**INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC SYSTEM FOR**

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

**EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**TITLE: Scope Extension Assessment Report for FM Approvals LLC, US, an Accepted ExCB and an Accepted ExTL within the IECEx System, Equipment Scheme 02, to include ISO 80079-36 and ISO 80079-37 in their scope.**

**Circulated To: Members of the IECEx Management Committee, ExMC**

**Introduction**

FM Approvals LLC, US, an Accepted ExCB and an Accepted ExTL within the IECEx System, Equipment Scheme 02, has applied to include the following Standards within their scope. A special assessment was arranged and conducted in accordance with OD060 IECEx Guide for Business Continuity - Management of Extraordinary Circumstances or Events Affecting IECEx Certification Schemes and Activities Ed. 2.1.

IS0 80079-36 Ed. 1.0 Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements

ISO 80079-37 Ed. 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”

This report details the assessment findings of this scope extension with the IECEx

Assessment Team recommending the acceptance of the above scope extension.

***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***](https://www.iecex.com/ballot) ***by the closing date 2022 03 31***

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

*Chris Agius*

**IECEx Secretary**

|  |  |
| --- | --- |
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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

Operational Document IECEx OD 316-\* for the Certified Service Facility Scheme

Operational Document IECEx OD 422 for the IECEx Conformity Mark Licensing Scheme

Operational Document IECEx OD 501 for the Personnel Competence Scheme

IECEx ExCB/ExTL assessment report for FM Approvals LLC

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 |  |
| 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 |  |
| Re-assessment for candidate body |  |
| Surveillance |  |
| Re-assessment |  |
| Scope extension |  |

## Details of body

### Country

USA

### Name of body

FM Approvals LLC

### Name and title of nominated principal contact

|  |  |  |
| --- | --- | --- |
| Name | Title | E-mail address |
| James Marquedant | Vice president – manager electrical systems | [james.marquedant@fmapprovals.com](file:///C:\Users\wasa\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\6813TCMR\james.marquedant@fmapprovals.com) |

## Assessment information

### Members of the assessment team

|  |  |
| --- | --- |
| Name | Role |
| Ron Webb | IECEx Lead Assessor |

### Place(s) of assessment

|  |
| --- |
| 1151 Boston-Providence Turnpike, Norwood MA 02062 USA |

### Assessment date(s)

13 January 2022. This scope extension assessment was conducted as a remote assessment under the provisions of IECEx OD 060.

## Application information and background information on the assessment

Scope extension requested by way of completed ExMC/251A/Inf form dated 2021-06-03

|  |  |  |
| --- | --- | --- |
| **Standard** | **Edition** | **Title** |
| IS0 80079-36 | Edition 1.0 | Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements |
| ISO 80079-37 | Edition 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” |

## Scopes

### ExCB scope for equipment certification scheme

The scope for the ExCB is shown in Annex A.

### ExTL scope

The ExTL scope is the same as for the ExCB

# Common information

## Legal entity of body

Not relevant as this is a scope extension assessment. This was covered in the re-assessment

refer to Re-assessment Report ExMC/1699/R.

## Financial support

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## History

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Documentation

### Quality manual

No specific changes for non-electrical equipment

### Procedures

Specific procedures for non-electrical equipment have been updated / created, referring to IEC 60079-0 and ISO 80079-36/37 as appropriate

### Work instructions

Specific work instructions for non-electrical equipment have been updated / created, referring to IEC 60079-0 as appropriate

### Records (including test records where relevant)

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

### Document change control

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Confidentiality

Not relevant as this is a scope extension assessment. This was covered in the re-assessment

refer to Re-assessment Report ExMC/1699/R.

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

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Recognitions and agreements

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R. FM Approvals LLC (FMG) operates as an IECEx ExTL for FM Approvals Ltd of UK (FME)

## Internal audit

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Management review

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Contracting, subcontracting and witness testing

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Off-site and Witness testing

Should they need to they have made provision in their procedures to do witness testing using OD 024. There are existing procedures in place for the use of OD 024.

## Training and competence

FMG were able to demonstrate they have sufficient competent staff to carry out the ExCB and ExTL activities associated with the standards in the scope extension.

Details of staff competencies are included in the site assessment report

## Complaints and appeals (including appeals to IECEx)

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Impartiality

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Active involvement in development of Decision Sheets

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Special facts to be noted

None other than those mentioned throughout the report.

