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

**TITLE: Compilation of Comments on - ExTAG/699/CD -** **Draft ExTAG Decision Sheet –** **Applicability of erosion and non-transmission tests on cable glands and conduit sealing devices sealed with setting compound in case of leakage**

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

**INTRODUCTION**

This document contains the Compilation of Comments on ExTAG/699/CD – Draft ExTAG Decision Sheet – Applicability of erosion and non-transmission tests on cable glands and conduit sealing devices sealed with setting compound in case of leakage

This document has been prepared for consideration, along with ExTAG/699/CD, during the 2023 ExTAG Edinburgh Meeting.

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

[***Christine***](mailto:info@iecex.com)

**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)** |
| --- | --- | --- | --- | --- | --- | --- |
| **CCTEG SHC CN** |  |  |  | We agree with the resolutions of ExTAG-699-CD |  |  |
| **CMD**  **IN**  **In consultation with**  **Intertek India Private Limited, Karandikar Laboratories Pvt. Ltd., and KL Certification Services** |  |  |  | We agree with the draft decision sheet' ExTAG/699/CD |  |  |
| **CNEX-Global** | **-** | **-** | **e** | We agree with this draft DS.  Note: this proposed text should be introduced in the next Edition of the IEC 60079-1 standard. IEC TC31 MT60079-1 should ensure this. | Text to be modified by IEC TC31 MT60079-1 for introduction in IEC 60079-1. |  |
| **CQM**  **CN** |  |  |  | Support. |  |  |
| **CSA & CSAE**  **CA** |  |  | **T** | This draft decision sheet attempts to change the test parameters of the standard, rather than providing clarification on current requirements. | This draft Decision Sheet should be rejected. |  |
| **DEK**  **NL** |  |  |  | This sheet intends to be an extension to the standard. This is not allowed per OD 035.  In addition:  clauses C.3.1.3 and C.3.1.4 do not allow the alternative route.  We think this is intentionally since quality control on applying the sealing material and routine testing requirements differ significantly for bushings made by manufacturers and glands and conduit sealing devices installed by the end users. | Withdraw this sheet. |  |
| **DEKRA / BVS**  **DE** |  |  | **General** | **We do not agree with the proposed DS.**  **Reasons:**  **This would be a change of the standard.** |  |  |
| **DNV**  **NO** | **-** | **-** | **Gen** | **We disagree with this proposal as it modifies a technical requirement, and cannot be accepted.** | **-** | **-** |
| **FTZU**  **CZ** |  |  | **G** | **The draft DS appears to modify, not clarify, the requirements of the IEC 60079-1 standard.**  **This is not the intention of Clarification Sheets.**  **The IEC MT 60079-1 is the responsible authority to implement changes to the IEC 60079-1 standard.** | **None, the DS is proposed to be rejected.** |  |
| **ITL**  **IL** | **C.3.1.3**  **C.3.1.4** |  | **N/A** | **N/A** | **Acceptable** |  |
| **KOSHA**  **KR** | **IEC 60079-1:2014(Ed 7.0)**  **IEC 60079-1:2007(Ed 6.0)** | **C.3.1.3**  **C.3.1.4** | **technical** | **Partially agree. The application of the intended maximum end-application volume in the use limit for bushings formed by molding insulation is agreed because it is tested with the intended maximum end-application volume in C.2.1.4. However, with the same philosophy, it is considered necessary to limit the volume in C.2.1.2 because there is no limit on the intended maximum end-application volume of the enclosure in the test conditions of the barrier type cable gland.**  **It is necessary to comment so that this matter can be discussed at IEC TC31/MT 60079-1.** |  |  |
| **KRH**  **GR** |  |  |  | **KR Hellas has no comments for this draft decision sheet** |  |  |
| **NANIO CCVE (RU)**  **ExCB/**  **ExTL** |  |  | **Technical** | **Sealed joints of the enclosures specified in clause 6 of IEC 60079-1:2014 (Ed 7.0) are made at the manufacturer's site under the factory conditions in compliance with the requirements of the documentation that specifies information about the material, preparation, application and curing conditions (such as time, temperature, etc.) of the compound. Evaluation and testing is carried out on a representative serial integral sample of the sealed joint assembly. Cable glands, bushings sealed with setting compound are mounted (or can be mounted) directly at the equipment operation site in various climatic conditions, where it is not always possible to ensure compliance with the requirements of the documentation, which specifies information about the preparation, application and curing conditions (such as time, temperature etc.) of the compound. It is not possible to check the quality of sealing the cable gland with compound at the operation site.**  **Furthermore IEC 60079-1:2014 (Ed 7.0), IEC 60079-1:2007 (Ed 6.0) only cover the issues relating to the type of protection Flameproof enclosures that doesn’t depend on IP and if**  **the alternative acceptance criteria of clause 6.1.2 (flame erosion test and non-transmission** | **Question:**  **Is it possible to apply the alternative acceptance criteria of clause 6.1.2 (flame erosion test and non-transmission test) on cable glands and conduit sealing devices sealed with setting compound in case of leakage occurs during the hydraulic test pressure?**  **The proposed answer**  **No, it isn’t.** |  |
