

**The Appendix is an integral part of  
Certificate of Accreditation No. 650/2023 of 04/12/2023**

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

**TÜV NORD Czech, s.r.o.**

CAB number 1060, Laboratories and Testing Laboratories Brno  
Olomoucká 7/9, 618 00 Brno

*The laboratory provides opinions and interprets test results.*

*Detailed information on activities within the scope of accreditation (subject of testing) is given in the section „Specification of the scope of accreditation“.*

**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>
1	Determination of elements by ICP – OES (Al, As, B, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, La, Mg, Mn, Mo, Nb, Nd, Ni, P, Pb, S, Sb, Se, Si, Sn, Ta, Te, Ti, V, W, Zn, Zr)	LPP 1 (ČSN EN 10351)	Fe-Ni-Cr-Co alloys	-
2	Determination of elements by ICP – OES (Ag, Al, Be, Bi, Cd, Ce, Co, Cr, Cu, Fe, Ga, Hg, La, Li, Mg, Mn, Na, Ni, P, Pb, Sb, Si, Sn, Sr, Ti, V, Zn, Zr)	LPP 2 (ČSN EN 14242)	Al-Mg-Zn alloys	-
3	Determination of elements by ICP – OES (Ag, Al, As, Au, B, Be, Bi, Cd, Co, Cr, Cu, Fe, In, Mg, Mn, Nb, Ni, P, S, Pb, Sb, Se, Si, Sn, Ti, Te, Tl, Zn, Zr)	LPP 3 (ČSN EN 15605)	Cu alloys	-
4	Determination of elements by ICP – OES (Ag, Al, As, Au, Ba, Bi, Ca, Cd, Cu, Fe, Ga, Hg, In, Na, Ni, P, Pb, S, Sb, Se, Sn, Te, Tl, Zn)	LPP 4 (ENV 13800)	Pb-Sn-Sb alloys	-
5	Determination of elements by ICP – OES (Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Se, Si, Sn, Sr, Ti, Te, Tl, V, W, Zn, Zr)	LPP 5 (ČSN 72 0101; EN ISO 16968; ČSN EN ISO 16968; EN ISO 11885; ČSN EN ISO 11885)	Silicates, deposits, ash, soils, limestone, graphite, solid biofuels	-
6	Determination of elements by AES with spark discharge (Al, As, B, Bi, C, Ca, Ce, Co, Cr, Cu, Mg, Mn, Mo, Nb, N, Ni, P, Pb, S, Sb, Se, Si, Sn, Ta, Ti, V, W, Zn, Zr)	LPP 6 (ASTM E415; ASTM E1086; ASTM E1999)	Steel, cast iron	-

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7	Determination of elements by AES with spark discharge (Ag, Al, As, Bi, Cd, Co, Cr, Cu, Fe, Mn, Ni, P, Pb, Sb, Se, Si, Sn, Te, Ti, Zn, Zr)	LPP 27 (ČSN EN 15079; SPECTRO manual)	Cu alloys	-
8	Determination of elements by AES with spark discharge (Al, Bi, Cd, Cr, Cu, Fe, Ga, Mg, Mn, Ni, Pb, Sb, Si, Sn, Sr, Ti, V, Zn, Zr)	LPP 28 (ČSN EN 14726; SPECTRO manual)	Al alloys	-
9	Determination of carbon and sulphur content by IR absorption after combustion	LPP 7 (ČSN EN ISO 15350)	Fe-Ni-Cr-Co alloys, cu alloys	-
10	Determination of weight loss by gravimetry	LPP 25 (ČSN 72 0100; ČSN 72 0103; ČSN 72 1610)	Silicates, deposits, sediments, ashes, fly ashes, graphite	-
11	Determination of moisture and dry matter content by gravimetry	LPP 26 (ČSN 44 1377; ČSN EN ISO 18134-3; ČSN 72 0102)	Solid fuels, solid biofuels, ash, deposits, silicates	-
12	Determination of microstructure of cast iron	LPP 8 (ČSN 42 0461; ČSN EN ISO 945-1:2011; ČSN EN ISO 945-1; GOST 3443; ASTM A 247; ASTM E 562)	Cast iron	-
13	Metallographic structures of wrought metallurgical products	LPP 9 (ČSN 42 0469; GOST 5640; GOST 8233)	Steel	-
14	Determination of grain size	LPP 11 (ČSN 42 0462; ASTM E 112; ČSN EN ISO 643; GOST 5639; GOST 8233)	Steel and non-ferrous metals	-
15	Determination of microcleanness	LPP 12 (ČSN ISO 4967; DIN 50 602:1985; GOST 1778)	Steel	-

