SECTION 07 21 00 - THERMAL INSULATION

This version is the most current revision as of September 2015, City of West Linn's Bolton Reservoir Replacement Project.

Some of the paragraphs may be deleted. When deleting, do not renumber all the paragraphs. Simply leave the section number and title as is, delete the text, and add the words "Not Used".

PART 1 GENERAL

1.1 SUMMARY

A. Applications of insulation specified in this Section include rigid foam board and loose-fill type systems.

B. The extent of insulation work is shown on Drawings and indicated by provisions in this Section.

C. Section includes:

1. Building insulation.
2. Installation.

D. Related Sections:

1. Section 06 10 00 - Rough Carpentry.

1.2 SUBMITTALS

A. Submit a complete list of products, product information, types, and grades for approval by the Engineer prior to beginning building construction.

1.3 PRODUCT HANDLING

A. General Protection:

1. Protect insulations from physical damage and from becoming wet, soiled, or covered with ice or snow.
2. Comply with Manufacturer's recommendations for handling, storage, and protection during installation.

PART 2 PRODUCTS

2.1 MATERIALS

Edit code to fit Project.

A. R Value: Minimum R value shall be as shown in Drawings or as required by current [Oregon Energy Efficiency Specialty Code].

B. Stud Walls and Ceilings

1. Insulation in framed walls and ceilings shall be fiberglass batting with kraft paper faced with stapling flanges.

2. Manufacturer: Owens/Corning Fiberglass, Manville, or equal.

C. Light Shafts and Vent Ducts

1. Insulation in framed skylight light shafts and vent ducts in attic spaces shall be rigid cellular polyurethane, polystyrene, or polyisocyanurate foam board insulation.

D. Loose-Fill Insulation

1. Perlite insulation shall conform to ASTM C549.

2. Cellulose fiber loose-fill insulation shall conform to ASTM C739.

PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

A. Installer must examine substrates and conditions under which insulation work is to be performed and must notify Contractor in writing of unsatisfactory conditions.

B. Do not proceed with insulation work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

C. Install insulation system in accordance with Manufacturer's recommendations or requirements.

D. Set vapor barrier faced units with vapor barrier to warm side (winter) of construction.

E. Do not obstruct ventilation spaces, except for firestopping.

END OF SECTION

SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

Some of the paragraphs may be deleted. When deleting, do not renumber all the paragraphs. Simply leave the section number and title as is, delete the text, and add the words "Not Used".

PART 1 ENERAL

1.1 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, gutters, and downspouts.

B. Sealants for joints within sheet metal fabrications.

C. Related Sections:

1. Section 06 10 00 - Rough Carpentry: Wood nailers for sheet metal work.
2. Section 07 41 13 - Metal Roof Panels - Downspouts and Gutters
3. Section 07 42 13 - Metal Wall Panels
4. Section 07 92 00 – Sealants and Caulking: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.2 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2017a.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2017a.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2017a.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.

E. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.

F. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

G. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

H. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

I. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).

J. CDA A4050 - Copper in Architecture - Handbook current edition.

K. SMACNA (ASMM) - Architectural Sheet Metal Manual 2012.

1.3 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.1 SHEET MATERIALS

A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, (0.0239) inch (0.61 mm) thick base metal, shop pre-coated with PVDF coating.

1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.

2. Color: As selected by Architect from Manufacturer's standard colors.

B. Aluminum: ASTM B209 (ASTM B209M); 20-gauge, (0.032 inch) (0.81 mm) thick; anodized finish of color as selected.

C. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 20-gauge, (0.032 inch) (0.81 mm) thick; plain finish shop pre-coated with modified silicone coating.

1. Modified Silicone Polyester Coating: Pigmented Organic Coating System, AAMA 2603; baked enamel finish system.

2. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.

D. Stainless Steel: ASTM A666, Type 304 alloy, soft temper, 28 gauge, (0.0156 inch) (0.40 mm) thick; smooth No. 4 - Brushed finish.

E. Copper: ASTM B370, cold rolled 16 oz/sq ft (24 gauge) (0.0216 inch) (0.55 mm) thick; natural finish.

2.2 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; seam for rigidity, seal with sealant.

