**INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC SYSTEM FOR**

**CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR USE IN**

**EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**TITLE: IECEx Assessment Report for the acceptance of CSA Group Bayern GmbH, Germany, as an IECEx Testing Laboratory (ExTL), in the IECEx System, Equipment Scheme, IECEx 02.**

**INTRODUCTION**

This document contains the IECEx Assessment Report for the acceptance of CSA Group Bayern GmbH, Germany, as an IECEx Testing Laboratory (ExTL), in the IECEx System, Equipment Scheme, IECEx 02.

***This document is hereby submitted for ExMC approval via correspondence using the IECEx on-line voting system. ExMC Members are requested to submit their vote via the IECEx On-line Ballot System by the closing date 2022 02 02***

***Please refer to OD 050 for guidance on the “IECEx On-line voting system.”***

**Chris Agius**

***IECEx Secretariat***

|  |  |
| --- | --- |
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IEC System for certification to standards relating to equipment for use in Explosive Atmospheres (IECEx System)

IECEx Assessment Report Form, F-003

IECEx assessment report form for use by IECEx assessment teams to report assessments conducted according to the relevant IECEx assessment procedures of:

Operational Document IECEx OD 003-2 for the Certified Equipment Scheme

IECEx ExTL assessment report for CSA Group Bayern GmbH

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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# Assessment information

## Type of body covered by this assessment:

|  |  |
| --- | --- |
| ExCB for IECEx Certified Equipment Scheme | [ ]  |
| ExTL for IECEx Certified Equipment Scheme | [x]  |
| ATF for IECEx Certified Equipment Scheme | [ ]  |
| ExCB for IECEx Certified Service Facilities Scheme | [ ]  |
| ExCB for IECEx Conformity Mark Licensing System | [ ]  |
| ExCB for IECEx Certification of Personnel Competency Scheme | [ ]  |

## Type of assessment:

|  |  |
| --- | --- |
| Pre-assessment for candidate body | [ ]  |
| Initial assessment for candidate body | [x]  |
| Surveillance  | [ ]  |
| Re-assessment  | [ ]  |
| Scope extension | [ ]  |

## Details of body

### Country

Germany

### Name of body

CSA Group Bayern GmbH

### Name and title of nominated principal contact

|  |  |  |
| --- | --- | --- |
| Name | Title | E-mail address |
| Herbert Peters | Certification Specialists | Herbert.peters@csagroup.org |

## Assessment information

### Members of the assessment team

|  |  |
| --- | --- |
| Name  | Role  |
| Bernard PIQUETTE | IECEx Lead Assessor |

### Place(s) of assessment

|  |  |
| --- | --- |
| Straubinger Straße 10094447 Plattling | Ohmstrasse 1 - 4 94342 Strasskirchen |

### Assessment date(s)

The assessment was conducted over the period 31 August to 2 September 2021 (3 days)

## Application information and background information on the assessment

The CSA Bayern facility consists of an existing location at Strasskirchen and a new purpose built laboratory located at Plattling. Both locations form the CSA Group Bayern Applicant ExTL and contain all necessary test equipment and facilities in order to conduct Ex testing according to IECEx requirements. These were checked throroughly during the assessment, which consisted of a site visit due to easing of travel restrictions associated with the COVID-19 pandemic.

The distance between the two locations is 12 km. In the future CSA Bayern will concentrate its his activity in Plattling~~.~~

## Scopes

### ExCB scope for equipment certification scheme

The ExCB is CSA Group with CSA in Toronto as ExCB responsible for CSA Bayern. The Scope of the ExCB covers all standards of the applicant ExTL.

### ExTL scope

The ExTL scope does not cover all standards of the scope of the ExCB. See Annex A

### ATF Scope

Not an ATF

### ExCB scope for Service Facilities Scheme

Not in the Service Facilities Scheme.

## ExCB scope for IECEx Personnel Competence Scheme

Not in the IECEx Personnel Competence Scheme.

# Common information

## Legal entity of body

CSA Group Bayern GmbH is a legal entity which is 100% owned by CSA group Europe. CSA group Europe is a legal entity which is 100% owned by CSA UK. CSA UK is a legal entity which is 100% owned by CSA group.

## Financial support

The commercial activities related to Ex activities are self-financing through customer fees

## History.

In October 2013 the former “mikes testing GmbH” changed the company name to CSA Group Bayern GmbH.

In January 2014 the former “emitel GmbH” merged into the CSA Group Bayern GmbH.
Both companies were acting as test laboratories, certification body and CBTLs for many years before.

An excerpt from the commercial register “HRB 11130” which documents the mentioned merger has been reviewed during the assessment and found satisfactory.

