**INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC) SYSTEM FOR CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR USE IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**Title: Compilation of Comments on ExTAG/563/CD Draft ExTAG Decision Sheet for Compounded wire-feedthrough constructions between motor frame and terminal box.**

**Circulated to: ExTAG – IECEx Testing and Assessment Group**

**INTRODUCTION**

This document contains the Compilation of Comments and Observations from the Originator CNEX-Global B.V., NL, on *ExTAG/563/CD Draft ExTAG Decision Sheet for Compounded wire-feedthrough constructions between motor frame and terminal box.*

As a result of comment received a revised Draft Decision Sheet *ExTAG/563A/CD Draft ExTAG Decision Sheet for Compounded wire-feedthrough constructions between motor frame and terminal box* has been prepared and circulated for comment.

***Please inform the Secretariat immediately of any omissions or errors at***

***Christine Kane***

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| **ExCB/****ExTL** | **Clause/ Sub-clause** | **Paragraph Figure/****Table** | **Type of****comment****General/****technical/****editorial** | **COMMENTS** | **Proposed change** | **Observation****(to be completed by the originator)** |
| --- | --- | --- | --- | --- | --- | --- |
| **DEK****NL** |  |  |  | **We agree with this sheet** |  | Accepted |
| **ExTC****AU** |  |  | General | We support the proposed DS, but suggest that it is edited by IECEx secretariat for better understanding | For example, instead of using “Compounded wire-feedthrough constructions between motor frame and terminal box”, use “Compound filled feedthroughs for wires between motor frame and terminal box” | Accepted in principle,To be edited by IECEx Secretariat |
| **ExTC****AU** | Background | 2. | General | We support the proposed DS, but suggest that it is edited by IECEx secretariat for better understanding. | Instead of “… after which this opening is compounded …”Use “filled with compound” | Accepted in principle,To be edited by IECEx Secretariat |
| **ExTC****AU** | Background | B7 | General | The paragraph contains unnecessary information:“It is not really a cemented joint, as a cemented joint is normally considered as an application of cement in the flameproof joint between two parts of a flameproof enclosure, where the flameproof joint cannot, or does not, comply with the joint requirements from the Tables 2 and 3 in the IEC 60079-1. A hole with wires which is filled with compound is not really a cemented joint between two parts of a flameproof enclosure. | Remove “, where the flameproof joint cannot, or does not, comply with the joint requirements from the Tables 2 and 3 in the IEC 60079-1.” | Accepted,Text modified |
| **ExTC****AU** | Answer | Note | Technical | After giving the answer that the compound filled feedthrough is to be regarded as “… being a bushing specific for a flameproof enclosure (that type/size of flameproof motor).”Then the Note allowing component certification seems not logical, as component certification generally is applicable for general use. | Remove Note | Accepted in principleNote removed |
| **Kiwa****NL** |  |  | **G** | No comments |  | Accepted |
| **LOM****ES** |  |  | **General** | LOM agrees with this proposal in its background.However, it can be simplified and states that Case 2 shall be treated as case 1. | **Simplify the wording and states that Case 2 shall be treated as case 1.** | Rejected Unclear answer to be clarified by LOM |
| **NANIO CCVE (ExCB and ExTL)****RU** |  |  | **General** | We support DS ExTAG/563/CD without comments. |  | Accepted |
| **NCC****BR** | **6****13.7 C.2.1.4** |  |  | **We understand that this assembly shall be evaluated as sealed joint.****For better understand, please provide examples (as drawings or figures) to demonstrate the assembly (compounded wire-feedthrough) between the motor frame and the terminal box.** |  | Accepted in principleNCC BR to provide examples |
| **NEPSI****CN** |  |  | **G** | We support the draft DS ExTAG/563/CD. |  | Accepted |
| **PTB****DE** |  |  |  | PTB supports ExTAG/563/CD without comments |  | Accepted |
| **QPS****CA** | **-** | **-** | **Technical** | A Bushing is not a compound. Poured compounds are cements in the context of IEC 60079 | **Reject proposal** | Rejected |
