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File R38978

Project 4791034950

Issued March 14, 2024

REPORT

on

Pipe- and Equipment-covering Materials Certified for Canada (BRGU7)

UNDER THE

LISTING PROGRAM

Ebrille Srl

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DESCRIPTION

PRODUCT COVERED:

The Product covered by this Report is a Pipe and Equipment Covering-material.

The product is Classified by UL Solutions as to Surface Burning Characteristics only.

USE:

The product is intended for use as a building material as permitted by authorities having jurisdiction.

TEST RECORD NO. 1
PROJECT 4791034950:

This test record describes an investigation undertaken to determine the comparative burning characteristics of pipe- and equipment-covering materials by evaluating the flame spread and smoke developed over its surface when exposed to a test fire. Selected samples were tested on January 23, 2024 at UL Solutions' testing facility in Toronto, Ontario, in accordance with the Standard CAN/ULC-S102.2:2018-REV1, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies, Eighth Edition (Including Revision 1), dated March 2019).

This method defines the relative surface burning characteristics under specific test conditions. Although the procedure is applicable to materials, products and assemblies used in building construction for development of comparative surface spread of flame data, test results may not reflect the relative surface burning characteristics of tested materials under all building fire conditions. Test results relate only to the items tested.

EXAMINATION OF MATERIALS:

The test assemblies used in this investigation were produced under the observation of a representative of UL Solutions.

The fire tests were supplemented by other physical and chemical tests, and examinations intended to furnish information concerning the properties of the test assemblies and the materials employed in the test assemblies.

Information on the production of the test assemblies, materials employed in the test assemblies and the results of the supplemental tests are considered proprietary in nature and were used in establishing specifications for use in the factory Follow-Up Service Program, which is on file at UL LLC.

SAMPLES

The pipe- and equipment-covering materials indicated below and constructed as described herein was submitted by the manufacturer for examination and test in ready-to-test form and designated as "Coveral". The pipe- and equipment-covering material is available in a range of inner diameters. Two sizes, 6 mm inner diameter (ID) with 13 mm insulation thickness; and 23 mm ID with 13 mm insulation thickness, all with a foil wrapping were used for investigation purposes and were considered representative of the entire series.

All samples consisted of single, hollow, cylindrical, white foamed plastic pipe insulation with a white exterior film. Three pieces of the pipe- and equipment-covering material measuring 2005 mm long and one piece of the pipe- and equipment-covering material measuring 1305 mm were butted end-to-end to create a single 7320 mm long length of pipe- and equipment-covering material. Each test specimen consisted of two lengths of the pipe- and equipment-covering material laid on 6 mm thick cement board spaced 200 mm on center in line with each burner, and secured every 1000 mm with wire. For each size, three test specimens were prepared and conditioned to constant mass at a temperature of $23 \pm 3^{\circ}\text{C}$ and a relative humidity of $50 \pm 5\%$ prior to testing.

Due to the inability of the test sample to support itself in position without the use of supporting material that is not representative of the intended installation, the test samples were laid on the floor of the tunnel furnace on top of a ceramic fibre paper. A 350 mm long by 560 mm wide by 1.6 mm thick, uncoated, steel plate was placed on the specimen mounting ledge at the fire end of the tunnel furnace "upstream" from the gas burners to complete the 7620 mm chamber length. An airtight water seal was maintained around the furnace lid during the test.

METHOD

The tests were conducted in accordance with CAN/ULC-S102.2:2018-REV1, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies, Eighth Edition (Including Revision 1), dated March 2019).

RESULTS

Observations of the burning characteristics are provided in the following tabulations. No other significant observations were made. Graphical plots of flame spread versus time and smoke developed versus time are also provided as part of the Test Record. The test results relate only to the actual samples tested.

Flame Spread Rating

The Flame Spread Value (FSV) of the material is determined as described in the Standard CAN/ULC-S102.2. The FSV is derived by calculating the area under the flame spread distance (m) versus time (min) curve, ignoring any flame front recession, and using one of the calculation methods as described below.

The maximum distance the flame spreads along the length of the sample from the end of the igniting flame is determined by observation.

