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STANDARDS BULLETIN 2013-23

CAN/ULC-S115-11 Standard Method of Fire Tests of Firestop Systems

INTERPRETATION OF REQUIREMENT ON THE INTENDED APPLICATION OF A DIMENSION **(Clauses 6.1.3, 9.1.1, 9.4.2, 9.4.4, 9.4.5, 9.4.6, 9.4.7 and A5.2)**

The following is an interpretation by the ULC Standards Committee on Fire Tests on CAN/ULC-S115, Standard Method of Fire Tests of Firestop Systems. The interpretation is being issued in response to a request for interpretation received by ULC Standards pertaining to the Clauses listed below.

Issue:

Clause 6.1.3 of CAN/ULC-S115-11 states:

6.1.3 Through-penetrating items shall be installed such that they extend 305 mm beyond the faces of the surrounding wall or floor construction on the exposed side, and 915 mm on the unexposed side. The extended portion of the through-penetrating items on the unexposed side shall be supported in the same manner as methods employed in field installation.

Clause 9.1.1 of CAN/ULC-S115-11 states:

9.1.1 In addition to the requirements of Subsection 5.2, Furnace Temperature Measurements and Control, for tests of floor-to-wall and head-of-wall joint firestop systems, at least three furnace thermocouples shall be used with a maximum spacing between thermocouples of 915 mm. The junction of each thermocouple shall be placed at a point 305 mm below the exposed horizontal surface of the test assembly and 150 mm away from the exposed vertical surface of the test assembly at the beginning of the test.

Clause 9.4.2 of CAN/ULC-S115-11 states:

9.4.2 A joint firestop system shall have a manufactured splice and a field splice tested. When the technique of the manufactured splice is the same as the field splice, only the field splice need be tested. The minimum distance between a splice and the nearest furnace wall shall be 305 mm. The minimum separation between splices in a joint firestop system shall be 915 mm. Reduction of the minimum separation distances is acceptable when it is demonstrated that the reduced separation distance does not affect test results.

Clause 9.4.4 of CAN/ULC-S115-11 states:

9.4.4 FLOOR-TO-FLOOR JOINT FIRESTOP SYSTEMS - Floor-to-floor joint firestop systems are designed for installation in linear openings between adjacent floor structures. The minimum distance that a firestop system has to be to the nearest furnace wall parallel with its length shall be 1-1/2 times the thickness of the floor or 305 mm, whichever is greater. The minimum length of the joint firestop system exposed to fire shall be 915 mm if the length of the joint firestop system exposed to fire is at least ten times greater than the maximum joint width. For joint firestop systems having a length to maximum joint width ratio which is less than ten to one, the minimum length of the joint firestop system exposed to fire shall be 3.7 m.

Clause 9.4.5 of CAN/ULC-S115-11 states:

9.4.5 WALL-TO-WALL JOINT FIRESTOP SYSTEMS - Wall-to-wall joint firestop systems are designed for installation in linear openings between adjacent wall structures. The minimum distance that a joint firestop system has to the nearest edge of the test frame parallel with its length shall be 1-1/2 times the thickness of the wall or 305 mm, whichever is greater. The minimum length of the joint firestop system exposed to fire shall be 915 mm if the length of the joint firestop system exposed to fire is at least ten times greater than the maximum joint width. For joint firestop systems having a length to maximum joint width ratio which is less than ten to one, the minimum length of the joint firestop system exposed to fire shall be 2.7 m. Asymmetrical joint firestop systems shall be tested from both sides unless the joint firestop system is designed for fire exposure on only one side or it is documented that the side with the lower fire resistance rating is tested.

Clause 9.4.6 of CAN/ULC-S115-11 states:

9.4.6 FLOOR-TO-WALL JOINT FIRESTOP SYSTEMS - Floor-to-wall joint firestop systems are designed for installation in horizontal linear openings between floor and wall structures. The wall structure used for the test assembly shall extend a minimum of 305 mm beyond each surface of the floor structure. The minimum length of the joint firestop system exposed to fire shall be 915 mm if the length of the joint firestop system exposed to fire is at least ten times greater than the maximum joint width. For joint firestop systems having a length to maximum joint width ratio which is less than ten to one, the minimum length of the joint firestop system exposed to fire shall be 3.7 m.

Clause 9.4.7 of CAN/ULC-S115-11 states:

9.4.7 HEAD-OF-WALL JOINT FIRESTOP SYSTEMS - Head-of-wall joint firestop systems are designed for installation in horizontal linear openings between wall and floor or roof structures. The floor or roof structure used for the test assembly shall extend a minimum of 305 mm beyond each surface of the wall structure. The minimum length of the joint firestop system exposed to fire shall be 915 mm if the length of the joint firestop system exposed to fire is at least ten times greater than the maximum joint width. For joint firestop systems having a length to maximum joint width ratio which is less than ten to one, the minimum length of the joint firestop system exposed to fire shall be 2.7 m. Asymmetrical joint firestop systems shall be tested from both sides unless the joint firestop systems are designed for fire exposure on only one side or it is documented that the side with the lower fire endurance rating is tested.

Clause A5.2 of CAN/ULC-S115-11 states:

A5.2 The 915 mm extension on the unexposed side is meant to represent a continuous penetrating item of the same configuration.

Question:

Is the 915 mm dimension in the Clauses listed above intended to be applied as a prescriptive dimension for field installations?

Response: No.

Rationale:

The 915 mm dimension is solely for the purpose for the construction of the test assembly.

The Standard addresses two types of firestop systems:

1) Through-Penetration Firestop System: a firestop system that seals the opening around penetrating items, such as cables, cable trays, conduits, ducts, and pipes, which pass through the entire assembly. The Standard prescribes a length of 915 mm as the extension on the unexposed side of the test specimen to simulate a continuous penetrating item used in the field.

2) Joint Firestop System: a firestop system that provides a seal along a continuous linear opening between two fire-resistance rated assemblies, or bounded by a fire-resistance rated assembly, to prevent the spread of fire. The prescribed minimum length of 915 mm in the Standard is to simulate the minimum test sample size that can be used to evaluate the joint system.

The ULC Standards Committee on Fire Test has agreed to have the Task Group further examine and establish more clarity during the next review of the Standard.

Should you require additional information, please contact Mary Huras at (613) 755-2729 ext.61425 or by email at Mary.Huras@ul.com.

Yours truly,

ULC STANDARDS

A handwritten signature in black ink that reads 'G. Rae Dulmage'.

G. Rae Dulmage
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