F. Fabricate flashings to allow toe to extend 2 inches (50 mm) over roofing gravel. Return and brake edges.

2.3 GUTTER AND DOWNSPOUT FABRICATION

A. See Specification Section 07 41 13 Metal Roof Panels

B. Downspout Boots: Steel.

C. Seal metal joints.

2.4 EXTERIOR PENETRATION FLASHING PANELS

A. Flashing Panels for Exterior Wall Penetrations: Premanufactured components and accessories as required to preserve integrity of building envelope; suitable for conduits and facade materials to be installed.

2.5 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer: Zinc chromate type.

C. Concealed Sealants: Non-curing butyl sealant.

D. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by Manufacturer for substrates to be sealed; color to match adjacent material.

E. Plastic Cement: ASTM D4586/D4586M, Type I.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 INSTALLATION

A. Comply with drawing details and SMACNA standard installation practices.

B. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..

C. Apply plastic cement compound between metal flashings and felt flashings.

D. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

E. Secure gutters and downspouts in place with concealed fasteners.

F. Connect downspouts to downspout boots, and grout connection watertight.

3.3 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 07 92 00 - SEALANTS AND CAULKING

This version is the most current revision as of September 2015, City of West Linn's Bolton Reservoir Replacement Project.

Some of the paragraphs may be deleted. When deleting, do not renumber all the paragraphs. Simply leave the section number and title as is, delete the text, and add the words "Not Used".

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the work necessary to furnish and install sealing or caulking joints between dissimilar materials for watertight seal.

B. Section includes:

1. Sealants
2. Filler gaskets
3. Primers and bond breakers

1.2 DEFINITIONS

A. Sealants: Where the words "sealants" or "caulking" are used in this text, they shall be considered to be synonymous and shall mean sealant or caulking compounds as specified under Part 2 of this specification.

1.3 SUBMITTALS

A. Section 01 33 00, Submittal Procedures: Requirements for submittals.

B. Product data and materials list of items proposed to be provided under this Section.

C. Sufficient technical data to demonstrate compliance with the specified requirements.

PART 2 PRODUCTS

2.1 MATERIALS

A. Type A Sealant

1. Application: General building sealant.
2. Material: One component polyurethane sealant.
   a. Vulkem 116, as manufactured by Tremco.
   b. MasterSeal NP1, as manufactured by BASF.

B. Type B Sealant

1. Application - General building sealant for wide joints.
2. Materials - Self leveling one component polyurethane.
   a. Vulkem 45, as manufactured by Tremco

C. Filler Gasket (Backer Rod) Cord Strip

1. Ethafoam, as manufactured by Dow Chemical
2. Sonolastic Closed-cell Backer Rod, as manufactured by Sonneborn
3. Equal, as approved by Engineer

PART 3 EXECUTION

3.1 PREPARATION

A. Surfaces to receive caulking materials shall be thoroughly clean and free of any non-compatible primers or protective coatings, including lacquers, form coatings, clear sealers, etc.

B. Brush out all foreign matter and loose particles.

C. Clean metal surfaces with solvents and wipe dry while the surface is still wet with solvent.

3.2 INSTALLATION

A. Primers and Bond Breakers

1. Apply to surfaces as required; verify with Manufacturer.
2. In general, prime all concrete and Portland cement-based plaster or grout surfaces.
3. Prime wood surfaces where specifically required.
4. Use proper type primers and bond breakers, apply per Sealant Manufacturer's printed instructions.

B. Sealants

1. Provide watertight caulked joints at all building exterior locations where possible water penetration through joint may occur.
2. If caulking systems for such joints are not shown, provide as specifically approved.

C. Gaskets or Fillers

1. Compress all gaskets to tight fit. Where required as backing for caulking system, roll or stretch in gasket sections to depth from sealant face or as shown (in general, to 3/8-inch).
2. Install gun grade material with gun nozzle of similar size as joint width as shown. Tool all beads, after application to assume full firm contact. Strike off excess material.

3. Maintain edge surfaces adjacent to joints clean and free of caulking stain and excess material. Trim joints as required per Manufacturer's printed instructions.

