

# Practical Issues to facilitate Testing and Certification under the IECEx Scheme



  
Institute for Research  
and Certification OBAC Ltd.  
Notified Body No 1461

- CERTIFICATION**
  - products
  - management systems
  - safety integrity level SIL
- LABORATORY TEST**
  - mechanical
  - electrical
  - flameproof Ex
- TECHNICAL INSPECTION**
- TRAININGS**

[check now](#)

Peter  
Tarnawski  
Head of OBAC

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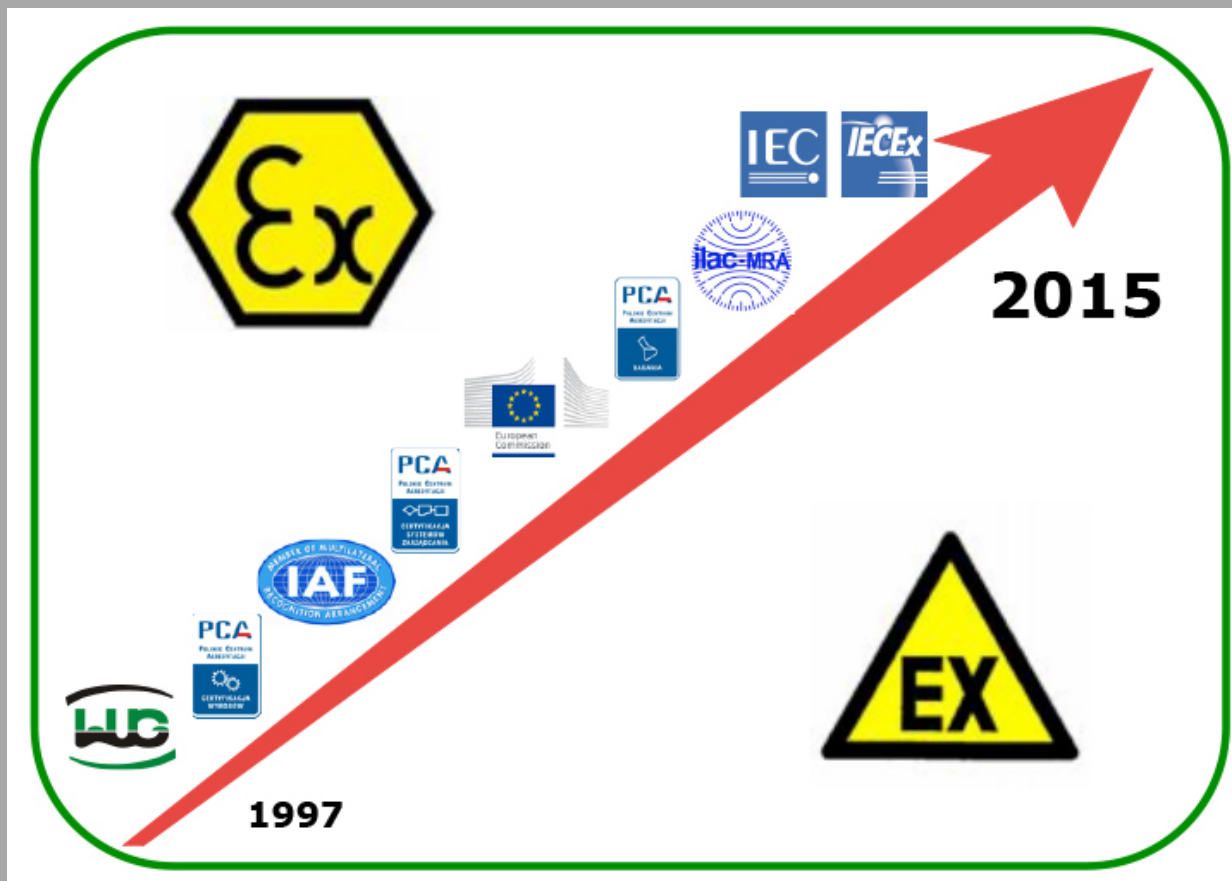
## HISTORY



The OBAC Institute is a private limited liability family owned certification body. Since 1997 we have been conducting testing, attestation and certification process of products and management systems applied in various industries. We are the owners of LABOREx accredited testing laboratory. Our numerous personnel includes high – class specialist performing laboratory tests, technical inspections and commissioning of industrial installations.