1. If the total area (A_T) is less than or equal to 29.7 m-min, the FSV shall be 1.85 times the total area.

$$(FSV = 1.85 \bullet A_T).$$

2. If the total area (A_T) is greater than 29.7 m-min, the FSV is to be 1640 divided by 59.4 minus the total area

$$(FSV = \frac{1640}{59.4 - A_T})$$

The Flame Spread Rating (FSR) is the numerical average of not less than three individual Flame Spread Values (FSV) rounded to the nearest multiple of 5 points.

The Flame Spread values that were achieved appear in Table 1.

Flame Spread Rating (cont'd)

Table 1

TEST NO.	SAMPLE DESCRIPTION	MAXIMUM FLAME TRAVEL [m (ft)]	TIME OF MAXIMUM FLAME TRAVEL [min:s]	FLAME SPREAD VALUE (FSV)
*1	Two lengths of "Coveral" with 6 mm ID and 13 mm (½ inch) insulation thickness	0.0 (0.0)	n/a	0.0
*2	Two lengths of "Coveral" with 23 mm ID and 13 mm (½ inch) insulation thickness	0.0 (0.0)	n/a	0.0
*3	Two lengths of "Coveral" with 23 mm ID and 13 mm (½ inch) insulation thickness	0.0 (0.0)	n/a	0.0
*4	Two lengths of "Coveral" with 23 mm ID and 13 mm (½ inch) insulation thickness	0.0 (0.0)	n/a	0.0
Flame Spread Rating				0

RESULTS (Cont'd):

Smoke Developed Classification

The Smoke Developed Value (SDV) is determined as described in the Standard CAN/ULC-S102.2. The Smoke Developed Value is determined by the output of a photoelectric circuit operating across the furnace flue pipe. A curve is developed by plotting values of light absorption (decrease in cell output) against time. The Smoke Developed Value is derived by expressing the net area under the curve for this material as a percentage of the net area under the curve for untreated red oak.

The SDV is expressed as:

$$SDV = \left(\frac{A_m}{A_{ro}} \right) \times 100$$

Where:

A_m = the area under the smoke curve for the tested material.

A_{ro} = the area under the smoke curve for red oak.

