

THE PLAN OF THE PROFICIENCY TESTING PROGRAM

Proficiency Testing Program (designated as 'PT program')		
Program designation		VUCES-PTA/AZ/2024/08
Subject of the program		Tests of selected parameters of asphalt mixtures
Scope of the program		- determination of the indirect tensile strength of bituminous specimens - determination of the water sensitivity of bituminous specimens (Method A)
Program realization		In accordance with the standard ISO/IEC 17043:2010
Proficiency Testing Provider (designated as 'PTP')		
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coordinator PTP



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director

1.	PT program	Tests of selected parameters of asphalt mixtures		
2.	Scope of PT program	- determination of the indirect tensile strength of bituminous specimens - determination of the water sensitivity of bituminous specimens (Method A)		
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 a given parameter is set at 5. The maximum number of participants is not limited.		
6.	Required methods	Parameter	Technical standard/regulation	Measured quantity
		• indirect tensile strength ITS	EN 12697-23	(kPa)
		• indirect tensile strength ratio ITSR	EN 12697-12	(%)
7.	Range of values	Expected values of the tested parameters in accordance with the standard EN 13108-1.		
8.	Possible main sources of errors	Non-compliance with the test procedure, rounding of results, incorrect temperature of the asphalt mixture during compaction.		
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 will not be a participant in this program VUCES-PTA/AZ/2023/08. 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 the asphalt mixture AC 11 O PMB 45/80-75. The coordinator PTP shall take samples of the asphalt mixture in accordance with the requirements of the standard EN 12697-27, clause. 4.1 resp. 4.3 in paper bags with glued bottoms (excluding contamination or damage of the test sample), sealed with jute or sisal string and uniquely identified.		

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.
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, by carrying out tests on each of the selected samples for particle size distribution (in accordance with the requirements of the standard EN 12697-2: 2015+A1) and soluble binder content (in accordance with the requirements of the standard EN 12697-1) by means of subcontracting (point 9) and, finally, by an analysis of variance of the test results thus obtained.
13. Stability of PT item	The stability of the PT item will 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 tests for grain size and soluble binder content on each of the samples selected by subcontracting (paragraph 9.) and, finally, by a statistical test of 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 22.11.2024 .
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
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		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	34
	Registration for the PT program	35-39 (to 27.09.24)
	Summary of applications forms	39
	Preparing a PT item	40-41
	Tests to assess the homogeneity of the PT item (subcontract)	42-43
	Tests to assess the stability of a PT item (subcontract)	42-47
	Distribution of PT item to participants	44-45 (from 28.10 to 8.11.24)
	Execution of the tests by the participants and sending of the test results to the PT coder	44-47 (from 28.10 to 22.11.24)
	Sending encoded results for statistical processing	48
	Statistical processing and evaluation of the results of the PT program	49
	Preparation of the Final Report on the Results of the Proficiency Testing Program	50
	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
	* In case of a justified and/or unforeseen situation, the PT Provider reserves the right to adjust the dates.	

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>• indirect tensile strength ITS</td><td rowspan="2">150 €</td></tr><tr><td>• indirect tensile strength ratio ITSR</td></tr></table>	Parameter	Price without VAT	• indirect tensile strength ITS	150 €	• indirect tensile strength ratio ITSR
Parameter	Price without VAT						
• indirect tensile strength ITS	150 €						
• indirect tensile strength ratio ITSR							
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 AZ - Asphalt mixture					

Warning:

- 1) If the number of registered participants for any parameter of a PT program item 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 39 of 2024 (see item 20.).
- 2) 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.).