

What is ATEX ?

The European Regulatory Framework for
Manufacture, Installation and Use of
Equipment in Explosive Atmospheres

Ron Sinclair MBE
Chair – IECEx ExTAG



WHEN YOU NEED TO BE SURE



- ATEX = Atmosphères Explosibles
- ATEX refers to two separate (but related) European Union (EU) Directives
- 94/9/EC The “Equipment” Directive
 - Concerned with the manufacture and sale of Ex Equipment
- 1999/92/EC The “Use” Directive
 - Concerned with Classification of Hazardous Areas and the correct selection, installation, inspection and maintenance of Ex Equipment

- The ATEX Equipment Directive is primarily concerned about TRADE
- It applies minimum Essential Health and Safety Requirements (EHSRs) to avoid concerns over safety being a barrier to trade
- 94/9/EC is not, itself, law but becomes law in each member state of the EU when it is “adopted”.
 - Adoption without variation is compulsory so it is common to refer to 94/9/EC as if it is an EU wide law
 - Applies to the whole of the EEA (EU plus EFTA)

- The ATEX Use Directive is primarily about safety of workers employed in hazardous atmosphere installations
- It specifies MINIMUM requirements but each country can ADD to, or modify, the requirements
- It requires all equipment with a potential ignition source (electrical and non-electrical) to comply with 94/9/EC
- Thus all Ex Equipment sold or installed in the EEA after June 2003 must comply with ATEX 94/9/EC

- All ATEX EC-Type Examination Certificates are issued in respect of conformity with the EHSRs
- An ATEX Certificate does NOT confirm conformity with any particular standard
- Certain standards are designated as “harmonised”
- Conformity to one or more harmonised standards is ONE way to demonstrate conformity to the EHSRs
- Most of the IEC 60079 series equipment standards (in their EN version) are listed as harmonised

- ATEX divides equipment into Categories according to how well the equipment is protected against becoming an active ignition source
- IEC TC31 subsequently devised a similar scheme referring to Equipment Protection Levels (EPLs)
- Although the definitions are worded differently, for most purposes the relevant Category and EPL can be considered the same
- There is a “normal” allocation of Category or EPL to a given Zone though this can be varied

Category	EPL	Zone
1G	Ga	0
2G	Gb	1
3G	Gc	2
1D	Da	20
2D	Db	21
3D	Dc	22
M1	Ma	Energised in gas
M2	Mb	De-energised in gas

Categories (Annex in 94/9/EC)	1 + M1	2 + M2 Electrical	2 + M2 Non-electrical	3
EC-Type Examination (III)	NB	NB		
Production QA (IV)	NB			
Product Verification (V)	NB			
Conformity to Type (VI)		NB + M		
Product QA (VII)		NB		
Internal Control of Production (VIII)			M (+ deposit file)	M
Unit Verification (IX)	(NB)	(NB)	(NB)	(NB)

- A Notified Body (NB) is a certification body which is appointed by a member state in the EEA and “notified” to the European Commission for particular directives
- Some, but not all NBs have accreditation for the activity
- The module “internal control of production” does not require the intervention of a NB
- In some cases, the market will not accept this and most NBs also issue voluntary Cat 3 certification

- Production Quality Control – based on ISO 9002 current in 1994
- Product Quality Control – based on ISO 9003 current in 1994 – not normally used
- Product Verification – suitable only for very low production runs – NB inspects every item produced
- Conformity to Type – a hybrid involving inspection by the manufacturer to a quality plan agreed with NB
- Unit Verification – a hybrid of Type Examination plus Product Verification concurrently

- Production Quality Control
- ATEX document Quality Assessment Notification (QAN)
- Identical process to IECEx Quality Assessment Report (QAR)
- Most ATEX NBs which are also members of IECEx use a common system
 - ISO/IEC 80079-34 supports and extends current ISO 9001
 - EN 80079-34 has additional information relating to non-electrical equipment

- Declaration of Conformity (DoC)
- Document created by the manufacturer without NB involvement
- Signed on behalf of the manufacturer “on the day” the equipment is dispatched
- Based on the manufacturer engaging a NB for some equipment and only on the manufacturer’s own internal processes for other equipment

- Technical – ExNB Working Group
 - The ATEX equivalent of IECEx ExTAG
 - Chair – Martin Thedens (PTB, Germany)
 - Vice Chair – Thierry Houïex (Ineris, France)
 - Vice Chair – Ron Sinclair (SGS Baseefa, UK)

- Legal – EU Commission Standing Committee WG
 - Partly equivalent to ExMC in IECEx
 - Provides mainly non-technical interpretations
 - Issues “ATEX Guidelines”
 - Formally issues ExNB Decision Sheets to public

■ Standardisation

- EU Commission mandate CEN and CENELEC to write standards “in support of the EHSRs”
 - In practice many are EN versions of IEC or ISO text
- Mandated standards are reviewed by the EU Commission’s ATEX Consultant, to confirm the standard does support the EHSRs
- Mandated standards accepted by the consultant are “harmonised” when their number is published in the Official Journal of the EU (OJ)
- Conformity to a harmonised standard is deemed to confirm conformity to the EHSRs

- Variable level of accreditation of NBs
 - Differs from country to country
- Variable level of Conformity Assessment
 - Rules are clear but not well understood by the market
- Certificates are against the EHSRs and not the standards
 - Even if standards are used to support the EHSRs there is nothing to prevent “alternative approaches” which are not clear on the marking or front page of the certificate

- Legal system with obligatory application in EEA
 - Removes barriers to trade within EEA
- The name “ATEX” has become well known worldwide
 - Although as IECEx Certificate Numbers grow, IECEx is “taking over” outside EEA
- Certificates are against the EHSRs and not the standards
 - This allows flexibility in adopting new technology ahead of standardisation (Ex s IEC 60079-33 has been introduced to allow IECEx to do the same but under more control)

- ATEX is one of a number of “New Approach” directives (including Machinery, EMC, etc.)
- Because they were written at different times some wording differs unnecessarily
- Wording to be aligned where possible
- New tightened rules on accreditation of NBs
- NO change to technical requirements
- Existing EC-Type Examination Certificates will remain valid

- In 99.5% of cases an IECE_x ExTR can underpin an ATEX EC-Type Examination Certificate as the technical requirements (IEC and EN standards) are normally identical
 - Only additional marking required
- In all cases an IECE_x Quality Assessment Report (QAR) underpins the ATEX Quality Assessment Notification (QAN)

- A European IECEx ExCB will often issue both IECEx and ATEX documentation at the same time
- A manufacturer elsewhere in the world can obtain IECEx reports (ExTR and QAR) locally and submit to a NB for issue of ATEX Documentation
- This is essentially the same process as obtaining Inmetro Ordinance 179 Certification for Brasil
 - In both cases, the receiving certification body will review the reports and, if necessary, seek clarification, before issuing local certification

- EU Commission certainly aware of IECEx and the UNECE initiative
 - EU Commission representative attended a similar UNECE workshop in 2011
- NLF activity has delayed any possible other changes to ATEX 94/9/EC
- Future revisions are possible and may allow for the specific use of IECEx documents as a direct input
 - But even now, an IECEx Certificate can directly underpin a DoC for Category 3 Equipment, without involving a NB

Thank You

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