



PROFICIENCY TESTING PLAN

PAU/PAH 2025/1 – Determination of PAHs in Asphalt Products
This program is outside the scope of accreditation Z7008

Proficiency Testing Provider at the SZK FAST
Veveří 95, 602 00 Brno
Czech Republic

szk.fce.vutbr.cz
ptprovider.cz

Coordinator
Supervisor
Approved for PT Provider

Assoc. Prof. Ing. Tomáš Vymazal, Ph.D.
Ing. Petr Misák, Ph.D.
Assoc. Prof. Ing. Tomáš Vymazal, Ph.D.

Approved: March 27, 2025
Approved: March 27, 2025
Approved: March 27, 2025

Contents

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

1 Basic Information about the Proficiency Testing Program

The purpose of the Proficiency Testing Program (PTP) is to compare and evaluate results of determination of polycyclic aromatic hydrocarbons (PAHs) in asphalt products by gas/liquid chromatography according to Decree No. 283/2023 [1]. This program is primarily intended for participants from European Union countries. This restriction aims to ensure sample stability during transportation.

The goal of the program is to provide objective information on the measurement capabilities of PTP participants. The primary criterion for participation is timely registration in the program. The basic requirement for receiving a Certificate of Participation and the Final Report on the results of the proficiency experiment is the submission of results and timely payment of the registration fee.

Important dates:

Deadline for applications:	September 30, 2025
Sample distribution:	October 13 – 17, 2025
Commencement of testing:	October 26, 2025
Submission of results to the organizer:	November 10, 2025
Evaluation by:	January 31, 2026

Submission of test results is carried out exclusively via <http://ptprovider.cz/OutcomesCode>. To log in, participants must enter their participant code, which is automatically sent upon registration in the PTP.

2 Implementation of the Proficiency Testing Program

2.1 Specification and Characteristics

Applications for this Proficiency Testing Program (PTP) are accepted from testing laboratories or other entities expressing interest. The minimum number of participants in each part of the program is 5. If the number of participants approaches this minimum, the coordinator of the evaluation may consider using Horn's procedure to determine the reference value and its uncertainty. The maximum number of participants is not limited. If the minimum number of participants is not reached, the PTP Provider reserves the right to cancel the PTP. Subsequent actions follow Chapter 3 of the directive "Handling Appeals and Complaints" [2], available at www.ptprovider.cz.

The program covers the following characteristics:

1. Naphthalene content
2. Phenanthrene content
3. Anthracene content
4. Fluoranthene content
5. Pyrene content
6. Benzo(a)anthracene content
7. Chrysene content
8. Benzo(b)fluoranthene content
9. Benzo(k)fluoranthene content
10. Benzo(a)pyrene content
11. Indeno[1,2,3-c,d]pyrene content
12. Benzo[g,h,i]perylene content
13. Sum of PAHs

Applicable to all characteristics:

- Units: mg/kg dry matter,
- Number of determinations: 3 determinations per test sample,
- Range of values: 0.2–10.0 mg/kg dry matter (Characteristic 13 – 0–50.0 mg/kg),
- Test sample: Asphalt mixture crushed using a jaw crusher, particle size ≤ 1 mm.

2.2 Environmental Conditions Requirements for Individual Procedures

Samples must be stored at temperatures below 40 °C.

2.3 Ensuring Homogeneity and Stability

PTP Provider staff and their suppliers are aware of the importance of test specimen homogeneity and stability for the results of the proficiency testing program. Proficiency test items are prepared in cooperation with laboratory L 1072 – Ředitelství silnic a dálnic s. p., Independent Testing Department Brno, Rebešovická 40, 643 00 Brno – Chrlice.

Samples were collected according to ČSN EN 12697-27, clause 4.7 [3]. Each sample was crushed using a jaw crusher to pass through a 1 mm sieve.

Homogeneity and stability of test specimens are ensured by:

1. Preparing the test sample from a single road section,
2. Thorough homogenization of the crushed sample and subsequent division into individual samples,
3. The sample preparation procedure is governed by Decree No. 283/2023 Coll.

2.4 Instructions for Eliminating Main Sources of Errors and Risks

Participants in the PTP are required to:

- Handle proficiency test items in the same manner as routine test samples,
- Follow instructions provided by the responsible PTP Provider representative, particularly regarding the type of test performed, number of determinations, and testing schedule,
- Report measurement uncertainty in accordance with their documented procedures, including the appropriate coverage factor. Unless otherwise specified, participants shall apply a coverage factor of 2, corresponding approximately to a 95% confidence level,
- Adhere to the rules and principles of ethical conduct, avoiding unfair practices that may negatively affect the evaluation of the PT program,
- Comply with occupational health, safety, and fire prevention guidelines, using only electrical equipment and devices with valid inspection certificates,
- Submit results of proficiency testing, including measurement uncertainties, to the PTP Provider by the deadline specified in section 1.

2.5 PTP Procedure

All additional information, forms, and records not included in this document are regularly published at ptprovider.cz.

3 Procedures used in the Statistical Analysis of Laboratory Results

Procedures used in the statistical analysis of proficiency testing programs can be found here: <http://ptprovider.cz/?lang=en>.

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> [2]
- 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] Vyhláška č. 283/2023 Sb. *Vyhláška o stanovení podmínek, při jejichž splnění jsou znovuzískaná asfaltová směs a znovuzískaný penetrační makadam vedlejším produktem nebo přestávají být odpadem*. 2023.
- [2] *Cancellation and Complaint Proceedings – available at www.ptprovider.cz*.
- [3] EN 12697-27. *Bituminous mixtures - Test methods - Part 27: Sampling*. 2017.