

# ULC Evaluation Report

## ULC ER-R39311-3 Rev. 01

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**UL Category Code: ULEX7**

**CSI MasterFormat®**

**DIVISION: 07 21 00 THERMAL INSULATION**  
**Sub Level : 07 21 19 Foamed-In-Place Insulation**

### COMPANY:

**CARLISLE Spray Foam Insulation**  
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### 1. SUBJECT

**SealTite ONE**

### 2. SCOPE OF EVALUATION

2015 National Building Code of Canada, NBCC (Sept. 28, 2018)  
2020 National Building Code of Canada, NBCC (July 15, 2019)

NBCC Division B, Part 5      Environmental Separation  
Sentence 5.9.1.1.(1)      Compliance with Applicable Standards

NBCC Division B, Part 9      Housing and Small Buildings  
Article 9.25.2.2      Insulation Materials  
Article 9.25.2.5      Installation of Spray-Applied Polyurethane

The product was evaluated for the following properties:

- Physical Properties (CAN/ULC-S705.1)
- Surface Burning Characteristics (CAN/ULC S102)





**3.0 REFERENCED DOCUMENTS**

**CAN/ULC:**

- CAN/ULC-S102 Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
- CAN/ULC-S705.1 Standard for Thermal Insulation, Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification
- CAN/ULC-S705.2 Standard for Thermal Insulation, Spray Applied Rigid Polyurethane Foam, Medium Density – Application
- CAN/ULC-S774 Standard Laboratory Guide for the Determination of Volatile Organic Compound Emissions from Thermal Insulating Systems

**4.0. USES**

**Carlisle SealTite ONE**, spray-applied, rigid polyurethane medium density foam is intended for use as a building thermal insulation or for other purposes in building and non-building applications in both site-built construction and building prefabrication process.

This Report does not cover SealTite ONE for use in roofing applications, radon resistance systems, or fire resistive construction. Additional evaluations and testing required to meet these and other applications.

**5.0 PRODUCT DESCRIPTION**

The product is a spray applied, rigid polyurethane medium density foam. The site sprayed foam system consists of two components (isocyanate and resin). The two components are mixed on site by qualified installers with fixed-ratio positive displacement equipment and is applied at a minimum density of 37.9 kg/m<sup>3</sup> (2.37 pcf). The colour of the final product is Light Teal.

The product is manufactured at an ISO 9001:2015 registered facility and quality audited by UL were UL/ULC Field Engineering staff audit manufacturing facilities to verify continuing material quality compliance.

**6.0 PERFORMANCE CHARACTERISTICS**

The SealTite ONE thermal insulation was evaluated for the performance characteristics as reported below in Table 1: Performance Characteristics with testing in accordance with sections of the following test standards:

CAN/ULC S705.1-2018, Standard for Thermal Insulation, Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification

| <b>Table 1: Performance Characteristics</b> |                                   |                                      |
|---|-----------------------------------|--------------------------------------|
| Properties                                  | Requirements                      | Results                              |
| Density (minimum site specified density)    | ≥ 28 kg/m <sup>3</sup>            | 37.9 kg/m <sup>3</sup>               |
| Air Permeance                               | ≤ 0.02 L/(s·m <sup>2</sup> )@75Pa | 0.0003<br>L/(s·m <sup>2</sup> )@75Pa |
| Compression Strength                        | ≥170 kPa                          | 270 kPa                              |
| Dimensional Stability                       |                                   |                                      |
| 28 d at -20±3°C, ambient humidity           | -2/+5%                            | -1.0%                                |
| 28 d at 80±2°C, ambient humidity            | -2/+8%                            | -0.1%                                |
| 28 d at 70±2°C, 97±3% R.H                   | -2/+14%                           | +5.8%                                |



