

## STANDARD INFORMATION

**Standard:** UL 844

**Standard ID:** Luminaires for Use in Hazardous (Classified) Locations [UL 844:2012 Ed.13+R:22Jul2020]

**Previous Standard ID:** Luminaires for Use in Hazardous (Classified) Locations [UL 844:2012 Ed.13+R:19Mar2019]

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **February 22, 2023**

## 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:** Revisions to include +60°C and -60°C explosion testing with test factors using precompression explosion testing equipment. Specific details of new/revise 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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>
26	Info	<b>Explosion Tests</b> <p>For explosion-proof equipment specified and marked for use at ambient temperatures lower than minus 60°C (minus 58°F), the explosion tests shall be determined by <u>one of the following methods:</u></p> <p>a) <u>For explosion-proof equipment specified and marked for use at ambient temperatures lower than minus 60° C (minus 58° F), the explosion tests shall be performed at the minimum ambient specified, ±5°C (±9°F) degrees. When the ambient specified is such that common materials within the Group are not flammable, a test temperature shall be specified that represents the minimum temperature at which the test gasses shown in Table 28.1 remain gasses, or</u></p> <p>b) <u>For equipment for use in Group C or D classified locations, rated not less than minus 60° C (minus 76°F), not subject to pressure piling, and determined to comply with the flame propagation requirements in 26.3(b), the equipment shall alternatively be subjected to the hydrostatic pressure test using the test factors for low ambient rated equipment found in Table 28.1, based upon room ambient explosion pressure tests, or</u></p> <p>c) <u>The reference pressure shall be determined at room ambient temperature using the defined test mixture (s), but at increased pressure. The absolute pressure of the test mixture (P) shall be calculated by the following formula, using Ta in °C:</u></p> $P = 100[293T_{a, \text{min}} + 273] \text{ (kPa)}$ <p style="text-align: center;">or</p> $P = 14.6959[293/T_{a, \text{min}} + 273] \text{ (psi)}$



CLAUSE	VERDICT	COMMENT
--------	---------	---------

***New clause added;***

For explosion-proof equipment specified and marked for use at ambient temperatures greater than 60°C (140°F), in addition to the tests of 26.18, flame propagation tests shall be conducted under one of the following conditions:

26.18A.1

- 1) At a temperature not less than the specified maximum ambient temperature; or
- 2) At normal ambient temperature using the defined test mixture at increased pressure according to the factors in Table 26.18A; or
- 3) At normal atmospheric pressure and temperature, but with the test gap increased by the factors noted in Table 26.18A.

These tests are in addition to the explosion tests required to determine compliance with 26.2(b) and 26.3 (a).

***New clause added;***

26.18A.1.1

All test sample joints are to be based upon the manufacturers maximum specified gap and tested with the minimum specified joint length. Specially prepared test samples having modified joint lengths, gaps and engagements shall be employed. For Groups A, B, or A and B, test factors per 26.11 through 26.16 are also required to be introduced into the test pressure or test gap in addition to the test factors above.

***New table added;***

**Test factors to increase pressure or joint test gap**

Table 26.18A

Temperature up to °C	Groups A & B 27.5% H2 7.5% C2H2	Group C 37% H2	Group D 55% H2
60	1.00	1.00	1.00
70	1.11	1.04	1.05
80	1.13	1.05	1.06
90	1.15	1.06	1.07
100	1.16	1.06	1.08
110	1.18	1.07	1.09
120	1.20	1.08	1.10
130	1.22	1.09	1.11