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## ACCREDITATIONS



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## SCOPE OF ACTIVITY

The OBAC Certification Body conducts obligatory and voluntary product certification according to the requirements of national industry-branch regulations, and European and international standards regarding safety. We specialize in conformity assessment of products applied in such industrial areas as:

- ☐ engineering industry
- ☐ mining industry
- ☐ power industry
- ☐ electrotechnical industry
- ☐ wood industry
- ☐ pharmaceutical industry
- ☐ chemical industry
- ☐ off-shore industry

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## ACCREDITED TESTING LABORATORY



The OBAC Institute is the owner of LABOREX accredited laboratory which performs tests required for obtaining the OBAC conformity certificate confirming the requirements of national and international standards IEC, as well as of EU-directives

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## SCOPE OF TESTS AND CERTIFICATION

- ☐ Electrical equipment PN EN/IEC 60079-0
- ☐ Equipment protection by flameproof enclosure "d" EN/IEC 60079-1
- ☐ Equipment protection by pressurized enclosure "p" EN/IEC 60079-2
- ☐ Equipment protection by powder filling "q" EN/IEC 60079-5
- ☐ Equipment protection by increased safety "e" EN/IEC 60079-7
- ☐ Equipment protection by intrinsic safety "i" EN/IEC 60079-11
- ☐ Equipment protection by type of protection "n" EN/IEC 60079-15

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## SCOPE OF TESTS AND CERTIFICATION

- ☐ Equipment protection by encapsulation “m” PN EN/IEC 60079-18
- ☐ Intrinsically safe electrical systems PN EN/IEC 60079-25
- ☐ Equipment with equipment protection level (EPL) Ga PN EN/IEC 60079-26
- ☐ Equipment dust ignition protection by enclosure “t” PN EN/IEC 60079-31
- ☐ Non-electrical equipment PN EN 13463-1



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## PRE - ASSESSMENT



As ExCB and ExTL the OBAC Institute applied in 2012 to the IECEx Secretariat in Australia for pre-assessment

Auditor : David Walker – TUV Australia



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## APPLYING TO IECEX Secretariat



As ExCB and ExTL the OBAC Institute applied to the IECEX Secretariat in Australia for approval of our competence within:

- ☐ ISO/IEC 17025 laboratory testing conductance
- ☐ ISO/IEC 17021 management systems certification
- ☐ ISO/IEC 17065 product certification

In accordance with the requirements of IEC international standards developed by International Electrotechnical Commission and with rules and procedures of IECEX Scheme

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## OPENING MEETING



IECEX representatives during the assesment at OBAC

:

Lead Auditor: Mr Prof. Xu Jianping – NEPSI

Technical Expert: Mr Vijay Varma - INTEREK

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## INTERVIEW



OBAC's Ex pesonel:

Krzysztof Sinka M.Sc – Manager of Explosive Department at  
OBAC

Maciej Bylica M.Sc. – Technical Expert

Eugeniusz Szczesny M.Sc. – Technical Expert

Rafał Czabański M.Sc. – Technica Expert

inż. Marcin Mista M.Sc – Technical Expert

Wojciech Bobeck M.Sc – Manager of Explosive Laboratory LABOREx

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## TESTS OF FLAMEPROOF ENCLOSURES



IEC 60079 - 1  
Ex d I Mb

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## TESTS OF FLAMEPROOF ENCLOSURES



IEC 60079-1  
Ex d I Mb



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## TESTS OF FLAMEPROOF ENCLOSURES



IEC 60079-1  
IEC 60079-7  
Ex de I Mb

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## TESTS OF FLAMEPROOF ENCLOSURES