## Documentation

### Quality manual

CSA Group Bayern GmbH has a local quality manual ref CSA\_B\_HB\_rev24\_0 dated 2021.09.1 supported by procedural documents. CSA apply also the quality Manual of CSA group for the IECEx operations.

The General Quality Manual and relevant associated quality manuals were checked and found to meet the requirements of the IECEx Scheme.

### Procedures

CSA Group Bayern GmbH have a very comprehensive range of procedures covering all aspects of the laboratory operations, including testing, Protection against conflicting interest and complaints and appeals. For IECEx, CSA Bayern apply also the procedures issued by CSA group.

The procedures were found to meet the requirements of IECEx

CSA Group procedures are implemented across all CSA facilities. However, each site may produce separate procedures to further define a point in the CSAgroup procedure or to adapt the CSA group procedure to local testing facilities. In any case, there is no contradiction between the CSA group procedure and the local procedure.

### Work instructions

Work Instructions are incorporated with the CSA Group Bayern GmbH, and align with the CSA Group Procedures.

The work instructions were found to meet the requirements of IECEx.

A number of work instructions relevant for the operation of ExTL were reviewed during the assessment and found to meet the requirements of the IECEx.

No, most of the detailed work instruction are local and in German

### Records (including test records where relevant)

All records are maintained according to CSA\_B\_A510\_01(Erstellung von Prüfberichtsvorlagen, *“Creation of test report templates”*) and CSA\_B\_A510\_00 (Erstellung von Prüfberichten, “Issueing of test reports”) and were found to meet IECEx requirements

All records are kept in a SharePoint system which is used by all persons of CSA group. The access to the record is managed by the system. Modification or suppression of record is controlled. The system complies with IECEx requirements, including *OD 207 Guidance on the Retention of Records.*

### Document change control

The local QM with the procedure “Control of documents”, (CSA\_B\_V43\_01) address document control. All controlled documents are listed in the table “Verzeichnis xlsx” This table is available for all members of CSA Group Bayern. Weekly information goes out to advise staff of changes.
All controlled documents are reviewed periodically.

The document change control system meets the requirements of IECEx.

## Confidentiality

CSA Group Bayern is certified according to ISO/IEC 27001.

All contracts with employees have a clause related to confidentiality. All new employees have on-line training and commitment to confidentiality which is recorded in a database. These records are maintained by Human Resources.

The system was reviewed and found to meet the requirements of ISO/IEC 17025 and IECEx.

## Communication with public and customers (Hard copy and Electronic)

CSA has a wide range of publications covering both technical and general/marketing information. The website <https://www.csagroup.org/> was checked with sufficient and correct information displayed.

## Recognitions and agreements

CSA Group Bayern has no agreements relevant for IECEx.

## Internal audit

Internal audits are planned once a year for each type of operation. The last internal audit has been performed in June 2021 and the next internal audit is planned for Feb./Mar. 2022.

The internal audit report has been reviewed and found complying the IECEx rules.

## Management review

The Management review is defined in the Quality Manual and is conducted annually. The last management review was conducted in March 2021 and mention the new activities. The next Management Review is planned for March 2022.

## Contracting, subcontracting and witness testing

### Contracting

There are no tests that CSA Group Bayern must contract for testing to IEC standards applicable to the IECEx scope.

### Subcontracting

The following tests are, or may be, subcontracted by CSA Group Bayern GmbH:

|  |  |  |
| --- | --- | --- |
| Standard | Clause  | Test |
| IEC 60079-0:2018 | 26.10 | Resistance to UV light |
| IEC 60079-0:2018 | 26.15 | Verification of ratings of ventilating fans |
| IEC 60079-1:2014 | B.1.4 | Sintered metal elements - Open porosity and/or fluid permeability |
| IEC 60079-7:2017: A1: 2017 | 6.2.3 | Additional tests Stator winding insulation |
| IEC 60079-7:2017: A1: 2017 | 6.2.3.2 | Cage rotor |
| IEC 60079-7:2017: A1: 2017 | 6.2.4 | Overspeed test of cemented magnets |
| IEC 60079-7:2017: A1: 2017 | 6.3.4 | Abnormal operation of luminaires |
| IEC 60079-7:2017: A1: 2017 | 6.2.8 | Tests for electronic starters for tubular fluorescent lamps and for ignitors in level of protection “ec” for discharge lamps |
| IEC 60079-7:2017: A1: 2017 | 6.3.9 | Test for starter holders for luminaires in Level of Protection “ec” |

More details, including bodies to whom tests will be subcontracted, details of accreditation of those bodies and details of how the subcontracted bodies are checked, are included in the site assessment report.

### Off-site and Witness testing

DQD 312.01 Guideline for IECEx Scheme is the procedure covering witnessing testing at manufacturer’s premises which was found to comply with OD 024.

