

Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra

Federal Department of Economic Affairs, Education and Research EAER **State Secretariat for Economic Affairs SECO** Swiss Accreditation Service SAS

Swiss Confederation

Based on the Accreditation and Designation Ordinance dated 17 June 1996 and on the advice of the Federal Accreditation Commission, the Swiss Accreditation Service (SAS) grants to

Helmut Fischer AG Moosmattstrasse 1 6331 Hünenberg



Period of accreditation: 09.12.2023 until 08.12.2028

(1st accreditation: 09.12.2013)

the accreditation as

Calibration laboratory for length measurements, coating thickness measurements, elemental analysis and electrical conductivity measurements

International standard: ISO/IEC 17025:2017 Swiss standard:

SN EN ISO/IEC 17025:2018

3003 Berne, 24.10.2023 Swiss Accreditation Service SAS

Head of SAS Konrad Flück

SAS is a signatory of the multilateral agreements of the European co-operation for Accreditation (EA) for the fields of testing, calibration, inspection and certification of management systems, certification of personnel and certification of products, processes and services, of the International Accreditation Forum (IAF) for the fields of certification of management systems and certification of products, processes and services and of the International Laboratory Accreditation Cooperation (ILAC) for the fields of testing, calibration and inspection.



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SCS Directory

Federal Department of Economic Affairs, Education and Research EAER

State Secretariat for Economic Affairs SECO Swiss Accreditation Service SAS

Accreditation number: SCS 0136

| International standard: | ISO/IEC 17025:2017 | | | |
|-------------------------------------|-----------------------------|-------------------------------------------------------|--|--|
| Swiss standard: | SN EN ISO/IEC 17025:2018 | | | |
| | | | | |
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| | Internet: | www.helmut-fischer.ch | | |
| | Initial accreditation: | 09.12.2013 | | |
| | Current accreditation: | 09.12.2023 to 08.12.2028 | | |
| | Scope of accreditation see: | www.sas.admin.ch (Accredited bodies) | | |

Scope of accreditation as of 09.12.2023

Calibration laboratory for length measurements, coating thickness measurements, elemental analysis and electrical conductivity measurements

Calibration and Measurement Capability (CMC)

| Measured Quantity / Instrument or Gauge | Measurement Range | Measurement Conditions | Best Measurement Uncertainty ± ¹⁾ | Remarks |
|--------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|---------|
| Length (coating thickness) | 0.5 - 500 microme- ters (µm) | Comparison with a certified reference material using electron microscopy | For 0.5 - 1.0 µm: 8 % For 1 - 5 µm: 2 % For > 5 µm: 1 % | |
| | 0.5 μm - 100 milli- meters (mm) | Tactile, with electro- magnetic method | 0.5 µm | |

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| Measured Quantity / Instrument or Gauge | Measurement Range | Measurement Conditions | Best Measurement Uncertainty ± ¹⁾ | Remarks |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Coating thickness (mass per area) | From 5 nanometers (nm) to 100 μm | ED-XRF, ICP- OES | 1 nm | Measuring range and uncertainty vary with the method and the coating structure. As- sumption of known density of the coat- ings. |
| Elemental analysis of solid materials and solutions | From 10 milligrams per kilogram (mg/kg) to 1000 grams per kilogram (g/kg) | Destructive or non- destructive and con- tactless (ICP-OES, ED-XRF) | 5 mg/kg | Measuring range and uncertainty vary with method and analyte/matrix. |
| Electrical conductivity of non-ferrous metals | 0.3 - 63 megasie- mens per meter (MS/m), | Tactile, phase-sen- sitive eddy-current measurement | 1 % relative | |
| | 0.5 -108 % « International An- nealed Copper Standard » (%IACS) | | | |

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

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1) 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.