UL Solutions Evaluation Report

UL ER27036-01

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UL Category Code: ULEX – Thermal Protection

CSI MasterFormat®
DIVISION: 07 00 00 – Thermal and Moisture Protection
Sub-level 2: 07 20 00 – Thermal Protection
Sub-level 3: 07 21 00 – Thermal Insulation
Sub-level 4: 07 21 29 – Sprayed Insulation

Company:

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1. Subject

Insulthane 300R

UL Solutions

2. Scope of Evaluation

- 2021, and 2018 *International Building Code* ® (IBC)
- 2021, and 2018 *International Residential Code* ® (IRC)
- 2021, and 2018 International Energy Conservation Code® (IECC)
- ICC-ES Acceptance Criteria for Spray-Applied Foam Plastic Insulation (AC377)
- ICC-ES Acceptance Criteria for Quality Documentation (AC10)

The roofing insulation product was evaluated for the following properties:

- Roofing Systems for Exterior Fire Exposure (UL 790)
- Physical Properties (AC377)

3. Referenced Documents

- ICC-ES Acceptance Criteria for Quality Documentation (AC10)
- ICC-ES Acceptance Criteria for Spray-Applied Foam Plastic Insulation (AC377)
- UL 790, Standard Test Method for Fire Tests of Roof Coverings

4. Uses

Elastochem Specialty Chemicals Inc**.** Insulthane 300R spray-applied, rigid polyurethane roofing foam is use as a Class A roof covering systems. These spray foams are used as a nonstructural insulation in above roof deck assemblies which is permitted to free-rise and cure in situ. Roof systems tested and Listed as Class A, are permitted to be installed on building of any construction type.

The Insulthane 300R foam product for use as a single and multiple-component spray-applied foam plastic insulation used in buildings and structures as an insulating material as well as a Class III vapor retarder material.

5. Production Description

5.1 General

The Insulthane 300R product is a spray applied, rigid polyurethane roofing foam insulation. The site sprayed foam system consists of two components, isocyanate and resin. The two components are mixed on site by experienced installers with a fixed-ratio positive displacement equipment and is applied at a design density of 3.04 pcf (48.7 kg/m^3).

When used as part of a roof covering systems, the foam is to be installed as part of the roof covering system as described in UL Solutions Product iQ, Listing Card, TGFU.R27036.

5.2 Performance Characteristics

5.2.1 Fire Classification

The Insuathane 300R was evaluated in accordance with UL 790, as required by fire classification of roof assemblies in Section 1505.1 of the IBC and Section R902.1 of the IRC.

5.2.2 Foam Plastic Insulation

The Insulthane 300R foam was evaluated to the ICC-ES AC377, as required by Section 2603.1.1 of the IBC for the performance characteristics of a spray-applied foam intended for roofing applications, as reported below in Table 1.

Table 1: ICC-ES AC377 Roofing Performance Characteristics

Properties	Requirements	Results
Core Density	1.5 – 3.5 pcf	3.04 pcf
Tensile Strength	Min. 40 lbf/in^2	65 psi
Dimensional Stability	Max. 15% total change	-2.3%
Surface Burning*[1,2]	≤ 75 FS	5 FS
Compression Strength	Min. 15 lbf/in^2	53 psi
Thermal resistance @ 75°F	Report	6.93 hr·ft^2·°F/BTU·in @ 1 inch 6.81 hr·ft^2·°F/BTU·in @ 3.5 inch ave.
Water Vapor Transmission	Report Class	1.17 US perms (Class III)

Note *1: As per ICC-ES AC377, Section 3.2.2.2 smoke-development index is not required for roofing applications.
Note *2: ASTM E84 test sample thickness of 3.5 inches.

5.2.3 Vapor Retarder

Insulthane 300R was evaluated to the ICC-ES AC377, more specifically ASTM E96 requirements of IRC R702.7, for a Class III vapor retarder materials, when applied at a minimum thickness of 1 inch and minimum density of 3.04 pcf.

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 an experienced professional contractor certified, accredited, authorized or approved by Elastochem or by the Spray Polyurethane Foam Alliance (SPFA).

Jobsite labeling shall comply with IRC Section N1101.10.1 and N1101.10.1.1 and IECC Section C303.1.1, C303.1.1.1, R303.1.1 and R303.1.1.1.

7. Conditions of Use

The Insulthane 300R material described in this report, complies with, or is a suitable alternative to what is specified in, those codes listed in Section 2.0, subject to the following conditions:

7.1 The products must be manufactured, identified, and installed in accordance with this report, the manufacturer's published installation instructions, and the applicable. If there is a conflict between the manufacturer's published installation instructions and this report, this report governs.

7.2 For a listing of applicable UL Certifications for Insulthane 300R roofing spray foam, see UL Solutions Product iQ® for the following categories:

- Class A roof-covering assemblies UL Classified in accordance with UL 790 (TGFU)

7.3 Insulthane 300R is manufactured by Elastochem located at the Brantford, ON manufacturing location under the UL, LLC Classification and Follow-Up Service Program, which includes audits in accordance with quality elements of ICC-ES Acceptance Criteria for Quality Documentation, AC10.

8. Supporting Evidence

8.1 Data in accordance with ICC-ES Acceptance Criteria for Spray-Applied Foam Plastic Insulation AC377, compliant test report from an ISO/IEC 17025 accredited test laboratory.

8.2 UL Classification reports in accordance with UL 790.

8.3 Documentation of quality system elements described in ICC-ES Acceptance Criteria for Quality Documentation, AC10.

9. Identification

The Elastochem Specialty Chemicals Inc. Insulthane 300R thermal roof insulation, as described in this evaluation report, is identified by a marking bearing the report holder's name (Elastochem Specialty Chemicals Inc.), the plant identification, the product designation, the UL Classification Mark, and the evaluation report number UL ER27036-01. The validity of the evaluation report is contingent upon this identification appearing on the product drums.

10. Use of UL Solutions Evaluation Report

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As the accuracy of any non-UL Solutions data is the responsibility of the accredited laboratory, UL Solutions does not accept responsibility for the accuracy of this data.

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