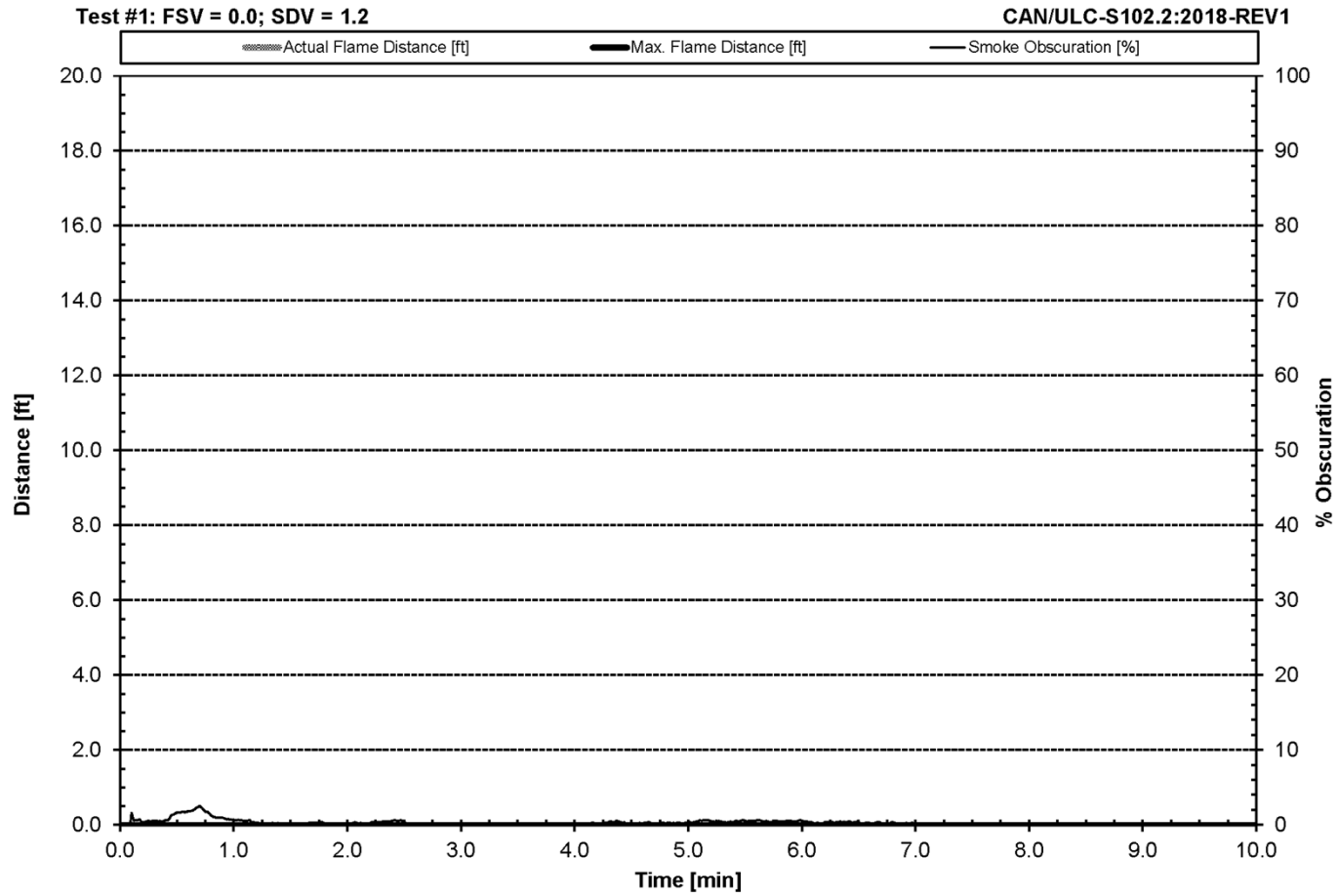
The Smoke Developed Classification (SDC) is the numerical average of not less than three individual Smoke Developed Values (SDV) rounded to the nearest multiple of 5 points.

The Smoke Developed Values that were achieved appear in Table 2.

Table 2

TEST NO.	SAMPLE DESCRIPTION	SMOKE DEVELOPED VALUE (SDV)
*1	Two lengths of "Coveral" with 6 mm ID and 13 mm (½ inch) insulation thickness	1.2
*2	Two lengths of "Coveral" with 23 mm ID and 13 mm (½ inch) insulation thickness	2.3
*3	Two lengths of "Coveral" with 23 mm ID and 13 mm (½ inch) insulation thickness	0.5
*4	Two lengths of "Coveral" with 23 mm ID and 13 mm (½ inch) insulation thickness	2.7
Smoke Developed Classification		0