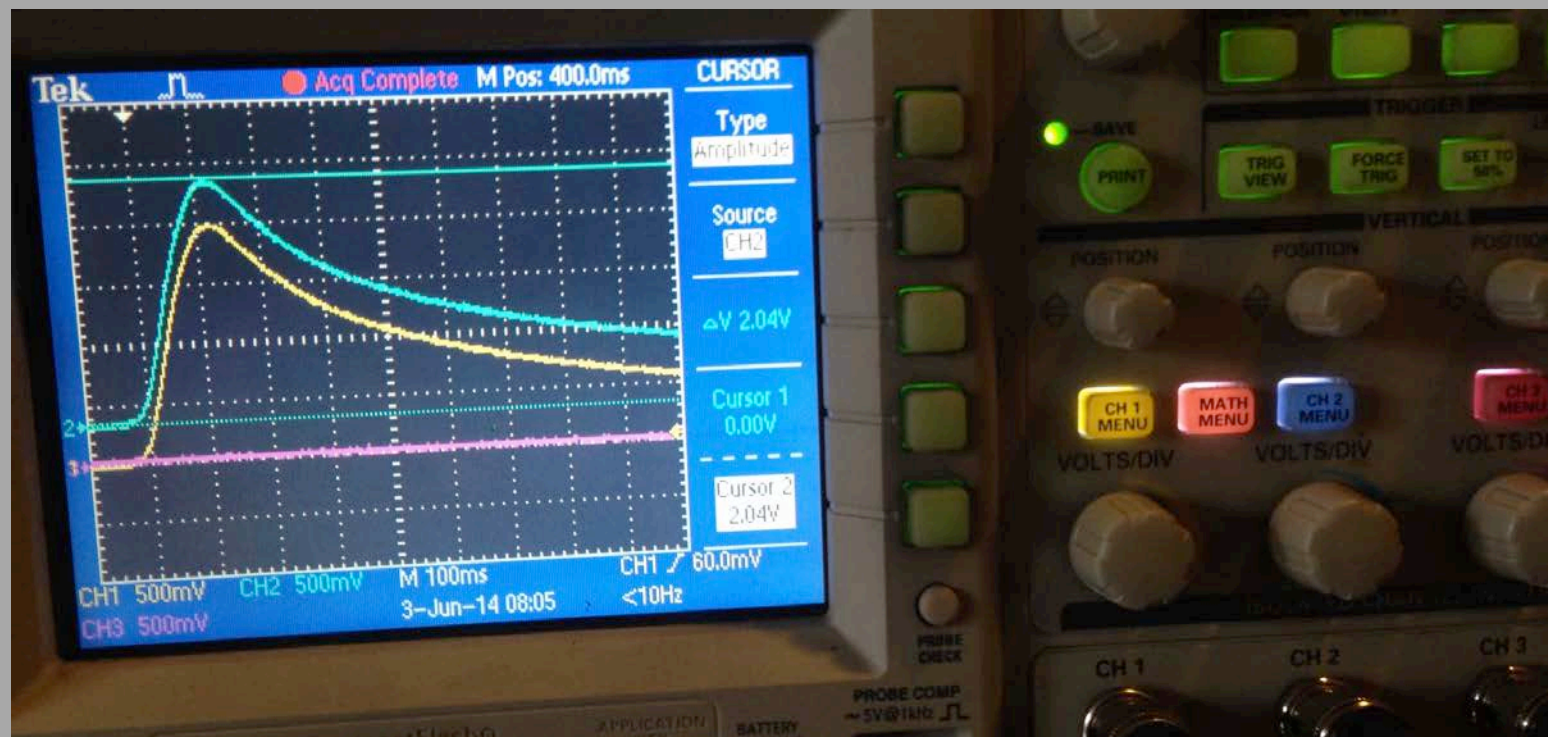


IEC 60097-1  
Ex d I Mb  
Ex d IIC T4 Gb



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## TESTS OF FLAMEPROOF ENCLOSURES