| Properties                             | Requirements                   | Results                      |
|--|--------------------------------|------------------------------|
| Fungi Resistance                       | No Growth                      | No Growth                    |
| Long Term Thermal Resistance*          |                                |                              |
| @ 25mm thickness                       | Declare                        | 0.90 m <sup>2</sup> ·K/W     |
| @ 50mm thickness                       | ≥ 1.80 m <sup>2</sup> ·K/W     | 1.80 m <sup>2</sup> ·K/W     |
| @ 75mm thickness                       | Declare                        | 2.73 m <sup>2</sup> ·K/W     |
| @ 100 mm thickness                     | Declare                        | 3.73 m <sup>2</sup> ·K/W     |
| Open-Cell Content                      | ≤10%                           | 3.0 %                        |
| Surface Burning Characteristics        |                                |                              |
| Flame Spread Rating                    | ≤ 500                          | 230                          |
| Tensile Strength                       | ≥ 200 kPa                      | 237 kPa                      |
| Time to Occupancy                      | Days                           | 1 day                        |
| Water Absorption by Volume             | ≤ 4.0 %                        | 3.4%                         |
| Water Vapour Permeance @50mm thickness | ≤ 60 ng/(Pa·s·m <sup>2</sup> ) | 36 ng/(Pa·s·m <sup>2</sup> ) |

\* Note: The SealTite ONE material met the LTTR requirements of the CAN/ULC-S705.1 for the 50mm thickness and the data provided above at other thickness is for comparative purposes only. Also note that the LTTR test method (CAN/ULC-S770-09, Section 1.4) only applies to cellular plastic insulation materials manufactured to retain a gas for over a 180-day period and when thermal resistivity changes by more than 3 %. Independent testing verified that the SealTite ONE material's R-value varied by less than 2% from the initial thermal resistivity value, 2.26 m<sup>2</sup>·K/W at 50mm thickness, when samples were conditioned for 180 days (23°C @ 50% R.H.).

## 7.0 INSTALLATION

Installation of the insulation must comply with this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions are to be available at the jobsite at all times during installation.

- A. The specified minimum site density must comply with the above requirement, as measured on-site in accordance with CAN/ULC S705.2.
- B. Installation must be by a licensed installer in accordance with the manufacturer's directions and follow the CAN/ULC S705.2 requirements.
- C. The time to re-occupancy during retrofit construction is a minimum one day (24 hours).

## 8.0 CONDITIONS OF USE

The SealTite ONE material described in this Report has been evaluated in accordance with code sections listed in Section 2.0, subject to the following conditions:

- A. Materials and methods of installation must comply with this report and the manufacturer's published installation instructions. In the event of a conflict between the manufacturer's published installation instructions and this report, the manufacturer shall be consulted.
- B. This product is manufactured in Cartersville, GA, USA under UL's audit of quality elements.
- C. This product is combustible. Based on the flame spread, this product may require additional protection from fire.

## 9.0 SUPPORTING EVIDENCE

**CARLISLE** has submitted technical documentation for ULC's review. Testing was conducted at laboratories recognized as ISO 17025 compliant. The test data submitted for this product is summarized below.

- A. Sample Selection of SealTite ONE materials by an ISO 17025 accredited test lab.



- B. Data in accordance with CAN/ULC S705.1. Compliant test report from an ISO 17025 accredited test lab.
- C. 180 day aged R-value and associated retest data in accordance with a ULC Evaluation Criteria, compliant test report from an ISO 17025 accredited test lab.
- D. CAN/ULC-S774 VOC test report by an ISO 17025 accredited test lab.
- E. Human Health Risk Assessment of Volatile Organic Compound by a Diplomate of the Board of Toxicology (DABT) (PHD).
- F. Caliber Quality Solutions Inc. (Certification Organization / SQAP / site inspections).

## **10.0 IDENTIFICATION**

SealTite ONE thermal insulation described in this evaluation report is identified by a marking bearing the report holder's name (**CARLISLE**) and the evaluation report number **ULC ER-R39311-03 Rev 01**. The validity of the evaluation report is contingent upon this identification appearing on the product drums.

## **11.0 CLIENT LOCATIONS / CONTACT**

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