



EA MLA Signatory
Český institut pro akreditaci, o.p.s.
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 353/2019

Centrum dopravního výzkumu, v.v.i.
with registered office Líšeňská 33a, 636 00 Brno, Company Registration No. 44994575

to the Testing Laboratory No. 1506
Transport Research Centre Laboratory

Scope of accreditation:

Testing of concrete, including non-destructive testing and taking of cored specimens, testing of aggregates, hardened mortars and screed materials, measurement of irregularity of pavement courses, measurement of pavement properties by georadar, geotechnical laboratory and field tests of soils, measu to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2005

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 287/2018 of 6. 6. 2018, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **24. 9. 2020**

Prague: 10. 7. 2019



Jiří Růžička
Director
Czech Accreditation Institute
Public Service Company

**Appendix is an integral part of
Certificate of Accreditation No. 353/2019 of 10/07/2019**

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The Laboratory is qualified to update standards identifying the test procedures.

The laboratory provides expert opinions and interprets test results.

Tests:

Ordinal number ¹⁾	Test procedure/method name	Test procedure/method identification	Tested object
1*	Determination of soil density	ČSN 72 1010, Method A, D-1	Soils, Base courses
2	Laboratory determination of soil compactibility - Proctor test	ČSN EN 13 286-2, NB annex only	Soils
3	Determination of the California Bearing Ration (CBR)	ČSN EN 13286-47	Soils
4	Determination of relative density of non-cohesive soils	ČSN 72 1018	Non-cohesive soils
5	Determination of water content of a soil	ČSN EN ISO 17892-1	Soils
6	Determination of density of fine-grained soil by direct method	ČSN EN ISO 17892-2, part 4.1	Fine-grained soils
7	Determination of apparent density of solid particles in soils	ČSN EN ISO 17892-3	Soils
8	Determination of particle size distribution of soils	ČSN EN ISO 17892-4, except p. 4.4, 5.4, 6.3	Soils
9	Determination of water content of aggregates	ČSN EN 1097-5	Soils
10	Determination of Attabereg limits	ČSN EN ISO 17892-12	Soils
11*	Static loading test	ČSN 72 1006, annex A, B, D	Base courses
12	Reserved		
13	Determination of particle size distribution - dry sieving method	ČSN EN 933-1, except p. 7.1	Aggregates
14*	Determination of consistency - Slump test	ČSN EN 12350-2	Fresh concrete
15	Determination of consistency - Vebe test	ČSN EN 12350-3	Fresh concrete
16*	Determination of consistency - Flow table test	ČSN EN 12350-5	Fresh concrete
17*	Determination of bulk density	ČSN EN 12350-6	Fresh concrete
18*	Determination of air content	ČSN EN 12350-7, except p. 4	Fresh concrete
19	Determination of compressive strength	ČSN EN 12390-3 and change Z1	Hardened concrete
20	Determination of flexural strength	ČSN EN 12390-5	Hardened concrete

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Ordinal number ¹⁾	Test procedure/method name	Test procedure/method identification	Tested object
21	Determination of the indirect tensile	ČSN EN 12390-6	Hardened concrete
22	Determination of bulk density	ČSN EN 12390-7, except p. 5.4, 5.5.1 ÷ 5.5.4 a 5.5.6	Hardened concrete
23	Determination of depth penetration of water under pressure	ČSN EN 12390-8	Hardened concrete
24	Determination of cement concrete surface resistance to water and chemical de-icing agents	ČSN 73 1326, change Z1, method A, B, C	Hardened concrete
25	Reserved		
26	Reserved		
27	Determination of concrete frost resistance	ČSN 73 1322, change Z1	Hardened concrete
28*	Testing of concrete by ultrasonic pulse testing method	ČSN 73 1371	Hardened concrete
29*	Testing of concrete strength by rebound tester	ČSN 73 1373, except part D and annex I, II and III	Hardened concrete
30*	Testing of concrete hardness by rebound tester	ČSN EN 12504-2	Hardened concrete
31*	Determination of ultrasonic pulse velocity	ČSN EN 12504-4	Hardened concrete
32	Determination of air void characteristics	ČSN EN 480-11	Hardened concrete
33	Determination of water absorption	ČSN 73 1316:1989	Hardened concrete
34*	Determination of layer adhesion and tensile strength of surface layers	ČSN 73 6242, Annex B	Concrete structures and bridges
35	Reserved		
36*	Reserved		
37	Reserved		
38	Reserved		
39*	Reserved		
40*	Measurements and assessment of irregularity of pavement courses	ČSN 73 6175, chapter 8	Roads
41*	Impact loading test of pavement and base courses.	ČSN 73 6192, p 3. 1.3, Group C impact equipment	Roads and base courses



