BRNO UNIVERSITY OF TECHNOLOGY

FACULTY OF CIVIL ENGINEERING
institute of building testing

PROFICIENCY TESTING PLAN

ZZP2027/1 – Masonry Units Testing

Poskytovatel zkoušení způsobilosti při SZK FAST
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Contents

1 Basic Information about the Proficiency Testing Program 2
2 Implementation of the Proficiency Testing Program 2
2.1 Specifications and Characteristics 2
2.2 Ensuring Homogeneity and Stability 4
2.3 Instructions for Eliminating Major Sources of Errors and Risks 5
2.4 PTP Schedule 5
3 Procedures used in the Statistical Analysis of Laboratory Results 5
4 Certificate of Participation and the Final Report on the Results of Interlaboratory Comparison 5
5 Safeguards for Confidentiality 6
6 Related Documents 6

1 Basic Information about the Proficiency Testing Program

The aim of the Proficiency Testing Program (PTP) is to compare and evaluate the results of tests conducted on masonry units in compliance with selected parts of ČSN EN 772-1 [1], ČSN EN 772-3 [2], ČSN EN 772-6 [3], ČSN EN 772-7 [4], ČSN EN 772-10 [5], ČSN EN 772-11 [6], ČSN EN 772-13 [7], ČSN EN 15435, čl. 4.9.3, Příloha B [8] and ČSN EN 15435, čl. 5.2 [8].

The program strives to provide objective information about the measuring skills of PTP participants. The basic criterion for participation is timely registration for the program, and the prerequisites for obtaining the Certificate of Participation and the Final Report on the Results of Interlaboratory Comparison are timely payment of the fee and adherence to the schedule.

Important dates:

Registration deadline:	**September 30, 2027**
Distribution of samples:	**October 18, 2027**
Realization/initiation of testing:	**November 15, 2027**
Results sent to the organizer:	**November 30, 2027**
Presentation of the Certificate of Participation:	**January 31, 2028**

Submission of test results takes place exclusively via the MyPT customer zone at https://ptprovider.cz/zona. Results are entered by the laboratory after signing in to their account, in the section of the respective programme.

2 Implementation of the Proficiency Testing Program

2.1 Specifications and Characteristics

Testing laboratories and other institutions interested can register for the PTP. The minimum number of participants is 5. If the number of participants is close to the minimum, the coordinator will consider the evaluation of PTP results using Horn's procedure to determine the assigned value and measurement uncertainty. The maximum number of participants is 30. If the minimum number of participants is not reached, the PT Provider reserves the right to cancel the PTP. This takes place according to Chapter 3 of the "Cancellation and Complaint Proceedings" instructions [9] available on http://ptprovider.cz/?lang=en.

Parts of the PT program:

ZZP01 ČSN EN 772-1 [1]

- Characteristics: Compressive strength
- Unit: N/mm²
- Number of observations: 6
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Masonry units – Test specimens will be delivered in the form of clay masonry

units. Assumption: face brick, lightweight: CL-O-P15, M15 - frost-resistant | Solid brick, face brick, honeycomb and cavity bricks - Brickworks Polom, or similar product.

- Conditioning by air drying according to Article 7.3.2.

ZZP02 ČSN EN 772-3 [2]

- Characteristics: Net volume ($V_{v,u}$) and percentage of voids of clay masonry units by hydrostatic weighing
- Unit: mm³, %
- Number of observations: 6
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Masonry units – Test specimens will be delivered in the form of clay masonry units. Assumption: face brick, lightweight: CL-O-P15, M15 - frost-resistant | Solid brick, face brick, honeycomb and cavity bricks - Brickworks Polom, or similar product.
- Perform with the specimens prior to testing according to EN 772-1 [1]. The set of specimens is intended for testing according to [1, 2, 6, 7].

ZZP03 ČSN EN 772-6 [3]

- Characteristics: Bending tensile strength of aggregate concrete masonry units
- Unit: N/mm²
- Number of observations: 3
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Concrete masonry units – The product "BEST II" or similar will be delivered.

ZZP04 ČSN EN 772-7 [4]

- Characteristics: Water absorption of clay masonry damp proof course units by boiling in water
- Unit: %
- Number of observations: 6
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Masonry units – Test specimens will be delivered in the form of clay masonry units. Assumption: face brick, lightweight: CL-O-P15, M15 - frost-resistant | Solid brick, face brick, honeycomb and cavity bricks - Brickworks Polom, or similar product.

ZZP05 ČSN EN 772-10 [5]

- Characteristics: Moisture content
- Unit: %
- Number of observations: 6
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Lime masonry units – The product "KM BETA 5DF-P" or similar will be delivered.

ZZP06 ČSN EN 772-11 [6]

- Characteristics: Water absorption
- Unit: kg/(m²\cdot min)
- Number of observations: 6
- Testing specimens: Masonry units – Test specimens will be delivered in the form of clay masonry units. Assumption: face brick, lightweight: CL-O-P15, M15 - frost-resistant | Solid brick, face brick, honeycomb and cavity bricks - Brickworks Polom, or similar product.