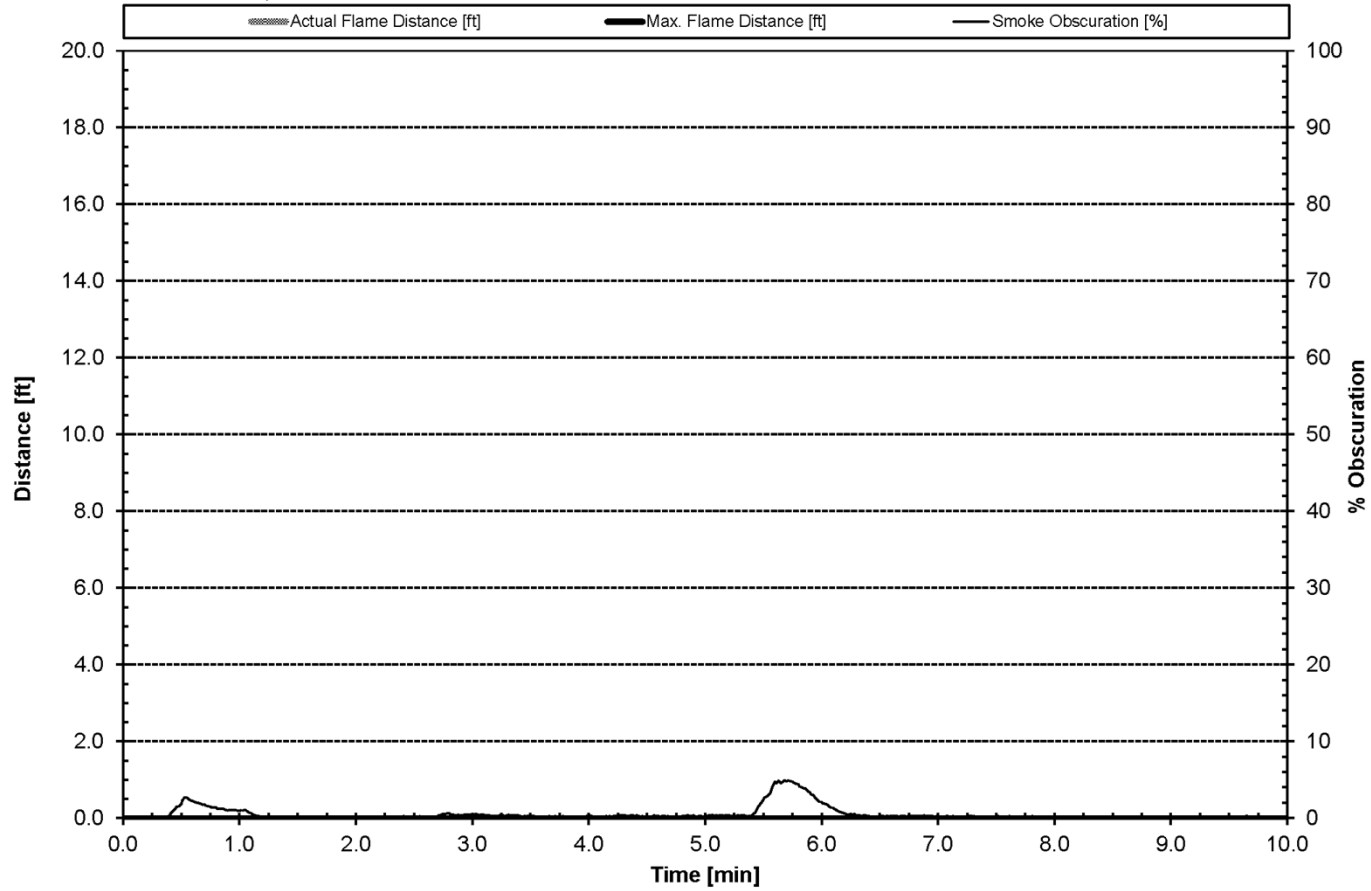
SURFACE BURNING CHARACTERISTICS
EBRILLE SRL
Two lengths of Coveral with 6 mm ID and 13 mm insulation thickness



