



ExMC/955/DV
August 2014

**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 Intertek India Private Limited
to participate as an Accepted Test Laboratory, ExTL, in the IECEx System, Equipment
Scheme, 02,**

INTRODUCTION

This document contains the IECEx Assessment Report for the acceptance Intertek India Private Ltd to become an Accepted Test Laboratory, within the IECEx Equipment Scheme, 02

This document is submitted for consideration by ExMC during the 2014 ExMC meeting in The Hague, 28+29 August 2014.

Chris Agius

IECEx Secretariat

**IECEx Secretariat
Standards Australia Building
286 Sussex Street
Sydney NSW 2000
Australia**

**Tel: +61 2 8206 6940
Fax: +61 2 8206 6272
Email: chris.agius@iecex.com**



ExMC/955/DV
August 2014

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

IECEx ExTL assessment report for Intertek India

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

CONTENTS

(update when report is complete – by right click, Update field, Update entire table)

1	Assessment information.....	4
1.1	Type of Body covered by this assessment:.....	4
1.2	Type of assessment:	4
1.3	Details of body	4
1.3.1	Country	4
1.3.2	Name of body.....	4
1.3.3	Name and title of nominated principal contact	4
1.4	Assessment information	4
1.4.1	Members of the assessment team.....	4
1.4.2	Place(s) of assessment	4
1.4.3	Assessment date(s).....	4
1.5	Application information	4
1.6	Scopes	4
1.6.1	ExTL scope for equipment certification scheme.....	4
2	Common information.....	5
2.1	Legal entity of body	5
2.2	Financial support.....	5
2.3	History	5
2.4	Documentation	5
2.4.1	Quality manual	5
2.4.2	Procedures	6
2.4.3	Work instructions.....	6
2.4.4	Records (including test records where relevant)	6
2.4.5	Document change control	6
2.5	Confidentiality	7
2.6	Publications	7
2.7	Recognition and agreements	7
2.8	Internal audit and periodic management review.....	7
2.9	Subcontracting, use of other labs and use of other locations	7
2.10	Training and competence	7
2.11	Complaints and appeals (including appeals to IECEx)	7
2.12	Special facts to be noted	8
2.12.1	Supporting documentation	8
2.13	Recommendations.....	8
3	ExTL for IECEx Certified Equipment Scheme	9
3.1	Assessment references	9
3.2	Candidate ExTL persons interviewed	9
3.3	Associated ExCB(s)	9



3.4	Organisation	9
3.4.1	Names, titles and experience of the senior executives.....	9
3.4.2	Name, title and experience of the quality management representative	9
3.4.3	Other employees in ExTL activity	9
3.5	Organizational structure	10
3.6	Resources.....	10
3.7	Test reports issued.....	10
3.8	National accreditation.....	10
3.9	Calibration	10
3.10	Comments (including issues found during assessment)	10
3.10.1	Tests witnessed	10
3.10.2	Issues found and resolved	11
4	Annexes	11
	Annex A Overall Organisation Chart.....	12
	Annex B Accreditation Certificate to ISO/IEC 17025	13



1 Assessment information

1.1 Type of Body covered by this assessment:

ExCB for IECEX Certified Equipment Scheme	
ExTL for IECEX Certified Equipment Scheme	✓
ExCB for IECEX Certified Service Facilities Scheme	
ExCB for IECEX Conformity Mark Licensing System	

NOTE 1 ExCB - IECEX Certification Body

NOTE 2 ExTL - IECEX Testing Laboratory

1.2 Type of assessment:

Pre-assessment for candidate body	
Initial assessment for candidate body	✓
Surveillance	
Re-assessment	
Scope extension	

1.3 Details of body

1.3.1 Country

India

1.3.2 Name of body

Intertek India Private Limited

1.3.3 Name and title of nominated principal contact

Name	Title	E-mail address
Rakesh Chaurasia	Sr. Manager – Operations Safety and Hazloc	rakesh.chaurasia@intertek.com

1.4 Assessment information

1.4.1 Members of the assessment team

Name	Role (modify as necessary)
Jim Munro	Lead assessor
Bernard Piquette	Expert Assessor

1.4.2 Place(s) of assessment

E-20, Block B-1, Mohan Co-operative Industrial Area, Mathura Road, New Delhi 110044 India	
--	--

1.4.3 Assessment date(s)

14-15 January 2013 and 28-29 October 2013 (only Jim Munro was present for the second site visit)

