

INTERNATIONAL STANDARD



Explosive atmospheres –
Part 0: Equipment – General requirements

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EXPLOSIVE ATMOSPHERES –

Part 0: Equipment – General requirements

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

The text of this interpretation sheet is based on the following documents:

DISH	Report on voting
31/1455/DISH	31/1464/RVDISH

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

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Interpretation sheet of Subclause 16.6 of IEC 60079-0:2017

The TC31/CAG requested (Resolution 2 of 2018-04-19) that WG22 prepare an interpretation sheet based on IECEx Decision Sheet DS2018/002 addressing the assignment of entry point and branching point temperatures of electrical rotating machines.

Details of interpretation:

IEC 60079-0:2017 (Ed. 7), *Explosive atmospheres – Part 0: Equipment – General requirements*

Interpretation of Subclause 16.6: Temperature at branching point and entry point:

Question: Subclause 16.6 of IEC 60079-0:2017 states “When the temperature under rated conditions is higher than 70 °C at the entry point or 80 °C at the branching point of the conductors, information shall be marked on the equipment exterior to provide guidance to the user on the proper selection of cable and cable gland or conductors in conduit.”

It is not normal practice for electrical rotating machines to be tested with the cable entry devices and cables that might be used in an actual installation, but with the cables available at the manufacturer's test area. In many cases, there will be no formal entry device as the cables will enter via the space reserved for fixing of a gland plate.

How shall the relevant entry point and branching point temperatures be determined?

Interpretation: *The use of the maximum internal air space temperature to represent the maximum service temperature of terminal box gaskets and seals, the cable branching point temperature, and the entry point temperature reflects the normal practice of testing electrical rotating machines without prior knowledge of the actual glands and cables to be used for installation. The production of heat from the electrical rotating machine connections is generally insignificant with respect to the production of heat from the machine windings and core.*

Further amplification:

- 1) The entry point of the cable where the temperature is measured should be sealed so far as possible to ensure that there is minimum air-circulation which can reduce the measured temperature.
- 2) This is not intended to apply to any gasket between the terminal box and the frame of the electrical rotating machine, where higher temperatures may be recorded, but only to the gasket between the terminal box and its lid.

Although written in the context of electrical rotating machines, there may be other types of equipment where an equivalent approach is applicable

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EXPLOSIVE ATMOSPHERES –

Part 0: Equipment – General requirements

INTERPRETATION SHEET 2

This interpretation sheet has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

The text of this interpretation sheet is based on the following documents:

DISH	Report on voting
31/1469/DISH	31/1486/RVDISH

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

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Question:

How shall marking be shown for equipment covered by both the electrical and non-electrical standards (IEC 60079 and ISO 80079 series)?

Answer:

Equipment which includes both an electrical part and a non-electrical part shall have combined marking. For example:

Ex db h IIA T4 Gb

Ex h tb IIIC T135 °C Db

It will be clearer for the user that the combined risk of the electrical part and the non-electrical part, covered by a single certificate, has been assessed for the complete equipment, stating one EPL, one equipment Group and one temperature class for Gas and the same for Dust (but showing a maximum surface temperature instead of a temperature class). It is also noted that Ex Components are not marked with either a temperature class (Group II) or a maximum surface temperature (Group III).

For equipment where separate certificates have been prepared, with one for the electrical parts, and one for the non-electrical parts, it is appropriate to have separate electrical and non-electrical marking strings, each with its own associated certificate number.

NOTE Additional guidance on the marking of assemblies is given in IEC TS 60079-46.

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