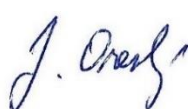


THE PLAN OF THE PROFICIENCY TESTING PROGRAM

Proficiency Testing Program (designated as 'PT program')		
Program designation		VUCES-PTA/AS/2024/09
Subject of the program		Tests of selected parameters of bitumen and bituminous binders
Scope of the program		• penetration • softening point
Program realization		In accordance with the standard ISO/IEC 17043:2010
Proficiency Testing Provider (designated as 'PTP')		
Name		VUIS – CESTY, spol. s r. o.
Address		Vlčie hrdlo 1, 821 07, Bratislava - Ružinov
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Contact information		
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Ing. Juraj Oreský, PhD.
coordinator PTP



Ing. Róbert Kovács
director

1.	PT program	Tests of selected parameters of bitumen and bituminous binders		
2.	Scope of PT program	• penetration • softening point		
3.	Aim of the PT program	Evaluation of the performance of testing laboratories participating in road construction materials and pavement testing, obtaining a Certificate of Testing Laboratory Performance in the PT program, which will provide a higher level of credibility to its customers, regulators, and the accrediting body if the laboratory is accredited.		
4.	Participants	Participant means a testing laboratory, organisation or individual for the testing of road construction materials and pavements that receives test samples from the PT Provider and submits the test results to the PT Provider for evaluation.		
5.	Criteria for participation	Completing and submitting the application form (available at https://www.vuis-cesty.sk/).		
		Eligibility of participants to perform the subject examinations required in point 6.		
		The minimum number of participants registered for each parameter is set at 5. The maximum number of participants is not limited.		
6.	Required methods	Parameter	Technical standard/regulation	Measured quantity
		• penetration	EN 1426	penetration (0,1 mm)
		• softening point	EN 1427	temperature (°C)
7.	Range of values	Expected values of the tested parameters in accordance with the standard EN 12591.		
8.	Possible main sources of errors	Repeated preparation (heating) of the test sample, mixing of the test sample, failure to follow the test procedure.		
9.	Subcontracting services	In this PT program, the services in points 12. and 13. will be subcontracted. The subcontractor is an accredited Testing Laboratory VUIS – CESTY, spol. s r. o., Vlčie hrdlo 1, 821 07 Bratislava - Ružinov, Certificate of Accreditation No. S-041, valid until 2025. This laboratory can be a participant in this PT program VUCES-PTA/AS/2023/09. PT Provider VUIS – CESTY, spol. s r. o. never subcontracts the planning of PT programs, the evaluation of participant performance, or the authorization of the final report on PT program outcomes.		
10.	Sampling of PT item	The PT item will be Road Bitumen 50/70 . The coordinator PTP shall take samples of road bitumen in accordance with the requirements of standard EN 58, clause 8.1.1 and 8.1.5 in cans with lids, which shall be sealed and uniquely identified. The sampling shall take place between 14.10.2024 and 25.10.2024.		
11.	Requirements for PT item / test samples	The PT item will be transported and stored in the PT Provider's sample warehouse under satisfactory conditions and periodically inspected until the distribution of the PT program test samples to the Participants. The PT Provider does not specifically prepare test samples for Participants.		