4. Do not apply caulking materials to a "bleeding" type of surface, such as asphaltic or other oil-emitting types. Where such material occurs at caulking joint (roofing, etc.), isolate from caulking with gasket filler.

5. Avoid mixing any water in caulking mixture before and during application. Do not thin material.

3.3 CORRECTIONS AND CLEANUP

A. Remove all damaged, defective, or improperly installed sealant and/or caulking and replace.

B. Clean and remove all sealant and caulking from adjacent surfaces.

C. Upon completion of the work, remove all disused implements, rubbish, and debris, and leave premises neat and clean.

END OF SECTION

SECTION 07 92 25 - SEALANTS AND CAULKING FOR STEEL RESERVOIRS

This version is the most current version of the specification, October 2015. Note specified products and manufacturers are constantly in flux and in need of update.

Some of the paragraphs may be deleted. When deleting, do not renumber all the paragraphs. Simply leave the section number and title as is, delete the text, and add the words "Not Used".

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the work necessary to furnish and install sealing or caulking joints between dissimilar materials for watertight seal. In particular, work includes sealing the joint between the exterior floor the tank and the top of the existing reinforced concrete foundation.

B. Section includes:

1. Sealants
2. Filler gaskets
3. Primers and bond breakers

C. Related Sections:

1. Section 33 16 23 – Ground-Level Welded Steel Water Storage Tanks

1.2 DEFINITIONS

A. Sealants: Where the words "sealants" or "caulking" are used in this text, they shall be considered to be synonymous and shall mean sealant or caulking compounds as specified under Part 2 of this specification.

1.3 SUBMITTALS

A. Section 01 33 00, Submittal Procedures: Requirements for submittals.

B. Product data and materials list of items proposed to be provided under this Section.

C. Sufficient technical data to demonstrate compliance with the specified requirements.

PART 2 PRODUCTS

2.1 MATERIALS

A. Type A Sealant

1. Application: Joint between steel reservoir reinforced concrete ring wall foundation and exterior steel floor and wall connection.

2. Material: One component polyurethane sealant.

   a. Dymonic 100, as manufactured by Tremco Commercial Sealants & Waterproofing.

   b. Approved equal.

B. Filler Gasket (Backer Rod) Cord Strip

1. Sonolastic Closed-cell Backer Rod, as manufactured by Sonneborn.

2. Equal, as approved by Engineer.

PART 3 EXECUTION

3.1 PREPARATION

A. Surfaces to receive caulking materials shall be thoroughly clean and free of any non-compatible primers or protective coatings, including lacquers, form coatings, clear sealers, etc.

B. Brush out all foreign matter and loose particles.

C. Clean metal surfaces with solvents and wipe dry while the surface is still wet with solvent.

3.2 INSTALLATION

A. Primers and Bond Breakers

1. Apply to surfaces as required; verify with Manufacturer.

2. In general, prime all concrete and Portland cement-based plaster or grout surfaces.

3. Use proper type primers and bond breakers, apply per Sealant Manufacturer's printed instructions.

B. Sealants

1. Provide watertight caulked joints at all building exterior locations where possible water penetration through joint may occur.

2. If caulking systems for such joints are not shown, provide as specifically approved.

C. Gaskets or Fillers

1. Compress all gaskets to tight fit. Where required as backing for caulking system, roll or stretch in gasket sections to depth from sealant face or as shown (in general, to 3/8-inch).

2. Install gun grade material with gun nozzle of similar size as joint width as shown. Tool all beads, after application to assume full firm contact. Strike off excess material.

3. Maintain edge surfaces adjacent to joints clean and free of caulking stain and excess material. Trim joints as required per Manufacturer's printed instructions.

4. Do not apply caulking materials to a “bleeding” type of surface, such as asphaltic or other oil-emitting types. Where such material occurs at caulking joint (roofing, etc.), isolate from caulking with gasket filler.

5. Avoid mixing any water in caulking mixture before and during application. Do not thin material.

3.3 CORRECTIONS AND CLEANUP

A. Remove all damaged, defective, or improperly installed sealant and/or caulking and replace.

B. Clean and remove all sealant and caulking from adjacent surfaces.

C. Upon completion of the work, remove all disused implements, rubbish, and debris, and leave premises neat and clean.

END OF SECTION