

## STANDARD INFORMATION

**Standard:** UL 60079-15

**Standard ID:** Explosive Atmospheres – Part 15: Equipment Protection by Type of Protection "n" [UL 60079-15:2020 Ed.5]

**Previous Standard ID:** Explosive Atmospheres - Part 15: Equipment Protection By Type Of Protection 'N' [UL 60079-15:2013 Ed.4+R:05May2017]

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **April 7, 2022**

## 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.

### Overview of Changes:

- Enclosed break devices “nC” are now designated as “dc” and the requirements are located in UL 60079-1.
- Type of protection “nA” is now designated as type of protection “ec” and the requirements for “ec” equipment are located in UL 60079-7.
- Test time for the preparation of non-incendive component samples has been specified.
- Additional documentation requirements for seals and gaskets.
- It is now specified that the restricted breathing test is conducted with fans operating and stationary.
- Addition of requirements for circuit limitations.

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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>
Entire Standard		Enclosed break devices “nC” are now designated as “dc” and the requirements are located in UL 60079-1:
Entire Standard		Type of protection “nA” is now designated as type of protection “ec” and the requirements for “ec” equipment are located in UL 60079-7:
7	Info	<b>Requirements for non-incendive components</b>
		<b>Circuit limitations</b>
7.2		Non-incendive components shall be limited to a maximum rating of 254 V AC, r.m.s. or DC and 16 A AC, r.m.s. or DC.
10	Info	<b>Requirements for restricted-breathing enclosures</b>
10.2	Info	<b>Constructional requirements</b>
		<b>Gasket and seal requirements</b>
		Resilient gaskets and seals shall be positioned so that they are not subject to mechanical damage under normal operating conditions. The manufacturer shall specify a recommended replacement frequency, and this shall be included in the instructions as specified in Clause 15.
10.2.6		<u>The documents according to IEC 60079-0 shall include a data sheet or statement from the gasket or seal manufacturer to show that the materials used for the seals have a thermal stability adequate for the service temperature range to which they will be subjected. The materials used for the seals shall have a continuous operating temperature (COT) range that includes a minimum temperature that is below, or equal to, the minimum service temperature and a maximum temperature that is at least 10 K above the maximum service temperature.</u>
		<b>Internal fans</b>
10.2.9		If internal fans are fitted, the suction shall not induce a depression at a potential source of leakage. <u>The restricted breathing test of 11.3.2.2 shall be conducted both with the fan operating and the fan stationary.</u>



CLAUSE	VERDICT	COMMENT
11	info	<b>Type Tests</b>
11.1	Info	<b>Tests for non incensive components</b>
		<b>Preparation of non-incensive component samples</b>
		For non-incensive components, the contacts shall be preconditioned by 6 000 cycles of operations at a rate of approximately six times per minute when carrying the rated electrical load.
		The component shall be arranged to ensure that the test atmosphere has access to the contacts and that a resulting explosion will be detected.
		<u>The samples should be prepared by using one of the methods below and then shall successfully withstand the test in 11.1.2.2.</u>
11.1.1		<u>– Remove the housing adjacent to the contacts to permit free access of the air-gas mixture to the contacts.</u>
		<u>– Drill at least two holes in the enclosure that will assure propagation of an ignition from the inside to the outside of the enclosure. The test gas shall flow through the device. A tube may be connected to one of the holes for this purpose. If necessary, an explosion detection device (e.g., a pressure transducer) may be connected to the component to detect ignition.</u>
		<u>– Draw a vacuum within the test chamber and maintain the vacuum for a minimum of 100 seconds. Fill the test chamber with the specified air-gas mixture and maintain the concentration for a minimum of 100 seconds before applying the required electrical load. An explosion detection device (e. g., a pressure transducer) shall be connected to the component to detect ignition.</u>