

**The Appendix is an integral part of  
Certificate of Accreditation No: 237/2023 of 11/05/2023**

**Accredited entity according to ČSN EN ISO/IEC 17025:2018:**

**České vysoké učení technické v Praze**  
CAB Number 1061, Klokner Institute Testing Laboratory  
Šolínova 7, 166 08 Prague 6

*The laboratory provides opinions and interpretations of test results.*

*The laboratory is qualified to carry out independent sampling.*

**Tests:**

Ordinal number <sup>1</sup>	Test procedure / method name	Test procedure / method identification <sup>2</sup>	Subject of the test	Degrees of freedom <sup>3</sup>
<b>1</b>	<b>Bulk Density</b>			
1.1*	Determination of bulk density	ČSN EN 12350-6	Fresh concrete	-
1.2*	Determination of bulk density	ČSN EN 1015-6	Fresh mortar	-
1.3	Determination of bulk density	ČSN EN 12390-7	Hardened concrete	-
1.4	Determination of dry bulk density	ČSN EN 678	Aerated concrete, aerated concrete products	-
1.5	Determination of mass, bulk density	ČSN 72 2603, p. 1÷6, 11÷14	Brick products	-
1.6	Determination of bulk density	ČSN EN 1015-10	Dry hardened mortar	-
<b>2</b>	<b>Dimensions</b>			
2.1	Determination of dimensions of concrete paving blocks	ČSN EN 1338, Annex C	Concrete paving blocks	-
2.2	Determination of dimensions of concrete paving blocks	ČSN EN 1339, Annex C	Concrete paving flags	-
2.3	Determination of dimensions of concrete paving blocks	ČSN EN 1340, Annex C	Concrete kerb units	-
2.4	Determination of dimensions	ČSN EN 772-16	Masonry units	-
<b>3</b>	<b>Compressive strength</b>			
3.1	Determination of compressive strength of test specimens	ČSN EN 12390-3	Concrete	-
3.2	Determination of compressive strength	ČSN EN 679	Aerated concrete, aerated concrete products	-
3.3	Determination of compressive strength	ČSN EN 12190	Products and systems for the protection and repair of concrete structures, rehabilitation materials	-
3.4	Determination of compressive strength	ČSN EN 1354	Porous concrete from porous aggregates	-
3.5	Determination of compressive strength	ČSN EN 772-1	Masonry units	-

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Ordinal number <sup>1</sup>	Test procedure / method name	Test procedure / method identification <sup>2</sup>	Subject of the test	Degrees of freedom <sup>3</sup>
3.6	Determination of uniaxial compressive strength	ČSN EN 1926	Natural stone	-
<b>4</b>	<b>Bending strength</b>			
4.1	Determination of flexural strength of test specimens	ČSN EN 12390-5	Concrete	-
4.2	Determination of bending strength	ČSN EN 1521	Porous concrete from porous aggregates	-
4.3	Determination of flexural strength	ČSN EN 1351	Aerated concrete, aerated concrete products	-
4.4	Measuring of flexural tensile strength (limit of proportionality (LOP), residual strength)	ČSN EN 14651+A1	Metallic fibre-reinforced concrete	-
4.5	Determination of flexural strength (first peak, ultimate and residual)	ČSN EN 14488-3	Sprayed concrete	-
4.6	Determination of flexural strength	ČSN EN 772-6	Masonry units	-
4.7	Bend test	ČSN EN ISO 15630-1, chap. 4 and 6	Reinforcing bars, wire rod and wire for the reinforcement of concrete	-
4.8	Bend test of weld joints	ČSN EN ISO 15630-2, chap. 4 and 6	Welded concrete reinforcing mesh	-
4.9	Bend test	ČSN EN ISO 17660-1, p. 14.4	Load-bearing welded joints of reinforcing steel	-
4.10	Determination of bending strength	ČSN P 73 2452; ČSN EN 12390-5	Hardened fibre-reinforced concrete	-
<b>5</b>	<b>Tensile strength</b>			
5.1	Tensile test	ČSN EN ISO 6892-1	Metallic materials	-
5.2	Tensile test	ČSN EN ISO 15630-1, chap. 4 and 5	Reinforcing bars, wire rod and wire for the reinforcement of concrete	-
5.3	Tensile testing	ČSN EN ISO 15630-3, chap. 4 and 5	Steel for prestressing	-
5.4	Tensile test	ČSN EN ISO 15630-2, chap. 4 and 5	Welded concrete reinforcing mesh	-
5.5	Tensile test	ČSN EN ISO 17660-1, p. 14.2	Load-bearing welded joints of concrete reinforcing steel	-