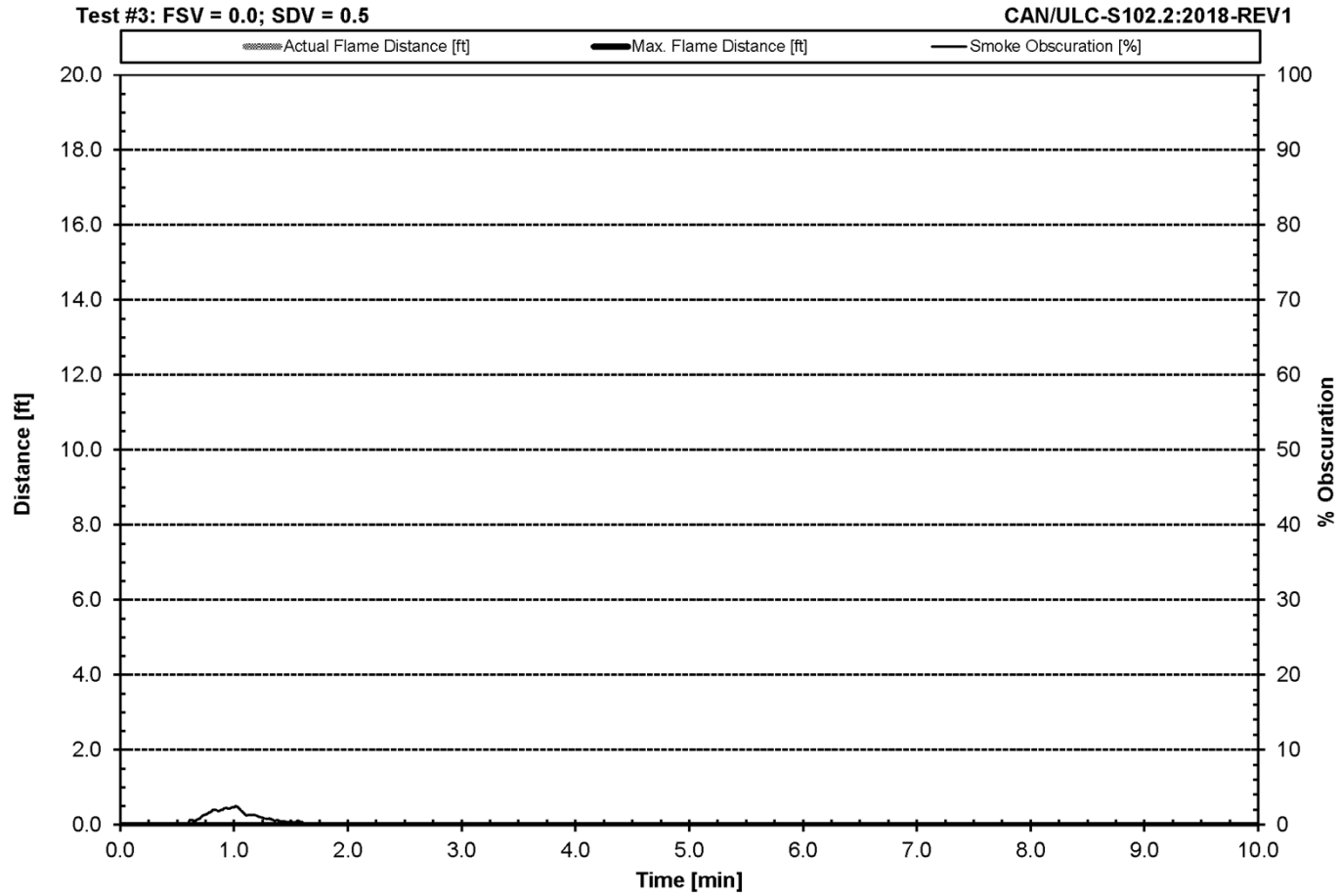
SURFACE BURNING CHARACTERISTICS
EBRILLE SRL
Two lengths of Coveral with 23 mm ID and 13 mm insulation thickness