12.	Homogeneity of PT item	The PT Provider will act in such a way as to ensure the highest possible and achievable degree of homogeneity of the PT item. The PT Provider undertakes to achieve this by strictly observing the requirements for their collection, labelling, packaging, transport and storage. The degree of homogeneity of the PT item will be assessed statistically by randomly selecting a representative number of samples from the whole batch of test material, carrying out the tests referred to in point 6. on each of the samples selected by subcontracting (point 9.) and, finally, by analysing the variance of the test results thus obtained.
13.	Stability of PT item	The stability of the PT item shall be ensured by the PT Provider by ensuring that the environmental conditions remain unchanged during its transport and also in the PT Provider's sample warehouse during its storage and by avoiding any adverse climatic influences affecting the properties of the PT item. The stability of the PT test samples will be tested prior to their distribution to the participants and during the performance of the tests by the participants. The degree of stability of the PT item will be assessed statistically by randomly selecting a representative number of samples from the entire batch of test material, performing the tests described in point 6 on each of the samples selected by subcontracting (point 9), and finally statistically testing the test results thus obtained.
14.	Distribution of PT item	PT item will only be distributed to participants in the PT program once a sufficient degree of homogeneity and stability has been confirmed. Acceptance of the test samples may be either: - by personal collection by the participant at the PTP, when the participants will confirm receipt of the sample in satisfactory packaging and condition by signing the signature; or - by delivery of the test sample by the distribution company, when the PTP requests notification that the sample has been received and accepted in satisfactory packaging and condition. The Participant selects the distribution option (in person or by delivery) on the PT Application Form. <i>Note: If the test sample received is damaged, defaced or undelivered/lost, the participant must notify the PTP of the claim (by phone, in writing or electronically) and the test sample will be redelivered to the participant.</i>
15.	Results entry form	Participants will use the forms provided by the PT Provider to record their test results.
16.	Sending the results	The deadline for sending participants' test results to the PT program coder is up to and including 06.12.2024 .
17.	Evaluation of PT results	Statistical analysis and processing of the measurements and results of the PT participants will be focused on examining their concordance. This means that participants' measurements and results will be compared between each other and not with a known reference value. The PT Provider will perform a statistical evaluation of the PT program in the sequence of steps outlined below (if possible, given the number of repeated participant measurements):

		1. graphical examination of the consistency of the measurements and results through Mandel statistics and comparison with the 5% and 1% critical values of Mandel statistics, 2. numerical examination of outlying values, i.e., critical evaluation of the measurements and results using Cochran and Grubbs tests and their comparison with the 5% and 1% critical values of those tests, 3. calculation of the repeatability variance estimate, the interlaboratory variance estimate and the reproducibility variance estimate, 4. calculation of repeatability and reproducibility values, 5. determination of the assigned value and its expanded uncertainty, 6. evaluation of participant performance. The assigned value and its expanded uncertainty will not be known to the participants of the PT program in advance, thus the PT Organizer VUIS - CESTY, spol. s r.o. will prevent any advantage from being gained by any participant of the PT program. The assigned value will be determined as a consensus value from the participants' test results as defined in Annex B of ISO/ICE 17043:2010. The assigned value and its expanded uncertainty will be determined as a robust estimate of location of the results using the statistical methods described in ISO 13528 (robust analysis - Algorithm A) and in ISO 5725-5. For a number of participants between 5 and 20, the statistical expert shall consider calculating the assigned value and its uncertainty using the Horn procedure. If in the case of a PT program with a registered number of 5-6 participants the situation arises that the requirement of a minimum number of 5 for the purposes of statistical processing will not be met due to the outlying values of one or two participants, the PT Provider will arrange for the performance of tests according to the specific PT program by one or two external accredited laboratories as necessary for the purpose of supplementing the results in the statistical processing. The evaluation of the performance of the participants will be based on their comparison with an assigned value. For interpretation and comparison, the results are converted into so-called performance statistics. The aim is to express the deviation from the assigned value in a way that allows comparison with the performance criteria. The PT Provider will evaluate the performance of the participants based on the z-score and, if the participants provide a value for the expanded uncertainty of their measurements and if meaningful, the E_n-score. The Certificate of Laboratory Performance in the PT Program is linked to the z-score, the evaluation of the participant's performance according to the E_n-score will be informative.
18.	Criteria for assessing performance	Criteria for evaluating performance by z score: - $z \leq 2,0$ indicates "satisfactory" performance and generates no signal;