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16	Measurement of surface layers	LPP 13 (ČSN EN ISO 3887, article 5.2, 5.3; ČSN EN ISO 2064; ČSN EN ISO 1463; ČSN EN ISO 2639; ČSN 42 0448:1985)	Metallic and inorganic materials	-
17	Metallographic tests of welded and soldered joints	LPP 14 (ČSN EN ISO 6520-1; ČSN EN ISO 6520-2; ČSN EN ISO 15614-1, article 7.4.3; ČSN EN ISO 15614-2, article 7.4.5; ČSN EN ISO 15614-5, article 7.4.4; ČSN EN ISO 15614-6, article 8.4.4; ČSN EN ISO 15614-7, article 7.4.2; ČSN EN ISO 15614-8, article 8.1.5, 8.2.5; ČSN EN ISO 15614-12, article 6.2.2; ČSN EN ISO 15614-14, article 7.4.4; ČSN EN ISO 5817; ČSN EN ISO 10042; ASME CODE Section IX QW 183; QW 184; QW 453; GOST 8233; ČSN EN ISO 17639; ČSN EN 12797)	Steel and non-ferrous metals	-
18	Corrosion resistance test	LPP 15 (ČSN 03 8137; ČSN EN ISO 3651-2; DIN 50914:1996; ASTM G 28; ASTM G 48, Method A; ČSN EN ISO 3651-1; ASTM A 262; GOST 6032)	Steel	-

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19	Determination of macrostructure	LPP 16 (ČSN 42 0467; ASTM E 381; ASTM E 340; GOST 10243)	Steel and non-ferrous metals	-
20	Determination of microstructure of metals and alloys	LPP 17 (ČSN 42 0460; ČSN 42 0003; ČSN 42 0466; ČSN 42 0491; ASTM E 3; ASTM E 407; ASTM E 562; GOST 8233)	Steel, non-ferrous metals	-
21	Determination of ferrite content	LPP 61 (FERITSCOPE FMP30 from FISCHER Instruction Manual)	Steel	-
22	Tensile test	LPP 18 (ČSN EN ISO 6892-1:2010; ČSN EN ISO 6892-1; ČSN EN ISO 6892-2; ČSN EN ISO 5178; ČSN EN ISO 15614-1; article 7.4.1; ČSN EN ISO 4136; ASME CODE Section II SA-370; ASME CODE Section IX QW 150; ASTM E8/E8M; GOST 1497; GOST 10006)	Steel, cast iron, welds, alloys	-
23	Shear strength test	LPP 19 (ČSN 42 0342)	Steel, cast iron, alloys	-
24	Heading test	LPP 20 (ČSN 42 0426)	Steel, cast iron, alloys	-
25	Brinell hardness test	LPP 21-1 (ČSN EN ISO 6506-1; ASME CODE Section II SA-370; ASTM E 10; GOST 9012)	Steel, cast iron, alloys	-

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26	Rockwell hardness test	LPP 21-2 (ČSN EN ISO 6508-1; ASME CODE Section II SA-370; ASTM E 18; GOST 9013)	Steel, cast iron, alloys	-
27	Vickers hardness test	LPP 21-3 (ČSN EN ISO 6507-1; ČSN EN 23878; ČSN EN ISO 15614-1, article 7.4.5; ČSN EN ISO 9015-1; ASME CODE Section II SA-370; ASTM E 92; GOST 2999)	Steel, cast iron, welds, alloys	-
28	Impact bend test	LPP 22 (ČSN EN ISO 148-1; ČSN EN ISO 15614-1, article 7.4.4; ČSN EN ISO 9016; GOST 9454; ASTM E23; ASME CODE Section II SA-370)	Steel, cast iron, welds, alloys	-
29	Bend test	LPP 23 (ČSN EN ISO 7438; ČSN EN ISO 15614-1, article 7.4.2; ČSN EN ISO 5173; ASTM E 190; ASTM E 290; ASME CODE Section II SA-370; ASME CODE Section IX QW 160; GOST 14019)	Steel, cast iron, welds, alloys	-

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30	Testing the technological properties of pipes	LPP 24 (ČSN EN ISO 8492; ČSN EN ISO 8493; ČSN EN ISO 8495; ČSN EN ISO 8496; ASME CODE Section II SA-450, SA-450M, SA-370)	Steel, cast iron, alloys	-
31	Uniaxial creep testing in tension	LPP 62 (ČSN EN ISO 204)	Steel, cast iron, alloys	-

<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 valid 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

**Specification of the scope of accreditation:**

Ordinal test number	Detailed information on activities within the scope of accreditation (subject of testing)
11	Solid fuels - black coal, brown coal, lignite, peat, charcoal, charcoal briquettes

**Explanations:**

LPP	Laboratory Working Procedure
GOST	Russian standard
ASTM	US standard
ASME	Technical Specification of the Association of Mechanical Engineers
ENV	European Pre-standard
ICP – OES	Inductively Coupled Plasma Optical Emission Spectrometry
AES	Atomic Emission Spectrometry