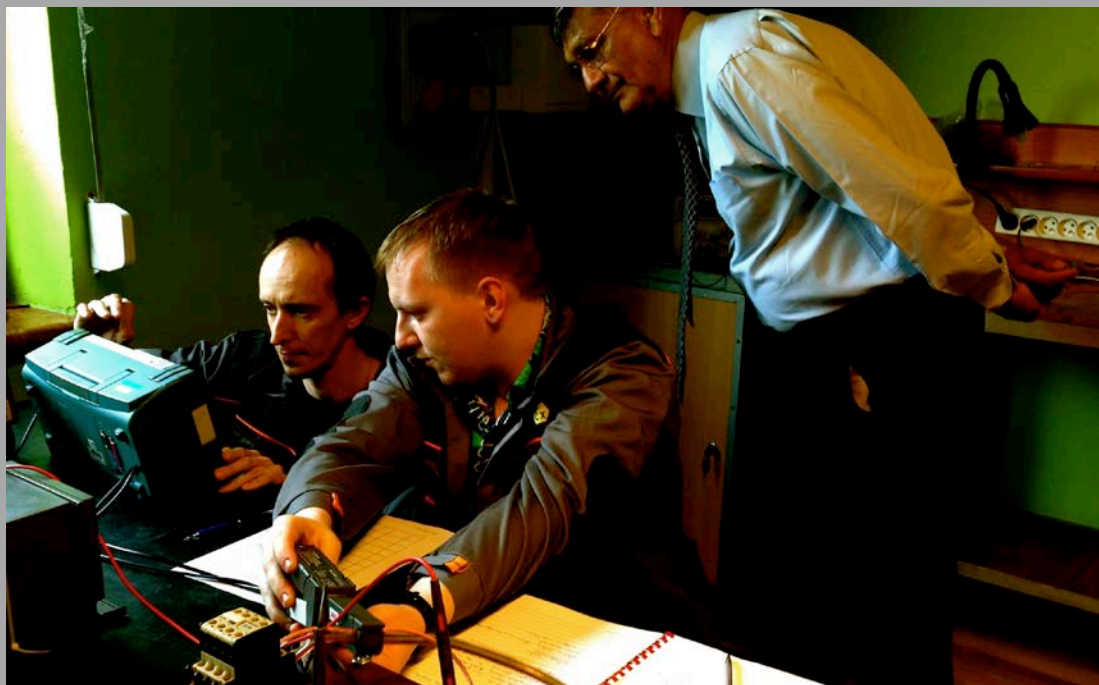


Determination of explosion pressure  
(reference pressure)

Ex d I Mb  
Ex d Iic Gb

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## TESTS OF INTRINSIC SAFETY DEVICES



**IEC 60079-11**  
**Tests of sells**  
**(measurement of short-circuit current)**

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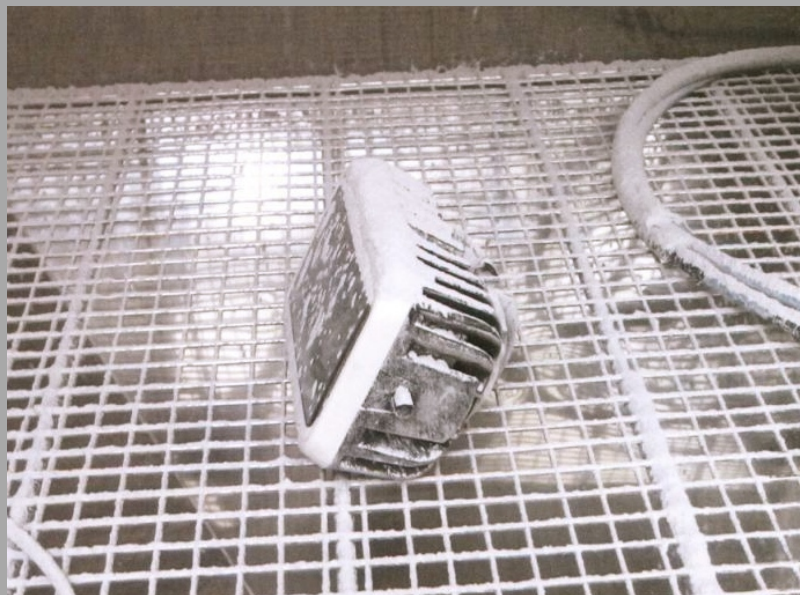
## TESTS OF IP PROTECTION



