Section 07180: Water Repellants DRAFT

PART 1 GENERAL

1.1 Design Guidelines

1. Select products appropriate for use and substrate on a case by case basis. Review proposed products with WMU Project Manager.

2. Use of water repellants should be avoided at brick masonry, especially at new construction.

3. Field testing should be done prior to application of products.

4. Water repellants should only be used to remediate moisture problems.

PART 2 PRODUCTS

2.1 System Description

1. Water repellants such as silicone and acrylic types, which allow construction materials to breathe and avoid trapping of moisture, are preferred.

Section 07200: Insulation DRAFT

PART 1 GENERAL

1.1 Design Guidelines

1. Comply with applicable building codes for building envelope energy performance.

2. A building life cycle analysis is to be done to determine if higher building envelope thermal values are cost effective.

3. Avoid insulation containing CFC's.

4. Perimeter foundation insulation is to extend to provide an insulation envelope which is continuous with wall insulation.

5. Extend foundation insulation 48" below grade or 48" horizontally under floor slab.

6. Provide vapor barriers in conjunction with insulation to prevent moisture infiltration. Vapor barriers are to be continuous and have seams sealed.

7. Consider products with recycled content where feasible and cost effective.

1.2 Performance Standards

1. Fire Performance:
   a. ASTM E84- Surface Burning Characteristics
   b. ASTM E119- Fire Resistance Ratings
   c. ASTME136- Combustion Characteristics.

2. Insulation Values: Thermal values to be determined per ASTM C177.

PART 2 PRODUCTS

2.2 System Description

1. Rigid Insulation:
   a. Roof: Aged Polyisocyanurate-ASTM C518 or Expanded Polystyrene-ASTMC578/Type IX insulation board, min. R value of 30.

   b. Walls: Aged Polyisocyanurate-ASTM C518 or Expanded Polystyrene-ASTM C578/TypeIX insulation board, min. R value of 10.

   c. Foundation perimeter: Extruded Polystyrene- ASTM C578/Type VI, min. R value of 10.

2. Batt Insulation:
   a. Roof: Fiberglas batts- ASTM C665, min. R value of 30.

   b. Walls: Fiberglas batts- ASTM C665, min. R value of 19.

3. Values shown are intended for new construction; for renovation projects exceptions will be allowed based on existing conditions.

Section 07250: Fireproofing DRAFT

PART 1 GENERAL

1.1 Design Guidelines

1. Non-friable fireproofing should be selected to avoid air quality and health related problems.

2. Anti-mold and mildew admixtures should be provided on systems which are susceptible to these items.

3. Use intumescent mastic fireproofing in areas which are exposed and liable to be damaged.

4. No asbestos containing products are permitted.

1.2 Performance Standards

1. Systems are to be Factory Mutual or Underwriters Laboratory approved.

PART 2 PRODUCTS

2.3 System Description

1. Sprayed mineral fibers, cementitious or mastic fireproofing.

Section 07270: Firestopping **DRAFT**

PART 1 GENERAL

1.1 Performance Standards

2. Comply with ASTM E814 “Thru Penetration Firestop Systems” requirements.
3. Systems are to be Underwriters Laboratories or Factory Mutual tested assemblies.
4. Comply with applicable code requirements for firestopping.

Section 07530: Single-Ply Membrane Roofing
DRAFT

PART 1 GENERAL

1.1 Design Guidelines

1. Provide positive drainage at all roof areas. Minimum slope is to be ¼ inch per foot, except where not feasible in re-roofing applications. Slope roof deck where possible to minimize amount of tapered insulation.

2. Provide walkway pavers around mechanical units, including a lay-down area equal in size to that of the equipment.

3. Provide a permanent roof access ladder and roof scuttle at all buildings. Locate ladder & scuttle at a service area in the building. See Section 07720.

4. For re-roofing projects, the weight of new roofing and insulation shall not exceed that of existing roofing and insulation. Do not install new roofing over existing roofing.

5. Conduct the following: 1) A Pre-installation conference with roofing manufacturer representative and roofing installer present, and 2) An on-site inspection on re-roofing projects after roofing tear-off to evaluate condition of the substrate

6. At buildings in which chemicals are discharged thru exhaust fans or ducts at the roof, the interaction of the chemicals with roofing material shall be evaluated.

7. Provide expansion joints in roofing as recommended by roofing manufacturer and as required for other building systems.

8. Minimize number of seams in roofing. A seam layout drawing is to be submitted by the Contractor.

9. At parapet walls, extend membrane flashing over top of wall under coping.

1.2 Performance Standards

1. The roofing system shall comply with the following standards:
   a. NRCA Roofing and Waterproofing Manual (current edition) recommendations.
   b. UL Class A Fire Hazard rating
   c. FM Class I Assembly rating; I-90 uplift rating.

