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

**TITLE: Compilation of comments on ExTAG/608/CD - Draft ExTAG Decision Sheet - Dust blanketing temperature test for intrinsically safe apparatus with EPL Da (group III)**

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

**INTRODUCTION**

This document contains the compilation of comments, as well as observations from the originator, PTB, DE, received on ExTAG/608 /CD – Draft ExTAG Decision Sheet - Dust blanketing temperature test for intrinsically safe apparatus with EPL Da (group III)

A revised document *ExTAG/608A/CD –* Draft ExTAG Decision Sheet - Dust blanketing temperature test for intrinsically safe apparatus with EPL Da (group III) has been prepared and circulated for consideration during the ExTAG 2020 Remote Meeting.

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

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***ExTAG Secretariat***

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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)** |
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| **DEKRA EXAM DTC** | Second paragraph | Answer | ge | I agree that it is necessary to do the determination of the service temperature for EPL Da equipment under a 200 mm dust layer as stated in the answer.  The second paragraph is not giving any answer to the question. | Delete second paragraph of the answer. | Agreed |
| **ExTC**  **AU** | Answer | 2 | Editorial | Present last sentence needs more clarity.  Presently it reads: “Otherwise, the relaxation given for the surface temperature determination when applying the alternative given in clause 5.6.5 paragraph 2 of IEC 60079-11 is also applicable for the service temperature, when determined without a dust layer for EPL Da.”.  But the Clause 5.6.5 paragraph 2 is all about total immersion in dust. Hence the text “when determined without a dust layer for EPL Da” is confusing. | Revised the text to:  “Otherwise, the T135C provided in clause 5.6.5 paragraph 2 of IEC 60079-11 under the restrictions of 250mA short circuit current and maximum permitted power according to Table 4 may be used for the service temperature too, without requiring a test”. | Accepted in principle  Deletion of last para will solve the unclarity. |
| **FMG**  **US** |  |  | **ed** | In “Background”, 2nd paragraph, use the defined term | …only the maximum surface temperature… | Accepted  In the ISH5 only the maximum surface temperature of EPL Da apparatus is considered. |
| **FMG US** |  |  | **ed** | Generally support the “Answer” as drafted, but revise the 2nd paragraph to use the defined term. | …for the maximum surface temperature… | Accepted |
| **LCIE**  **FR** |  |  | Editorial | The proposed DS refers to the service temperature assessment for IS apparatus EPL Da.  Consequently, clause 5.2 of IEC 60079-0 Ed. 7.0 should be referenced. | In the section of applicable clauses, add:  5.2 (IEC 60079-0) | Accepted |
| **LCIE**  **FR** |  |  | Technical | We find that the answer part deserves to be clarified by further distinguishing the cases where the assessment relies or does not rely on service temperature.  Furthermore, in the case where the alternative approach can apply, we suggest to partly employ the terms of question 1) of ISH5 for IEC 60079-11 Edition 6. | Change the answer part of the proposed DS to:  Yes, if compliance to IEC 60079-11:2011 relies on the service temperature (eg. according to clause 7.1), the service temperature shall be determined with the apparatus covered under a 200 mm dust layer.  No, if compliance to IEC 60079-11:2011 does not rely on the service temperature (eg. according to clause 7.1) the service temperature has not be determined with the apparatus covered under a 200 mm dust layer.  Then, the alternative approach of IEC 60079-11:2011 for equipment with components dissipating less power than given in Table 4 and with continuous short-circuit current less than 250 mA may apply when assessing service temperature according to IEC 60079-0:2017. | Not accepted  The proposed text starting with “No, if…” does not add for clarity. The answer given in the first para of the draft DS is sufficient and it will be better to follow the recommendation of other comments to delete the 2nd para. |
| **NANIO CCVE**  **ExCB/**  **ExTL (RU)** |  |  | **General** | **We support this DS without comments.** |  | Noted |
| **NCC**  **BR** | **5.3.2.3.1 (IEC 60079-0)**  **5.6.5 (IEC 60079-11)** |  |  | **We agree.** |  | Noted |
| **NEPSI**  **CN** |  |  | **G** | **We support the draft DS ExTAG/608/CD.** |  | Noted |
| **QPS**  **CA** |  |  |  | QPS supports the TAG DS and has no comments. |  | Noted |
| **SIMTARS AU** |  |  |  | Simtars has no comments for this DS. |  | Noted |
| **SIQ SI** |  |  |  | **We agree with proposal** |  | Noted |
| **TC 31**  **MT79-11** |  |  | ge | The detailed intent of this DS is not clear, some of the background statements are not quite correct, and some appear to contradict the answer. | Re-write making clear the intent (see Annex for a suggestion) | Accepted in principle  DS re-written as proposed by MT79-11 |
| **TC 31**  **MT79-11** | Answer 1st para |  | ge | This answer makes the same mistake as ISH5 in that it does not clarify if the application of Table 4 makes a difference to the need for the dust layer. | Add to end:  “whether or not the temperature classification is determined according IEC 60079-11 clause 5.6.5 paragraph 2.” | Accepted |
| **TC 31**  **MT79-11** | Answer 2nd para |  | ge | It is not clear what the second paragraph to the answer is trying to say. | Delete | Accepted |
| **TC 31**  **WG 22** | Answer 1st para |  | ge | Too many people do not know the difference between “i.e.” and “e.g.” ……… and that has gotten us into trouble in the past. Better that there is no ambiguity. | Change “e.g.” to “for example,” | Accepted |
| **TIIS**  **JP** |  |  | general | We support the draft DS without comments. |  | Noted |
| **TUV SUD PS**  **DE** | 5.3.2.3.1 (IEC 60079-0)  5.6.5 (IEC 60079-11) |  | General | We concur with the proposed answer. |  | Noted |
| **UL**  **BR** | Background | Paragraphs 1 through 4. | Te | The first four paragraphs in the background are not really relevant to the situation. The fourth paragraph is what is the real issue, which is that when the 7th edition of IEC 60079-0 was published, this particular change was not identified as a significant change, but should have been. Based on that it is suggested that a decision sheet be issued for IEC 60079-0 that is similar to ISH-1 that was issued against the 7th edition of IEC 60079-1. | Make this a decision sheet against IEC 60079-0 indicating that the change is actually a major technical change. | Accepted in principle  With the proposed revision of the DS, made by the MT60079-11, this is covered in the Background part. |
| **UL**  **BR** |  | Answer | Te | Regardless of whether the first comment is accepted, the second paragraph in the answer should be deleted, since it doesn’t provide any clarity and may actually create confusion. | Delete second paragraph. | Accepted |
| **UL**  **US** | Background | Paragraphs 1 through 4. | Te | The first four paragraphs in the background are not really relevant to the situation. The fourth paragraph is what is the real issue, which is that when the 7th edition of IEC 60079-0 was published, this particular change was not identified as a significant change, but should have been. Based on that it is suggested that a decision sheet be issued for IEC 60079-0 that is similar to ISH-1 that was issued against the 7th edition of IEC 60079-1. | Make this a decision sheet against IEC 60079-0 indicating that the change is actually a major technical change. | Accepted in principle  See UL BR |
| **UL**  **US** |  | Answer | Te | Regardless of whether the first comment is accepted, the second paragraph in the answer should be deleted, since it doesn’t provide any clarity and may actually create confusion. | Delete second paragraph. | Accepted |