1.5 Application information

Date of application: 22 July 2012

1.6 Scopes

1.6.1 ExTL scope for equipment certification scheme

Number	Title



IEC 60079-0 Edition 6	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 Edition 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 60079-15 Edition 4	Explosive atmospheres – Part 15: Equipment protection by type of protection "n"
IEC 60079-18 Edition 3	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 Edition 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
*IEC 61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
*IEC 61241-1 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosure "tD"

NOTE 1 Standards shown with an asterisk (*) are superseded standards (IEC 61241-0 and -1 were added since the original application was made to IECEx. The IECEx Secretariat has been advised by Intertek India that they wish to add these standards to the requested scope. These standard have been considered as part of the assessment visit.)

NOTE 2 Unless otherwise indicated, earlier editions of standards (even if with a different number) are considered to be covered in the above scope for the purposes of the assessment.

NOTE 3 The above list highlights any extension of scope in the list above for new standards or later editions of standards already in scope.

2 Common information

2.1 Legal entity of body

Intertek India Private Limited is an independent laboratory and is a registered company under the Companies Act, 1956 (Registration no. is 11-109141 dated 1 July 1997). A copy of the certificate of incorporation was viewed in the Memorandum and Articles of Association of Intertek India Private Limited.

Intertek India Private Limited is a wholly owned subsidiary of the Intertek Group, Plc, UK and operates independent testing, Inspection and certification services under its business streams, namely Intertek Consumer Goods, Intertek Government Services, Intertek Commercial & Electrical & Intertek Oil, Chemical, Agri & Mineral.

2.2 Financial support

Intertek India Private Ltd. and Intertek Testing & Certification Ltd, UK both are the subsidiaries of Intertek Group PLC. Intertek India is fully self-funding based on the income from testing and certification.

2.3 History

Intertek India Private Limited has been operating as an accredited laboratory in India since 2006. It was originally incorporated as Intertek Testing Services India Limited but in 2009 formally changed its name to Intertek India Private Limited

2.4 Documentation

2.4.1 Quality manual

There was a significant change in the quality system that occurred soon after the first IECEx assessment visit. The new system introduced global quality documents and procedures for



the whole company. This was one the reasons for a second visit to Intertek to review the new system and its application to IECEX.

From 21 October 2013 Intertek India became part of this Intertek global quality system. The system is structured with a global quality manual, global management system procedures (GMS), Specific management procedures (SMS) (for example for IECEX); with the gaps being filled by Regional management procedures (RMS) and Local management procedures (LMS).

The draft of this report from the first assessment visit was updated at the second assessment visit to reflect the new global quality system. The quality system at the time of the first assessment visit was generally found to be satisfactory with only a few issues raised, mostly in relation to IECEX requirements. However, at the second visit significant issues were found with the company wide procedures proposed for IECEX. Soon after the second visit to Intertek India, and in conjunction with an ATEX UKAS assessment visit of Intertek in the UK, by Jim Munro, changes relating to both the UK and India locations were reviewed and found to meet the requirements of IECEX. These procedures form part of the INTERTEK global system. Subsequently the global and local quality documents were revised and found to meet the requirements of IECEX. Details are included in Annex A of the site assessment report.

2.4.2 Procedures

The procedure specifically addressing the IECEX testing and certification process is SMS-IECEX-OP-19. This specifies the requirement for the development and review of the test plan form RFT-EU-NB-OP-20k *Test Plan*. This form is an Excel spreadsheet that includes a complete breakdown of all relevant IEC standards by clause number. It also has provision to specify 'Tech Interpretations ATEX/IECEX/Internal' that could include IECEX decision sheets. The form was subsequently revised to also include identification of the standard edition and to identify relevant corrigenda, amendments or interpretation sheets (I-SHs).

For applications for IECEX reports and certificates the relevant document is GMS-OP-20 *Certification Application Review*.

2.4.3 Work instructions

Standard operating procedures (SOP) and local operating procedures (LOP) are used to cover details of testing. These were all found to be appropriate for the testing being carried out.

2.4.4 Records (including test records where relevant)

All test records are retained in hard copy form on the project files. For files reviewed, all included original test data.

2.4.5 Document change control

The relevant procedures for document control are GMS-QC-16, 17, 18, 19, 20, 21 and 22. These cover both internal and external documents, including the control and numbering systems.

