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

**Title: ExTAG/745/CD,** **Draft ExTAG Decision Sheet - The dust marking of maximum surface temperature for EPL Da**

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

**INTRODUCTION**

This document, ExTAG/745/CD, The dust marking of maximum surface temperature for EPL Da has been prepared by NEPSI, CN, and is issued for consideration by ExTAG.

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 – **2025 07 04**

**Christine Kane**

**ExTAG Secretariat**

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| **Address:****Level 17, Angel Place****123 Pitt Street****Sydney NSW 2000****Australia** | **Contact Details:****Tel: +61 2 46 28 4690****Fax: +61 2 46 27 5285****e-mail: info@iecex.com**[**http://www.iecex.com**](http://www.iecex.com) |

IEC System for certification to standards relating to equipment for use in Explosive Atmospheres (IECEx System)

Collection of IECEx / ExTAG Decision Form, F-014

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| Standard:IEC 60079-0:2017 (Ed.7.0)IEC 60079-11:2011 (Ed.6.0)IEC 60079-11:2023 (Ed.7.0) | Clause: cl.5.3.2.3.1 of IEC 60079-0:2017cl.29.5 d) of IEC 60079-0:2017cl.29.16 of IEC 60079-0:2017cl.5.6.5 of IEC 60079-11:2011cl.5.4.5 of IEC 60079-11:2023 | Date:2025-05 |
| Subject:The dust marking of maximum surface temperature for EPL Da | Key words:Maximum Surface TemperatureDust marking for EPL Da | Originator of proposal: NEPSI, CN |
| Status of document: Draft | TC/SC involved: TC 31 WG 22TC 31/SC31G MT 60079-11 |
| Background:Regarding the dust marking of maximum surface temperature for EPL Da, it is found that there are varying understandings by ExTL/CB. Some ExTL/CB marked the layer of dust while others didn’t. Followings are examples appeared in CoCs issued by different certification bodies.* Ex ta IIIC T135°C Da
* Ex ta IIIC T200XXX °C Da
* Ex ta/tb IIIC T200XXX °C Da/Db
* Ex ia IIIC T135°C Da
* Ex ia IIIC T200XXX °C Da
* Ex ia IIIC T85°C Da
* Ex ia IIIB T135°C T500175°C Da
* Ex ma IIIC T20090°C Da
* Ex ma IIIC T85°C Da

……The relevant parts of IEC 60079 series standards describe the dust marking and the surface temperature assessment requirement of an equipment/apparatus with EPL Da as below.**IEC 60079-0:2017*****cl.5.3.2.3.1 Maximum surface temperature for EPL Da****The maximum surface temperature shall be determined with a layer depth of at least 200 mm**of dust surrounding all sides of the equipment according to 26.5.1.***IEC 60079-0:2017*****cl.29.5 d)*** *As the determination of the maximum surface temperature for Da without a layer is not permitted, the maximum surface temperature without a layer of dust cannot be marked.***IEC 60079-11:2011*****cl.5.6.5 Intrinsically safe apparatus and component temperature for Group III*** *Alternatively intrinsically safe apparatus shall be considered suitable for total immersion, or an uncontrolled dust layer thickness, if the matched power dissipation in any component is in accordance with Table 4, and the continuous short-circuit current is less than 250 mA. The intrinsically safe apparatus shall be marked T135℃.***IEC 60079-11:2023*****cl.5.4.5 Intrinsically safe apparatus and component temperature for dust****As an alternative to assessment of the surface temperature, for the purpose of thermal ignition compliance for Groups I or Ill, intrinsically safe apparatus shall be considered suitable for total immersion, or an uncontrolled dust layer thickness, if the maximum power dissipation in any component under the conditions specified in 5.2 is in accordance with Table 5, and the continuous short circuit current is less than 250 mA. In this case, for Group lll, the intrinsically safe apparatus shall be marked for a maximum surface temperature of 135℃ for an uncontrolled dust layer thickness.* |
| Question:1. Except the situation described in the 2nd paragraph of cl.5.6.5/5.4.5 of IEC 60079-11:2011 /IEC 60079-11:2023, with regard to the maximum surface temperature marking, shall a layer of dust be marked for EPL Da?
2. If the maximum power dissipation of intrinsically safe apparatus is in accordance with Table 4 / Table 5 of IEC 60079-11:2011/IEC 60079-11:2023, and the continuous short circuit current is less than 250mA, shall a layer of dust be marked on such IS apparatus for EPL Da? Which one of the following options is correct?
3. Ex ia IIIC T200135℃ Da
4. Ex ia IIIC T135℃ Da
5. Ex ia IIIC 135℃ Da
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| Answer:1. Yes. The cl.29.5 d) of IEC 60079-0 clearly specifies that for EPL Da “*the maximum surface temperature without a layer of dust cannot be marked”*, therefore a layer of dust shall ALWAYS be marked for EPL Da and naturally for this purpose, the maximum surface temperature shall be determined witha layer depth of at least 200 mm of dust surrounding all sides of the equipment.
2. Option a) is correct. Rather than an example of temperature class marking, the T135℃/135℃ herein just emphasize the 135℃ when Table 4/Table 5 of IEC 60079-11:2011/IEC 60079-11:2023 is applied.
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| This DS is applicable to:⮽projects commenced prior to publication of the DS; AND⮽all certifications issued after its publication; OR🗆only for the new certifications (Issue No. 0) and their subsequent revisions. |

NOTE: The following should be noted when developing ExTAG Decision Sheets:

* The development process should be in compliance with IECEx OD 035.
* The purpose for development of ExTAG Decision Sheets is to unify the application of the Standards used in the IECEx System and is not intended to modify or "interpret" Standards.