IEC 60529

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## TESTS OF IP PROTECTION

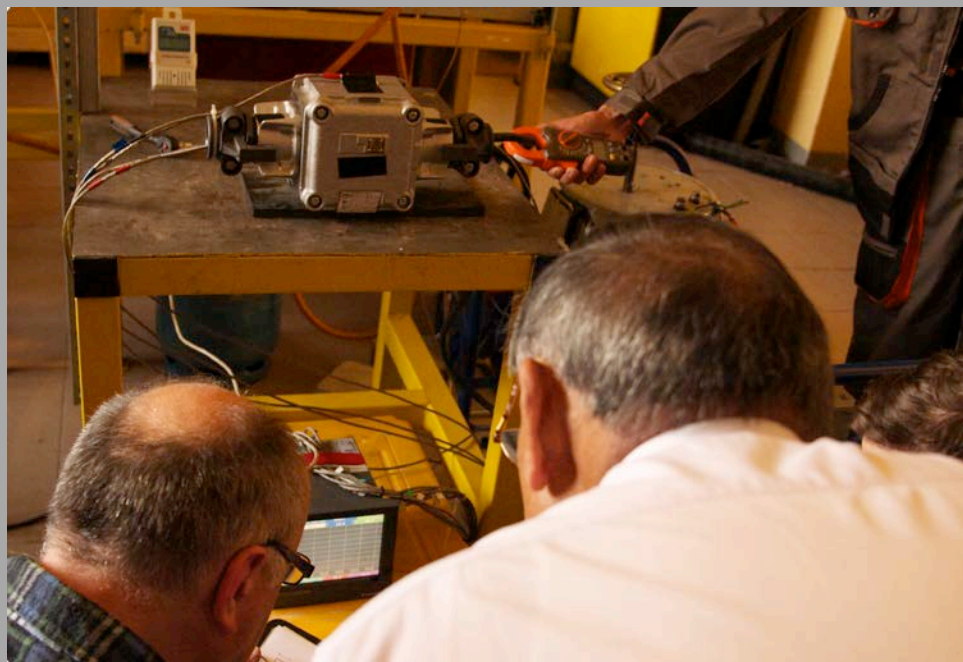


IEC 60529



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## TEMPERATURE TESTS



**IEC 60079-1  
Ex d IIB T4 Gb**

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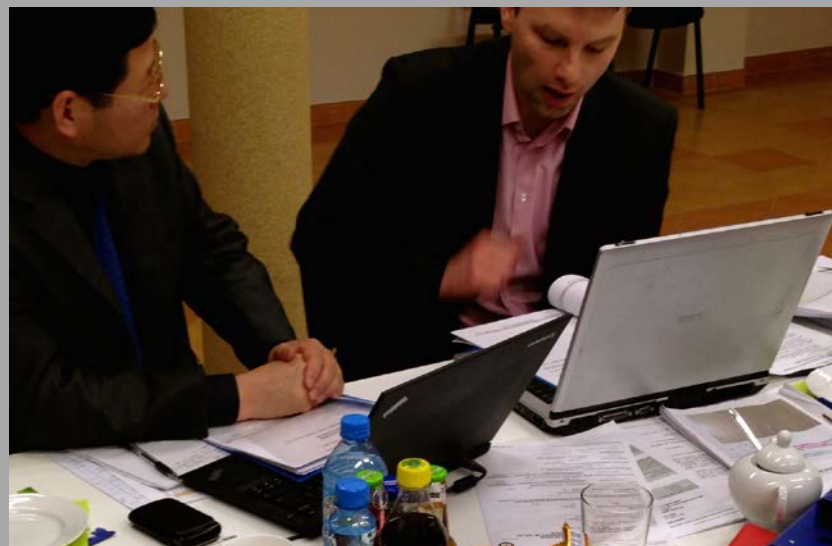
## CLIMATE CHAMBER TESTS



IEC 60071-0  
IEC 60097-15  
Ex nA T5 Gc

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## QUALITY PROCEDURES IECEX



Lead Auditor: Mr Prof. Xu Jianping– NEPSI  
Quality Manager: Peter Barglik- OBAC



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## QUALITY PROCEDURES IECEX



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## IECEX PUBLICATIONS

- ❑ IECEx 01 „IECEX Scheme for Certification to Standards relating to Equipment for use in Explosive Atmospheres (IECEX Scheme) - Basic Rules.”
- ❑ IECEx 02 „IECEX Scheme for Certification to Standards relating to Equipment for use in Explosive Atmospheres (IECEX Scheme) - Rules of Procedure”

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## NEXT STEP

- ☐ Certified **Service** Facilities Scheme - IECEx 03 - Rules of Procedure

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## ACCEPTANCE AS ExCB




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## ACCEPTANCE AS ExTL



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## ACCESS TO GLOBAL MARKET



**INTERNATIONAL ELECTROTECHNICAL COMMISSION SYSTEM  
FOR CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT  
FOR USE IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

Information ▾ Publications ▾ Members' Area ▾ Certificates & Licenses ▾ Meetings & Events ▾ Contact Home

**Information**

About the IECEx

News Releases

PCIC Europe Papers

UNECE

Countries

Executive

ExCBs:

▶ Equipment

▶ Service Facilities

▶ Certified Persons

▶ Conformity Mark

Meeting Schedule

Links:

▶ IEC

▶ IECQ

▶ IECEE-CB

**Approved IECEx Certification Bodies (ExCBs) Certified Equipment Scheme**

The following organisations have successfully completed the IECEx assessment process and are approved to operate within the IECEx Certified Equipment Scheme and to issue IECEx Test Reports (ExTRs), IECEx Quality Assessment Reports (QARs) and the Online Certificate of Conformity.