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Ordinal number ¹⁾	Test procedure/method name	Test procedure/method identification	Tested object
42*	Noise measurements	ČSN ISO 1996-1 ČSN ISO 1996-2 MoH CR Journal, Vol. 2017, No. 11	Non-working environment
43*	Noise measurement by close proximity method (CPX)	SOP - H 01 (Methodology 104/2014-710-VV/1) ISO 11819-2, ISO/TS 11819-3, ISO/TS 13471-1, TP 259)	Non-working environment – road surface
44*	Determination of PM ₁₀ concentration by gravimetric method	SOP - CH 04, part A (ČSN EN 12341)	Ambient air, air quality
45*	Determination of PM _{2.5} concentration by gravimetric method	SOP - CH 04, part B (ČSN EN 12341)	Ambient air, air quality
46*	Determination of PM ₁₀ and PM _{2.5} concentrations by automatic analyser by nephelometer	SOP - CH 15, part A (Recordum Messtechnik manual)	Ambient air, air quality
47*	Determination of benzene concentrations by automatic analyser	SOP - CH 03 (ČSN EN 14662-3)	Ambient air, air quality
48*	Determination of sulphur dioxide (SO ₂) concentrations by UV fluorescence	SOP - CH 15, part B (ČSN EN 14212)	Ambient air, air quality
49*	Determination of nitrogen oxides (NO, NO ₂ a NO _x) concentrations by chemiluminescence	SOP - CH 15, part C (ČSN EN 14211)	Ambient air, air quality
50*	Determination of ozone (O ₃) concentrations by UV photometry	SOP - CH 15, part D (ČSN EN 14625)	Ambient air, air quality
51*	Determination of carbon monoxide (CO) by nondispersive infrared spectrometry	SOP - CH 15, part E (ČSN EN 14626)	Ambient air, air quality
52	Determination of benzo(a)pyrene concentrations by GC-MS	SOP - CH 14 (ČSN EN 15549) SOP - CH 16 (ČSN EN 15549)	Ambient air, air quality

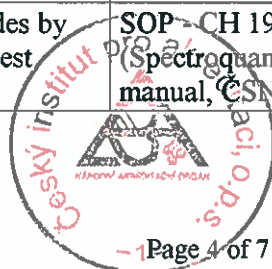


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Ordinal number ¹⁾	Test procedure/method name	Test procedure/method identification	Tested object
53	Determination of Pb, Cd, As and Ni in PM ₁₀ aerosol particles fraction by ICP-MS	SOP - CH 17 (ČSN EN 14902) SOP - CH 18 (ČSN EN 14902)	Ambient air, air quality
54*	Measurement of temperature, relative humidity, pressure, wind velocity and direction	SOP - CH 15, part F (Recordum Messtechnik manual)	Ambient air
55	Freshwater algal growth inhibition test by spectrophotometry	SOP - T 01 (ČSN EN ISO 8692, annex A)	Waste water, aqueous leachate, road run-off water
56*	Determination of retroreflection coefficient	SOP - DZ 01 (ČSN EN 1463-1, ČSN EN 12899-1, ČSN EN 12899-3, ČSN EN 13422+A1, CIE 54.2)	Retro-reflective films, vertical traffic signs, traffic buttons, transport equipment
57*	Determination of trichromatic coordinates and brightness factors	SOP - DZ 02 (ČSN 01 1718, ČSN EN 1423, ČSN EN 1436, ČSN EN 1463-1, ČSN EN 12352, ČSN EN 12368 ed. 2, ČSN EN 12899-1, ČSN EN 12899-3 ČSN EN 12966, ČSN EN 13422+A1 CIE 15)	Retro-reflective films, vertical traffic signs, horizontal traffic signs, traffic buttons, transport equipment
58*	Determination of the specific intensity coefficient	SOP - DZ 03 (ČSN EN 1436)	Horizontal traffic signs, transport equipment
59*	Determination of the brightness coefficient in diffuse lighting	SOP - DZ 04 (ČSN EN 1436)	Horizontal traffic signs, transport equipment
60*	Determination of the position of dowels and tie bars	SOP - G 1 (Methodology TRC-GPR01-2016, ČSN 73 6123-1, TP-233)	Joints of concrete pavements
61*	Determination of thicknesses of pavements	SOP - G 2 (Methodology TRC-GPR02-2017, TP-233)	Pavements of roads
62	Determination of chlorides by Spectroquant® reagent test	SOP - CH 19 (Spectroquant® Prove user manual, ČSN 75 7422)	Road run-off water, aqueous extract, surface water