## Training and competence

All staff employed are selected for qualifications and/or experience relevant to their responsibilities. There is a competency matrix for all Activity branches which include the ExTL tasks. All trainings are managed through a local training matrix. General CSA Group training is provided and managed by MyCareer. The Training with mentors is recorded in this system. Details of staff competencies are included in the site assessment report.

The above was found to meet the requirements of IECEx.

## Complaints and appeals (including appeals to IECEx)

CSA Group Bayern has a process for external complaints defined in CSA\_B\_V48\_01, (Beschwerde- Reklamationsmanagement, “Process description for Complaints/Appeals”)

CSA Group has a general process for external complaints defined in DQD 306 Handling Customer Complaints. The Certification Appeals Procedure is detailed in DQD 458. This covers the complaints mechanism requirements of the ExCB

The system was found to meet the requirements of IECEx.

## Impartiality

A statement of impartiality is made within the Quality Manual which addresses the impartiality aspect in accordance with ISO/IEC 17025. CSA Group Bayern GmbH is also certified according ISO/IEC 27001 Information security management

The system was found to meet the requirements of IECEx.

## Active involvement in development of Decision Sheets

The lab in CSA Group Bayern is connected to CSA Toronto which is active in the development of Decision Sheets..

## Special facts to be noted

None

## Supporting documentation

Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat. These are included in a site assessment report or provided separately and include:

* Details of issues raised and how these have been resolved
* Checklist for ISO/IEC 17025
* Completed Technical Capability Document (TCD)
* Photos of the facilities/tests witnessed are included in the above TCD
* Information on competencies
* Information on contracting/subcontracting
* Assessors’ notes

## Recommendations

Based on the assessment performed on 31 August to 2 September 2021, CSA Group Bayern GmbH is recommended for acceptance in the IECEx scheme as:

* An ExTL in the IECEx Certified Equipment Scheme

On the basis that a surveillance assessment be conducted 1 year after acceptance.

This is according to the scope of the standards listed in this document.

|  |
| --- |
| Bernard PIQUETTE |
| IECEx Lead Assessor Date: 2021.12 21 |

# ExCB for IECEx Certified Equipment Scheme

The scope of this assessment is limited to the ExTL. Section 3 does not apply.

#  ExTL for IECEx Certified Equipment Scheme

## Assessment references

### General references

1. IECEx02 IECEx Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
2. IECEx OD003-2 Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEx 02, IECEx Certified Equipment Scheme
3. IECEx OD009 Issuing of CoCs, ExTRs and QARs
4. ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
5. IECEx OD 018 Harmonised check list for testing and calibration laboratories ISO/IEC 17025
6. IECEx TCD 60079, ISO 80079 Series and ISO 16852 Technical Capability Document
7. ExTAG decision sheets (DSs)
8. IECEx OD 202 IECEx Certified Equipment Scheme – IECEx Proficiency Testing Program

NOTE The latest editions of the above documents were applied, unless otherwise specified.

### Additional references applied for this assessment

NOTE To be added by assessment team. For example, ODs for non-electrical or Ex s where applicable

## Candidate ExTL persons interviewed

|  |  |
| --- | --- |
| Name | Position |
| Herbert Peters | Deputy of the Team Leader HazLoc |
| Jens Ensminger | Team Leader HazLoc |
| Gordon Neuroth | Certification Engineer |

## Associated ExCB(s)

CSA Group Toronto, 178 Rexdale Boulevard, Toronto, ON M9W 1R3, Canada

## Organisation

### Names, titles and experience of the senior executives

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Dieter Fröhlich | CEO CSA Group Bayern GmbH | 29 |

### Name, title and experience of the quality management representative

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Frank Scharnowski | Quality Manager | 32 |

### Other employees in ExTL activity

|  |  |  |
| --- | --- | --- |
| Name | Title/responsibility | Experience in Ex (years) |
| Herbert Peters | Deputy of the Team Leader HazLoc | 34  |
| Jens Ensminger | Team Leader HazLoc | 8 |
| Gordon Neuroth | Certification Engineer | 15 |
| Stjepan Peretin | Technician | 7 |

## Organizational structure

See Annex B

## Resources

CSA Group Bayern GmbH has the necessary resources in facilities, equipment and staff to be able to carry out testing to the standards in the scope.

At the time of the visit, a new larger explosion chamber was being installed to supplement their existing Flameproof test facilities.

CSA Group Bayern GmbH maintain a comprehensive competency matrix for the various testing capabilities.

## Test reports issued

Although most of the staff have experience in the area of explosion proof equipment certification as an employee of CSA Toronto. CSA Bayern is a new organization in this field and has not yet issued a report.

In noting that CSA Bayern is new to the Ex field, the assessment confirmed that the key technical staff were part the CSA Toronto ExCB and ExTL. It is further confirmed that the associated / supervising ExCB for CSA Bayern will be CSA Toronto a founding member of ExCBs/ExTLs to participate in the IECEX 02 Certified Equipment Scheme.

