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

**Title: Draft ExTAG Decision Sheet –** **The test sample used for the dielectric strength test on the compound**

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

**INTRODUCTION**

This document, ExTAG/675A/CD, *Draft ExTAG Decision Sheet – The test sample used for the dielectric strength test on the compound* has been prepared by NEPSI CN, and is issued for consideration by ExTAG.

This revised version of the document has been prepared to take into account comments received on ExTAG/675/CD, and contained in ExTAG/680/CC. Changes are shown via tracking.

In accordance with OD 035 this document is issued for a six week comment period.

Please submit comments on this new Draft DS using the comments table, a separate document, by –

**2022 08 22**

to

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**ExTAG Secretariat**

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**COLLECTION OF IECEx / ExTAG DECISIONS**

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| Standard:  IEC 60079-18:2014  IEC 60079-18:2009 | **Clauses:**  8.1.1  8.1.2 | **Draft Decision Sheet:**  ExTAG/675A/CD |
| **Subject:**  The test sample used for the dielectric strength test on the compound  **Status of document:**  Draft | **Key words:**   * Tests on the compound * Samples of compound(s) | Date: July 2022Originator of proposal: NEPSI CN  **TC/SC involved:**  IEC/TC 31 MT 60079-18 |
| **BACKGROUND:**  The requirements of water absorption test have been given in Clause 8.1.1 of IEC 60079-18:2014:  *When required by 5.3.1 the test shall be carried out on samples of the compound(s) used in*  *"m" equipment. Three dry samples of the compound(s) shall be tested. The samples shall be*  *circular with a diameter of 50 mm ± 1 mm and a thickness of 3 mm ± 0,2 mm. The samples*  *shall be weighed then immersed for at least 24 h in water, at a temperature of 23℃ K.*  *They shall then be taken out of the water, wiped dry and weighed again within 1 minute. The*  *increase in mass shall not exceed 1 %.*  The requirements of dielectric strength test have been given in Clause 8.1.2 of IEC 60079-18:2014:  *The sample shall be circular with a diameter of 50 mm ± 1 mm and a thickness of*  *3 mm ± 0,2 mm. The sample shall be symmetrically placed between electrodes 30 mm ± 1 mm*  *in diameter, within a temperature controlled oven, set to achieve the maximum service*  *temperature of the compound.*  *A voltage of 4 kV r.m.s. % and with frequency between 48 Hz and 62 Hz shall be applied*  *for not less than 5 min. No flashover or breakdown shall occur during the test.*  Whether the same sample should be used for above two tests? In practice, it seems that different ExCBs/ExTLs have their different views. Additionally, manufacturers may also have different demands for number of samples of the compound(s).  **QUESTION:**  Is it possible to use the samples for the water absorption test (Clause 8.1.1) also for the dielectric strength test (Clause 8.1.2)?  **ANSWER:**  Yes, when both of the water absorption test and dielectric strength test are required to be carried out on samples of the compound(s) used in “m” equipment, these tests can be performed with the same sample(s) successively if desired by the manufacturer. | | |