

Date  
 2023-01-26

Reference  
 2021/1098

**Scope of accreditation**

**Calibration laboratory according to SS-EN ISO/IEC 17025:2018**

ICS, Instrument and Calibration Sweden AB      Gislaved

Accreditation number      1515  
 A002739-001

**Correction**

for current decision dated 2022-10-19 in case 2021/1098  
 Description: Adjusted measurement range for Length and CMC value/Erik Lindell 2023-01-26

**Length related quantities**

<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Length	Inhouse method; Elongation-LE1 edition 3		Elongation gauge	0,01mm – 1mm	0,40 µm	Length	Yes	2	Yes	Reference instrument, resolution 0,02µm.
			Elongation gauge	0,01mm – 1mm	5,2 µm	Length	Yes	2	Yes	Reference instrument, resolution 0,02µm. Non contact extensmeter.
			Elongation gauge	1 mm – 10 mm	0,40 µm - 0,84 µm	Length	Yes	2	Yes	Reference instrument, resolution 0,02µm.
			Elongation gauge	1 mm – 10 mm	5,2 µm - 5,3 µm	Length	Yes	2	Yes	Reference instrument, resolution 0,02µm. Non contact extensmeter.

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Length	Inhouse method; Elongation-LE1 edition 3		Elongation gauge	10 mm – 60 mm	0,84 µm - 4,5 µm	Length	Yes	2	Yes	Reference instrument, resolution 0,02µm.
			Elongation gauge	10 mm – 60 mm	5.3 µm - 6,9 µm	Length	Yes	2	Yes	Reference instrument, resolution 0,02µm. Non contact extensometer.
			Elongation gauge	60 mm – 900 mm	0,12 mm - 0,54 mm	Length	Yes	2	Yes	Reference instrument, resolution 12µm.
			Elongation gauge	60 mm – 900 mm	0,19 mm - 0,56 mm	Length	Yes	2	Yes	Reference instrument, resolution 12µm. Non contact extensometer.
			Elongation gauge	900 mm – 1250 mm	0,54 mm - 0,71 mm	Length	Yes	2	Yes	Reference instrument, resolution 40µm.
			Elongation gauge	900 mm – 1250 mm	0,56 mm - 0,73 mm	Length	Yes	2	Yes	Reference instrument resolution 40µm. Non-contact extensometer.
		Inhouse method; Thickness-LT-1, edition 16		Thickness gauge	0,05 mm – 0,5 mm	1,3 µm	Length	Yes	2	Yes

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Length	Inhouse method; Thickness-LT-1, edition 16		Thickness gauge	0,5 mm – 10 mm	1,1 µm	Length	Yes	2	Yes	Foot diameter 1-300mm. Force 1-1000N.
			Thickness gauge	10 mm – 50 mm	1,1 µm - 1,8 µm	Length	Yes	2	Yes	Foot diameter 1-300mm. Force 1-1000N.
			Thickness gauge	100 mm – 150 mm	2,0 µm - 2,4 µm	Length	Yes	2	Yes	Foot diameter 1-300mm. Force 1-1000N.
			Thickness gauge	50 mm – 100 mm	1,8 µm - 2,0 µm	Length	Yes	2	Yes	Foot diameter 1-300mm. Force 1-1000N.

**Mass related quantities**

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Force	Inhouse method; Force-K1 edition 3		Force measuring device	0,01N-1N	0,001N	Force	Yes	2	Yes	Tensile/Compression load. Reference, weights.
			Force measuring device	1N-500N	0,001N - 0,5N	Force	Yes	2	Yes	Tensile/Compression load. Reference, weights.
			Force measuring device	500N-600 000N	0,75N - 900N	Force	Yes	2	Yes	Tensile/Compression load. Reference, load cell.

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Force	Inhouse method; Force-K1 edition 3		Force measuring device	600 000N-2 000 000N	5800N-20 000N	Force	Yes	2	Yes	Compression load. Reference, load cell. Accuracy, class 1 in accordance with ISO 376.
			Tension/compression testing machine	0,01N-1N	0,001N	Force	Yes	2	Yes	Machine class 0,5. Tensile/Compression load. Reference, weights.
			Tension/compression testing machine	1N-500N	0,001N - 0,5N	Force	Yes	2	Yes	Machine class 0,5. Tensile/Compression load. Reference, weights.
			Tension/compression testing machine	500N-600 000N	0,75N - 900N	Force	Yes	2	Yes	Machine class 0,5. Tensile/Compression load. Reference, load cell.
			Tension/compression testing machine	600 000N-2 000 000N	5800N-20 000N	Force	Yes	2	Yes	Machine class 1. Compression load. Reference, load cell.
	Inhouse method; Thickness-LT-1, edition 16		Thickness gauge	5kPa - 5000kPa	0,41kPa vid diam 15,95mm, kraft 7N	Length	Yes	2	Yes	Force/Area
Hardness	Hardness metal-HM1 edition 6		Hardness meter	1-2990 HK	3 HK/0,1 vid 150 HK/0,1	Knoop	Yes	2	Yes	Exceptions: Chapter 5.3, verification of the indenter. Swedish edition: 2018.

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Hardness	Hardness metal-HM1 edition 6		Hardness meter	1-2990 HV	1,6 HV30 at 190 HV 30	Vickers	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.3.
			Hardness meter	3,18-650 HBW	1,6 HBW at 150 HBW 5/750	Brinell	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.3. Swedish edition: 2019.
			Hardness meter	HRA, HRD, HRC, HRN, HRF, HRB, HRK, HRT, HRH, HRE, HRG	HRC, 0,2 HRC	Rockwell	Yes	2	Yes	Exceptions: Verification of depth-measurement, chapter 4.3, machine hysteresis, chapter 4,5 and Indenter, chapter 6.
	Inhouse method: Shore/IRHD-HG1 edition 3	IRHD High Hardness	IRHD gauges High	80-100°IRH	0,1-0,23 °IRH H	IRHD	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.
		IRHD Low Hardness	IRHD gauges Low	9-35°IRH	0,1 °IRH L	IRHD	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.