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5.6	Tensile test	ČSN EN ISO 17660-2, p. 14	Non-structural welded joints of concrete reinforcing steel	-
5.7	Determination of uniaxial tensile strength	ČSN 73 1318, Annex 1	Concrete	-
5.8	Determination of tensile strength	ČSN EN 50182, p. 6.4.1÷6.4.8, Annex C	Conductors for overhead lines	-
<b>6</b>	<b>Cement and mortar strength</b>			
6.1	Determination of flexural strength and compressive strength	ČSN EN 196-1	Cement	-
6.2	Determination of flexural strength and compressive strength	ČSN EN 1015-11	Mortars, ready-mix plasters and binders	-
<b>7</b>	<b>Shear strength tests</b>			
7.1	Determination of tensile shear strength of weld joints	ČSN EN ISO 15630-2, chap. 4 and 7	Welded concrete reinforcing mesh	-
7.2	Shear test	ČSN EN ISO 17660-1, p. 14.3	Load-bearing welded joints of concrete reinforcing steel	-
7.3	Determination of shear adhesion of steel to concrete	ČSN EN 15184	Coated steel rods in reference concrete	-
7.4	Determination of shear adhesion of steel to concrete	ČSN 73 1328	Reinforcing bars in concrete	-
7.5	Determination of shear adhesion of steel to concrete	ČSN 73 1333	Steel for prestressing in concrete	-
<b>8</b>	<b>Indirect tensile strength</b>			
8.1	Determination of the indirect tensile strength	ČSN EN 12390-6	Concrete	-
8.2	Determination of the indirect tensile strength	ČSN EN 1338, Annex F	Concrete paving blocks	-
8.3	Determination of the indirect tensile strength	ČSN EN 1339, Annex F	Concrete paving flags	-
8.4	Determination of the indirect tensile strength	ČSN EN 1340, Annex F	Concrete kerb units	-
<b>9</b>	<b>Tensile bond tests</b>			
9.1*	Test of adhesion of surface finish of building structures and components	ČSN 73 2577, p. 1÷14	Building structures and components	-

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9.2*	Determination of layer adhesion and tensile strength of surface layers	ČSN 73 6242, Annex B	Building structures and components	-
9.3	Measurement of bond strength by pull-off	ČSN EN 1542	Products and systems for the protection and repair of concrete structures, rehabilitation materials	-
<b>10</b>	<b>Static modulus of elasticity</b>			
10.1	Determination of static modulus of elasticity in compression	ČSN ISO 1920-10	Concrete	-
10.2	Determination of static modulus of elasticity in compression	ČSN EN 1352	Autoclaved aerated concrete or lightweight aggregate concrete	-
10.3	Determination of modulus of elasticity in compression	ČSN EN 13412	Mortars, ready-mix plasters and binders	-
10.4	Determination of static modulus of elasticity	ČSN EN 14580	Natural stone	-
10.5	Determination of secant modulus of elasticity in compression	ČSN EN 12390-13	Concrete	-
<b>11</b>	<b>Hardness testing of concrete</b>			
11.1	Determination of hardness by hardness testing method	ČSN 73 1370 ČSN 73 1373	Concrete	-
<b>12</b>	<b>Hardness testing of metallic materials</b>			
12.1	Brinell hardness test	ČSN EN ISO 6506-1	Metallic materials	-
<b>13</b>	<b>Testing of electrical insulators, wires and elements of overhead lines</b>			
13.1	Verification of dimensions, test of mechanical failure force and determination of deflection under load	ČSN EN 60168, p. 5.1, 5.2, 5.3, 5.8, 5.9, Annex A; IEC 60168, p. 5.1, 5.2, 5.3, 5.8, 5.9, Annex A	Indoor and outdoor post insulators of ceramic materials or glass	-
13.2	Test of mechanical failure load	ČSN EN 62155, p. 7.2, 8, 10.5, 10.6; IEC 62155, p. 7.2, 8, 10.5, 10.6	Hollow pressurized and unpressurized ceramic and glass insulators	-
13.3	Determination of dimensions and mechanical tests	ČSN EN 60137, p. 8.9, 8.13	Insulated bushings for alternating voltage	-
13.4	Test of mechanical failure force	ČSN IEC 383-1, chap. 19 IEC 60383-1, chap. 19	Ceramic or glass insulator units for overhead lines	-

