SECTION 101500 – POLYURETHANE FOAM (PUF)

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes material specifications and placement procedures for polyurethane foam to be used as a sealant to seal and or fill various openings in adits and shafts and the voids between corrugated metal pipe and various subsurface earth materials.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Include manufacturer's printed instructions for installation.

B. Other Action Submittal:

1. Design Mixtures: Submit samples of each type of foam sealant including location where material is to be used.

2. Test Reports: Submit copies of test reports verifying that the foam meets or exceeds specified requirements.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on project personnel experienced in the application of polyurethane foam (PUF) and who is approved and accredited by the material or system manufacturer.

B. Manufacturer Qualifications: A firm experienced in manufacturing polyurethane foam.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store materials in original wrappings and containers with manufacturer's seals and labels intact. Protect from damage and environmental conditions in accordance with manufacture's recommendations.

B. Do not apply materials when temperature or weather conditions exceed manufacturer's recommendation.

C. Install in compliance with manufacturer's specifications for temperature, relative humidity, and moisture content.

D. When used in enclosed spaces, provide proper ventilation of the opening and utilize protective breathing apparatuses.

E. Wear chemical eye protection and gloves while handling material.

PART 2 - PRODUCTS

2.1 INSULATING SEALANT

A. Polyurethane Foam: Use a foam product of the same type, brand, and source throughout the project. Select a material in compliance with the following physical properties.

1. Core Density – 2.6 pcf
2. Closed cell content > 90%
3. Compressive strength greater than or equal to 35 psi
4. Moisture vapor transmission 2-4 perm in.
5. Water absorption, ASTM D2842 = 0.06 lbs per square foot

2.2 SUBSTRATE CLEANER

A. Use a non-corrosive cleaner as recommended by foam sealant manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrate surfaces removing all materials that may affect the bond of the sealant. Prepare site for installation of PUF in accordance with Division 1 specification 013523 Safety Requirements. Comply with manufacturer's specified safety measures.

3.2 FORMWORK

A. Place and secure formwork, anchorage devices, and other embedded items required for adjoining work attached to or supported by PUF. Use drawings, templates, diagrams, instructions, and directions furnished to construct all required formwork for PUF application.

3.3 PUF PLACEMENT

A. Place using a bagged foam product, mixed on-site and poured in place, or using a high pressure sprayer and pump system to deliver heated chemicals to a gun that will mix and spray the foam. Perform installation in compliance with the foam manufacturer's specifications.

B. Install sealant in accordance with all applicable jurisdictional regulations.

3.4 PUF CURING

A. Allow sufficient time for PUF to cure in accordance with manufacturer's specifications. Obtain approval from applicable inspector prior to backfilling polyurethane foam.

3.6 CLEANING

A. Remove excess sealant using manufacturer approved cleaning solvent.

B. Remove and dispose of excess materials in accordance with local regulations.

END OF SECTION 101500