Notes:


- for IECEx bodies approved to operate under the IECEx Certified Facility Scheme (Ex Repair) [click here](#)
- for IECEx bodies approved to operate under the IECEx Scheme for Certification of Personnel Competencies (CoPC) [click here](#).
- for IECEx bodies approved to operate under the IECEx Conformity Mark licensing System [click here](#)

Country	Acronym
Australia	MSTC
Australia	SIMTARS
Australia	TestSafe
Australia	TRA
Brazil	NCC
Canada	CSA
Canada	Labtest
Canada	QPS
China	CQM
Croatia	EXA
Czech Republic	FTZU
Denmark	UL/Demko
Finland	VTT

Country: Poland

Name: Ośrodek Badan Atestacji i Certyfikacji OBAC Sp. z o.o.

Acronym: **OBAC**

Logo: 

Contact: Mr. Piotr Tarnawski

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Torunska 27

44-122 Gliwice

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e-mail: [biuro@obac.com.pl](mailto:biuro@obac.com.pl)

Scope: IEC 60079-0 Part 0: Equipment - General requirements

IEC 60079-1 Part 1: Equipment protection by flameproof enclosures 'd'

IEC 60079-2 Part 2: Equipment protection by pressurized enclosure 'p'

IEC 60079-5 Part 5: Equipment protection by powder filling 'n'

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## APPLYING FOR ICEEx CoC

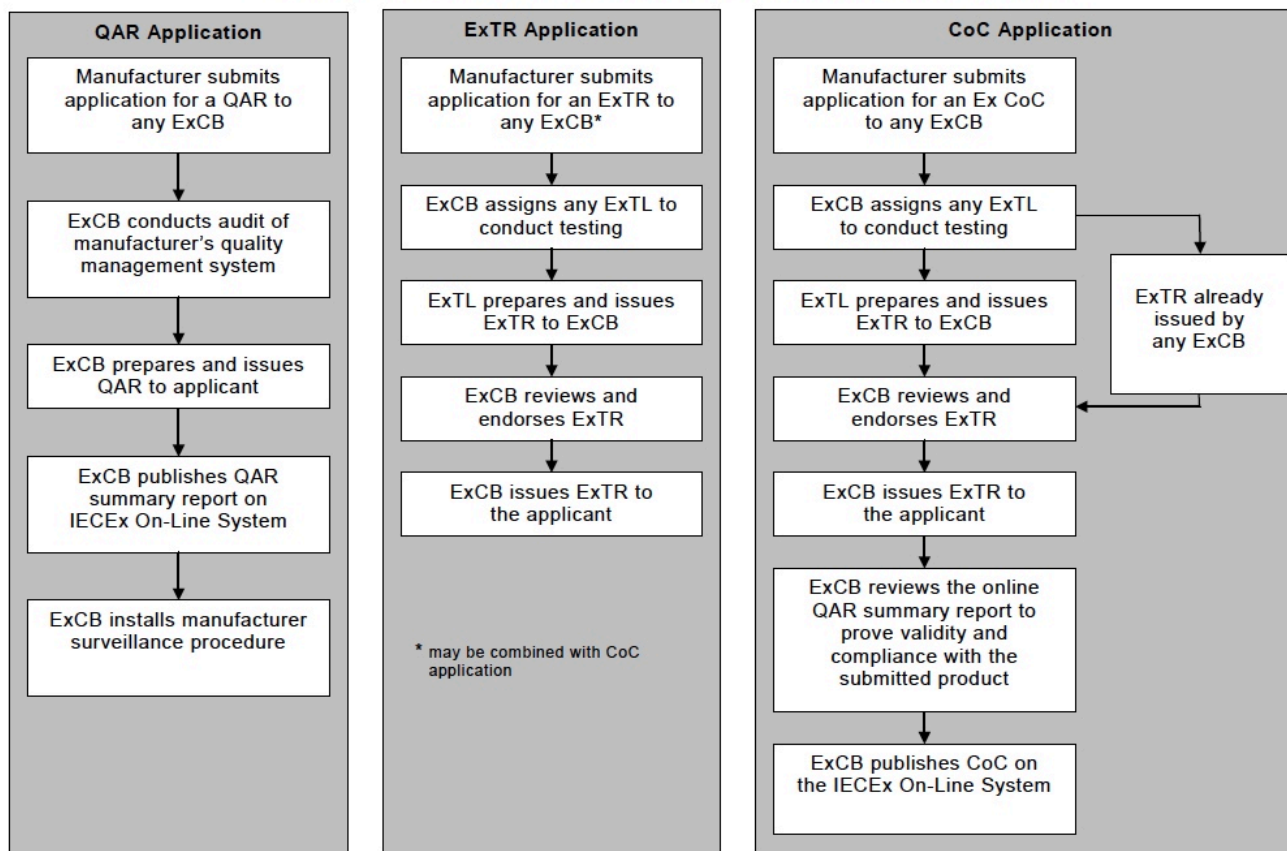
- ☐ Applying for IECEx certification
- ☐ Submitting the technical documenttion for assessment
- ☐ Releasing the product for tests in accordance with IEC requirements
- ☐ Product manufacture management system assessment according to IEC 80079-34
- ☐ Development of ExTR test assessment report
- ☐ Developments of QAR Quality Assessment Report
- ☐ Notification to IECEx Secretariat of CoC certificate
- ☐ Yearly surveillance of Ex quality assurance system