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13.5	Load test of the assembled core	ČSN EN 61952, p. 10.4, 11.2, 12.4, 13; IEC 61952, p. 10.4, 11.2, 12.4, 13; ANSI C29.11, p. 7.2.2, p. 8.3.1.3.1; ANSI C29.17, p. 7.2.2	Composite post insulators for overhead lines	-
13.6	Tensile load test	ČSN EN 60383-2	Insulator springs and insulators sets	-
13.7	Ultimate mechanical-strength tests and time-load-withstand-strength test	ANSI C29.1, p. 5.1, 5.3	Electric power insulators	-
13.8	Tensile load test	ANSI C29.13, p. 7.7	Distribution dead-end type composite insulators	-
13.9	Test of the behaviour of the assembled cores under load, depending on the duration of load	ČSN EN 61109, p. 10.4, 11.2; IEC 61109, p. 10.4, 11.2	Composite suspension and tension insulators for overhead lines	-
13.10	Load test of the assembled core	ČSN EN 62231, p. 8.3, 9.3, 10.4, 11.3; IEC 62231, p. 8.3, 9.3, 10.4, 11.3; ANSI C29.11, p. 8.3.1.3.2, p. 8.3.2	Composite station post insulators	-
13.11	Mechanical tests	ČSN EN 61284, p. 11; IEC 61284, p. 11	Fittings for overhead lines	-
13.12	Mechanical tests	ČSN EN 61854, p. 7.5.1, 7.5.2, 7.5.3; IEC 61854, p. 7.5.1, 7.5.2, 7.5.3	Spacers for overhead lines	-
13.13	Bending moment test	ČSN EN 60099-4, p. 8.11, 10.8.11, Annex G	Surge arresters	-
13.14	Mechanical tests of composite hollow insulators	ČSN EN 61462, p. 8.5, 9.3, 10.4, Annex A, C; IEC 61462, p. 8.5, 9.3, 10.4, Annex A, C	Pressured and unpressured composite hollow insulators for use in electrical equipment with rate voltage greater than 1 000 V	-
13.15	Test of mechanical properties of porcelain insulators	ANSI C29.9, p. 5, 7.2.6, 7.2.7, 7.3.3-7.3.5, 7.4.2	Ceramic insulators	-
13.16	Mechanical tests in bending and torsion	ČSN EN 61230, Annex B	Equipment for earthing and short-circuiting	-