2. A ten year labor and materials warrantee is to be provided for the entire roofing and insulation system. The roofing system design is to be based on a 20 year lifespan.

3. **All material is to be supplied by a single source, with exception of metal edge flashings.**

4. Installers shall have minimum 5 years experience with specified products and be approved by the roofing manufacturer. A letter is to be supplied by the roofing manufacturer to verify acceptability of the installer.

PART 2 PRODUCTS

2.4 System Description

1. The roofing system is to be a fully adhered or ballasted EPDM membrane, 0.060 inches thick. The fully adhered system is preferred. Mechanical insulation fasteners should be avoided at concrete and gypsum decks.

2. Roofing insulation is to be Expanded Polystyrene or aged Polyisocyanurate foam, with a minimum R value of 30. Insulation value is to comply with current energy code requirements. Insulation manufactured using CFC's should be avoided.

3. Manufacturer's standard roofing details are to be used. Any non-standard details are to be reviewed and approved by roofing manufacturer prior to installation (including metal edge flashing).

2.5 Acceptable Manufacturers

1. Firestone
2. Carlisle

Section 07600: Sheet Metal Flashings **DRAFT**

PART 1 GENERAL

1.1 Design Guidelines

1. Metal roof edge flashing materials and details are to be reviewed with roofing manufacturer for compatibility with roofing system.

2. Provide continuous flashings under pre-cast or stone copings. Metal copings are preferred over pre-cast or stone copings.

3. Flashings at roof/wall intersections must be of sufficient height to satisfy roofing manufacturer requirements, but must not block weepholes at masonry construction.

4. Provide counterflashing at all vertical flashings.

1.2 Performance Standards

1. Fabricate and install all work in accordance with SMACNA “Architectural Sheet Metal Manual.”

PART 2 PRODUCTS

2.6 System Description

1. Roofing and thru wall flashings are to be one of the following types:

    a. Aluminum: ASTM B209, alloy 3003, temper H14, 0.050 minimum thickness. Finish to be anodized or electrostatic paint.

    b. Copper: ASTM B370, temper H00 (cold rolled), 20 oz. minimum thickness.

    c. Galvanized Steel: ASTM A446, Grade A, G90 zinc coating, 22 ga. Finish to be electrostatic paint.

        d. Stainless Steel: ASTM A167, type 302/304

2. See Division 4 for concealed masonry thru wall flashings.

3. Underlayment: No. 15 asphalt saturated roofing felt.

4. Fasteners are to be concealed type.

5. Bedding Compound: Rubber asphalt type

6. Plastic Cement: FS SS-C-153, Type 1- asphaltic base cement

Section 07900: Joint Sealants **DRAFT**

PART 1 GENERAL

1.1 Design Guidelines

1. All joints between dissimilar materials shall be sealed.

2. Provide expansion joints in building systems as required to accommodate expansion and contraction.

3. All joints to be sealed should have an approximate 2:1 width/depth ratio.

4. For re-caulking applications, existing sealant shall be fully removed prior to installation of new work.

5. During sealant installation, a 12” long section of sealant shall be cut out for inspection by the architect, to verify proper depth and joint preparation.

1.2 Performance Standards

1. ASTM C962- Standard Guide for Use of Elastomeric Joint Sealants.

2. ASTM C790- Use of Latex Sealing Compounds.

3. Sealant, Waterproofing and Restoration Institute (SWRI)- Sealant and Caulking Guide Specification.

4. Warrantee- Product to be warranted for five years for cohesion and adhesion (labor & materials).

5. Perform work according to manufacturer’s requirements for surface preparation and installation.

6. Installers shall have a minimum of 3 years experience with this type of work.

PART 2 PRODUCTS

2.7 System Description

7. Exterior Building Joint Sealant:
   a. Non-sagging, multi-component polyurethane sealant
   b. Non-sagging, single component silicone sealant
   Silicone sealant is preferred where use is appropriate and desired color is available.

8. Glazing Sealant: see Section 08800.

9. Interior Wet Area Sealant: Mildew resistant silicone sealant.

10. General Interior Sealant: Acrylic latex sealant. At areas where building movement occurs, silicone sealant shall be used. Products with low VOC content are preferred at interior spaces.

11. Accessories: Primer, joint cleaner, joint backer, bond breaker.

2.8 Acceptable Manufacturers

1. Dow Corning
2. Percora
3. Sonneborn
4. Tremco
5. Vulkem