# Annex A Prepared by TC31 MT79-11

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| **Background**  An IEC Interpretation sheet 5 (ISH5) for IEC 60079-11 Ed.6 (2011) has been issued that clarifies that the dust blanket testing required in 5.3.2.3.1 of IEC 60079-0 Ed.7 (2017) for EPL Da is required where the power limits of IEC 60079-11 Ed.6 Table 4 are exceeded. However, this does not mention whether or not this is the case where the current and power limits meet 5.6.5 paragraph 2 and Table 4 requirements.  IEC 60079-0 Ed.7 (2017) requires a 200 mm dust blanket when determining the service temperature for EPL Da. This requirement was relocated from IEC 60079-18 and IEC 60079-31 and was only indicated as a minor / editorial change, with an explanation (A1), in the Table of significant changes between IEC 60079-0 Ed.6 (2011) and IEC 60079-0 Ed.7 (2017) in the foreword of the latter.  *A1 The dust layer requirements for EPL Da are unchanged from what previously existed in IEC 60079-18, Ed 4 and IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all Types of Protection.*  At the time that IEC 60079-11 Ed.6 was published in 2011, this dust layer was not stated as required when determining the service temperature for EPL Da by either IEC 60079-11 Ed.6 or IEC 60079-0 Ed.6 (2011). Hence, in the application of IEC 60079-11 Ed.6 (2011), this change to IEC 6007-0 Ed.7 (2017) could be regarded as a major technical change. Nonetheless, the classification of changes in a Foreword does not affect the changes to those requirements.  As a result, some ExTLs have interpreted the above as implying that, where IEC 60079-11 Ed.6 (2011) 5.6.5 paragraph 2 and Table 4 are applied in the determination of the temperature classification, then the 200 mm of dust blanked is not required when determining the service temperature.  IEC 60079-11 Ed.6 (2011) Table 1 states that the requirements in 5.2 of IEC 60079-0 for the determination of the service temperature for IS apparatus for Group I, II and III are not modified by IEC 60079-11.  So, notwithstanding that the addition of the 200 mm of dust blanked for determining the service temperature may feel like a major technical change, and notwithstanding that ISH5 answer 2 only covers power in excess of IEC 60079-11:2011 Table 4, nonetheless IEC 60079-11 Ed.6 (2011) 5.6.5 paragraph 2 obviates the need for a surface temperature determination for the purposes of temperature classification only, and says nothing about how either the surface or service temperatures are determined when required.  Therefore, there is nothing in IEC 60079-11 Ed.6 (2011) that obviates the need for the 200 mm dust blanket of IEC 60079-0 Ed.7 (2017) when determining the surface or service temperatures where they are required.  **Question**  Is it required to perform the service temperature assessment for IS apparatus EPL Da with the apparatus covered under a 200 mm dust layer, even though the temperature classification is determined according IEC 60079-11 clause 5.6.5 paragraph 2? |
| **Answer**  Yes, if Intrinsic Safety of the EPL Da intrinsically safe apparatus relies on the maximum service temperature (for example, for the rating of components, integrity of materials, etc.), the service temperature shall be determined with the apparatus covered under a 200 mm dust layer, whether or not the temperature classification is determined according IEC 60079-11 clause 5.6.5 paragraph 2. |