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13.17	Wrapping test	ČSN ISO 7802	Metallic wires	-
13.18	Mechanical tests	ČSN EN 50183, p. 6, 9, 11.3, 11.4; ČSN EN 50189, p. 11.2÷11.5; ČSN IEC 889, p. 5, 7, 10.1, 10.2	Wires for overhead line conductors	-
13.19	Determination of thickness and adhesion of non-ferrous metallic coatings	ČSN EN 50189, p. 11.6 - 11.8; ČSN EN 10244-1; ČSN EN 10244-2, except p. 5.2.3	Steel wires with non-ferrous coating	-
13.20	Determination of resistance to chemical attack	IEC TR 62039, p. 3.8	Polymeric insulating materials in outdoor high voltage electrical applications	-
<b>14</b>	<b>Masonry testing</b>			
14.1	Determination of compressive strength	ČSN EN 1052-1	Masonry	-
<b>15</b>	<b>Testing of injection mortars</b>			
15.1*	Determination of workability, density, strength and volume changes	ČSN EN 445, p. 4.3.1, 4.5, 4.6, 4.7	Injection mortars for prestressing cables	-
<b>16</b>	<b>Cement tests</b>			
16.1	Determination of setting times and soundness	ČSN EN 196-3+A1	Cement	-
<b>17</b>	<b>Tests of fresh concrete</b>			
17.1*	Slump test	ČSN EN 12350-2	Fresh concrete	-
17.2*	Vebe test	ČSN EN 12350-3	Fresh concrete	-
17.3*	Flow table test	ČSN EN 12350-5	Fresh concrete	-
17.4*	Slump-flow test	ČSN EN 12350-8	Fresh concrete	-
17.5*	V-funnel test	ČSN EN 12350-9	Fresh concrete	-
17.6*	L-box test	ČSN EN 12350-10	Fresh concrete	-
17.7*	J-ring test	ČSN EN 12350-12, except p. 4.2	Fresh concrete	-
17.8	Determination of consistence	ČSN EN 1015-3	Fresh mortar	-
17.9	Determination of workable life	ČSN EN 1015-9	Fresh mortar	-
<b>18</b>	<b>Determination of air content in fresh concrete and mortar</b>			

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18.1*	Determination of air content	ČSN EN 12350-7, p. 1÷3, 5÷6	Fresh concrete	-
18.2*	Determination of air content	ČSN EN 1015-7	Fresh mortar	-
18.3	Determination of porosity	Guideline WTA 2-9-04D, p. 6.3.9	Hardened mortar	-
<b>19</b>	<b>Freeze-thaw testing</b>			
19.1	Testing of mortar frost resistance	ČSN 72 2452	Mortars, ready-mix plasters and binders	-
19.2	Determination of concrete frost resistance	ČSN 73 1322	Concrete	-
19.3	Determination of resistance to freezing/thawing without the use of de-icing salts	ČSN EN 13198, Annex A	Concrete products and prefabricated products	-
<b>20</b>	<b>Determination of water absorption, watertightness</b>			
20.1	Determination of total water absorption	ČSN EN 1338, Annex E	Concrete paving blocks	-
20.2	Determination of total water absorption	ČSN EN 1339, Annex E	Concrete paving flags	-
20.3	Determination of total water absorption	ČSN EN 1340, Annex E	Concrete kerb units	-
20.4	Determination of depth of penetration of water under pressure	ČSN EN 12390-8	Concrete	-
20.5	Water absorption test	ČSN EN 13369, Annex F	Prefabricated concrete products, terrace tiles	-
<b>21</b>	<b>Determination of resistance to de-icing agents</b>			
21.1	Determination of cement concrete surface resistance to water and chemical de-icing agents	ČSN 73 1326	Concrete	-
21.2	Determination of resistance to freezing/thawing with the use of de-icing salt	ČSN EN 13198, Annex B	Concrete products and prefabricated products	-
21.3	Determination of resistance to freezing/thawing with the use of de-icing salts	ČSN EN 1338, Annex D	Concrete paving blocks	-
21.4	Determination of resistance to freezing/thawing with the use of de-icing salts	ČSN EN 1339, Annex D	Concrete paving flags	-