## Supporting documentation

Copies of additional supporting information for this assessment have been provided to the applicant and the IECEx Secretariat. These are provided separately and include:

* Completed Technical Capability Document (TCD)
* Information on competencies

## Recommendations

Based on the assessment performed on 13 January 2022, FMG is recommended for the extension of scope to include ISO 80079-36 and ISO 80079-37 shown in Annex A as:

* An ExCB in the IECEx Certified Equipment Scheme
* An ExTL in the IECEx Certified Equipment Scheme

|  |
| --- |
| Ron Webb |
| IECEx Lead Assessor |

# 7 February 2022

**3. ExCB for IECEx Certified Equipment Scheme**

**3.1** **Assessment references**

### General References

1. IECEx 02 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. ISO/IEC 80079-34 Explosive atmospheres – Part 34: Application of quality systems for equipment manufacture
4. IECEx OD 009 Issuing of CoCs, ExTRs and QARs
5. IECEx OD 025 Guidelines on the Management of Assessment and Surveillance programs for the assessment of Manufacturer’s Quality Systems in accordance with the IECEx Scheme
6. IECEx OD 026 IECEx Certified Equipment Scheme – Guidelines for the qualification of Lead Auditor and Auditors, in accordance with the IECEx System
7. ISO/IEC 17065 General requirements for bodies operating product certification systems Conformity assessment — Requirements for bodies certifying products, processes and services
8. IECEx OD 107 Harmonised check list for certification bodies ISO/IEC 17065
9. IECEx OD 060 IECEx Guide for Business Continuity – Management of Extraordinary Circumstances or Events Affecting IECEx Certification Schemes and Activities
10. IECEx Technical Capability Document (TCD)
11. ExTAG decision sheets (DSs)

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

### Additional references applied for this assessment

1. OD 280 IECEx Certified Equipment Scheme – Guide to Certification of Non-electrical Equipment and Protective Systems

## ExCB persons interviewed

|  |  |
| --- | --- |
| Name | Position |
| James Marquedant | Vice president – Manager electrical systems |
| Andrew Was | Auditing and Quality Manager – EMEA and APAC |

## Associated ExTL(s)

The FM Approvals LLC ExTL is integral with the ExCB

## Associated certification functions

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## National marks and certificates

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Standards accepted

See Annex A.

## National differences to IEC standards

National differences to IEC standards are those listed in the latest version of the IECEx System Bulletin.

## Organisation

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

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| James Marquedant | Vice president – Manager electrical systems | 15+ |

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

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Robert Lovell | VP, Manager, Auditing and Quality assurance | 15+ |
| Andrew Was | Auditing and Quality Manager – EMEA and APAC | 40+ |
| Antonio Pires | AVP, Accreditations, QA and Quality Systems registrations | 5+ |

### Name and title of signatories for certification

|  |  |  |
| --- | --- | --- |
| Name | Title | Comments |
| James Marquedant | Vice president – Manager electrical systems |  |

### Other employees in ExCB activity

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience in Ex (years) |
| William G Lawrence | OPS VP, Principal Engineer | 40+ |

## Organizational structure

See Annex B

## Indemnity insurance

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Resources

Adequate personnel resources were available. Staff with knowledge of the standards are identified.

## Committees (such as governing or advisory boards)

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Certification operations

### National approval/certification methods

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

### Certification policy

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

### Application for certification

FM Approvals LLC plan to update their application form to include the two new standards of ISO 80079-36 and 80079-37 once their scope extension has been accepted.

### Certification decision

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

### Suspension and cancellation of certificates

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Certificates issued (for scope extension standards)

No specific certificates have been issued by FM Approvals LLC, for the Standards requested in the scope extension, but they have been involved in several certification projects for non-electrical equipment using the EN 13463 series of standards and EN ISO 80079 series of standards through one of the UK Notified Bodies (now called Approved Bodies) for ATEX and have demonstrated experience in these areas.

## National accreditation

The national accreditation certification for ISO/IEC 17065 is shown in Annex D.

## Assessment of manufacturers and issue of QARs

Not relevant as this is a scope extension assessment. This was covered in the re-assessment.

## Comments (including issues found during assessment)

Staff interviewed showed a good understanding of the scope extension standards

# 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

1. OD 280 IECEx Certified Equipment Scheme – Guide to Certification of Non-electrical Equipment and Protective Systems

## ExTL persons interviewed

|  |  |
| --- | --- |
| Name | Position |
| Andrew Lozinski | Group manager |
| Alan Sousa | Engineer |
| Victor Aluko Oginni | UK Certification manager (UKCA) |

## Associated ExCB(s)

The FM Approvals LLC ExTL is integral with FM Approvals LLC ExCB. FM Approvals FME is also an associated ExCB.

## Organisation

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

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| James Marquedant | Vice president – Manager electrical systems | 15+ |

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

|  |  |  |
| --- | --- | --- |
| Name | Title | Experience (years) |
| Robert Lovell | VP, Manager, Auditing and Quality assurance | 15+ |
| Andrew Was | Auditing and Quality Manager – EMEA and APAC | 40+ |
| Antonio Pires | AVP, Accreditations, QA and Quality Systems registrations | 5+ |

### Other employees in ExTL activity

| Name | Title/responsibility | Experience in Ex (years) |
| --- | --- | --- |
| Willian G Lawrence | OPS VP, Principal Engineer | 40+ |
| Victor Aluko Oginni | UK Certification manager (UKCA) | 10+ |
| David Anderson | AVP, TTM | 15+ |
| Deric Rehm | Associate Engineer | 3 |

## Organizational structure

See Annex B

## Resources

Adequate equipment, personnel resources and procedures were available to cover the scope extension standards.

