

INTERNATIONAL ELECTROTECHNICAL COMMISSION
COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

IEC 60079-31
Edition 3.0 2022-01

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EXPLOSIVE ATMOSPHERES –

ATMOSPÈRES EXPLOSIVES –

Part 31: Equipment dust ignition protection by enclosure "t"

Partie 31: Protection contre l'inflammation de poussières par enveloppe "t" relative à l'appareil

CORRIGENDUM 1

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

FOREWORD

B) Information about the background of 'Major Technical Changes'

Replace the existing text of C2 with the following new text:

C2 – For Ex Equipment having Level of Protection "ta" only sealed primary cells or batteries shall be used. A control device shall be provided to prevent overheating of the cell or battery during normal operation, expected malfunctions, or rare malfunctions. The control device may also be considered as a thermal protective device or overcurrent protective device. For Ex Equipment having Level of Protection "tb" and "tc" only sealed cells or batteries shall be used. A control device shall be provided to prevent overheating of the cell or battery during normal operation or expected malfunctions ("tb") or during normal operation ("tc"). The control device may also be considered as a thermal protective device or overcurrent protective device.

Table 2 – Overload or malfunction conditions for Level of Protection "tb"

Replace existing Table 2 with the following new table:

Type of Ex Equipment	Overload or malfunction conditions
Luminaires (without ballast)	None
Luminaires with electro-magnetic ballasts	$U_n + 10\%$ Rectifier effect simulated by diode
Luminaires with electronic ballasts	As specified for the applicable standard for industrial equipment
Electric Machines – mains supply connected	None
Electric machines – converter connected	<p>None if electric machine is evaluated with a specific converter and a specified duty as described by IEC 60079-0, or;</p> <p>If the electric machine is not evaluated with a specific converter and a specified duty as described by IEC 60079-0, overload as necessary to confirm that the required direct thermal protection, normally in the stator winding, has sufficient margin to be able to detect excessive temperatures at the bearings, bearing caps and shaft extensions. The margin may be determined by test or calculation. In this case, the use of the thermal protection is made mandatory by identification of this Specific Condition of Use in the certificate.</p> <p>NOTE Direct thermal protection of the bearings is often appropriate to represent the maximum surface temperatures of the parts of concern. It has been found that for some motors, direct thermal protection of the winding set at 160 °C can be appropriate for maximum surface temperature T200°C, but this would still need to be confirmed by test or calculation.</p>
Resistors	None
Electromagnets	U_n and worst-case air-gap
Other equipment	As specified by the applicable standard for industrial equipment
NOTE For test voltage and current parameters, see the maximum surface temperature requirements in IEC 60079-0.	

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