



SCS Directory

Accreditation number: SCS 0068

International standard: ISO/IEC 17025:2017
Swiss standard: SN EN ISO/IEC 17025:2018

walter + bai ag
Calibration laboratory
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Initial accreditation: 19.10.1995
Current accreditation: 20.12.2020 to 19.12.2025
Scope of accreditation see: www.sas.admin.ch
(Accredited bodies)

Scope of accreditation as of 09.08.2022

Calibration laboratory for material testing machines (Measurand Force, Torque, Length, Angle, Impact, Pressure, Roughness and Hardness)

Calibration and Measurement Capability (CMC)

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty \pm ¹⁾	Remarks
LOAD Tension and Compression	0.01 N ... < 2.00 N 2 N ... < 1000 N	With loading pieces	0.0002 N 0.0002 N	Calibration/Verification of Material testing machines according ISO 7500-1 / ASTM E4
	200 N ... 240 kN	With loadcell class 0.5 according EN ISO 376 and ASTM E74-00	0.06 %	
	20 N ... 200 N	With loadcell class 0.5 according EN ISO 376 and ASTM E74-00	0.12 %	



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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty \pm ¹⁾	Remarks
Tension	20 kN ... 1500 kN	With borrow equipment from SCS 0069	0.12 %	
	>1500 kN ... 3 MN		0.02 %	
Compression	400 kN ... 5 MN	With borrow equipment from SCS 0069	0.12 %	
	>5 MN ... 10 MN		0.02%	
Bendingload	0.001 Nm...<0.8 Nm 0.25 Nm...<40 Nm	With loading pieces	0.00002 Nm 0.00002 Nm	Calibration/Verification of Rotary bending testing machines according ISO 1143 / DIN 50113
PRESSURE				
Static	0 bar ... 20 bar	DKD-R6-1 / ISO 7500-1 ASTM E4 / EN 837-1	0.3 %, but not smaller than 20 mbar	Pressure calibration of testing machines. Pressure sensors and Manometers
	20 bar ... < 500 bar		0.2 %	
	500 bar ... 5000 bar		0.3 %	
CALIBRATION OF IMPACT-TESTING-MACHINES				
	15 J ... 950 J	ISO 148-2 /ASTM E23-96	Limits of deviation according the standard of the procedure	Only calibration / Verification according ISO 148-2
LENGTH				
Extensometer	Till 50 mm	EN ISO 9513 and ASTM E83 18 °C < T < 28 °C		Clip-On or permanent installation
	Resolution 0.1 μ m		0.6 μ m + 1•10 ⁻⁴ •L	
	Resolution 0.2 μ m		0.6 μ m + 1•10 ⁻⁴ •L	
	Resolution 0.5 μ m		0.8 μ m + 1•10 ⁻⁴ •L	
	Resolution 1.0 μ m		1.3 μ m + 1•10 ⁻⁴ •L	



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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty \pm ¹⁾	Remarks
Displacement transducer	Till 60 mm Resolution 1 μ m Resolution 2 μ m Resolution 10 μ m	Reference KMF1	1.3 μ m + $1 \cdot 10^{-4} \cdot L$ 2.4 μ m + $1 \cdot 10^{-4} \cdot L$ 11.6 μ m + $1 \cdot 10^{-4} \cdot L$	Plug free or spring loaded ISO-9513, ASTM E83
Displacement transducer or Extensometer	Till 400 mm Resolution 0.1 μ m Resolution 0.2 μ m Resolution 0.5 μ m Resolution 1 μ m	18 °C < T < 28 °C	0.7 μ m + $7.1 \cdot 10^{-4} \cdot L$ 0.7 μ m + $7.1 \cdot 10^{-4} \cdot L$ 0.9 μ m + $7.1 \cdot 10^{-4} \cdot L$ 1.3 μ m + $7.1 \cdot 10^{-4} \cdot L$	Plug free or spring loaded
Dial Gauge and Caliper	Till 50 mm Resolution 1 μ m Resolution 2 μ m Resolution 10 μ m Resolution 20 μ m	Reference KMF1	2.2 μ m + $1 \cdot 10^{-4} \cdot L$ 3.0 μ m + $1 \cdot 10^{-4} \cdot L$ 11.7 μ m + $1 \cdot 10^{-4} \cdot L$ 23.2 μ m + $1 \cdot 10^{-4} \cdot L$	Plug free or spring loaded
Piston- and Cross-Head-Measuring System	0 ... 500 mm Resolution 1 μ m Resolution 2 μ m Resolution 10 μ m	Newall, incremental	5 μ m + $7 \cdot 10^{-4} \cdot L$ 7.5 μ m + $7 \cdot 10^{-4} \cdot L$ 12.5 μ m + $7 \cdot 10^{-4} \cdot L$	Testing-Machines with installed displacement transducers
Piston- and Cross-Head-Measuring System	Till 1000 mm Resolution 1 mm	With steel-scale	250 μ m + L	Testing-Machines with installed displacement transducers
TORSION	0.01 Nm ... 2.00 Nm 2 Nm ... 1000 Nm 5 Nm ... 240 Nm 5 Nm ... 240 Nm	With weights an lever loading Static procedure Pseudo-static procedure	0.3 % 0.15 % 0.3 %	Only for Torsion-Testing-Machines



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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Uncertainty \pm ¹⁾	Remarks
ANGLE	>240 Nm ... 6 kNm	With borrow equipment from SCS0069	0.16%	Only for Torsion-Testing-Machines
	0 Nm ... 100 kNm	With reference-load-cell and lever loading	0.3 %	
ROUGHNESS RA	0.2 μ m ... 12.5 μ m	18 °C <T< 28 °C	0.01 °	ISO-4287-T1 Only for testing of compression platen on testing machines
CALIBRATION OF HARDNESS TESTING MACHINES		Direct and Indirect testing procedure		
Hardness - Brinell	Procedure: HBW	ISO 6506-2 ASTM E10-10	Limits of deviation according the standard of the procedure	With reference piece according ISO 6506-3 ASTM E10-10
Hardness - Rockwell	Procedure: HRB, HRC	ISO 6508-2 ASTM E18-08	Limits of deviation according the standard of the procedure	With reference piece according ISO 6508-3 ASTM E18-08
Hardness - Vickers	Procedure: HV0.1, HV 0.2, HV0.3 HV1, HV5, HV10 HV20, HV 50, HV100	ISO 6507-2 ASTM E92-82/E384	Limits of deviation according the standard of the procedure	With reference piece according ISO 6507-3 ASTM E92-82/E384

All of the calibrations also are possible on customer side.

In case of contradictions in the language versions of the directories, the German version shall apply.

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