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Mr. Sunil Karamchandani
Pushna International Inc
4151 Bluebonnet Drive
Stafford TX 77477
United States

Customer ID: 1000010533
Subject: FM08ATEX0010U and IECEx FMG 11.0029U

Dear Mr. Karamchandani:

The following letter is being provided to you for informational purposes only. The intent is to further clarify the requirements regarding flameproof enclosure entries and the marking of component enclosures as pertaining to your subject ATEX and IECEx certificates.

Clause 13.1 of the 2014 editions of either EN 60079-1 or IEC 60079-1 state than entries into flameproof enclosures can be male or female but must be either metric or NPT thread form. Any other thread types, including BSP threads, are not permitted for use as flameproof enclosure entries.

In addition, Question and Answer 1 of Interpretation Sheet 1 (ISH1:2020) for IEC 60079-1:2014 further clarifies that metric and NPT are the only permitted thread forms for flameproof enclosures.

Clause D.3.8 of the 2014 editions of either EN 60079-1 or IEC 60079-1 include the marking requirements for empty (component) flameproof enclosures. The marking is to follow the requirements of EN (or IEC) 60079-0 but shall be placed internally. This clause also explicitly states that “The Ex marking string shall not be marked externally.”

Refer to the end of this document for snapshots of the applicable clauses and interpretations mentioned above. Should you have any additional questions, please do not hesitate to contact me.

Sincerely,



Marlon Mitchell
Senior Engineer

Reviewed By:



David Anderson
AVP, Technical Team Manager



13 Entries for flameproof enclosures

13.1 General

The flameproof properties of the enclosure are not altered if all entries meet the relevant requirements given in this clause and shall be one of the following:

- internal metric threads with a tolerance class of 6H or better according to ISO 965-1 and ISO 965-3, and any chamfer or undercut is limited to a maximum depth of 2 mm from the external wall surface;
- external metric threads with a threaded part of at least 8 mm in length and at least eight full threads. If the thread is provided with an undercut, then a non-detachable and non-compressible washer or equivalent device shall be fitted to ensure the required length of thread engagement;

NOTE 1 The requirement for at least eight full threads is to ensure that at least five full threads will be engaged when the part is installed in a threaded entry – taking into account the presence of any chamfer or undercut.

- internal NPT threads in accordance with Table 5;
- external NPT threads in accordance with Table 5; or
- for Group I applications only, non-threaded joint in accordance with 5.2.

NOTE 2 This requirement is not intended to apply to integral cable glands or similar entry devices provided by the manufacturer as part of the enclosure.

IEC 60079-1:2014 Edition 7.0, Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"

Question 1:

The requirements given in 13.1 of IEC 60079-1:2014 (Edition 7) restrict threaded entries for flameproof enclosures to only metric and NPT. Does this restriction represent a major technical change between IEC 60079-1:2014 (Edition 7) and IEC 60079-1:2007 (Edition 6)?

Answer 1:

Yes, the restriction to only metric and NPT regarding threaded entries for flameproof enclosures does represent a major technical change between IEC 60079-1:2014 (Edition 7) and IEC 60079-1:2007 (Edition 6). The requirements given in Clause 13 of IEC 60079-1:2007 (Edition 6) had no such normative restriction, with reference to metric and NPT only as examples of threaded entries for flameproof enclosures.

While IEC 60079-1:2014 (Edition 7) only permits the use of metric and NPT threads for entry into flameproof enclosures, cable glands/conduit entry devices, thread adapters and blanking elements are permitted to use other thread forms (see Annex C of IEC 60079-1:2014 (Edition 7)).

NOTE 1 The intention of the restriction to only metric and NPT regarding threaded entries for flameproof enclosures is to minimize the mismatch of thread forms in enclosure entries.

NOTE 2 In the Foreword of IEC 60079-1:2014 (Edition 7), the table detailing the significance of the changes between IEC 60079-1:2014 (Edition 7) and IEC 60079-1:2007 (Edition 6) mistakenly did not identify this metric and NPT restriction as a major technical change. Unfortunately, the IEC Directives do not permit a corrigendum to be issued to correct errors in non-normative text such as the table detailing the significance of changes.

D.3.8 The enclosure shall be marked in accordance with the requirements for marking of Ex components given in IEC 60079-0, but shall be internal and not required to be permanent. The Ex marking string shall not be marked externally. Only the manufacturer's name and enclosure identifier information (such as type or serial number) may be marked external to the enclosure. This marking need not be permanent.