UL Solutions Evaluation Report

ULC ER41550-01

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UL Solutions Category Code: ULEX7 - Thermal Protection for Canada

CSI MasterFormat®
Division: 07 00 00 Thermal and Moisture Protection
Sub Level 07 21 00 Thermal Insulation
Sub Level: 07 21 19 Foamed-In-Place Insulation

Company

Victory Polymers Corp.
21 Keyes Crt.
Woodbridge, ON
L4H 4V6

1. Subject

Victory Polymers VPC HFO

2. Scope of evaluation

To demonstrate compliance with the following codes:

2015 National Building Code of Canada, NBCC (Sept. 28, 2018)
2020 National Building Code of Canada, NBCC (July 15, 2019)
Clause 1.2.1.1.(1)(a) Compliance with the applicable acceptable solutions in Division B

Part 5 – Environmental Separation
Article 5.9.1.1 Compliance with Applicable Standards

Part 9 – Housing and Small Buildings
Clause 9.25.2.2.(1)(h) Insulation Materials
Article 9.25.2.5 Installation of Spray-Applied Polyurethane

The product was evaluated for the following properties:

- Surface Burning Characteristics CAN/ULC-S102
- Physical Properties CAN/ULC-S705.1
- Application CAN/ULC-S705.2

3. Referenced documents

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

4. Uses

The Victory Polymers Corp. **Victory Polymers VPC HFO** spray-applied, rigid polyurethane medium density foam is intended for use as a building thermal insulation in both site-built construction and building prefabrication process.

This Report does not cover the Victory Polymers VPC HFO for use in roofing applications, radon resistance systems, fire resistive construction, or exterior wall application. The material has not been evaluated for compliance with CAN/ULC-S134 Fire Test of Exterior Wall Assemblies. Additional evaluations and testing other than noted in this Report are typically required to meet these and other applications.

5. Product description

The **Victory Polymers VPC HFO** 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 density of 32.6 kg/m^3 (2.04 pcf). The colour of the final product is off white cream.

The Victory Polymers VPC HFO thermal insulation was evaluated for the performance characteristics as reported below in Table 1: Performance Characteristics with testing in accordance with the following test standard:

1. CAN/ULC S705.1-2018, Standard for Thermal Insulation, Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification
2. CAN/ULC-S102 Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies

Table 1: Performance Characteristics

Properties	Requirements	Results
Apparent Core Density	≥ 28 kg/m^3	32.6 kg/m^3
Air Permeance	≤ 0.02 L/(s·m^2)@75Pa	0.001 L/(s·m^2)@75Pa
Compression Strength	≥170 kPa	186 kPa
Dimensional Stability		
28 d at -20±3°C, ambient humidity	≥ -2/+5%	- 1.2 %
28 d at 80±2°C, ambient humidity	≥ -2/+8%	- 1.0 %
28 d at 70±2°C, 97±3% R.H	≥ -2/+14%	+ 3.3 %
Fungi Resistance	No Growth	Compliant
Long Term Thermal Resistance		
@ 25mm thickness	-	In progress
@ 50mm thickness	≥ 1.80 m^2·K/W	1.81 m^2·K/W
@ 75mm thickness	-	3.74 m^2·K/W
Open-Cell Content	≤10%	5 %
Surface Burning Characteristics[1]		
Flame Spread Rating (CAN/ULC-S102)	≤ 500	30
Flame Spread Rating (CAN/ULC-S127)	≤ 500	255
Tensile Strength	≥ 200 kPa	295 kPa
Time to Occupancy	≤ 30 Days	25 hours
Water Absorption by Volume	≤ 4.0 %	1 %
Water Vapour Permeance @50mm thickness	≤ 60 ng/(Pa·s·m^2)	48 ng/(Pa·s·m^2)

NOTES:

1. The flame spread rating for low thermal inertial materials is determined as the highest value when determined in accordance with CAN/ULC-S102 and CAN/ULC-S127. The CAN/ULC-S102 values have been reported for reference purposes.

6. 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.

- Installation must be by a licensed installer in accordance with the manufacturer's directions and follow CAN/ULC-S705.2.
- The site density must comply with the above requirement, as measured on-site in accordance with CAN/ULC-S705.2.
- The time to re-occupancy during retrofit construction is 25 hours (1 day plus 1 hour).

7. Condition of use

The Victory Polymers VPC HFO material described in this Report has been evaluated in accordance with code sections listed in Section 2.0, subject to the following conditions:

- 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, this report governs.
- This product is combustible as defined by Code. Based on the flame spread characteristics, this product may require additional protection from fire. Consult the local Authority Having Jurisdiction.
- This product is manufactured at the Victory Polymer Corp. Woodbridge, ON. facility which is under UL's audit of quality elements.
- The Victory Polymers VPC HFO elements to remain under a UL quality audit program where UL/ULC Field Engineering staff audit material manufacturing facilities.

8. Supporting evidence

Victory Polymer Corp. has submitted technical documentation for ULC's review. Testing was conducted at laboratories recognized as ISO/IEC 17020 or 17025 compliant. The test data submitted for this product is summarized as follows:

- The Victory Polymers VPC HFO materials for test were manufactured under the witness by an ISO 17025 accredited test lab at Victory Polymers facility in Woodbridge, ON.
- CAN/ULC-S705.1 Thermal Insulation, Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification, including CAN/ULC-S102 Surface Burning Characteristics
- CAN/ULC-S774 Volatile Organic Compound
- Caliber Quality Solutions (Certification Organization / SQAP / site inspections / CAN/ULC-S705.2) provider.

9. Identification

The Victory Polymer Corp. **Victory Polymers VPC HFO** thermal insulation described in this evaluation report is identified by a marking bearing the report holder's name (Victory Polymer Corp.) and the evaluation report number **ULC ER41550-01**. The validity of the evaluation report is contingent upon this identification appearing on the product drums.

CAN/ULC-S705.1, Section 6.3 requires the isocyanate and resin component to be labelled: suppliers and material name, type of material, CAN/ULC-S705.1, date of manufacture, expiry date, net mass, country of manufacture, lot number, LTTR, means of identifying the material, and the statement "required to be installed according to CAN/ULC-S705.2".

10. Client locations / contact

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11. Use of Evaluation Report

11.1 The approval of building products, materials or systems is under the responsibility of the applicable authorities having jurisdiction.

11.2 ULC Evaluation Reports shall not be used in any manner that implies an endorsement of the product, material or system by ULC.

11.3 The current status of this report, as well as a complete directory of UL Evaluation Reports may be found at UL.com via our Product iQ™ Database.

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