All quality documents reside on the international company wide intranet. Only electronic versions on the intranet are considered to be controlled. The documents include a warning to the effect that printed documents are not controlled. All changes to global documents are handled by a centralised function (in Hong Kong). A quarterly update is provided to all quality managers advising of changes that have occurred during the past quarter. The quality manager at Intertek then passes this information on to staff in Internet India.

There is a periodic notice to quality managers from the office in Hong Kong advising of changes to any standards used within the global company. An example of this notice was viewed.



2.5 Confidentiality

Examples of signed agreements were seen. These cover the zero tolerance policy for breaches in the compliance principles and the code of ethics. The code of ethics addresses integrity, confidentiality, conflict of interest, anti-bribery and fair marketing. All staff sign such agreements, which are global Intertek documents, each year. They were found to meet the requirements of IECEX.

2.6 Publications

There are no publications issued by Intertek India. They do have information on their website.

2.7 Recognition and agreements

Intertek India has an agreement to work for Intertek UK. At present there are no agreements with any other bodies. There was an intention to work with BIS in India, with BIS as an IECEX ExCB but the application from BIS has not progressed.

2.8 Internal audit and periodic management review

The procedure (GMS-QC-13 Internal Quality Auditing) for internal auditing states that internal auditing is conducted once a year. There is an audit checklist used for this purpose. In addition there is an audit corrective action request form for use where required. The report of the latest internal audit prior to the first assessment visit was reviewed. This audit took place on 10 October 2012, it was carried out to selected clauses for ISO/IEC 17025. No non-compliances were raised. Auditing is also done by auditors from outside of the operation in Intertek India. The report of one of these audits done on 24-25 September 2012 was also reviewed. 4 non-compliances were raised during the audit. The action taken to correct these actions was documented and found to be appropriate.

Management review (GMS-QC-08 Management Review) is scheduled for once a year. The minutes of the last meeting which took place on 16 April 2012 were reviewed and found to be appropriate and to meet the requirement of IECEX.

2.9 Subcontracting, use of other labs and use of other locations

Procedure SMS-IECEX-OP-19 includes reference to the requirement to apply OD024 and how it is to be implemented.

The only test subcontracted by Intertek India is the vibration test in IEC 60079-7. This test is subcontracted to Intertek UK which is also an accepted ExTL.

2.10 Training and competence

Procedure (GMS-SP-01,02,03,04) addresses training, including provision for training plans. Procedure (GMS-SP-05,06,07) deals with evaluation and qualification of engineering staff as it applies to engineers performing tests in Intertek India. It defines three skills, being testing under supervision, qualified engineer and reviewer.

There is a skill matrix (LFT-APAC-IN-SP-05a Skill Competence Matrix). The completed matrix was viewed and found to be appropriate in recording the levels of competency of staff.

There are also individual records for each employee. Examples of these were reviewed at the first visit and found to provide evidence of a satisfactory level of training and recording of that training.

2.11 Complaints and appeals (including appeals to IECEX)

Document SMS-IECEX-OP-19 for IECEX *Certified Equipment Scheme* refers to global document GMS OP-28 *Certification Complaint Requirements*. This in turn refers to GMS-QC-03 *Appeals & Disputes* which includes more specific requirements regarding appeals related to the IECEX, including appeals to the IECEX Board of Appeal.



2.12 Special facts to be noted

2.12.1 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 and include:

- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC 17025
- Assessors' notes

Also completed was a Technical Capability Document (TCD) for the standards in the scope. This included of the facilities/tests witnessed.

2.13 Recommendations

Based on the assessment performed on 14-15 January 2013, Intertek India is recommended for acceptance in the IECEx scheme as:

- *An ExTL in the IECEx Certified Equipment Scheme*

This is *according* to the scope of the standards listed in this document, subject to resolution of the issues found during the assessment.

Jim Munro	Bernard Piquette
Lead Assessor	Expert Assessor

Date: 5 July 2014

3 ExTL for IECEX Certified Equipment Scheme

3.1 Assessment references

- a) IECEX02 Edition 4, IECEX Certified Equipment Scheme covering equipment for use in explosive atmospheres – Rules of Procedure
- b) IECEX OD003-2 Edition 1, Assessment, surveillance assessment and re-assessment of ExCBs and ExTLs operating in the IECEX 02, IECEX Certified Equipment Scheme
- c) OD005-1 Edition1, IECEX Quality System Requirements for Manufacturers – Part 1: Guidance on the establishment and maintenance of a quality system
- d) IECEX OD009 Edition 2, Issuing of CoCs, ExTRs and QARs
- e) ISO/IEC 17025:2005 Edition 2, General requirements for the competence of testing and calibration laboratories
- f) IECEX Technical Capability Document (TCD) - draft version
- g) ExTAG decision sheets (DSs)