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## APPLYING FOR ICEEx CoC

Overview for issuing IECEX Certificates of Conformity, ExTRs and QARs






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## QUALITY ASSESSMENT REPORT

- ☐ Application for QAR certification
- ☐ Submitting the system documentation for assessment
- ☐ Product manufacturer management system assessment according to ISO/ IEC 80079-34
- ☐ Developement of QAR quality system report
- ☐ On-line verification of QAR validity
- ☐ Yearly surveillance of Ex quality assurance system

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## Certificate of Conformity

 		IECEx Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEx Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></small>			
Certificate No.:	IECEx OBAC 15 0001X	Issue No: 0	Certificate history: Issue No. 0 (2015-03-30)
Status:	Current	Page 1 of 4	
Date of Issue:	2015-03-30		
Applicant:	Tewa Temperature Sensors Ltd. 16 Przyskok Street Lublin, 20-403 Poland		
Electrical Apparatus:	Resistance temperature sensor TT4-X PTXXXX X-145 X-XXXX-SXXX-XW		
Optional accessory:			
Type of Protection:	Encapsulation "mb"		
Marking:	Ex mb IIC T4 Gb Ex mb IIC T135 °C Db		
Approved for issue on behalf of the IECEx Certification Body:	Piotr Tamowski		
Position:	Head of Certification Body ExCB		
Signature: (for printed version)			
Date:			
<small>1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the <a href="http://Official IECEx Website">Official IECEx Website</a>.</small>			
Certificate issued by: Ośrodek Badań, Atestacji i Certyfikacji OBAC Sp. z o.o. ul. Torunska 27 44-122 Gliwice Poland			
			

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## BENEFITS OF IECEx System

- ☐ Transparent certification system according to the latest IEC standards
- ☐ The certification is based on the equipment tests, technical documentation assessment and manufacturing process assessment
- ☐ On-line access to the basis of issued certificates
- ☐ Decrease of expenditure for additional tests and certification