Given this situation, it is recommended that CSA Bayern be accepted as an ExTL on the basis that they are subjected to a surveillance assessment not more than 1 year after acceptance, regardless of their accreditation status.

## National accreditation

The audit for the ATEX/HAZLOC of the CSA Group Bayern test laboratory was performed 2021-07-14/15 by DAkkS. For this test area no non-Conformity has been fixed. The Certificate for ATEX/HAZLOC in pending at the date of assessment

NOTE The national accreditation is checked annually by the IECEx Secretariat.

## Calibration

Calibration of equipment is managed through a computer system called TEC by the quality department. The general procedure for the management of calibration is CSA\_B\_A55\_02.

The Calibration Management System, a selection of calibration certificates as well as calibration tags on the equipment were reviewed during the assessment and found to meet the requirements of IECEx.

##  Tests witnessed during the assessment visit

|  |  |  |  |
| --- | --- | --- | --- |
| The following tests were witnessed during the assessment visit:Standard and edition | Clause number | Test | Comments |
| IEC 60079-0: 2017  | 26.13 | Surface resistance test of part of enclosure of non-metallic enclosure | acceptable |
| IEC 60079-0: 2017  | 26.4.5 | Degree of protection (IP) by enclosures | acceptable |
|  IEC 60079-0: 2017 | 26.14 | Measurement of capacitance | acceptable |
| IEC 60079-1: 2014  | 15.2.2  | Determination of explosion pressure  | acceptable |
| IEC 60079-1: 2014   | 15.4.3 | Thermal Test of enclosure with breathing and draining devices | acceptable |
| IEC 60079-11: 2011  | 10.1 | Spark ignition test | acceptable |
| IEC 60079-11: 2011   | 10.5.3 | Spark ignition and surface temperature of cells and batteries) | acceptable |
| IEC 60079-18: 2014  | 8.1.2 | Dielectric strength | acceptable |
| IEC 60079-15: 2017  | 11.2.3 | Leakage tests on sealed devices | acceptable |
| IEC 60079-31: 2013  | 6.1.2 | Thermal tests | acceptable |
| IEC 60079-28: 2015  | 5.2.2.2 | Measurement of the optical power  | acceptable |
| IEC 60079-28: 2015 | 5.2.2.3 | Measurement of the optical irradiance | acceptable |
|  |  |  |  |

## Participation in IECEx Proficiency Testing Programs

At the date of the assessment CSA Group GmbH did not participate to any Proficiency Testing Programs but provide evidence of his future participation to the “Small Component Temperature – Test Round 2021”.

## Comments (including issues found during assessment)

Issues were raised during the site assessment requiring action. These were cleared to the satisfaction of the assessment team.

These included:

• connexion between ExCB and ExTL

#  Annexes

1. Scope for IECEx Certified Equipment Scheme
	1.

| Number  | Title  | Comments |
| --- | --- | --- |
| IEC 60079-0 Edition 7.0 | Explosive atmospheres - Part 0: Equipment - General requirements  |  |
| IEC 60079-1Edition 7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproofenclosures “d” |  |
| IEC 60079-2 Edition 6.0 | Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure “p’ |  |
| IEC 60079-5Edition 4.0 | Explosive atmospheres - Part 5: Equipment protection by powder filling “q” |  |
| IEC 60079-6Edition 4.1 | Explosive atmospheres - Part 6: Equipment protection by oil immersion “o” |  |
| IEC 60079-7Edition 5.1 | Explosive atmospheres - Part 7: Equipment protection by increasedsafety "e" |  |
| IEC 60079-11Edition 6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” |  |
| IEC 60079-15Edition 5.0 | Explosive atmospheres – Part 15: Equipment protection by type of protection "n" |  |
| IEC 60079-18Edition 4.1 | Explosive atmospheres – Part 18: Equipment protection by encapsulation “m” |  |
| IEC 60079-25Edition 3.0 | Explosive atmospheres – Part 25: Intrinsically safe electrical systems |  |
| IEC 60079-26Edition 3.0 | Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga |  |
| IEC 60079-28Edition 2.0 | Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation  |  |
| IEC/IEEE 60079-30-1Edition 1.0 | Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements |  |
| IEC 60079-31Edition 2.0 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t" |  |
| IS0 80079-36Edition 1.0 | Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements |  |
| ISO 80079-37Edition 1.0 | Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres – Non electrical type of protection constructional safety ”c” control of ignition source ”b”, liquid immersion ”k” |  |
| IEC TS 60079-46Edition 1.0 | Explosive atmospheres – Part 46 - Equipment assemblies |  |

.

1. Organisation Chart of ExTL