3.2 Candidate ExTL persons interviewed

Name	Position
Rakesh Chaurasia	Operation Manager
Manas Das	Manager Technical
Vikram Gupta	Senior Engineer
Irfan Khan	Engineer
Charan Pal Singh	Engineer
Vineet Sehgal	Engineer

3.3 Associated ExCB(s)

The associated ExCB is Intertek Testing & Certification Ltd, UK . There is a letter from them, dated 3 December 2012, confirming that they are prepared to act with Intertek India as their IECEX ExCB. Both the ExCB and the ExTL operate to the Intertek global procedures.

3.4 Organisation

3.4.1 Names, titles and experience of the senior executives

Name	Title	Experience
Rajesh Saigal	Managing Director	25 Years
Sandeep Das	Director - Strategy & Business Development Indian Subcontinent	20 Years

3.4.2 Name, title and experience of the quality management representative

Name	Title	Experience
Manas Das	Quality Manager	10 Years

3.4.3 Other employees in ExTL activity

Name	Title/responsibility	Experience in Ex
Rakesh Chaurasia	Sr. Manager Operations Safety & Hazloc	8 Years
Vikram Gupta	Senior Engineer	5 Years
Irfan Khan	Engineer	7 Years
Charan Pal Singh	Engineer	2 Years

Vineet Sehgal	Engineer	2 Years
---------------	----------	---------

3.5 Organizational structure

The organisational structure of Intertek India is shown in Annex A.

3.6 Resources

There are six engineers involved in Ex testing at Intertek India, two of which are in training. There is an adequate level of competence in the staff with evidence of good supplementary and training being supplied by Intertek UK.

The test facilities were found to be appropriate for testing required.

The power supply system for testing incorporates a UPS system with a backup generator via the UPS. This ensures that testing occurs uninterrupted by power blackouts. Daily records are made of the output of the power and every month the quality of the power output, including harmonics, is checked. There is a separate UPS system without a generator backup for low powered equipment, such as computers, in the office.

3.7 Test reports issued

The following are the reports that have been issued by Intertek India for the purposes of local certification in the previous 4 years.

Standard numbers	Type of protection or other identifying information	Number of issued reports (ExTRs)				Total
		2011	2012	2013	2014	
60079-1	Ex d	17	9	4	3	33
60079-7	Ex e	1	2	2	1	6
60079-15	Ex n		1	0	1	2
60079-18	Ex m		2	0	1	3
60079-31	Ex t	9	10	6	5	30

NOTE Above include reports to IEC 60079-0

3.8 National accreditation

Intertek India is accredited for ISO/IEC 17025 by NABL; NABL certificate T – 1199. Annex A shows the current certificate which is valid to 12 December 2014.

The scope of accreditation was viewed and found to cover all current standards shown in this report. The scope comprehensively documented the capabilities of Intertek India for each of the tests in the standards.

3.9 Calibration

There are global procedures for calibration GMS-FM-1, 12, 13, 14, 17 covering equipment handling and preventive maintenance, external calibration provider selection, equipment calibration handling, calibration results validation and suspect equipment handling, and internally calibrated and verified test equipment.

All equipment is calibrated externally by accredited calibration laboratories, with most being done annually. There are effective systems in place to specify calibration requirements and to review certificates when equipment is received back from calibration. All equipment viewed was in calibration.

3.10 Comments (including issues found during assessment)

3.10.1 Tests witnessed

The following tests were witnessed during the site assessment visit:

- Ex d pressure determination (with hydrogen)



- Ex d non-transmission test (with hydrogen)
- Demonstration of measurement of flamepaths for Ex d
- Temperature rise of a luminaire
- 4 kPa Pressure test followed by IP6X test to IEC 60079-31

3.10.2 Issues found and resolved

The following issues were found during the assessment and resolved to the satisfaction of the assessment team:

- Witness testing and the application of OD024
- Ensuring latest copies of standards and associated documents are held
- Ensuring there is a the test plan that addresses all relevant standards and associated documents
- Having a procedure for appeals linked to the ExCB
- Lack of work instruction for 4 kPa test for IEC 60079-31
- Improved measurement of the flow for IP6X/5X tests
- The need for a clear instruction for preparation of gas mixture in regard to purging
- Many missing key elements from new global procedure SMS-IECEx-OP-1