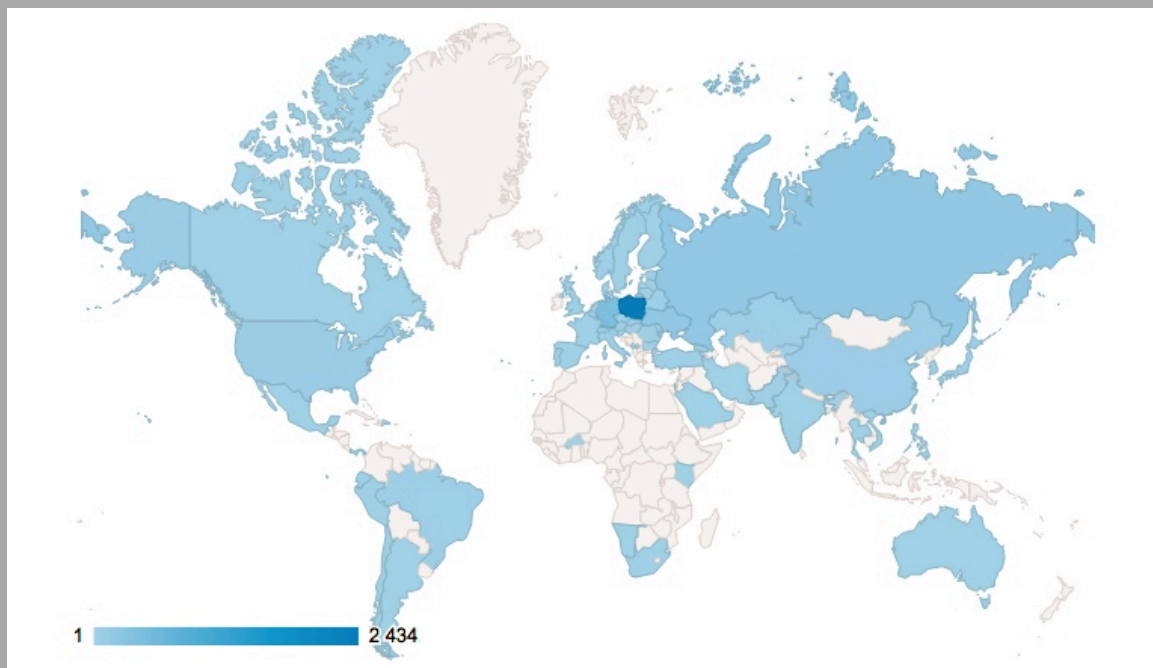
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## BENEFITS OF IECEX System

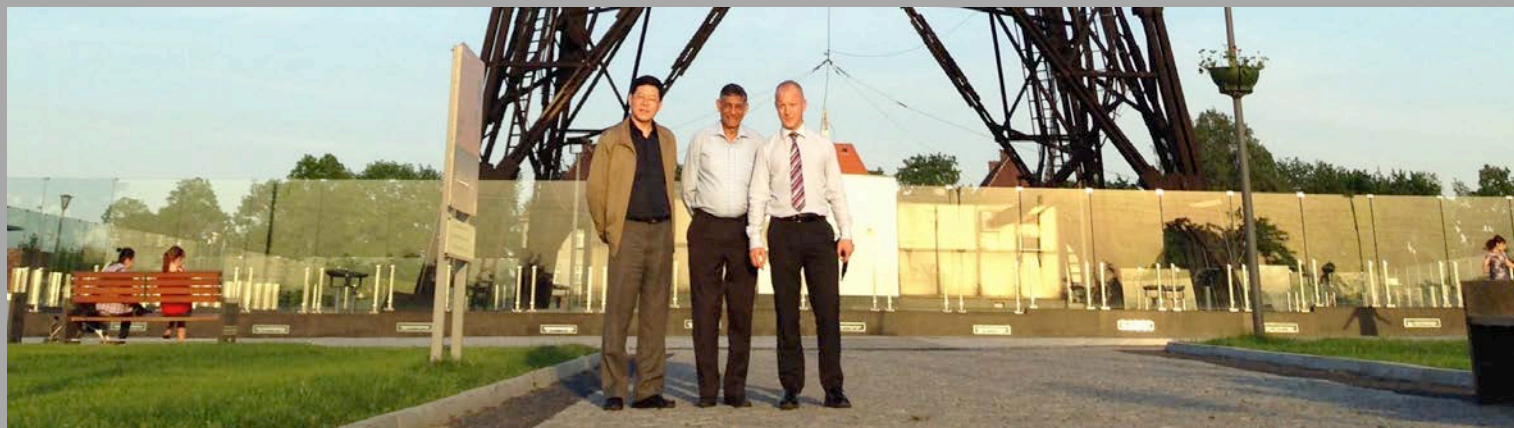
- ☐ Access to global market of Ex products
- ☐ Assurance that the equipment is manufactured and used according to the requirements of IEC international standards
- ☐ Verification possibility of IECEX certificates using the on-line data base
- ☐ The certificates are issued by IECEX ExCB certification bodies acknowledged in many member countries

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## OBAC's SCOPE OF ACTIVITY



# Institute for Research and Certification OBAC



[www.iecex.com](http://www.iecex.com)



# Thank you for your kind attention

Peter Tarnawski  
OBAC Institute  
LABOREx Lab