ZZP07 ČSN EN 772-13 [7]

- Characteristics: Net and gross dry density of masonry units
- Unit: kg/m³
- Number of observations: 6
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Masonry units – Test specimens will be delivered in the form of clay masonry units. Assumption: face brick, lightweight: CL-O-P15, M15 - frost-resistant | Solid brick, face brick, honeycomb and cavity bricks - Brickworks Polom, or similar product.
- Perform with the specimens prior to testing according to EN 772-1 [1]. The set of specimens is intended for testing according to [1], [2], [6] and [7].

ZZP08 ČSN EN 15435, čl. 4.9.3, Příloha B [8]

- Characteristics: Flexural strength of side shutters
- Unit: N/mm²
- Number of observations: 3
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Concrete masonry units – The product will be delivered "lost formwork by Beton Brož – The block of lost formwork T20 PD".

ZZP09 ČSN EN 15435, čl. 5.2 [8]

- Characteristics: Density
- Unit: kg/m³
- Number of observations: 3
- Specification: The instruction sheet will be enclosed with the distributed samples.
- Testing specimens: Concrete masonry units – The product will be delivered "lost formwork by Beton Brož – The block of lost formwork T20 PD".

2.2 Ensuring Homogeneity and Stability

PT Provider employees and any suppliers they may utilize are aware of the significance of the homogeneity and stability of test specimens for the results of the Proficiency Testing Program. The homogeneity and stability of specimens is ensured in the following ways:

1. the specimens are always taken from the same production with the same production date; and/or
2. by dividing the specimens produced in different batches in order to ensure specimen homogeneity during testing of physical-mechanical and durability properties,
3. storing all specimens together under identical conditions,
4. checking all specimens before dispatching to participants.

2.3 Instructions for Eliminating Major Sources of Errors and Risks

PTP participants have the obligation:

- to handle the proficiency testing materials in the same way they handle the majority of routinely tested samples,
- to follow the instructions of the PT Provider employee responsible for the PTP, especially regarding the type of testing carried out, the number of result determinations and the PT schedule,
- to state measurement uncertainties in accordance with their documented procedures, including the corresponding expansion coefficient. Participants will use expansion coefficient 2, which approximately represents the 95 % reliability level, unless stated otherwise,
- adhere to the rules and principles of ethical behavior, avoiding unfair practices that could negatively impact the evaluation of the PT program,
- follow occupational health and safety and fire protection regulations, using only electrical equipment and instruments with valid inspections,
- to send the test results obtained during proficiency testing, including measurement uncertainties, to the PT Provider by the set deadline (see part 1).

2.4 PTP Schedule

All other information, forms and records not included in this document are accessible in updated form at http://ptprovider.cz/?lang=en.

3 Procedures used in the Statistical Analysis of Laboratory Results

Procedures used in the statistical analysis of proficiency testing programs can be found at ptprovider.cz.

4 Certificate of Participation and the Final Report on the Results of Interlaboratory Comparison

The PT Provider gives expert commentary on participant efficiency evaluation in the Final Report as part of training courses the PT Provider organises. The Final Report preserves the anonymity of the PTP participants. Each participant, or the participant's test results, is represented by an ID number. The Certificate of Participation in the PT programme is part of the Final Report. The Certificate is unique to

each participant and includes the participant's ID number.

5 Safeguards for Confidentiality

The identity of PTP participants is confidential and only known to persons/subjects involved with the PTP. All participant information is considered confidential by the PT Provider. The participant may renounce this confidentiality for the purposes of discussion and mutual assistance until the PTP results are obtained. The PT Provider reveals the proficiency testing results to no third party with the sole exception of a written request by a regulatory authority submitted prior to the commencement of the PTP and which has been granted a written consent by the PTP participants.

6 Related Documents

- Quality Handbook of the PT Provider at the SZK FAST
- Cancellation and Complaint Proceedings available at http://ptprovider.cz/?lang=en [9]
- MPA 20 – 01 - . . for application of EN ISO/IEC 17043 Concordance Assessment – General Requirements for Proficiency Testing in the Accreditation System of the Czech Republic.

References

[1] EN 772-1+A1. *Methods of test for masonry units - Part 1: Determination of compressive strength*. 2015.

[2] EN 772-3. *Methods of test for masonry units - Part 3: Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing*. 1999.

[3] EN 772-6. *Methods of test for masonry units - Part 6: Determination of bending tensile strength of aggregate concrete masonry units*. 2002.

[4] EN 772-7. *Methods of test for masonry units - Part 7: Determination of water absorption of clay masonry damp proof course units by boiling in water*. 1999.

[5] EN 772-10. *Methods of test for masonry units - Part 10: Determination of moisture content of calcium silicate and autoclaved aerated concrete units*. 1999.

[6] EN 772-11. *Methods of test for masonry units - Part 11: Determination of water absorption of aggregate concrete, manufactured stone and natural stone masonry units due to capillary action and the initial rate of water absorption of clay masonry units*. 2011.

[7] EN 772-13. *Methods of test for masonry units - Part 13: Determination of net and gross dry density of masonry units (except for natural stone)*. 2001.

[8] EN 15435. *Precast concrete products - Normal weight and lightweight concrete shuttering blocks - Product properties and performance*. 2009.

[9] *Cancellation and Complaint Proceedings – available at www.ptprovider.cz*.