

## Deutsche Akkreditierungsstelle

### Annex to the Accreditation Certificate D-K-17475-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 21.03.2022

**Date of issue:** 05.06.2023

Holder of accreditation certificate:

**SSW Prüfsysteme & Service GmbH Weißberg  
Düsseldorfer Straße 217, 40721 Hilden**

The calibration laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The calibration laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and confirm generally with the principles of DIN EN ISO 9001.

*This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de>.*

Abbreviations used: see last page

**Page 1 of 4**

**This document is a translation. The definitive version is the original German annex to the accreditation certificate.**

**Annex to the Accreditation Certificate D-K-17475-01-00**

Calibration in the fields:

**Mechanical quantities:**

**Material testing machines (MTM)**

- Force (MTM) <sup>a)</sup>
- Hardness (MTM) <sup>a)</sup>
- Extension (MTM) <sup>a)</sup>
- Mechanical work (MTM) <sup>a)</sup>
- Velocity (MTM) <sup>a)</sup>

<sup>a)</sup> **only on-site calibrations**

The calibration laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use calibration standards or equivalent calibration procedures listed here with different issue dates.

The calibration laboratory maintains a current list of all calibration standards / equivalent calibration procedures within the flexible scope of accreditation.

Valid from: 21.03.2022

Date of issue: 05.06.2023

**Page 2 of 4**

**This document is a translation. The definitive version is the original German annex to the accreditation certificate.**

**Annex to the Accreditation Certificate D-K-17475-01-00**

**On-site Calibration**

**Calibration and Measurement Capabilities (CMC)**

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
<b>Force (MTM)</b>  Force measuring device for Material Testing Machines according to DIN 51220	1 N to 3 MN	DIN EN ISO 7500-1:2018 DIN EN ISO 7500-2:2007 DIN EN ISO 148-2:2017	0.12 %	Force transducer (Class 0.5) compression
	1 N to 1 MN	DIN 51222:2017 DIN EN ISO 6506-2:2019 DIN EN ISO 6507-2:2018	0.12 %	Force transducer (Class 0.5) tensile
	0.1 N to 1 kN	DIN EN ISO 6508-2:2015 ASTM E 4:2020	0.10 %	mass stacks (compression and tensile)
<b>Hardness (MTM)</b>  Hardness measuring device according to Brinell-, Vickers- and Rockwell test procedure	30 HBW to 650 HBW	DIN EN ISO 6506-2:2019 DIN EN ISO 6507-2:2018 DIN ISO EN 6508-2:2015 ASTM E 10a:2018 ASTM E 18:2020 ASTM E 92:2017	2 % HB	given uncertainty apply to indirect calibration with hardness test blocks
	60 HBW to 225 HBW		1.2 % HBW, but not $< 1.5 \cdot U_{CRM}$	
	226 HBW to 650 HBW		1 % HBW, but not $< 1.5 \cdot U_{CRM}$	
	200 HV to 840 HV		The uncertainty for each parameter of direct calibration is given separately $U_{CRM}$ = calibration uncertainty of the hardness test blocks	1 % HV, but not $< 1.5 \cdot U_{CRM}$ 2 % HV, but not $< 1.5 \cdot U_{CRM}$
	(Hardness scales HV5 to HV100)			
	(Hardness scales HV0.01 to HV3)			
	20 HRA to 65 HRA			1.0 HRA
	66 HRA to 88 HRA			0.5 HRA
	20 HRB to 55 HRB			1.5 HRB
	56 HRB to 100 HRB		1.0 HRB	
	20 HRC to 55 HRC		1.0 HRC	
	56 HRC to 70 HRC		0.5 HRC	
	60 HRF to 100 HRF		1.0 HRF	
	20 HRN to 91 HRN		1.0 HRN	
12 HRT to 93 HRT	2.0 HRT			

Valid from: 21.03.2022

Date of issue: 05.06.2023

**Annex to the Accreditation Certificate D-K-17475-01-00**
**On-site Calibration**
**Calibration and Measurement Capabilities (CMC)**

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
<b>Extension (MTM)</b>  Length variation measuring device for Material Testing Machines according to DIN 51220	0 mm to 60 mm	DIN EN ISO 9513:2013 ASTM E 83:2016	$1.5 \cdot 10^{-3} \cdot l$ , but not $< 0.5 \mu\text{m}$	Measuring principle: incremental
	Piston movement measuring for Material Testing Machines according to DIN 51220		0 mm to 1500 mm	$1.5 \cdot 10^{-3} \cdot l$ , but not $< 2 \mu\text{m}$
Optical indentation measuring devices of Hardness Testers	0 mm to 6 mm	DIN EN ISO 6506-2:2019 DIN EN ISO 6507-2:2018	$1.5 \cdot 10^{-3} \cdot l$ , but not $< 0.5 \mu\text{m}$	Measuring principle: Object micrometer in incident light
<b>Mechanical work (MTM)</b>  Pendulum impact testing machines	0.5 J to 750 J	DIN EN ISO 148-2:2017 DIN 51222:2017 ASTM E 23:2018 DIN EN ISO 13802:2016	force: 0.12 % pendulum length: 0.17 mm angle: 0.05° time: 0.1 s	the measuring uncertainty will be calculated separately for:  1. Position of the oscillation center 2. potential energy 3. deviation of the indicated energy
<b>Velocity (MTM)</b>  traverse speed	0 mm/min to 500 mm/min	DIN EN ISO 6892-1:2020 ASTM E2658:2015 ASTM E2309:2020	1.5 %	Measuring principle: Start/Stop-method
	0 mm/min to 500 mm/min		0.3 %	Measuring principle: continuous

**Abbreviations used:**

ASTM	ASTM American Society for Testing and Materials
CMC	Calibration and measurement capabilities
DIN	Deutsches Institut für Normung e.V. – German institute for standardization

Valid from: 21.03.2022

Date of issue: 05.06.2023

Page 4 of 4

This document is a translation. The definitive version is the original German annex to the accreditation certificate.