Test #2: FSV = 0.0; SDV = 2.3

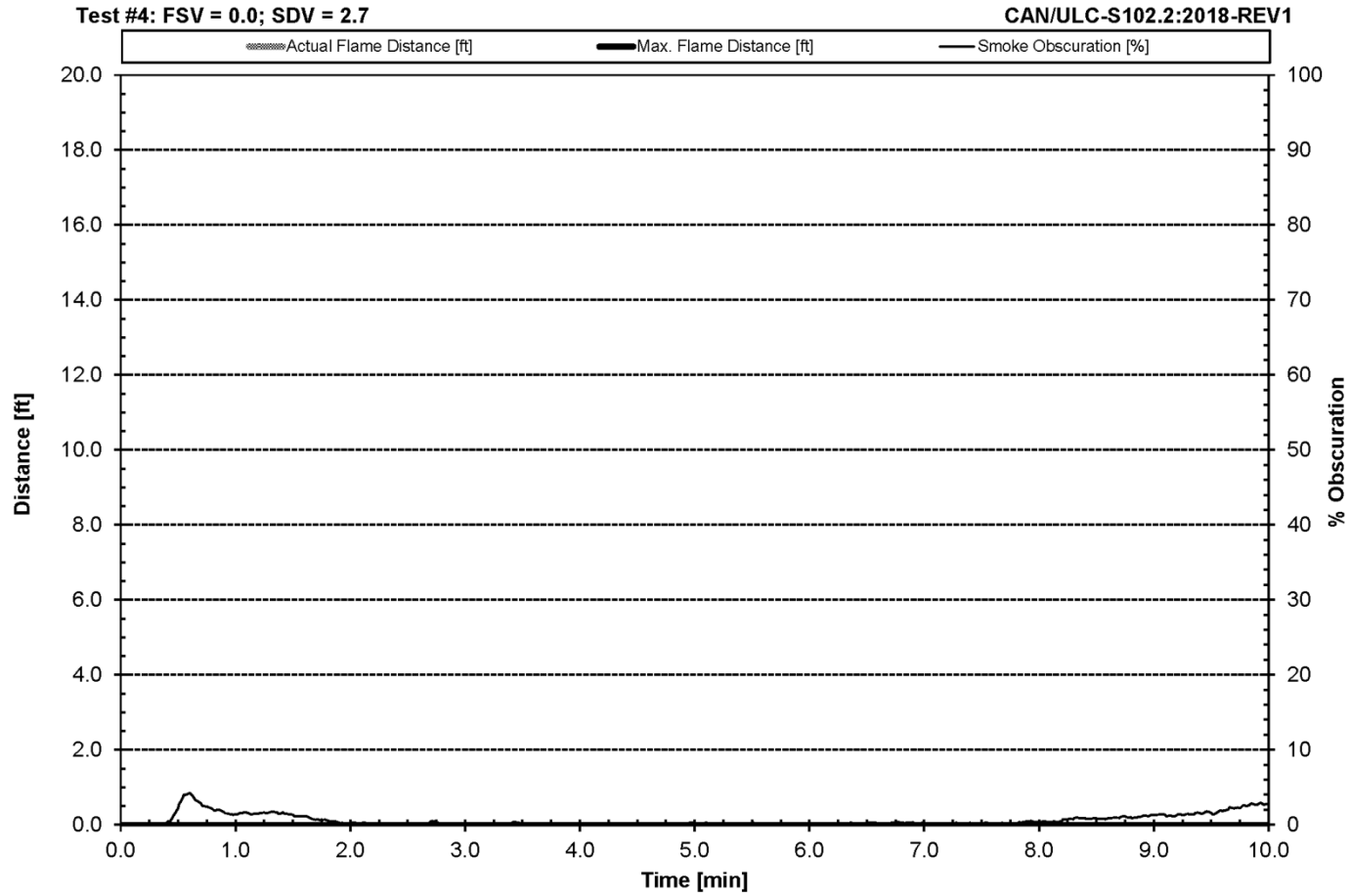
CAN/ULC-S102.2:2018-REV1



SURFACE BURNING CHARACTERISTICS
EBRILLE SRL
Two lengths of Coveral with 23 mm ID and 13 mm insulation thickness



SURFACE BURNING CHARACTERISTICS
EBRILLE SRL
Two lengths of Coveral with 23 mm ID and 13 mm insulation thickness




Test Record 1 Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the Standard CAN/ULC-S102.2:2018-REV1, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies, Eighth Edition (Including Revision 1), dated March 2019) and, therefore, such products are judged eligible to bear ULC's Mark as described below and on the Conclusion Page of this Report.

ULC Listing Marking:

The Surface Burning Characteristics as shown below in the Listing Marking represent the judgement of Underwriters Laboratories of Canada, based upon the results of the examination and tests presented in this Report.

	PIPE- AND EQUIPMENT- COVERING MATERIALS CERTIFIED FOR CANADA	
	R38978	
Listed in accordance with CAN/ULC-S102.2		
	Flame Spread Rating	Smoke Developed Classification
* Material Details Coveral, 6 to 23 mm ID with 13 mm insulation.	0	0

Test Record No. 1 by:



Beny Spensieri, Jr.
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Reviewed By:



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CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the sample(s) investigated by UL and does not signify UL certification or that the product(s) described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the ULC Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other application requirements of UL LLC. The Listing Mark of ULC on the product, or the ULC symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

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