

## STANDARD INFORMATION

**Standard:** UL 60079-31 / CSA C22.2 No. 60079-31

**Standard ID:**

Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection by Enclosure "t" [UL 60079-31:2025 Ed.3]

Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection by Enclosure "t" [CSA C22.2#60079-31: Ed.3]

**Previous Standard ID:**

Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection by Enclosure "t" [UL 60079-31:2015 Ed.2+R:18Nov2024]

Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection By Enclosure "T" [CSA C22.2#60079-31:2015 Ed.2]

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **November 18, 2027**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

**Overview of Changes:**

- Fault current rating of interrupting contacts rated greater than 10 kA for mains connected circuits
- Cells and batteries
- Overload or malfunction condition for the determination of temperature class for "tb" converter fed rotating electric machines
- Additional requirements for entry devices with dust ignition protection by enclosure "t"

Specific details of new/ revised requirements are found in table below

***Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.***



## STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined-out</del> below.</i>
4	Info	<b>General</b>
4.3	Info	<b>Requirements for Ex Equipment with Level of Protection "ta"</b> <i>New clause added;</i>
		<b>Cells and batteries</b>
4.3.6		Only sealed primary cells or batteries shall be used. A control device shall be provided to prevent overheating of the cell or battery. The control device may also be considered as a thermal protective device or overcurrent protective device as given in 4.3.4, provided it also protects the complete Ex Equipment from exceeding the maximum surface temperature.
4.4	Info	<b>Requirements for Ex Equipment with Level of Protection "tb" and "tc"</b> <i>New clause added;</i>
		<b>Fault current</b>
4.4.1		Ex Equipment having Level of Protection "tb" or "tc" which is intended for mains connection to a circuit with a maximum available short circuit current above 10 kA, shall be tested in accordance with 6.1.1.1, and be marked according to Clause 7.  NOTE Limiting the maximum available short circuit current could be achieved by several means including the use of current limiting fuses or current limiting circuit breakers.
		<i>New clause added;</i>
		<b>Cells and batteries</b>
4.4.5		Only sealed cells or batteries shall be used. A control device shall be provided to prevent overheating of the cell or battery. The control device may also be considered as a thermal protective device or overcurrent protective device as given in 4.4.4.2 or 4.4.4.3, provided it also protects the complete Ex Equipment from exceeding the maximum surface temperature.



CLAUSE	VERDICT	COMMENT
6	Info	<b>Verification and tests</b>
6.1	Info	<b>Type tests</b>
6.1.1	Info	<b>Type tests for dust exclusion by enclosures</b>
		<b>General</b>
		<p>Samples of the Ex Equipment shall be subjected to the thermal endurance to heat, thermal endurance to cold and impact tests specified in IEC 60079-0, and the drop test if applicable. If there is a supplementary internal enclosure, there shall be no visible damage to the supplementary internal enclosure caused by the impact testing of the equipment enclosure.</p> <p>The supplementary internal enclosure may be removed during the thermal endurance to heat and thermal endurance to cold tests.</p> <p><del>For level of protection "tc", the test of enclosures requirements of IEC 60079-0 are modified for the thermal endurance to heat preconditioning test to replace the 20 K above the service temperature (Ts+20 K) with 10 K above the service temperature (Ts+10 K).</del></p> <p>6.1.1.1 After conducting the tests of enclosures in accordance with IEC 60079-0, all of the samples shall then be subjected to the pressure test of 6.1.1.3 followed by the IP test of 6.1.1.4.</p> <p><u>Ex Equipment having Level of Protection "tb" or "tc" which is intended for mains connection and intended to interrupt fault current above 10 kA, shall be subjected to short circuit interrupting tests in accordance with the relevant industrial standard after the pressure test of 6.1.1.3 and prior to the IP tests of 6.1.1.4.</u></p> <p><u>NOTE 1 Limiting the maximum available short circuit current could be achieved by several means including the use of current limiting fuses or current limiting circuit breakers.</u></p> <p><u>NOTE 2 When the volume of the switching device displaces a large portion of the free internal volume of the enclosure, damage from a short circuit event can occur due to the venting of arc products from the switching device into the enclosure volume. The increase in enclosure pressure resulting from this venting could impact the ability of the enclosure seal to meet the IP requirement of this document.</u></p>
		<b><i>New table added;</i></b>
Table 2		<b>Overload or malfunction conditions for Level of Protection "tb"</b>
		See standard for details.



CLAUSE	VERDICT	COMMENT
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*New annex added;*

**Supplementary requirements for entry devices**

Annex A

This annex contains the requirements which apply to the construction and testing of entry devices having Type of Protection "t" in addition to the requirements found in UL 60079-0 and CSA C22.2 No. 60079-0.

See standards for details.

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