CONSTRUCTION SPECIFICATION
*SEAL*ECTION ™ 500
Spray-in-Place Semi Rigid Urethane Foam Insulation

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

PART 1- GENERAL

1.1 Work Included

1. Spray application ***SEAL*ECTION ™ 500** to provide insulation and air-seal.

***Note**: Areas to be insulated and air-seal can be generally described here if desired and then covered in greater detail in Part 3. Execution and/or showed on the drawings.*.

1.2 Related Sections

***Note:** Amend to suit project*

1. Cast in place concrete	Section 03300
2. Structural Pre-cast Concrete	Section 03400
3. Unit Masonry	Section 04200
4. Metal Decking	Section 05300
5. Cold Formed Metal Framing	Section 05400
6. Rough Carpentry	Section 06100
7. Waterproofing	Section 07100
8. Vapour-Barrier	Section 07260
9. Preformed Roofing and Cladding/Siding	Section 07400
10.Fireproofing	Section 07800
11.Thermal Barrier	Section 07840
12.Flexible flashing	Section 07650
13.Metal Support Systems	Section 09110
14.Gypsum board	Section 09250

1.3 References

1. Standard Building Code
   Section 103.7 Alternate Materials and Methods
   Section 2603 Foam Plastic Insulation

2 Buildings Officials & Code Administrators International
   Section 2603.0 Foam Plastic

3. ASTM E84 Surface Burning Characteristics

4. SBCCI Evaluation # 9758

5. CCMC Evaluation # 12697 – R

6. Environmental Choice Program
7. Eco Logo ECP – 40
8. BOCA Evaluation # ES 96 21
9. Warnock Hersey Evaluation # 193 – 7081
10. New York State Uniform Fire Prevention and Building Code.

1.4 Submittals and Samples

1. Before commencing work, submit in accordance with Section *013300, 01001*.
2. Submit independent laboratory test reports, data sheets, physical proprieties, and samples meeting or exceed requirements of this specification.
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. Contractor performing work under this section must be trained by Demilec (USA) LLC in the art of applying *SEAL*ECTION ™ 500
2. Upon request of consultant, spray an area 1m^2 (10 ft^2) in accordance with Section *1300.*

1.6 Delivery, Storage and Handling

1. Materials shall be delivered in manufacturers original sealed containers clearly labelled with manufacturer's name, product identification, safety, information, net weight of contents and expiration date.
2. Material is to be stored in a safe manner and where the temperatures are in the limits specified by the material manufacturer.
3. Empty containers have to be removed from site on a daily basis.

1.8 Protection

1. Ventilate area to receive insulation to maintain safe working conditions.
2. Protect workers as recommended by standards and manufacturer's recommendations.
3. Protect adjacent surfaces, windows, equipment and site areas from damage of over-spray.

PART 2- PRODUCTS

2.1 Materials

1. Spray Applied Semi Rigid Polyurethane Foam Insulation system
2. Product: *SEAL*ECTION ™ 500 Manufactured by Demilec (USA) LLC, Grand Prairie, TX

2.1.3. PHYSICAL PROPERTIES

Method	Description	Value
ASTM D 1622	Density	**0.45-0.5 lb./ft^3**
ASTM C 518	Thermal Resistance 2 days @ 76^0 F Thermal Resistance 90 days @ 76^0 F	**3.81 ft. ^{2}h. ^{0}F/BTU.in** **3.81 ft. ^{2}h. ^{0}F/BTU.in**
ASTM E 283 – 91	Air leakage @ 75 Pa (25 miles/hr. wind)	**0.00013 ft^3 /s. ft^2**
	Sustained Wind Load for 60 minutes @ 1000 Pa (90 miles/hr. wind)	**No damage**
	Gust Wind Load Test @ 3000 Pa (160 miles/hr.)	**No damage**
ASTM D 1621	Compressive Strength	**0.7 psi**
ASTM D 1623	Tensile Strength	**2.5 psi**
ASTM E 413-87 **ASTM C 423**	Sound Transmission Class (STC) Noise Reduction Coefficient (NRC)	**39** **75**
ASTM E 96	Water Vapor Permeance	**318 ng/Pa s.m^2**
CGSB 51.23-92	Off Gassing Tests (VOC Emissions)	**Pass (No toxic vapors)**
ASTM E84	Surface Burning Characteristics (6”) • Flame Spread Index • Smoke Development	 **21 Class 1** **216**

2.2 EQUIPMENT

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

PART 3- EXECUTION

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

3.1 Examination

1. Verify that surfaces and conditions are suitable to accept work as outlined in this section.
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. Commencement of work outlined in this section shall be deemed as acceptance of existing work and conditions.

3.3 Application

1. Spray-application of polyurethane foam shall be performed in accordance with

manufacturer recommendations.

2. Apply only when surfaces and environmental conditions are within limits prescribed by the material manufacturer. Refers to technical data sheets.
3. Apply in consecutive passes as recommended by manufacturer to thickness as indicated on drawings. *Spec. Note:* RSI values may be substituted for thickness.

Residential construction

Location	**Recommended Thickness**	**R-value of Insulation**
Exterior walls	3.5-5.5 inches	13.34 –20.96 $ft^2.h.^0F/BTU$
Pony and Hip walls	3.5-5.5 inches	13.34-20.96 $ft^2.h.^0F/BTU$

Note: Recommended thickness is dependent on the type of wall construction 2"x4" vs. 2"x 6"

3.5 Protection

Except as provided in Section 2603.4.1, 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. See Boca Section 2603.4 for more information.

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

----------*END OF THE SECTION*----------