|  |  |  |
| --- | --- | --- |
| Logo IECEx 250px TM (2)  **IECEx TEST REPORT**  **IEC 60079-10-1**  **Explosive atmospheres - Part 10-1: Classification of areas –**  **Explosive gas atmospheres** | | |
| ExTR Reference Number : |  | |
| ExTR Free Reference Number : |  | |
| Compiled by + signature : | (enter typed name here) | (enter signature here) |
| Reviewed by + signature : | (enter typed name here) | (enter signature here) |
| Date of issue : |  | |
| Applicant’s name : |  | |
| Address : |  | |
| Standard : | IEC 60079-10-1:2020 Edition 3.0 | |
| Test Report Form Number : | ExTR60079-10-1\_3A\_DS (released 2021-08) | |
| Related Amendments, Corrigenda or ISHs : |  | |
| ***NOTE: While it is not a requirement of IEC TS 60079-46 for the involved ExCB/ExTL to verify the area classification associated with an internal source of release, it is a requirement that the manufacturer include such area classification details in their documentation. This IECEx Test Report is for use in support of this documentation. It is not for compiling or reviewing by the involved ExCB/ExTL, and the IEC 60079-10-1 standard is not for itemization either on the IECEx Test Report Cover or on the IECEx Certificate of Conformity.*** | | |
| ***Copyright © 2021 International Electrotechnical Commission System for Certification to Standards Relating to Equipment for use in Explosive Atmospheres (IECEx System), Geneva, Switzerland. All rights reserved.***  This blank publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEx System is acknowledged as copyright owner and source of the material. The IECEx system takes no responsibility for, and will not assume liability for, damages resulting from the reader's interpretation of the reproduced material due to its placement and context. | | |

|  |  |
| --- | --- |
| Possible test case verdicts: |  |
| - test case does not apply to the test item :N / A |  |
| - test item does meet the requirement :Pass |  |
| General remarks:  The test results presented in this Ex Test Report relate only to the item or product tested.   * "(see Attachment #)" refers to additional information appended to this document. * "(see appended table)" refers to a table appended to this document. * Throughout this document, a point is used as the decimal separator.   The technical content of this Ex Test Report shall not be reproduced except in full without the written approval of the involved ExCB and ExTL. | |

| **IEC 60079-10-1** | | | |
| --- | --- | --- | --- |
| **Clause** | **Requirement – Test** | **Result – Remark** | **Verdict** |
|  | | | |
| 1 | **Scope** | | |
|  | | | |
| 2 | **Normative references** | | |
|  | | | |
| 3 | **Terms and definitions** | | |
|  | | | |
| 4 | **General** | | |
|  | | | |
| 4.1 | **Safety principles** |  |  |
|  | | | |
| 4.2 | **Area classification objectives** |  |  |
|  | | | |
| 4.3 | **Interior of equipment containing flammable materials** |  |  |
|  | | | |
| 4.4 | **Explosion risk assessment** |  |  |
| 4.4.1 | **General** |  |  |
| 4.4.2 | **Zone of negligible extent** |  |  |
|  | | | |
| 4.5 | **Catastrophic failures** |  |  |
|  | | | |
| 4.6 | **Competence of Personnel** |  |  |
|  | | | |
| 5 | **Area classification methodology** | | |
|  | | | |
| 5.1 | **General** |  |  |
|  | | | |
| 5.2 | **Classification by sources of release method** |  |  |
|  | | | |
| 5.3 | **Use of industry codes and national standards** | | |
| 5.3.1 | **General** |  |  |
| 5.3.2 | **Fuel gas installations** |  |  |
|  | | | |
| 5.4 | **Simplified methods** |  |  |
|  | | | |
| 5.5 | **Combination of methods** |  |  |
|  | | | |
| 6 | **Release of flammable substance** | | |
|  | | | |
| 6.1 | **General** |  |  |
|  | | | |
| 6.2 | **Sources of release** |  |  |
|  | | | |
| 6.3 | **Forms of release** | | |
| 6.3.1 | **General** |  |  |
| 6.3.2 | **Gaseous release** |  |  |
| 6.3.3 | **Liquefied under pressure release** |  |  |
| 6.3.4 | **Liquefied by refrigeration release** |  |  |
| 6.3.5 | **Flammable mists release** |  |  |
| 6.3.6 | **Vapours release** |  |  |
| 6.3.7 | **Liquid releases** |  |  |
|  | | | |
| 7 | **Ventilation (or air movement) and dilution** | | |
|  | | | |
| 7.1 | **General** |  |  |
|  | | | |
| 7.2 | **Main types of ventilation** |  |  |
| 7.2.1 | **General** |  |  |
| 7.2.2 | **Natural ventilation** |  |  |
| 7.2.3 | **Artificial ventilation** | | |
| 7.2.3.1 | **General** |  |  |
| 7.2.3.2 | **Artificial ventilation considerations** |  |  |
| 7.2.3.3 | **Examples of artificial ventilation** |  |  |
| 7.2.4 | **Degree of dilution** |  |  |
|  | | | |
| 8 | **Type of zone** | | |
|  | | | |
| 8.1 | **General** |  |  |
|  | | | |
| 8.2 | **Influence of grade of the source of release** |  |  |
|  | | | |
| 8.3 | **Influence of dilution** |  |  |
|  | | | |
| 8.4 | **Influence of availability of ventilation** |  |  |
|  | | | |
| 9 | **Extent of zone** |  |  |
|  | | | |
| 10 | **Documentation** | | |
|  | | | |
| 10.1 | **General** |  |  |
|  | | | |
| 10.2 | **Drawings, data sheets and tables** |  |  |
|  | | | |
| Annex A  (informative) | **Suggested presentation of hazardous areas** | | |
|  | | | |
| Annex B  (informative) | **Estimation of sources of release** | | |
|  | | | |
| Annex C  (informative) | **Ventilation guidance** | | |
|  | | | |
| Annex D  (informative) | **Estimation of hazardous area** | | |
|  | | | |
| Annex E  (informative) | **Examples of hazardous area classification** | | |
|  | | | |
| Annex F  (informative) | **Schematic approach to classification of hazardous areas** | | |
|  | | | |
| Annex G  (informative) | **Flammable mists** | | |
|  | | | |
| Annex H  (informative) | **Hydrogen** | | |
|  | | | |
| Annex I  (informative) | **Hybrid mixtures** | | |
|  | | | |
| Annex J  (informative) | **Useful equations in support to hazardous area classification** | | |
|  | | | |
| Annex K  (informative) | **Industry codes and national standards** | | |

|  |
| --- |
| Measurement Section, including Additional Narrative Remarks (as deemed applicable) |