| **SGS Baseefa** |  |  | **Te** | The answer is probably correct in the specific context of the information given as “background”, but might benefit by consideration of similar (though different) situations where it might be incorrectly appliedFor example, a similar construction is often used for Ex d sensors that are screwed into a threaded entry in an enclosure that might be either Ex d or Ex e. The difference is that here the conductors could be subject to being twisted if the device is rotated in service, or of the device being removed from the enclosure, whilst in service. I am sure that ExCBs have their own way of making suitable precautions if they think this could happen in practice, applying the torque test from 60079-0 being one of them. Possibly this may be done in connection with a grub screw, as would be fitted to a screwed cover. | **Question:**Should a compounded wire feedthrough, where the conductors are permanently supported on both sides of the feedthrough and, therefore, without significant stress being applied to the feedthrough, be considered a “Bushing specific to an enclosure” in accordance with IEC 60079-1 clause C.2.1.4 Bushings?**Answer:**Yes. Regardless of the exact shape, this construction should be tested as if it were a bushing in respect of the cement compound forming the bushing and shall meet the test requirements of IEC 60079-1 clause 6.1.2 Cemented Joints – mechanical Strength.IEC 60079-0 clause 11 does not apply. | To be discussed |
| **SIQSI** |  |  |  | We agree with proposal. |  | Accepted |
| **TC 31** | **Back-ground** |  | **T** | **Regarding paragraph starting with text "It is not really a cemented joint…", the construction described in item 2 is "really" a cemented joint as described in Clause 6 of IEC 60079-1:2014. This is especially the case since the proposer in the answer declares that the construction is considered as cemented joint ("...are considered as cemented joints".)****Regarding paragraph starting with text " It is not really a ‘bushing’...", 13.7 of IEC 60079-1:2014 describes bushings which are integral to the specific enclosure. See opening words of 13.7 that read, “Bushings, whether integral or separate…”.** **Regarding paragraph starting with "So a compound wire-feedthrough … ", IEC 60079-1:2014 describes such construction in Clauses 6 and 13.7.** | **Delete the following three paragraphs in their entirety…** **1) Paragraph starting with text "It is not really a cemented joint…";** **2) Paragraph starting with text " It is not really a ‘bushing’..."; and** **3) Paragraph starting with "So a compound wire-feedthrough … ".** | **Accepted in principle****The text was deleted** |
| **TC 31** | **Q&A** |  | **G** | **TC 31 supports the Question and Answer as written** | **No changes needed to the Q&A text** | Accepted |
| **TIIS****JP** | Background |  | general / technical | TIIS agrees on Question and Answer of the Draft DS, but disagrees on Background for the following reason.Regarding 8th paragraph (starting with “It is also not really a ‘bushing’”), we think that this is a type of bushing, according to Clause 13.7 of IEC 60079-1: 2014, saying that bushings are integral with the enclosure or ...., As the originator says, typical bushing is a separate device, but we think it is not a requirement. | The 7th to 9th paragraphs of background should be replaced by the following statement.A compounded wire-feedthrough does fit to bushing in IEC 60079-1: 2014. | Accepted in principleThe text was deleted |
| **UL-****USA** | Answer |  | Technical | Agree with the draft DS, except for the sentence beginning with “Required Tests.” There are more tests than just those referenced in 6.1.2 (for example, in annex C). This may lead people to think only the tests in 6.1.2 are applicable. | Delete “Required tests: per IEC 60079-1 cl. 6.1.2 – Cemented joints – Mechanical strength.” | Accepted in principleThe text was deleted |
| **UL****BR** |  |  | General/technical | In general we agree with this proposal with the exception of the statement that the required tests are in 6.1.2. | In addition to the tests in 6.1.2 there are other clauses too. | Accepted |
| **ULD****DK** |  |  | General/technical | In general we agree with this proposal with the exception of the statement that the required tests are in 6.1.2. | In addition to the tests in 6.1.2 there are other clauses too. | Accepted |