

## STANDARD INFORMATION

**Standard Number:** CSA C22.2 No. 208  
**Standard Name:** Fire Alarm and Signal Cable  
**Standard Edition and Issue Date:** 4<sup>th</sup> Edition Dated November 1, 2018  
**Date of Revision:** November 1, 2018  
**Date of Previous Revision of Standard:** 3<sup>rd</sup> edition dated July 1, 2014

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **June 30, 2020**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revise 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

### Overview of Changes:

- Deletion of lead-alloy-coated copper wires
- Revision of the fire resistance rating such that unarmoured cable shall be tested in conduit
- Addition of the requirements for the new optional markings for "DIRECT BURIAL" and "HALOGEN-FREE".

Specific details of new/revise 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/revise paragraphs noted in the attached or explain why these new/revise 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.***



## STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined out</del> below.</i></p>		
4	Info	<b>Construction</b>
4.2	Info	<b>Conductors</b>
4.2.3		<p><b>Tin- <del>or Lead Alloy</del> coated annealed copper wires</b></p> <p><i>Lead-alloy-coated wires are no longer allowed.</i></p>
4.7		<p><b>Bonding conductor</b></p> <p>An insulated or uninsulated bonding conductor may be incorporated into the cable assembly. If the bonding conductor is insulated, the surface of the insulation shall be green or green with yellow stripes. <u>If a bonding conductor is used, it shall be sized the same as the largest circuit conductor. The minimum bonding conductor size shall be 22 AWG.</u></p>
4.8	Info	<b>Shield</b>
4.8.4		<p><b>Tape shield and drain wire</b></p> <p>The tape shield shall have a minimum total thickness of 0.025 mm. The tape shall be applied with a minimum overlap of 1.6 mm. The drain wire, when used, shall be equal to the conductor size for cables 0.13 2 to 0.33 mm<sup>2</sup> (26 to 22 AWG), and not smaller than 0.33 mm<sup>2</sup> (22 AWG) for cables 0.52 mm<sup>2</sup> (20 AWG) and larger. The drain wire shall be solid or stranded, coated or uncoated copper, and it shall be in contact with the metallic side of the tape. <u>Uncoated copper drain wires shall not be used when aluminum-faced tape is used as a shield.</u></p>
5	Info	<b>Marking</b>
5.1	Info	<b>Marking on cable</b>
5.1.1		<p>Except for cables that have interlocked armour without an outer covering or that cannot be surface marked because of the nature of the outer surface, cables shall have the following information surface marked (ink printed, embossed, or indent printed) at least every 1 m:</p> <p>f) <u>“SR”, “SUN RES”, or “SUNLIGHT RESISTANT” if the cable meets the requirements of Clause 6.4.2;</u></p> <p>g) <u>the wet temperature rating of the cable in degrees Celsius (e.g., “60C WET”) if the cable meets the requirements of Clause 6.2.3;</u></p> <p>h) <u>“DIRECT BURIAL” or “DIR BUR” if the cable, with or without armour, meets the requirements for wet locations in Clause 6.2.3 of this Standard and also meets the crush test requirements of mechanical damage-crushing method 1 (TC types only) and the cold impact test at -25 ± 1 °C of CSA C22.2 No. 230; and</u></p>



CLAUSE	VERDICT	COMMENT
		i) <u>“HALOGEN-FREE” or “HAL-FREE” if the cable meets the requirements of Clause 6.5.12.</u>
		<b>Marking on tags</b>
		Each coil and reel of cable shall be legibly tagged or marked to indicate the following:
5.2		h) <u>the wet temperature rating of the cable in degrees Celsius (e.g., “60C WET”) if the cable meets the requirements of Clause 6.2.3;</u> i) <u>“DIRECT BURIAL” or “DIR BUR” if the cable, with or without armour, meets the requirements for wet locations in Clause 6.2.3 of this Standard and also meets the crush test requirements of the mechanical damage-crushing method 1 (TC types only) and the cold impact test at <math>-25 \pm 1</math> °C of CSA C22.2 No. 230; and</u> j) <u>“HALOGEN-FREE” or “HAL-FREE” if the cable meets the requirements of Clause 6.5.12.</u>
6	Info	<b>Tests</b>
6.2	Info	<b>Insulation</b>
		<b><i>New section added;</i></b>
6.2.3		<b>Wet location rating — Optional</b>  To be wet rated, a cable shall comply with the requirements of Clauses 6.2.3.2 and 6.2.3.3 (see standard for details).
6.3	Info	<b>Performance tests on armour</b>
6.3.1	Info	<b>Protective coating on steel strip</b>
6.3.1.2		Compliance with the requirements of Clause 6.3.1.1 shall be determined with the apparatus and in accordance with the method specified in <del>Clause 4.22 of CSA C22.2 No. 0-3</del> <u>the copper sulfate test for zinc coatings on formed and unformed steel strip (preece test) in CSA C22.2 No 2556.</u>
6.5	Info	<b>Completed cable</b>
		<b>FT6 flame and smoke test (optional)</b>
		<del>Cables marked FT6 in accordance with the requirements of Clauses 5.1.1(e)(i) and 5.2(f)(i) shall comply with the requirements of Clause 4.11.6 of CSA C22.2 No. 0-3.</del>
6.5.6		<u>Cables marked FT6 in accordance with Clauses 5.1.1 e) ii) and 5.2 f) ii) shall comply with the following requirements:</u>  a) <u>the flame travel distance shall not exceed 1.5 m;</u> b) <u>the peak optical density of smoke shall not exceed 0.5; and</u> c) <u>the average optical density shall not exceed 0.15 when tested in accordance with NFPA 262 or ULC S102.4.</u>



CLAUSE	VERDICT	COMMENT
6.5.10	Info	<b>Electrical tests</b>
6.5.10.1	Info	<b>Continuity</b>
		<i><b>New clause added;</b></i>
6.5.10.1.3		If the continuity test is performed successfully on a master reel of completed cable, the test shall not be required for each packaged length cut from that master reel.
6.5.11	Info	<b>Armour flexibility, tension, and mechanical damage tests</b>
6.5.11.1	Info	<b>Armour flexibility</b>
		<del>Compliance with the requirements of Clause 6.5.11.1.1 shall be determined with the apparatus and in accordance with the method specified in Clause 4.19.1 of CSA C22.2 No. 0-3.</del>
6.5.11.1.2		<u>Compliance with the requirements of Clause 6.5.11.1.1 shall be determined with the apparatus and in accordance with the method specified in the flexibility of armoured cable and metal-sheathed cable (Method 1-interlocking armoured cables) test of CSA C22.2 No. 2556.</u>
6.5.11.2	Info	<b>Armour tension</b>
		<del>Compliance with the requirements of Clause 6.5.11.2.1 shall be determined with the apparatus and in accordance with the method specified in Clause 4.17 of CSA C22.2 No. 0-3.</del>
6.5.11.2.2		<u>Compliance with the requirements of Clause 6.5.11.2.1 shall be determined with the apparatus and in accordance with the method specified in the strength and elongation of cable in tension test of CSA C22.2 No. 2556.</u>
		<i><b>New clause added;</b></i>
		<b>Halogen content of nonmetallic components (only for halogen-free types)</b>
6.5.12		The halogen content of the cable insulation, jacket, fillers, binders, and tapes shall be determined by X- ray fluorescence or analysis of the chemical composition of all ingredients used. Each component shall have less than 0.2% by weight of halogen materials.  Note: For X-ray fluorescence analysis, refer to ASTM F2617 for the test method and apparatus
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.		