

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that the calibration laboratory

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

meets the requirements of DIN EN ISO/IEC 17025:2018 for the conformity assessment activities specified in the following partial accreditation certificates. This includes additional existing legal and normative requirements for the calibration laboratory, including those in relevant sectoral schemes, provided that these are explicitly confirmed in the annexes to the partial accreditation certificates listed below.

D-K-19500-01-01

D-K-19500-01-02

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate consists of this cover sheet, the reverse side of the cover sheet and the following annex. It only applies in connection with the partial accreditation certificates listed above and the notices referred to there.

Registration number of the certificate: **D-K-19500-01-00**

Berlin, 25.03.2024

Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch
Head of Technical Unit

Translation issued:

25.03.2024



Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch
Head of Technical Unit

The certificate together with the annex 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 (www.dakks.de).

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

See notes overleaf

Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 10
10117 Berlin

Office Frankfurt am Main
Europa-Allee 52
60327 Frankfurt am Main

Office Braunschweig
Bundesallee 100
38116 Braunschweig

The Deutsche Akkreditierungsstelle GmbH (DAkKS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkKS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkKS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:

EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-K-19500-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 25.03.2024

Date of issue: 25.03.2024

Holder of accreditation certificate:

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

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 in the annexes to the partial accreditation certificates listed below.

D-K-19500-01-01

D-K-19500-01-02

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and they conform to 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>.

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Partial Accreditation Certificate** that the calibration laboratory

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the calibration laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This partial accreditation certificate only applies in connection with the notice of 25.03.2024 with accreditation number D-K-19500-01.
It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 2 pages.

Registration number of the partial accreditation certificate: **D-K-19500-01-01**
It is a part of the accreditation certificate: D-K-19500-01-00.

Berlin, 25.03.2024

Dr. Florian Witt
Head of Technical Unit

Translation issued:
25.03.2024



Dr. Florian Witt
Head of Technical Unit

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Deutsche Akkreditierungsstelle

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Valid from: 25.03.2024

Date of issue: 25.03.2024

This annex is a part of the accreditation certificate D-K-19500-01-00.

Holder of partial accreditation certificate:

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

with the location

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

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 they conform to the principles of DIN EN ISO 9001.

Calibration in the fields:

Electrical quantities

DC and low frequency quantities

- **DC voltage**
- **DC current**
- **DC resistance**
- **Current ratio**

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Abbreviations used: see last page

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Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
DC voltage	1 μ V to < 10 mV		$0.1 \cdot 10^{-3} \cdot U + 0.2 \mu\text{V}$	U: measured value
	10 mV to < 1 V		$20 \cdot 10^{-6} \cdot U$	
	1 V to 10 V		$3.0 \cdot 10^{-6} \cdot U$	
	> 10 V to 1000 V		$9,0 \cdot 10^{-6} \cdot U$	
DC current	1 μ A to < 1 mA		$30 \cdot 10^{-6} \cdot I$	I: measured value
	1 mA to < 10 A		$15 \cdot 10^{-6} \cdot I$	
	10 A to < 100 A		$30 \cdot 10^{-6} \cdot I$	
	100 A to 2000 A		$50 \cdot 10^{-6} \cdot I$	
Current transformer ratio	<u>100 A to 2 kA (primary)</u> 1 A or 2 A (secondary)		$0,10 \cdot 10^{-3}$	Measurement uncertainty of current ratio
DC resistance Resistors	1 Ω , 10 k Ω		$3.0 \cdot 10^{-6} \cdot R$	R: measured value
	10 $\mu\Omega$		$0.1 \cdot 10^{-3} \cdot R$	
	0.1 m Ω , 1 m Ω , 10 m Ω		$50 \cdot 10^{-6} \cdot R$	
	0.1 Ω , 10 Ω , 100 Ω , 1 k Ω		$10 \cdot 10^{-6} \cdot R$	
Ranges	10 $\mu\Omega$ to < 100 $\mu\Omega$		$0.1 \cdot 10^{-3} \cdot R$	
	0.1 m Ω to < 1 m Ω		$0.1 \cdot 10^{-3} \cdot R$	
	1 m Ω to < 10 m Ω		$50 \cdot 10^{-6} \cdot R$	
	10 m Ω to < 100 m Ω		$20 \cdot 10^{-6} \cdot R$	
	0,1 Ω to 100 k Ω		$10 \cdot 10^{-6} \cdot R$	