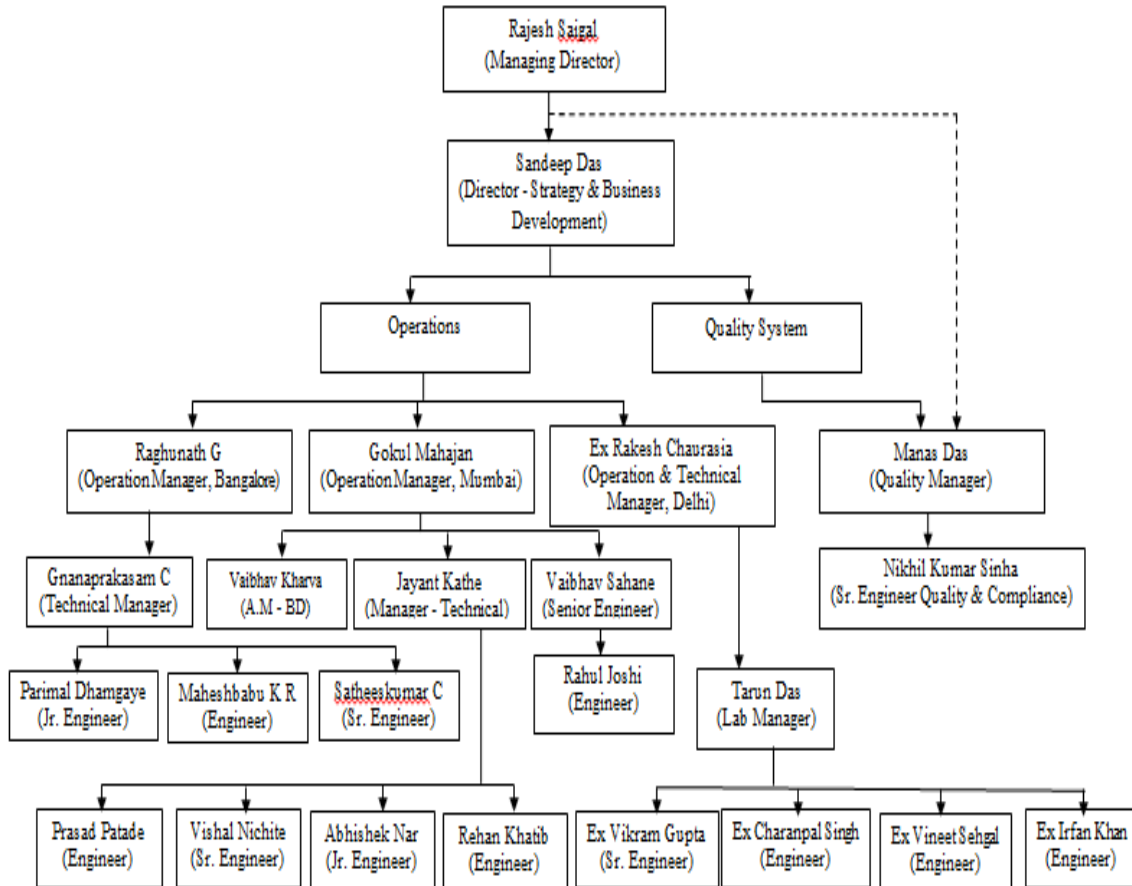
4 Annexes

See Contents.

Annex A Overall Organisation Chart

NOTE: ExTL staff shown with (Ex)

Organization Chart Intertek India – Electrical Division



Note: Jr.: Junior, BD: Business Development, A.M: Assistant Manager, Sr.: Senior.

Prepared By: Manas Das

Approved By: Sandeep Das

Date: 1st May 2014

Date: 1st May 2014

Accreditation Certificate to ISO/IEC 17025



NABL

**National Accreditation Board for
Testing and Calibration Laboratories**
Department of Science & Technology, India

CERTIFICATE OF ACCREDITATION

INTERTEK INDIA PRIVATE LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

“General Requirements for the Competence of Testing & Calibration Laboratories”

for its facilities at

E-20, Block B1, Mohan Co-operative Industrial Area, Mathura Road, New Delhi

in the discipline of

ELECTRICAL TESTING

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Certificate Number T-1199

Issue Date 13/12/2012



Valid Until 12/12/2014

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the additional requirements of NABL.

Signed for and on behalf of NABL



Bibin Philip



Anil Relia



Dr. T. Ramasami



ExMC/955/DV
August 2014