# Safety for custom-designed Ex items and assemblies

## IECEx certification now includes Unit Verification

*While the vast majority of devices and equipment used in Ex (explosive) areas is mass-produced, the need occasionally arises for a manufacturer to produce a single or a small series of custom-made items for a very specific and unique project.*



IECEx meeting

## What is unit verification?

Unit verification is specifically designed for the certification of individual units. It is the process of verifying the design of single items of equipment – or, in some cases, limited quantities of items – providing assurance that items comply with the requirements of specified standards.

Because safety and reliability are crucial in hazardous areas, it is essential for these custom-made products or assemblies to bear a specific signature, so to speak. Unit verification certificates not only detail the standard that the product or assembly meets but also the unique serial number or other unique identifier that enables customers to know with certainty that the item delivered is the right one. If the manufacturer produces another identical unit at a later stage, it will not be covered by the certificate because it has not been tested and verified by a certification body, regardless of its being exactly the same product.



IECEx group

## Unit verification now part of IECEx services

Integrating unit verification certificates in the IECEx Certified Equipment Scheme was one of the key decisions made at

the IECEx ExMC (Management Committee) meeting in Berlin, Germany, in September 2010. IECEx is the IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres. The move by the ExMC provides manufacturers and suppliers with the possibility to have unit verification at the international level (though European Union directives on equipment used in explosive atmospheres have been providing this service for some time).

## Quality Management System requirements

Unit verification was not the only matter of importance on the agenda. ExMC also agreed to adopt ISO/IEC 80079-34, *Explosive atmospheres - Part 34: Application of quality systems for equipment manufacture*, after it is published, which probably will be 2011. The standard will replace the current IECEx operational documents on QMS (Quality Management System) requirements. The standard is the result of a cooperative effort between IEC and ISO (International Organization for Standardization) and will be one of the first projects completed by IEC SC (Subcommittee) 31M: Non-electrical equipment and protective systems for explosive atmospheres.

## ExMarkCo Chairman's extension of term

The ExMC unanimously agreed to appoint Tim Duffy for a second three-year term as Chairman of ExMarkCo (Ex Mark Committee). Duffy has been instrumental in setting up and developing the Ex Mark in the past few years and his re-appointment shows the gratitude and recognition expressed by the whole IECEx community.

The IECEx Conformity Mark, introduced in 2008, shows that a product has been granted an IECEx Certificate of Conformity.
IECEx Certification confirms that the product has the appropriate protection for use in explosive atmospheres and that it has been manufactured under systems subject to ongoing surveillance by IECEx CBs (Certification Bodies). The IECEx Certificate of Conformity is underpinned by independent IECEx testing and is recognized among countries participating in the IECEx System, without the need for repeat testing and assessment.

IECEx Conformity Mark Licenses are issued by approved CBs in IECEx participating countries.



Kerry Mcmanama, Chairman of IECEx (left), Chris Agius (right), IECEx Executive Secretary



IECEx delegates

## The meetings

The IECEx series of annual meetings took place on 29 August-3 September 2010 in Berlin and were hosted by DKE, the German Commission for Electrical, Electronic & Information Technologies of DIN and VDE, member of IECEx. Twenty-seven countries were represented, with some 120 delegates participating in the meetings. About 35 % of all delegates came from industry or regulatory bodies. Most of the IECEx ExCBs (Certification Bodies) and ExTLs (Test Laboratories) were in attendance.

The following meetings were held:

- Joint WG (Working Group) 1: Revision of IECEx Rules and WG5: Quality system requirements
- ExTAG (Ex Testing and Assessment Group) training workshop
- Assessor training
- ExTAG technical meeting
- Industry symposium
- ExMC

The United Nations' endorsement of IECEx through UNECE (United Nations Economic Commission for Europe) at the end of 2009 has already brought closer cooperation. As a result, the UNECE WP6 (Working Party on Technical Harmonization and Standardization Policies) Ex Sector initiative also held its meeting in Berlin as part of the IECEx meetings.

The industry symposium enabled participants from industry to meet IECEx Officers and experts, ensuring closer collaboration. One immediate outcome of the symposium was the decision to have an IECEx presentation at the next International Rotating Equipment Conference, to be held in Düsseldorf, Germany, in 2012.

In conclusion, the week-long event proved to be extremely successful, providing delegates with the opportunity to keep abreast of recent achievements in the different IECEx schemes and to discuss future developments.

## RELATED INFORMATION

**IEC links**

IECEx:
IEC System for Certification to Standards relating to Equipment for use in Explosive Atmospheres

IEC 80079-34: *Explosive atmospheres - Part 34: Application of quality systems for equipment manufacture*

IEC SC 31M:
Non-electrical equipment and protective systems for explosive atmospheres

The Ex Mark:
Article in February 2008 *e-tech*

**External links**

DIN: Deutsches Institut für Normung
The German Institute for Standardization

DKE:
Deutsche Kommission Elektrotechnik Elektronik Informationstechnik im DIN und VDE,
The German Commission for Electrical, Electronic & Information Technologies of DIN and VDE

ISO:
International Organization for Standardization

UNECE:
United Nations Economic Commission for Europe description

VDE:
Verband der Elektrotechnik Elektronik Informationstechnik,
The Association for Electrical, Electronic & Information Technologies