Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER

State Secretariat for Economic Affairs SECO
Swiss Accreditation Service SAS

SCS Directory

Accreditation number: SCS 0074

International standard: ISO/IEC 17025:2017

Swiss standard: SN EN ISO/IEC 17025:2018

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Initial accreditation: 18.12.1996

Current accreditation: 20.01.2022 to 19.01.2027

Scope of accreditation see: www.sas.admin.ch (Accredited bodies)

Scope of accreditation as of 29.08.2023

Calibration laboratory for Length

Calibration and Measurement Capability (CMC)

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
LENGTH				
Gauge blocks according to ISO 3650	0,5 mm to 100 mm + 131,4 mm	Measurement of the deviation of the central length by comparison measurement		
- from steel			0,06 µm + $0.6 \cdot 10^{-6} \cdot L$	
- from ceramic			0,06 µm + $0.6 \cdot 10^{-6} \cdot L$	
		Measurement of the deviations f_O and f_U from the central length by 5 points comparison measurement	0,05 µm	

The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
LENGTH				
Dial gauges	0 … 100 mm	Resolution		
		Digital 1 µm	1,5 µm	
		10 µm	6 µm	
		Analog	3 µm	
Dial indicators	0 … 3 mm		0,5 µm	
Dial test indicators	0 … 1,6 mm		0,7 µm	
Micrometer Heads	0 … 100 mm		3 µm + 10•10^{-6}•L	
Inductive measure probe	0 … 100 mm		0,5 µm + 10•10^{-6}•L	
Micrometer	0 … 100 mm		3 µm + 10•10^{-6}•L	
Micrometer high-precision	0 … 25 mm		0.5 µm + 10•10^{-6}•L	
Caliper	0 … 500 mm		20 µm + 20•10^{-6}•L	
Height gauge	0 … 600 mm	Resolution 0,1 µm	0,9 µm + 3•10^{-6}•L	
Length measurement error E_0 according to EN ISO 10360-2 for coordinate measuring machines	Specified length measurement error E_0, MPE ≥ 1,2 µm + 3•10^{-6}•L with L ≤ 1,5 m	Tactile measuring Specified operating conditions	E_0 : 0,5 µm + 0,2•10^{-6}•L manually CMMs 0,3 µm + 1•10^{-6}•L CNC CMMs	Further required parameters according to 10360-2 are not determined. On-site calibration
Length measurement error E_0 according to EN ISO 10360-2 for coordinate measuring machines	500 mm … 5000 mm	With laser interferometer	E_0 : 0,06 µm + 0,5•10^{-6}•L	Further required parameters according to 10360-2 are not determined. On-site calibration
Single-stylus form error P_{FTU} according to EN ISO 10360-5 for coordinate measuring machines		Tactile measuring Specified operating conditions	P_{FTU}: 0,11 µm	On-site calibration
Unidirectional length measurement error E_{UXY} and E_Z for CMM equipped with imaging probing systems according to EN ISO10360-7	Specified length measurement error E_{UXY} ≥ 1,2 µm + 3•10^{-6}•L with L ≤ 400 mm	Specified operating conditions	E_{UXY} and E_{UZ} : 0,4 µm + 0,5•10^{-6}•L	Further required parameters according to 10360-7 are not determined. On-site calibration

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± [1)]	Remarks
LENGTH				
Axially parallel unidirectional length measurement error E_{UXY} for projectors analogue to EN ISO 10360-7	cross table X-, Y-axis 0 … 300 mm		E_{UX} and E_{UY} : 0,4 µm + 2,5•10^{-6}•L	On-site calibration
Axially parallel unidirectional length measurement error E_{UXY} for measuring microscopes analogue to EN ISO 10360-7	cross table X-, Y-axis 0 … 400 mm		E_{UX} and E_{UY} : 0,4 µm + 2,5•10^{-6}•L	Also on-site calibration

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The given extended measurement uncertainty is the standard uncertainty of the measurement multiplied by an extension factor k = 2, which corresponds to a confidence level of about 95% for a normal distribution.