|  |  |  |  | **test) on cable glands and conduit sealing devices sealed with setting compound in case of leakage occurs during the hydraulic test pressure is applied, than it is questioned the compliance to the requirement А.3.4 IEC 60079-0 (Ed 7.0) - «Test for degree of protection (IP) of cable glands**  **Prior to the IP tests, the test samples shall be subjected to the thermal endurance tests (26.8**  **and 26.9) and resistance to impact (A.3.3) tests (if applicable). The test shall then be carried out in accordance with IEC 60529 as below, using one cable-sealing ring of each of the different permitted sizes for each type of cable gland.**  **Group I – IP54 minimum**  **Group II – IP54 minimum**  **Group III, EPL Da – IP6X minimum**  **Group III, EPL Db – IP6X minimum**  **Group IIIC, EPL Dc – IP6X minimum**  **Group IIIA or IIIB, EPL Dc – IP5X minimum»** |  |  |
| **NCC**  **BR** | **C.3.1.3**  **C.3.1.4** |  |  | **We agree** |  |  |
| **NEPSI**  **CN** |  |  | **G** | **We don’t support the draft decision sheet ExTAG/699/CD because it seems to change the standard’s technical requirements.** | **Suggest to transfer the draft DS to IEC TC31/MT 60079-1 for further consideration.** |  |
| **PTB**  **DE** | **IEC 60079-1:2014**  **(Ed 7.0) IEC 60079-1:2007**  **(Ed 6.0)** | **C.3.1.3**  **C.3.1.4** | **Technical** | **Question:**  **Is it possible to apply the alternative acceptance criteria of clause 6.1.2 (flame erosion test and non-transmission test) on cable glands and conduit sealing devices sealed with setting compound in case of leakage occurs during the hydraulic test pressure?** | **Answer to question:**  **Add the following to the answer to be read also follows: (….) volume. Furthermore, the process of sealing needs to be factory mounted.** |  |
| **QPS CA** |  |  |  | **QPS agrees with the proposed draft DS and has no further comments.** |  |  |
| **SGS Baseefa**  **GB** |  |  | **te** | SGS Baseefa believes that not extending the flame erosion testing to compound filled glands and conduit fittings was an appropriate decision by the MT and that to do so would require an amendment to the standard.  Whereas the manufacture of a bushing is completed in a manufacturing facility under the direct supervision of a QA system monitored by an IECEx QAR, the compound filling of a gland or conduit fitting is performed in the field without the same degree of monitoring.  We accept that the installer should have proven competence, but the chance of a gland or conduit fitting prepared in the field having the same leakage characteristics as a carefully prepared test sample seems to be a step too far. | Answer:  No. The alternative acceptance criteria of clause 6 is not acceptable for compound filled glands or conduit fittings, as the level of control provided by a quality system subject to a QAR is absent. Furthermore, such compound filling would not normally take place in the same controlled physical environment as completion of a bushing. |  |
| **IEC TC31** |  | General | General | The proposed DS seeks to change the requirements of the  standard, and therefore should not be approved. A DS is not permitted to change current requirements, only clarify them. | The DS should be rejected in its current form. |  |
| **TIIS**  **JP** |  |  | te | As explained in background section, the alternative acceptance criteria of Clause 6 cannot be applied to cable glands and conduit sealing devices. | Change Answer as follows.  No. The alternative acceptance criteria of Clause 6 cannot be applied to cable glands and conduit sealing devices. |  |
| **TIIS**  **JP** |  |  | ge | Ed.6.0 is included in the "Standard" column, however, alternate acceptance criteria is first appeared in Ed 7.0. Alternate acceptance criteria is not available in Ed.6.0. | Remove Ed.6.0 from "Standard" column. |  |
| **ULBR**  **BR** |  |  | G | We don’t support this draft decision sheet as it appears to change the standard’s technical requirements. | Suggest to transfer the draft DS to the MT for IEC 60079-1 for further consideration. |  |
| **ULD**  **DK** |  |  | G | We don’t support this draft decision sheet as it appears to change the standard’s technical requirements. | Suggest to transfer the draft DS to the MT for IEC 60079-1 for further consideration. |  |
| **UL LLC**  **USA** |  |  | **G** | **We don’t support this draft decision sheet as it appears to change the standard’s technical requirements.** | **Suggest to transfer the draft DS to the MT for IEC 60079-1 for further consideration.** |  |