

ADDRESSING THE RISKS OF ATEX SELF-CERTIFICATION IN NON-ELECTRICAL EX EQUIPMENT

Ensuring safety in explosive atmospheres (Ex) is a critical concern for industries handling hazardous environments. While electrical equipment has long been scrutinised for its potential ignition risks, non-electrical equipment—such as industrial fans—has often been overlooked. This oversight has led to widespread misunderstandings regarding the certification process, particularly within the ATEX framework. The reliance on self-certification in ATEX 2014/34/EU poses significant risks to end-users, while the IECEx certification scheme offers a more robust alternative through independent verification.

THE MISUNDERSTANDING OF EX NON-ELECTRICAL EQUIPMENT

Non-electrical equipment, including mechanical components like fans, gearboxes, and bearings, can generate ignition sources through friction, static electricity, and mechanical failure. Despite their potential hazards, these components are frequently treated with less scrutiny compared to electrical equipment. One of the primary misconceptions in the industry is that ATEX certification ensures comprehensive safety across all elements of Ex equipment. However, this is not necessarily the case, particularly for non-electrical components.

THE PITFALLS OF ATEX SELF-CERTIFICATION

ATEX Directive 2014/34/EU allows manufacturers to self-certify non-electrical Ex equipment for Category 2 and 3 applications without independent verification. This means that a manufacturer can assess its own products and declare conformity without third-party evaluation. While this approach reduces administrative burdens, it introduces significant safety concerns:

- **Lack of independent validation:** Without third-party testing, there is no guarantee that the equipment meets the required safety standards
- **Inconsistent compliance:** Different manufacturers may interpret ATEX requirements differently, leading to varying safety levels.
- **Over-reliance on documentation:** A Declaration of Conformity issued by the manufacturer does not provide the same assurance as an independent Certificate of Conformity.
- **Risk to end-users:** Many buyers and operators mistakenly believe that all ATEX-certified equipment undergoes rigorous testing, leading to a false sense of security.

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IECEx vs. ATEX: A Regulatory Comparison

While both ATEX and IECEx aim to regulate the safety of equipment used in explosive atmospheres, their approaches differ significantly. Understanding these differences is crucial for industries looking to minimise risk and ensure compliance with the highest safety standards.

1. CERTIFICATION PROCESS

ATEX: Allows self-certification for Category 2 and 3 non-electrical equipment, meaning manufacturers can approve their own products without external verification. Only Category 1 equipment requires third-party involvement.

IECEx: Requires independent certification for all equipment, ensuring that every product undergoes rigorous testing and compliance checks before it enters the market.

2. TESTING AND COMPLIANCE VERIFICATION

ATEX: Compliance is based on a manufacturer's declaration, with little oversight unless an issue arises.

IECEx: Equipment is tested by an accredited IECEx certification body (ExCB), which issues a Certificate of Conformity after verifying compliance with stringent international safety standards.

3. TRANSPARENCY AND TRACEABILITY

ATEX: Does not provide a public database for verifying self-certified equipment, making it difficult for end-users to confirm compliance claims.

IECEx: Maintains a global online database where end-users can verify product certification details, ensuring greater transparency.

4. INTERNATIONAL RECOGNITION

ATEX: Primarily recognised within the EU but not always accepted in other markets without additional certification.

IECEx: Recognised internationally, including in Australia, the U.S., and parts of Asia and the Middle East, simplifying compliance for global operations.

These differences highlight why IECEx is considered a more robust and reliable certification scheme. While ATEX provides a legal framework for equipment sold in the EU, it falls short in ensuring consistent safety standards due to its allowance for self-certification.





The Blue Guide to EU Products: Where It Falls Short

The Blue Guide to the Implementation of EU Product Rules serves as an official reference for understanding European regulatory frameworks, including ATEX. While the guide aims to clarify conformity assessment procedures, it has notable shortcomings when it comes to Ex safety:

1. EMPHASIS ON MANUFACTURER RESPONSIBILITY:

The Blue Guide reinforces the idea that manufacturers bear primary responsibility for compliance. While this aligns with EU free trade principles, it places excessive reliance on companies' internal assessments rather than independent verification.

2. FAILURE TO ADDRESS SELF-CERTIFICATION RISKS:

The guide does not sufficiently address the potential dangers of ATEX self-certification, particularly for non-electrical equipment. It assumes that manufacturers will conduct thorough risk assessments, but history has shown that some companies cut corners to save costs.

3. LIMITED DISCUSSION ON NON-ELECTRICAL EQUIPMENT:

Much of the Blue Guide focuses on electrical Ex equipment, leaving non-electrical ignition sources underrepresented. Given that mechanical components can pose equal or greater risks, this gap in guidance is problematic.

4. LACK OF ALIGNMENT WITH IECEx BEST PRACTICES:

The guide does not actively encourage alignment with IECEx standards, missing an opportunity to promote globally accepted safety practices. This omission keeps EU regulations from evolving in line with international best practices.

WOODCOCK & WILSON: EXCEEDING SAFETY STANDARDS

At Woodcock & Wilson, we understand the critical role that safety-certified fans play in hazardous environments. We go beyond ATEX requirements by obtaining full IECEx certification for our fans, ensuring that each unit meets the highest safety standards. This commitment includes:

- **Independent third-party testing:** All Ex-rated fans undergo rigorous evaluation by accredited certification bodies.
- **Unit verification:** Every product is tested for compliance rather than relying solely on design-based certification.
- **Enhanced materials and engineering:** We implement best practices in material selection, design, and construction to mitigate ignition risks.

By taking these extra measures, we provide end-users with a higher level of safety assurance, protecting both personnel and assets from potentially catastrophic failures.

A CALL TO ACTION: CHOOSE SAFETY OVER CONVENIENCE

The stakes in hazardous environments are too high to leave safety to chance. A single failure in Ex equipment can result in catastrophic explosions, endangering lives and operations. ATEX self-certification introduces uncertainty, while IECEx offers a proven, independently verified path to safety.

Don't settle for minimum compliance—demand excellence. Whether you're an operator, engineer, or procurement specialist, insist on IECEx-certified solutions to protect your workforce and assets. Companies like Woodcock & Wilson lead the way in safety innovation, offering best-in-class non-electrical Ex equipment that exceeds regulatory expectations.

THE URGENT NEED FOR GREATER AWARENESS

The industry must acknowledge the risks associated with ATEX self-certification, particularly for non-electrical equipment. End-users should:

- **Verify certification details:** Ensure that non-electrical Ex equipment is independently certified under IECEx rather than relying on self-certified ATEX documentation.
- **Understand the limitations of ATEX:** Recognise that not all ATEX-marked products have undergone third-party testing.
- **Demand higher standards:** Push for independent certification to ensure compliance and safety.

Make the right choice today. Reach out to Woodcock & Wilson to discuss your Ex safety needs and ensure your equipment is truly fit for hazardous environments. Because when it comes to safety, there should be no compromises.

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