Abbreviations used:

- CMC Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)
DIN Deutsches Institut für Normung e.V. – German institute for standardization
DKD-R Calibration Guide of Deutscher Kalibrierdienst (DKD), published by the Physikalisch-Technischen Bundesanstalt
EN Europäische Norm – European Standard
IEC International Electrotechnical Commission
ISO International Organization for Standardisation

Valid from: 25.03.2024

Date of issue: 25.03.2024

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Partial Accreditation Certificate** that the calibration laboratory

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the calibration laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This partial accreditation certificate only applies in connection with the notice of 25.03.2024 with accreditation number D-K-19500-01.

It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 3 pages.

Registration number of the partial accreditation certificate: **D-K-19500-01-02**

It is a part of the accreditation certificate: D-K-19500-01-00.

Berlin, 25.03.2024

Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch
Head of Technical Unit

Translation issued:
25.03.2024



Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch
Head of Technical Unit

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Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

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Deutsche Akkreditierungsstelle

Annex to the Partial Accreditation Certificate D-K-19500-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: 25.03.2024

Date of issue: 25.03.2024

This annex is a part of the accreditation certificate D-K-19500-01-00.

Holder of partial accreditation certificate:

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Eibacher Weg 3-5, 35683 Dillenburg

with the location

Isabellenhütte Heusler GmbH & Co. KG
Eibacher Weg 3-5, 35683 Dillenburg

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 they conform to the principles of DIN EN ISO 9001.

Calibration in the fields:

Thermodynamic quantities

Temperature quantities

- **Direct reading thermometers**
- **Thermocouples**
- **Resistance thermometers**

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Abbreviations used: see last page

Page 1 of 3

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Annex to the Partial Accreditation Certificate D-K-19500-01-02

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.

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks	
Temperature Resistance thermometers and Direct reading thermometers with resistance sensor	-40 °C to < 0 °C	in liquid bath	0.10 K	Comparison with standard platin resistance thermometer	
	0 °C to 250 °C	DKD-R 5-1:2018	0.05 K		
	> 250 °C to 630 °C	in fluidizing solid bath DKD-R 5-1:2018	0.25 K		
Direct reading thermometers with thermocouple sensor	-40 °C to < 0 °C	in liquid bath	0.5 K	Comparison with standard thermocouples type S	
	0 °C to 250 °C	DKD-R 5-3:2018	0.3 K		
	> 250 °C to 630 °C	in fluidizing solid bath DKD-R 5-3:2018	0.5 K		
	> 630 °C to 1100 °C	in tube furnaces	1.0 K		
	> 1100 °C to 1200 °C	DKD-R 5-3:2018	1.5 K		
Noble metal thermocouples	0 °C to 1100 °C	in liquid bath or tube furnaces	1.0 K	Comparison with standard thermocouples type S	
	> 1100 °C to 1200 °C	DKD-R 5-3:2018	1.5 K		
Base metal thermocouples Type K, Type	-40 °C to 0 °C	in liquid bath DKD-R 5-3:2018	1.8 K	Comparison with standard platin resistance thermometer	
	> 0 °C to 300 °C	in liquid bath or tube furnaces DKD-R 5-3:2018	1,8 K		Comparison with standard thermocouples type S
	> 300 °C to 1000 °C		3,0 K		
	> 1000 °C to 1200 °C		4,0 K		
Type J	0 °C to 300 °C	in liquid bath or tube furnaces DKD-R 5-3:2018	1.1 K		
	> 300 °C to 500 °C		2.0 K		
	> 500 °C to 760 °C		3.0 K		
Type T	-40 °C to 0 °C	in liquid bath DKD-R 5-3:2018	1.5 K	Comparison with standard platin resistance thermometer	
	> 0 °C to 400 °C	in liquid bath or tube furnaces DKD-R 5-3:2018	1,5 K	Comparison with standard thermocouples type S	

Abbreviations used:

Annex to the Partial Accreditation Certificate D-K-19500-01-02

CMC Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)
DIN Deutsches Institut für Normung e.V. – German institute for standardization
DKD-R Calibration Guide of Deutscher Kalibrierdienst (DKD), published by the Physikalisch-
Technischen Bundesanstalt
EN Europäische Norm – European Standard
IEC International Electrotechnical Commission
ISO International Organization for Standardisation