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Ordinal number ¹⁾	Test procedure/method name	Test procedure/method identification	Tested object
63	Determination of pH potentiometrically	SOP - CH 20 (ČSN ISO 10523)	Road run-off water, aqueous extract, surface water
64	Determination of suspended solids gravimetrically	SOP - CH 21 (ČSN EN 872)	Road run-off water, surface water

¹⁾ Asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises.



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Sampling:

Ordinal number ¹⁾	Test procedure/method name	Test procedure/method identification	Tested object
V1	Taking of cored specimens	ČSN EN 12504-1	Hardened concrete
V2	Sampling for determination of PM ₁₀ mass concentration of suspended particulate matter	SOP - CH 01, part A (ČSN EN 12341)	Ambient air, air quality
V3	Sampling for determination of PM _{2,5} mass concentration of suspended particulate matter	SOP - CH 01, part B (ČSN EN 12341)	Ambient air, air quality
V4	Sampling for determination of benzo(a)pyren concentrations by GC-MS	SOP - CH 01 (ČSN EN 15549) SOP - CH 04 (ČSN EN 15549)	Ambient air, air quality
V5	Sampling for determination of Pb, Cd, As and Ni in PM ₁₀ aerosol particles fraction by CP-MS	SOP - CH 01 (ČSN EN 14902) SOP - CH 04 (ČSN EN 14902)	Ambient air, air quality

Explanatory notes:

MoH CR Journal, Vol. 2017, No. 11 - Guideline for the measurement and assessment of noise in non-workplace environment

Methodology 104/2014-710-VV/1 - Methodology for the measurements and assessment of roads on the noise emission basis, certified by MoT, Space Activities Department on 15.12.2014

Methodology TRC-GPR01-2016 - Measurement and evaluation methodology of position of dowels and tie bars in joints of concrete pavements by two-channel georadar, TRC, 2016

Methodology TRC-GPR02-2017 - Methodology of measurement and determination of pavement layers thicknesses by two-channel georadar, TRC, 2017

TRC - Transport Research Centre

CIE - International Committee on Illumination

CPX - Close Proximity Method

GC-MS - Gas Chromatography Mass Spectrometry

ICP-MS - Inductively coupled plasma mass spectrometry

MoT - Ministry of transport of the Czech Republic

MoH - Ministry of health of the Czech Republic

PM - Particulate matter

SOP - DZ - Standard Operating Procedure - Traffic signs (Internal test procedure processed by the testing laboratory)



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- SOP - G - Standard operation procedure - georadar (Internal test procedure processed by the testing laboratory)
- SOP - H - Standard operation procedure - noise (Internal test procedure processed by the testing laboratory)
- SOP - CH - Standard operation procedure - chemistry (Internal test/sampling procedure processed by the testing laboratory) based on legislation in force, scientific literature and manufacturer manuals
- SOP - T - Standard operation procedure - toxicity (Internal test procedure processed by the testing laboratory)
- TP - Technical specification
- TP 233 - Georadar methods for construction of roads
- TP 259 - Asphalt mixtures for wearing courses with reduced noise levels
- UV - Detection in the ultraviolet spectrum
- TL - Testing Laboratory; i.e. the Transport Research Centre Laboratory

