

**CONSTRUCTION SPECIFICATION**

**HEATLOK SOY®**

**Spray-in-Place Semi Rigid Urethane Foam Insulation**

*Note: This specification should be adopted for each project. All notes are for guidelines only.*

**1. GENERAL**

1.1. **Work Included** - Spray application of **HEATLOK SOY®** is for providing insulation and air-seal. *Note: Areas to be insulated and air-sealed can be described here if desired, referenced on drawings or covered in greater detail in Section **3. Execution**.*

1.2. **Related Sections** - *Note: Amend to suit project.*

1.2.1. Cast in place concrete	Section 03300
1.2.2. Structural Pre-cast Concrete	Section 03400
1.2.3. Unit Masonry	Section 04200
1.2.4. Metal Decking	Section 05300
1.2.5. Cold Formed Metal Framing	Section 05400
1.2.6. Rough Carpentry	Section 06100
1.2.7. Waterproofing	Section 07100
1.2.8. Vapor-Barrier	Section 07260
1.2.9. Preformed Roofing and Cladding/Siding	Section 07400
1.2.10. Fireproofing	Section 07800
1.2.11. Thermal Barrier	Section 07840
1.2.12. Flexible flashing	Section 07650
1.2.13. Metal Support Systems	Section 09110
1.2.14. Gypsum board	Section 09250

**1.3. References**

1.3.1. International Code Council – International Residential Code

1.3.1.1. Section 103.7 Alternate Materials and Methods

1.3.1.2. Section R314 Foam Plastic Insulation

1.3.1.3. Section 806.4 Conditioned Attic Assemblies

1.3.2. International Code Council – International Building Code

1.3.2.1. Section 104.11 Alternative materials, design and methods of construction and equipment.

1.3.2.2. Section 2603.0 Foam Plastic

1.3.3. ASTM E84 Surface Burning Characteristics

**1.4. Submittals and Samples**

1.4.1. Before commencing work, submit in accordance with local code.

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1.4.2. Submit independent laboratory test reports, data sheets, physical properties, and samples as required by local code officials.

1.4.3. Submit the technical data sheet from the manufacturer showing the test results from the ASTM E84 (Surface Burning Characteristics).

**1.5. Quality Assurances**

1.5.1. Contractor performing work under this section must be trained by DEMILEC (USA) LLC in the art of applying HEATLOK SOY® and maintain the InSEAL-Right Certification.

**1.6. Delivery, Storage and Handling**

1.6.1. Materials shall be delivered in manufacturer's original sealed containers clearly labeled with manufacturer's name, product identification, safety information, net weight of contents and expiration date.

1.6.2. Material is to be stored in a safe manner and where the temperatures are in the limits specified by the material manufacturer.

1.6.3. Empty containers must be removed from site on a daily basis.

**1.7. Protection**

1.7.1. Ventilate area to receive insulation to maintain safe working conditions.

1.7.2. Protect workers as recommended by standards and manufacturer's recommendations.

1.7.3. Protect adjacent surfaces, windows, equipment and site areas from damage of overspray.

**2. PRODUCTS****2.1. Materials**

2.1.1. Spray Applied Semi Rigid Polyurethane Foam Insulation System

2.1.2. Product: **HEATLOK SOY®** manufactured by DEMILEC (USA) LLC, Arlington, TX

**2.2. Physical Properties**

<b>Method</b>	<b>Description</b>	<b>Value</b>
<b>ASTM D 1622</b>	Density	<b>2.1-2.3 lb/ft<sup>3</sup></b>
<b>ASTM C 518</b>	Initial Thermal Resistance, 1" Aged Thermal Resistance, 180 days @ 23°C, 1"	<b>7.2 ft<sup>2</sup>h°F/BTU</b> <b>6.6 ft<sup>2</sup>h.°F/BTU</b>
<b>ASTM E 283</b>	Air Permeance @ 75Pa, 1"	<b>0.00004L/sm<sup>2</sup></b>
<b>ASTM D 1621</b>	Compressive Strength	<b>28.3 psi</b>

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<b>ASTM D 1623</b>	Tensile Strength	<b>51.5 psi</b>
<b>ASTM E 96</b>	Water Vapor Transmission, 1", Vapor barrier (<1 perm) @ 1-1/4"	<b>1.2 perms</b>
<b>CGSB 51.23-92</b>	Off Gassing Tests (VOC Emissions)	<b>Pass (No toxic vapors)</b>
<b>ASTM E84</b>	Surface Burning Characteristics (3") <ul style="list-style-type: none"> <li>• Flame Spread Index</li> <li>• Smoke Development</li> </ul>	<b>Class I</b> <b>20</b> <b>450</b>
<b>ASTM D2856</b>	Closed Cell Content	<b>&gt; 92%</b>

2.3. **Equipment** - Equipment used to apply the foam insulation shall have fixed ratio positive displacement pumps and approved by foam manufacturer.

3. **EXECUTION** *Note: check the adhesion compatibility with: flashing, membranes and coatings.*

3.1. **Examination**

- 3.1.1. Verify that surfaces and conditions are suitable to accept work as outlined in this section.
- 3.1.2. Report in writing, any defects in surfaces or conditions which may adversely affect the performance of products installed under this section to the consultant prior to commencement of work.
- 3.1.3. Commencement of work outlined in this section shall be deemed as acceptance of existing work and conditions.

3.2. **Application**

- 3.2.1. Spray-application of polyurethane foam shall be performed in accordance with manufacturer recommendations.
- 3.2.2. Apply only when surfaces and environmental conditions are within limits prescribed by the material manufacturer. Refer to technical data sheets.
- 3.2.3. Apply in consecutive passes as recommended by manufacturer to thickness as indicated on drawings.

Residential and Commercial Construction

<b>Location</b>	<b>Recommended Thickness</b>	<b>R-value of Insulation</b>
Exterior walls	1.5-3.5 inches	9.9 – 23.1 ft <sup>2</sup> .h. <sup>0</sup> F/BTU
Pony and Hip walls	1.5-3.5 inches	9.9 – 23.1 ft <sup>2</sup> .h. <sup>0</sup> F/BTU
Attic Assembly	3.5-6 inches	23.1 – 39.6 ft <sup>2</sup> .h. <sup>0</sup> F/BTU

3.3 **Protection** - Except as provided in Section 314.5.3 and Section 314.5.4 of the International

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Residential Code, all plastic insulation shall be separated from the interior of the building by an approved thermal barrier of ½ -inch gypsum wallboard or equivalent thermal barrier material.

***Note: Work related to thermal barrier installation should be specified under appropriate sections.***

-----END OF SECTION-----