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Hardness	Inhouse method: Shore/IRHD-HG1 edition 3	IRHD Micro Hardness	IRHD gauges Micro	10-100° IRH	0,57-5,8 °IRH M	IRHD	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.
		IRHD Normal Hardness	IRHD gauges Normal	10-100° IRH	0,19 - 0,33 °IRH N	IRHD	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.
		Shore A Hardness	Shore A gauges	10-100 °SH	0,33 °SH	Shore	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.
		Shore AM Hardness	Shore AM gauges	10-100 °SH	0,63 °SH	Shore	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.
		Shore AO Hardness	Shore AO gauges	10-100 °SH	0,33 °SH	Shore	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.

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Hardness	Inhouse method: Shore/IRHD-HG1 edition 3	Shore D Hardness	Shore D gauges	10-100 °SH	0,33 °SH	Shore	Yes	2	Yes	Exceptions: Verification of the indenter, chapter 5.2.1 and pressure foot, chapter 5.2.2.
Mass	Intern metod; Mass-G1 edition 13		NAWI	0,001g - 0,01g	0,0030 - 0,0062 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	0,001g - 0,01g	0,0030 - 0,0062 mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	0,01g - 0,1g	0,0037 - 0,0072 mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	0,01g - 0,1g	0,0062 - 0,01 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	0,1g - 1g	0,0072 - 0,014 mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	0,1g - 1g	0,01 - 0,02 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	10 000g- 50 000g	26mg - 77mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	10 000g- 50 000g	35mg - 170mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	1000g-10 000g	2,5 - 26 mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	1000g-10 000g	3,4 - 35 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	1000kg - 6000 kg	23g - 130 g	Mass	Yes	2	Yes	1 measurement.
			NAWI	100g - 1000g	0,12 - 3,4 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	100g - 1000g	0,13 - 2,5 mg	Mass	Yes	2	Yes	3 series of measurements.
	NAWI	100kg - 1000 kg	3,3g - 23 g	Mass	Yes	2	Yes	1 measurement.		

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Mass	Intern metod; Mass-G1 edition 13		NAWI	10g - 100g	0,031 - 0,13 mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	10g - 100g	0,042 - 0,12 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	1g - 10g	0,014 - 0,031 mg	Mass	Yes	2	Yes	3 series of measurements.
			NAWI	1g - 10g	0,02 - 0,042 mg	Mass	Yes	2	Yes	1 measurement.
			NAWI	3000kg -6000kg	1,1kg - 1,1kg	Mass	Yes	2	Yes	Substitution method. Use of substitutions load, with an accuracy of 1/10 of the scale resolution.
			NAWI	500kg-6000kg	1,9kg - 7,8 kg	Mass	Yes	2	Yes	Substitution method on tank scales. On every substitution step will the resolution of the scale be added to the measurement uncertainty.
			NAWI	50kg - 100 kg	1,2g - 3,3 g	Mass	Yes	2	Yes	1 measurement.



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Mass	Intern metod; Mass-G1 edition 13		NAWI	50kg - 500 kg	0,37kg - 1,9kg	Mass	Yes	2	Yes	Substitution method on tank scales. On every substitution step will the resolution of the scale be added to the measurement uncertainty.
Speed	Inhouse method; Speed-S1 edition 11		Tensile tester	0,5-1000 mm/min	0,0048 mm/min - 5,5 mm/min	Speed	Yes	2	Yes	

**Temperature**

<i>Technology area</i>	<i>Method</i>	<i>Parameter</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Temperature	Inhouse method; Temp-T1, edition 4		Temperature sensors	0°C-630°C	1,8°C-1,9°C	Temperature	Yes	2	Yes	Bath, Ref. Thermocouples
			Temperature sensors	0°C-630°C	1,8°C-1,9°C	Temperature	Yes	2	Yes	Block, Ref. Thermocouples
			Temperature sensors	0°C-630°C	1,9°C-2,0°C	Temperature	Yes	2	Yes	Air, Ref. Thermocouples
			Temperature sensors	0-230°C	0,21°C	Temperature	Yes	2	Yes	Bath, Ref. PRT
			Temperature sensors	0-230°C	0,29°C	Temperature	Yes	2	Yes	Block, Ref. PRT
			Temperature sensors	0-230°C	0,5°C	Temperature	Yes	2	Yes	Air, Ref. PRT
			Temperature sensors	-80°C - 0°C	0,21°C-0,28°C	Temperature	Yes	2	Yes	Bath, Ref. PRT
			Temperature sensors	-80°C - 0°C	0,29°C-0,34°C	Temperature	Yes	2	Yes	Block, Ref. PRT
	Temperature sensors	-80°C - 0°C	0,50°C-0,53°C	Temperature	Yes	2	Yes	Air, Ref. PRT		

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Calibration and measurement capability, CMC, is the smallest uncertainty the calibration laboratory can provide, expressed as the expanded uncertainty having a coverage probability of approximately 95%.

Changes in the scope of accreditation are in bold.

The scope of accreditation is flexible as specified in this decision. The accredited body must always retain a current list of the scope for which it is accredited.

Type of flexible scope

1: - Introduce new version of standard method and make editorial changes to non-standard method

2: - Introduce new version of standard method and make editorial changes to non-standard method - Introduce new version and modifications of non-standard method. The procedure must be equivalent