulation on conductor,
- electrical resistance of conductor,
- voltage test on completed cable and
- insulation resistance for cables having maximum conductor temperatures not exceeding 90°C.

The Test Items

The test items will be six samples of different types of electrical cables according to the type of test. These samples will be prepared in an accredited testing laboratory. All sample sets will be verified for homogeneity before distribution. After the competition of tests by laboratories, the stability of each sample set will be verified. The analyses for homogeneity and stability will be performed in an accredited testing laboratory.

The Time Schedule

Application of the laboratories	until 9. 10. 2023
Preparation and distribution of samples	until 27. 10. 2023
Carrying the tests and delivering results	until 6. 12. 2023
Statistical data analysis of results and delivery of the draft report (in PDF)	until 29. 1. 2024
Comments on the draft report	until 5. 2. 2024
Distribution of the final report, the certificate of participation	until 19. 2. 2024
Deadline for complains	until 19. 3. 2024

The Applications

The criteria for participation are the timely submission of the complete application form, agreement with its conditions and the participation of a minimum of 4 laboratories. Please send the signed application to the Proficiency Testing Group in Most or electronically to the email szz@orgrez.cz. The application form and other information can be found on our website: <http://www.orgrez.cz/en/services/proficiency-testing/>.

The PT Programme Organisation

- The samples will be distributed via postal service along with detailed instructions.
- It is possible to arrange another method of delivery.
- In case of non-delivery of samples on time according to the schedule, file a complaint with the PT provider.
- Each laboratory will receive only one set of samples and may submit only one set of results.
- Determination of all qualitative and quantitative characteristics, nor all samples in the programme is not mandatory. However, the fee remains the same in this case.
- Laboratories will receive digital draft of final report on PT programme for comments.
- Once the draft report is published, the results received cannot be changed or deleted.
- Every laboratory will receive one printed copy of the final report, the certificate of participation and the individual evaluation of performance.

Evaluation

In accordance with the requirements of ČSN EN ISO/IEC 17 043, statistical methods with evaluation of success according to z-score or z'-score according to ČSN ISO 13528: 2015 will be used for evaluation of laboratory performance. A suitable robust average will be used as the assigned value, characterizing the given distribution of the set of values of laboratory results. In a possibly small number of laboratories, Horn's procedure will be used. As reference procedures, tests according to the standards are:

- **ČSN EN 60811-606** Electric and optical fibre cables – Test methods for non-metallic materials – Part 606: Physical tests – Methods for determining the density
- **ČSN EN 50396, clause 5.2** Non electrical test methods for low voltage energy cables
- **ČSN 34 7010-82 ed. 2 (HD 605-S3:2019), clause 2.5.4** Electric cables – Additional test methods
- **ČSN 34 7010-82 ed. 2 (HD 605-S3:2019), clause 2.2.1** Electric cables – Additional test methods
- **ČSN 34 7010-82 ed. 2 (HD 605-S3:2019), clause 2.2.2.1** Electric cables – Additional test methods
- **ČSN 34 7010-82 ed. 2 (HD 605-S3:2019), clause 2.3.1** Electric cables – Additional test methods
- **ČSN 34 7614-2, clause 2.2.3** Overhead distribution cables of rated voltage U₀/U (U_m): 0,6/1 (1,2) kV – Part 2: Additional test methods
- **ČSN 34 7010-82 ed. 2 (HD 605-S3:2019), clause 3.1.1** Electric cables – Additional test methods
- **ČSN EN 50395, clause 6** Electrical test methods for low voltage energy cables
- **ČSN EN 50395, clause 8.1** Electrical test methods for low voltage energy cables

Results of PT programme evaluation

The results of the evaluation of the PT program will be included in the summary final report, in which they will be presented under the code numbers of individual laboratories. Each laboratory will receive The Certificate of Participation in the proficiency testing programme, including a separate evaluation. Participants from Czech and Slovak Republic will receive all documents in the Czech language, participants from other countries in the English language.

The Fee

The fee for participation in the programme PT/CABLE M/2022 is **16 200,-** CZK without VAT. The cost of transportation and any imposed taxes and other fees are not included and will be added according to reality. Each participant will receive an invoice after completing the programme. Payment in EUR will be charged according to the current CZK/EUR exchange rate on the day the invoice will be issued. If it is necessary for you to issue an order, please indicate the date of February 19, 2024 or later for invoicing purposes.

Bank connection

Raiffeisenbank a.s. Hvězdova 1716/2b, 140 78 Praha 4

CZK account: 5014033535/5500

IBAN: CZ2655000000005014033535

EUR account: 5014033543/5500

IBAN: CZ0455000000005014033543

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Wishing you successful cooperation on behalf of the Proficiency Testing Group

Mgr. Jan Pomahač – Head of the Proficiency Testing Group

Michal Petrák – Coordinator of the Proficiency Testing Group

Ing. Miroslava Šindelářová – Quality manager of the Proficiency Testing Group

Ing. Štěpán Klimeš – Deputy head and deputy quality manager of the Proficiency Testing Group

Ing. Jiří Brázdil, Ph.D. – expert advisor of the Proficiency Testing Group

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