The Appendix is an integral part of
Certificate of Accreditation No.: 88/2024 of 21/02/2024

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

ČZ a.s.
CAB number 2236, Calibration Laboratory
Tovární 202, 386 15 Strakonice

CMC for the field of measured quantity: Length

Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
		min	unit	max	unit					
1	Parallel gauge blocks	0.5	mm	100	mm		(4.1L + 0.1) µm	Comparison with parallel gauge blocks in vertical position on a comparator	KPPM 11 - 0002	
2	Parallel gauge blocks	125	mm	500	mm		(3L + 0.5) µm	Comparison with parallel gauge blocks in vertical position on a comparator	KPPM 11 - 0013	
3	Measuring wires	0.17	mm	6.35	mm		(2.6L + 0.6) µm	Measurement on a universal length gauge	KPPM 11 - 0014	
4*	Slide gauges – mechanical and digital	0	mm	2000	mm		(2L + 13) µm	Measurement using parallel gauge blocks	KPPM 11 - 0006	
5*	Micrometer gauges – mechanical and digital	0	mm	500	mm	for external dimensions for internal dimensions	(3L +1) µm (14L + 0.8) µm	Measurement using parallel gauge blocks	KPPM 11 - 0010	
6	Pasameters	0	mm	125	mm		(14L + 0.9) µm	Measurement using parallel gauge blocks	KPPM 11 - 0008	
7	Micropasameters	0	mm	150	mm	dial indicator micrometer screw	(14L 1.2) µm (3L + 1) µm	Measurement using parallel gauge blocks	KPPM 11 - 0018	
8	Microcator heads	0	mm	0.2	mm		0.6 µm	Measurement on a universal length gauge	KPPM 11 - 0015	
9	Setting rings	2	mm	500	mm	diameter roundness cylindricity	(5.4L + 0.6) µm 0.16 µm 1.2 µm	Measurement on a universal length gauge	KPPM 11 - 0021	
10*	Snap gauges	1	mm	500	mm		(3.6L + 0.8) µm	Measurement on a universal length gauge	KPPM 11 - 0022	
11*	Tolerance cylindrical gauges	0.5	mm	500	mm		(3L + 0.6) µm	Measurement on a universal length gauge	KPPM 11 - 0005	

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Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
		min	unit	max	unit					
12*	Dial indicators and inductive length sensors	0 mm	to	100 mm			(2.6L + 0.6) µm	Measurement on a universal length gauge	KPPM 11 - 0009	
13*	Lever dial indicators	0 mm	to	100 mm			(2.6L + 0.6) µm	Measurement on a universal length gauge	KPPM 11 - 0007	
14*	Checking point instruments	300 mm	to	500 mm			(2.3L + 1.2) µm	Measurement on a coordinate measuring machine	KPPM 11 - 0001	
15*	Surface plates and blocks – straightness; flatness	0 mm	to	1 mm		length (100 to 3,000) mm	1.3 µm	Measurement with electronic levels	KPPM 11 - 0004	
16	Thread gauges	3 mm	to	500 mm		external measurement	(3.7L + 1.1) µm	Measurement on a universal length gauge	KPPM 11 - 0011	
		2 mm	to	500 mm		internal measurement	(5.4L + 0.6) µm			
17	Blade measuring rules	0 mm	to	1 mm		length to 500 mm	(2.3L + 1.2) µm	Measurement on a coordinate measuring machine	KPPM 11 - 0024	
18*	Internal gauges	3 mm	to	200 mm			(2.6L + 0.6) µm	Measurement on a universal length gauge	KPPM 11 - 0025	
19	Special measuring jigs and profile gauges	0.5 mm	to	500 mm		X-axis	(2.3L + 1.2) µm	Measurement on a coordinate measuring machine	KPPM 11 - 0023	
		0.5 mm	to	450 mm		Y-axis	(2.3L + 1.2) µm			
		0.5 mm	to	400 mm		Z-axis	(2.3L + 1.2) µm			
20*	Feeler gauge	0.02 mm	to	2 mm			(6L + 0.8) µm	Measurement on a universal length gauge	KPPM 11 - 0026	
21*	Universal length meters	0 mm	to	200 mm		metering system	(6L + 0.1) µm	Measurement using parallel gauge blocks	KPPM 11 - 0028	
22*	Universal microscopes	0 mm	to	300 mm		metering system	(5L + 0.7) µm	Measuring with a glass ruler	KPPM 11 - 0029	
23	Taper gauges	3 mm	to	200 mm			(2.3L + 1.2) µm	Measurement on a coordinate measuring machine	KPPM 11 - 0000	
24	Sine bars with centres, without centres	50 mm	to	300 mm			(2.3L + 1.2) µm	Measurement on a coordinate measuring machine	KPPM 11 - 0019	

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Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
		min	unit	max	unit					
25	Squares for 90° perpendicularity deviations, straightness and flatness	0 mm	to	1 mm		arm lemgth to 500mm	(2.3L + 1.2) µm	Measurement on a coordinate measuring machine	KPPM 11 - 0003	

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

[2] The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

[3] If the document identifying the calibration procedure is dated only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

L Nominal length in metres

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CMC for the field of measured quantity: Plane angle

Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range min	unit		max	unit	Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
1	Liquid levels	0	mm/m	to	1	mm/m	base length to 500mm	6.5 µm/m	Comparison with an electronic level	KPPM 11 - 0016	
2	Angle gauges	0	°	to	360	°		3.5'	Measurement using angle gauges	KPPM 11 - 0020	

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CMC for the field of measured quantity: Force, mechanical tests

Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
		min	unit		max unit					
1	Torque wrenches	0.25	N·m	to	1 N·m		0.65 %	Measurement by a torque sensor	KPPM 11 - 0012	
		1	N·m	to	100 N·m		0.40 %			
		100	N·m	to	1.000 N·m		0.25 %			

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[3] If the document identifying the calibration procedure is dated only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

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CMC for the field of measured quantity: Pressure, mechanical stress

Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
		min	unit	max	unit					
1	Deformation manometers	0 MPa	to	0.4 MPa		Medium: oil	0.4 kPa	Comparison with a digital pressure standard	KPPM 11 - 0027	
		0.4 MPa	to	2 MPa			0.1 %			
		2 MPa	to	5 MPa			7.5 kPa			
		5 MPa	to	20 MPa			30 kPa			
		20 MPa	to	100 Mpa			150 kPa			

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CMC for the field of measured quantity: Time and frequency quantities

Ord. number[1]	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty[2]	Calibration principle	Calibration procedure identification[3]	Location
		min	unit	max	unit					
1	Stopwatch	0 s	to	3,600 s			0.15 s	Comparison with a reference digital stopwatch	KPPM 11 - 0017	

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[3] If the document identifying the calibration procedure is dated only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

Explanations and abbreviations:

KPPM - Working Meter Calibration Procedure (Internal calibration procedure prepared by the Calibration Laboratory)