

STANDARD INFORMATION

Standard Number: UL 1638

Standard Name: Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories

Standard Edition and Issue Date: 5th Edition Dated January 28, 2016

Date of Revision: September 6, 2017

Date of Previous Revision of Standard: January 28, 2016

Standard Number: ULC S526

Standard Edition and Issue Date: 4th Edition Dated January 28, 2016

Date of Previous Revision of Standard: January 28, 2016

NOTE: This SUN only applies to certified listings to the 5th Edition of UL 1638. Products certified to the 4th edition of UL 1638 do not need to comply with these requirements unless a change to the product is made.

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **October 1, 2020**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes: Clarifications to Add Visual Signal Pulse Width Marking and Revise Abnormal Operation and Burnout Test and Mechanical Strength Tests for Enclosures. Specific details of new/revised requirements are found in table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.



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CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
6	Info	Marking The following information shall be legibly and permanently marked on the device where it will be readily visible after installation, readily visible by opening the enclosure cover, (refer to Enclosure cover, 5.2.6) or readily visible by the removal of only the field installed fasteners: a) Model number or equivalent; b) Input ratings as follows: 8) <u>Visual signals with pulse widths greater than 1 ms shall be marked with their pulse width.</u> c) Correct mounting if the signaling device is intended to be mounted in a specific orientation. Where it is impractical to include this information on the device, reference shall be made to an installation mounting drawing by number and issue date; d) Reference to an installation wiring drawing, if not attached to the signaling device, by number and issue date or control number or revision level. See Instructions and Drawings, 4; e) A signaling device that produces a signal as long as its energizing circuit is closed although intended for intermittent duty only shall be marked to indicate its duty cycle; and f) Rating of fuse in each fuseholder when required to comply with the requirements in this standard. The marking shall be located in close proximity to the fuseholder.
6.2		
7.10		Section deleted
7.10A		Abnormal operation and burnout test
7.10A.1		New section added;
7.10A.1.1		Abnormal operation and burnout test
7.10A.1		General
7.10A.1.1		A visible signaling device shall not present a fire hazard or an electrical shock hazard as a consequence of an electrical fault or overload.



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7.10A.1.2		The devices under test shall be mounted as in normal service and oriented so as to represent the worst case with respect to the emission of glowing particles, flame or molten metal. Five layers of bleached cheesecloth, having an area of 26 to 28 m ² /kg (14 – 15 square yards to the pound) and a count of 32 by 28, are to be located as close as possible below the sample under test.
7.10A.1.3		Additionally, all openings of the unit enclosure are to be covered with a single layer of bleached cheesecloth as described in 7.10A.1.2.
7.10A.1.4		For each of the test conditions described in following sections, the test voltage is to be applied and maintained until constant device temperature is attained, or until burnout, or until a catastrophic failure occurs. During the test, exposed dead metal parts of the appliance are to be connected to ground through a 15-ampere fuse.
7.10A.1.5		When the unit provides for selection of several operating modes, during this test the unit shall be set for the operation mode that normally would require the maximum current consumption.
7.10A.1.6		In the case where a device under test employs interchangeable-type fuses, for the purpose of this test these fuses are to be replaced with a fuse of the size fitting the fuseholder but having the highest available current rating (or a length of solder having diameter equivalent to 14 AWG or larger is to be wound between the fuseholder end connections).
7.10A.2		Abnormal supply line
7.10A.2.1		A visible signaling device shall not present a fire hazard or an electrical shock hazard as a consequence of the application of an abnormal supply.
7.10A.2.2		device shall be driven by a 60 Hz supply having a capacity of 1000 VA or greater., The test voltage shall be 120 V rms or 2 times rated voltage, whichever is greater.
7.10A.3		Abnormal duty cycle
7.10A.3.1		A visible signaling device intended to produce a single-stroke signal or intended only for intermittent duty shall withstand continuous energization at maximum rated voltage without the emission of flame or molten metal from the enclosure and without any other manifestation of risk of fire, electric shock, or injury to persons.
7.10A.3.2		The device shall be continuously driven by a 60 Hz supply having a capacity of 1000 VA. The test voltage shall be 2 times rated voltage.
7.10A.4		Compliance
		The visible signaling device shall be considered in compliance with the tests described in this section when the following requirements are met:
7.10A.4.1		<ul style="list-style-type: none"> a) No emission of flame or molten metal; b) The cheesecloth shall not be ignited by emitted material;



CLAUSE	VERDICT	COMMENT
		c) The maximum external enclosure temperature shall not exceed 90°C (194°F);
		d) No exposure of energized uninsulated parts at potential above 30 V after the input to the audible signaling device has been reduced to rated voltage; and input;
		e) The dead metal parts and enclosure grounding fuse shall not open as a result of this test;
		f) The requirements of Dielectric Voltage-Withstand, 7.6.
7.20	Info	Mechanical Strength Tests for Enclosures <i>New clause added;</i>
7.20.2.1		When the visible signaling device is intended for indoor use, the impacts specified in 7.20.2 are to be conducted at room temperature. When the device is intended for outdoor use, the impacts are to be conducted after the units have been conditioned at minus 40°C (minus 40°F) for 3 hours.
CUSTOMERS PLEASE NOTE: This Table and column “Verdict” can be used in determining how your current or future production is or will be in compliance with new/revised requirements.		