		- $2,0 < z < 3,0$ indicates “questionable” performance and generates a warning signal; - $z \geq 3,0$ indicates “unsatisfactory” performance and generates an actional signal. Criteria for evaluating performance by E_n score: - $E_n \leq 1,0$ indicates “satisfactory” performance and generates no signal; - $E_n > 1,0$ indicates “unsatisfactory” performance and generates an actional signal.
19.	Reports	If relevant and appropriate, the PT Provider may send an interim or provisional report to the PT Participants. However, the Final Report on the Results of the Proficiency Testing Program is always sent.
20.	Description and timetable of the individual phases of the program	
	Program phase	Timeframe (calendar weeks of 2024)
	Development of the PT program Plan and Organisational and Technical Instructions for Participation in the PT program	37
	Registration for the PT program	38-41 (to 11.10.24)
	Summary of applications forms	41
	Preparing a PT item	42-43
	Tests to assess the homogeneity of the PT item (subcontract)	44-45
	Tests to assess the stability of a PT item (subcontract)	44-49
	Distribution of PT item to participants	46-47 (from 11.11 to 22.11.24)
	Execution of the tests by the participants and sending of the test results to the PT coder	48-49 (from 25.11 to 06.12.24)
	Sending encoded results for statistical processing	50
	Statistical processing and evaluation of the results of the PT program	51-52
	Preparation of the Final Report on the Results of the Proficiency Testing Program	02-03/2025 (to 17.01.25)
	Sending the Final Report on the Results of the Proficiency Testing Program with coded participants electronically	after payment of the invoice
	Sending the Certificate of Laboratory Performance in the Proficiency Testing Program by certified mail	after payment of the invoice
	<i>* In case of a justified and/or unforeseen situation, the PT Provider reserves the right to adjust the dates.</i>	
21.	Complaints, appeals and comments	A complaint about this PT program or an appeal of the evaluation of participants in this PT program may be directed in writing to the quality manager (slavikova@vuis-cesty.sk) within 10 working days of the date the participant's PT program code notice is received in the mail. The complaint/appeal will be investigated within 30 working days from the date of receipt (if necessary, the PT Provider may extend the deadline for justified reasons). The conclusion of the investigation

		of the complaint/appeal will be sent to the complainant or appellant in writing and in due time. Comments and suggestions for improving the PT program can be submitted in the PT Provider's Customer Satisfaction Survey or in a note on the PT program results entry form.						
22.	Confidentiality	All information about PT program participants obtained as part of the PT program or the PT Provider's activities will be treated as confidential information. The encryption system allows the PT Provider to ensure the confidentiality of information provided by PT Participants and the anonymity of Participants. The PT Provider reserves the right to publish the results and conclusions obtained anonymously under participant coding for the purposes of statistical evaluation of the PT programs and presentation of the PT Provider's activities.						
23.	Price list of the program.	The basic price for participation in the program is 30 € without VAT. For each additional PT item parameter tested, the program participant will be invoiced the price listed below. Included in the price are the costs associated with the organization of the program, the transportation and storage of the PT test samples, the preparation and distribution of the test samples to the participants, and the evaluation of the program. For PT participants who choose in their application to receive the test sample by delivery by a distribution company, the price will be increased by packaging and postage according to the price list of the distribution company (more precise information on the delivery price will be provided after all applications have been registered).If the Participant fails to send the test results to the coder after the deadline for sending the test results to the coder, including the Coordinator's repeated request, the Participant will be charged 100% of the base price of the program. <table><tr><th>Parameter</th><th>Price without VAT</th></tr><tr><td>• penetration</td><td>110 €</td></tr><tr><td>• Softening point</td><td>110 €</td></tr></table>	Parameter	Price without VAT	• penetration	110 €	• Softening point	110 €
Parameter	Price without VAT							
• penetration	110 €							
• Softening point	110 €							
24.	Measures against unfair practices	If collusion between participants or falsification of results is detected, the participants involved will be excluded from the program and will be billed 100% of the base price of the program.						
25.	Acronyms used	PT – Proficiency Testing PTA – a PT program implemented by an accredited PT Provider in accordance with ISO/IEC 17043 PTS – Proficiency Testing Scheme PTP – Proficiency Testing Provider AS – Bitumen and bituminous binders						

Warning:

- 1) If the number of registered participants for any parameter of a PT program is less than 5, the PT program for that parameter will not be held; the registered participants for that parameter will be notified in writing by the PT program Coordinator in Week 41 of 2024 (see point 20.).

The PT Provider is obliged to provide the results of proficiency testing at the request of the national accreditation body (SNAS) as part of the periodic assessments of its activities (Act 505/2009 Coll.).