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Ordinal number <sup>1</sup>	Test procedure / method name	Test procedure / method identification <sup>2</sup>	Subject of the test	Degrees of freedom <sup>3</sup>
21.5	Determination of resistance to freezing/thawing with the use of de-icing salts	ČSN EN 1340, Annex D	Concrete kerb units	-
21.6	Determination of resistance to freezing and thawing - peeling	ČSN P CEN/TS 12390-9, p. 5	Concrete	-
21.7	Determination of the resistance to salts	Guideline WTA 2-9-04D, p. 6.3.10	Hardened mortar	-
<b>22</b>	<b>Determination of concrete resistance to chemical attack and carbonation of concrete</b>			
22.1*	Determination of depth of carbonation by phenolphthalein method	ČSN EN 14630	Hardened concrete	-
<b>23</b>	<b>Static testing of structures</b>			
23.1*	Loading tests	ČSN 73 2030	Building structures and components	-
23.2*	Static load testing of bridges	ČSN 73 6209, except p. 7.7	Bridge structures	-
23.3	Mechanical testing of cold formed members and sheeting	ČSN EN 1993-1-3, Annex A	Steel cold formed members and sheeting	-
23.4	Mechanical testing of coupling elements and coupled ceiling panels	ČSN EN 1994-1-1, Annex B	Reinforced-concrete structures	-
23.5	Testing of mechanical properties	ČSN EN 1794-1, Annex A, B and E	Road traffic noise reducing devices	-
<b>24</b>	<b>Impact tests</b>			
24.1	Determination of stone impact resistance	ČSN EN 1794-1, Annex C	Road traffic noise reducing devices	-
<b>25</b>	<b>Dynamic tests of structures and vibration assessment</b>			
25.1*	Informative dynamic test	ČSN 73 2044, p. 1÷19, 24÷43, 58	Building structures	-
25.2*	Dynamic load test	ČSN 73 2044, p. 1-17, 20÷31, 44÷56, 58	Building structures	-
25.3*	Determination of dynamic effects of machines on structures	ČSN 73 0032, p. 99÷109, 116÷118, 120, 121	Building structures	-
25.4*	Dynamic load test of bridges	ČSN 73 6209, p. 4.2, 5.2, 6.1-6.3, 6.3.3, 6.5.2, 7.2 and 8	Building structures	-
<b>26</b>	<b>Axial fatigue tests</b>			



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26.1	Axial fatigue test	ČSN EN ISO 15630-1, chap. 4 and 8	Reinforcing bars, wire rod and wire for the reinforcement of concrete	-
26.2	Axial fatigue test	ČSN EN ISO 15630-2, chap. 4 and 8	Welded concrete reinforcing mesh	-
<b>27</b>	<b>Testing of soils, fly ash and aggregates</b>			
27.1	Determination of the water content of soils	ČSN EN ISO 17892-1	Soils and similar products, substitutes for aggregates	-
27.2*	Determination of bulk density	ČSN 72 1010, p. A, C, D; ČSN EN ISO 17892-2	Soils and similar products, substitutes for aggregates	-
27.3	Determination of particle size distribution of soils	ČSN EN ISO 17892-4	Soils and similar products, substitutes for aggregates	-
27.4	Determination of Atterberg limits	ČSN EN ISO 17892-12	Soils and similar products, substitutes for aggregates	-
27.5	Determination of the water content by drying in a ventilated oven	ČSN EN 1097-5	Aggregates	-
27.6	Determination of particle density and water absorption	ČSN EN 1097-6	Aggregates	-
27.7	Determination of fineness by wet sieving	ČSN EN 451-2	Fly ash	-
<b>28</b>	<b>Determination of moisture, dry matter content</b>			
28.1	Determination of moisture content by gravimetric method	ČSN EN 13183-1	Sawn timber	-
28.2	Determination of dry matter content	ČSN EN 480-8	Additives for concrete, mortar, mortar grouting	-

<sup>1</sup> Asterisk at the ordinal number identifies the tests, which the laboratory is qualified to carry out outside the permanent laboratory premises

<sup>2</sup> If the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

<sup>3</sup> The laboratory does not apply a flexible approach to the scope of accreditation

**Sampling:**

Ordinal number	Sampling procedure name	Sampling procedure identification <sup>1</sup>	Subject of sampling
1	Sampling of fresh concrete	ČSN EN 12350-1	Sampling of fresh concrete

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2	Sampling of hardened concrete	ČSN EN 12504-1, p. 2÷6	Samples of hardened concrete
3	Sampling and preparation of test mortars	ČSN EN 1015-2	Mortars

<sup>1</sup> For dated documents identifying sampling procedures, only those specific procedures are used; for undated documents identifying sampling procedures, the most recent edition of that procedure (including any changes) is used

**Explanations and abbreviations:**

ANSI US Standard (American National Standards Institute)

DIN German standard (Deutsche IndustrieNorm)

IEC Standard of International Electrotechnical Commission

WTA WTA Guidelines (Scientific and Technical Association for Building Rehabilitation and Monument Preservation)

OTP Railway Infrastructure Administration - General Specifications