## Test reports issued (for scope extension standards)

No specific test reports have been issued by FM Approvals LLC, for the Standards requested in the scope extension, but they have been involved in several certification projects for non-electrical equipment through one of the UK Notified bodies (now called Approved Bodies) for ATEX and have demonstrated experience in these areas.

## National accreditation

The national accreditation certification for ISO/IEC 17025 is shown in D. The schedule covers the scope extension standards.

## Calibration

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Tests witnessed during the assessment visit

As the tests are predominantly based on the IEC 60079 series it was not considered necessary to witness any tests. However, the TCD for the scope extension standards has been completed and reviewed during the Assessment to the satisfaction of the Assessor.

## Participation in IECEx Proficiency Testing Programs

Not relevant as this is a scope extension assessment. This was covered in the re-assessment refer to Re-assessment Report ExMC/1699/R.

## Comments (including issues found during assessment)

Staff interviewed showed a good understanding of the scope extension standards

1. Scope for IECEx Certified Equipment Scheme
   1. Current standards

| Number | Title | Comments |
| --- | --- | --- |
| IEC 60079-0  Edition 7.0 | Explosive atmospheres - Part 0: Equipment - General requirements | In scope |
| IEC 60079-1  Edition 7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproof  enclosures “d” | In scope |
| IEC 60079-2  Edition 6.0 | Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure “p’ | In scope |
| IEC 60079-5  Edition 4.0 | Explosive atmospheres - Part 5: Equipment protection by powder filling “q” | In scope |
| IEC 60079-6  Edition 4.0 | Explosive atmospheres - Part 6: Equipment protection by liquid immersion “o” | In scope |
| IEC 60079-7  Edition 5.1 | Explosive atmospheres - Part 7: Equipment protection by increased  safety "e" | In scope |
| IEC 60079-11  Edition 6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i” | In scope |
| IEC 60079-15  Edition 5.0 | Explosive atmospheres – Part 15: Equipment protection by type of protection "n" | In scope |
| IEC 60079-18  Edition 4.1 | Explosive atmospheres – Part 18: Equipment protection by encapsulation “m” | In scope |
| IEC 60079-25  Edition 3.0 | Explosive atmospheres – Part 25: Intrinsically safe electrical systems | In scope |
| IEC 60079-26  Edition 4.0 | Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga | In scope |
| IEC 60079-28  Edition 2.0 | Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation | In scope |
| IEC 60079-29-1  Edition 2.0 | Explosive atmospheres - Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases | In scope |
| IEC 60079-29-4:  Edition 1 | Explosive atmospheres - Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases | In scope |
| IEC/IEEE 60079-30-1  Edition 1.0 | Explosive atmospheres – Part 30-1: Electrical resistance trace heating – General and testing requirements | In scope |
| IEC 60079-31  Edition 2.0 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t" | In scope |
| IS0 80079-36  Edition 1.0 | Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements | Scope Extension |
| ISO 80079-37  Edition 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” | Scope Extension |
| IEC TS 60079-40  Edition 1.0 | Explosive atmospheres - Part 40: Requirements for process sealing between flammable process fluids and electrical systems | In scope |
| IEC 61779-1  Edition 1.0 | Electrical apparatus for the detection and measurement of flammable gases - Part 1: General requirements and test methods | In scope |
| IEC 61779-4  Edition 1.0 | Electrical apparatus for the detection and measurement of flammable gases - Part 4: Performance requirements for group II apparatus indicating up to 100% lower explosive limit | In scope |
| IEC 61779-5  Edition 1.0 | Electrical apparatus for the detection and measurement of flammable gases - Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100 % gass | In scope |
| IEC TS 60079-47  Edition 1.0 | Explosive atmospheres – Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE) | In scope |

* 1. *Superseded standards*

The following superseded standards may form part of a body’s scope, generally for historical reasons.

| Number | Title | Comments |
| --- | --- | --- |
| IEC 60079-27  Edition 2.0 | Explosive atmospheres – Part 27: Fieldbus intrinsically safe concept (FISCO) | In scope |
| IEC 61241-0  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements | In scope |
| IEC 61241-1  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosure “tD” | In scope |
| IEC 61241-4:  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD' | In scope |
| IEC 61241-11:  Edition 1.0 | Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'iD' | In scope |
| IEC 61241-18:  Edition 1.0 | Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation "mD" | In scope |
| IEC 62086-1  Edition 1.0 | Electrical apparatus for explosive gas atmospheres - Electrical resistance trace heating - Part 1: General and testing requirements | In scope |

1. Organisation Chart

Timeline

Description automatically generated

1. Accreditation Certificate for ISO/IEC 17065

Graphical user interface, application, table

Description automatically generated

1. Accreditation Certificate for ISO/IEC 17025

