



## Hazardous Location Electrical Markings – Certificate Numbers

### Introduction

In this edition, we will examine the certificate reference and “special symbols” Hazardous Location (HazLoc) electrical equipment markings as discussed in the International Electrotechnical Commission (IEC) 60079-series.

### NFPA 70, Articles 500 and 505

Articles 500 and 505 do **not** require a certificate marking. Equipment suitability is determined by the equipment listing<sup>1</sup> and the associated markings that were discussed in previous editions of this series of the [Drill Down](#) on HazLoc markings. Articles 500.8(A) and 505.9(B) include informational notes that additional documentation for equipment may include certificates demonstrating compliance with applicable standards, indicating special conditions of use and other pertinent information, but these articles do not contain certificate requirements.

### IEC 60079-Series

All Clauses referenced in parenthesis are from IEC 60079-0 (2017).

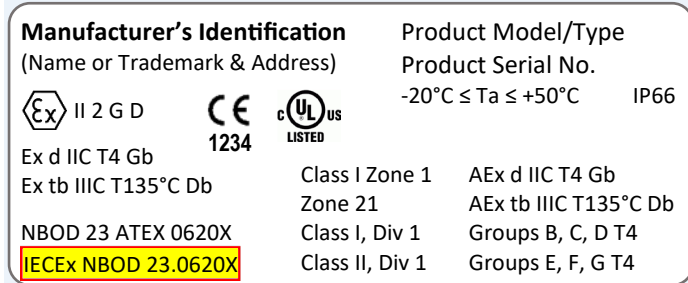


Figure 1: Example label denoting IEC certificate number

A certificate is prepared by or for the manufacturer and confirms that the Ex equipment or component is in conformity with the requirements of IEC 60079-0, other applicable parts and additional standards mentioned in Clause 1 (Clause 28.2). The certificate may contain amplifying or supplemental information that may not be included as part of the marking on the HazLoc equipment or component.

Ex certificates will be issued for Ex equipment (Clauses 3.12.2 and 28.2) or Ex components (3.12.1), including Ex cable glands, blanking elements and

equipment thread adapters tested separately from an Ex enclosure (3.10.4, 3.34 and 3.35, respectively).

The certificate reference, commonly referred to as the certificate number, is a required marking component (figure 1). The equipment or component marking must consist of the name or mark of the certificate issuer and the certificate reference in the format of the last two figures of the year of the certificate, followed by a period (“.”), followed by a unique four-character reference for the certificate in that year (Clauses 29.3.d and 29.10.f).

When the certificate number is ended with the letter “U” or “X”, this indicates special criteria:

“U” as a certificate number suffix denotes that the item is an Ex component that is intended to be incorporated into Ex Equipment. *“An Ex component certificate shall state that it is **not** an Ex Equipment certificate”* (emphasis added) (Clauses 3.83 and 28.2).

“X” as a suffix indicates specific conditions of use. (Clauses 3.84 and 29.3.e). An “advisory marking” or reference to a specific instruction document may appear on the Ex equipment in lieu of the “X” marking (29.3.e).

The “U” and “X” certificate number suffixes are **not** used together. Ex components are not intended to be used alone and require additional consideration when incorporated into equipment or systems. Ex components do not have the “specific conditions of use” that is indicated by the “X” suffix and the “U” suffix will be used. There may be an associated “Schedule of Limitations” when “specific conditions of use” are specified by the IEC 60079-series standards for a component, where the Schedule of Limitations shall include information to correctly apply the Ex component for incorporation into Ex equipment (Clauses 13.5, 28.2 and 29.10.g).

From our example label in figure 1, the certificate number of “IECEx NBOD 23.0620X” is broken down as follows:

- IECEx** IEC Ex equipment or component;
- NBOD** certificate issuer name or mark;
- 23.0620** certificate was issued during 2023 with “0620” being the unique identifier; and
- X** indicates that there are special conditions associated with the equipment.

<sup>1</sup> “Listed” (or listing) as defined in NFPA 70, Article 100 means equipment, materials or services in a list published by an organization acceptable to the jurisdictional authority as meeting the designated standards or tested and found acceptable for a specific purpose.

Certificates are required to include the following, if applicable to the Ex equipment or component:

- Intended to be connected to or influenced by a separate external source of heating or cooling (Clause 5.1.2);
- Specific orientation related to surface temperature for dust Ex equipment with EPL “Db” (5.3.2.3.2.c);
- Must include threaded and non-threaded cable glands (16.3), threaded and non-threaded blanking elements (16.4) and thread adapters (16.5) for the complete equipment;
- Complete temperature class information where Ex equipment has multiple temperature classes and it is impractical to include the complete information in the equipment marking (29.4.d and 29.5.d);
- Each Ex marking where Ex equipment is suitable for multiple types of protection (29.7), unless separate certificates are prepared for the applicable Ex markings for the equipment; and
- Manufacturer’s type identification for small Ex equipment or Ex components where this information is abbreviated or omitted due to limited space (29.11.b).

Note that equipment or components that also meet the ATEX directive, have a separate certificate reference and it will typically use “ATEX” rather than the period (“.”) as the separator in the reference number as shown in figure 1 (Clause 29.3.d).

IECEX certificates can be searched at <https://www.iecex-certs.com/#/home>. The search screen is shown as figure 2.

## Conclusion

Certificate references or “certificate numbers” are a required marking for IEC 60079 Ex equipment and components. The certificate itself provides complete information and the suffix letters (“U” and “X”) indicate that the Ex equipment or component certificates should be consulted to verify amplifying information regarding the proper installation and use of the same.

This concludes the review of “required” markings associated with HazLoc electrical equipment. In summary, we have explored the following subjects associated with HazLoc markings:

- Applicable standards ([Drill Down #23](#))
- Locations (classification systems for Division and Zones) ([Drill Down #24](#))
- Material Groups ([Drill Down #25](#))
- Protection Techniques ([Drill Down #26](#))
- Temperature Class ([Drill Down #27](#))
- Equipment Protection Level ([Drill Down #28](#))
- Equipment Certificates and Special Symbols (this edition)

Our next edition will consider one additional marking that is not required by the standards that we have been reviewing, but is mentioned, related to protection methodology and often marked on the equipment or component. The last *Drill Down* in this 8-part series will explore “Degrees of protection”.

The screenshot displays the IECEx Certificates search interface. At the top, there is a navigation bar with 'Home', 'Search', and 'Export' links, and a 'Log in' button. Below the navigation bar, there is a search bar with the placeholder text 'Search certificates or reports by reference number / applicant / manufacturer / keyword ...'. Below the search bar, there are filters for 'Issue date' (2003 to 2023) and 'Type' (Certified Equipment, Component Certificate, Equipment Certificate, ExTR, OAR). The search results show 56,664 results, sorted by reference number (ascending). Two results are visible: 'IECEX BAS 04.0002 Issue 1' and 'IECEX BAS 04.0002 Issue 2', both issued to Measurement Technology Limited - United Kingdom.

Figure 2: [iecex-certs.com](https://www.iecex-certs.com/#/search) search screen (Sep2023)