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Section 07 65 16
Modified Bituminous Sheet Flashing
Section 07 27 13
Modified Bituminous Sheet Air Barriers

This specification utilizes the Construction Specifications Institute (CSI) Manual of Practice, including MasterFormat and PageFormat. This is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Specifier notes typically precede specifications text; delete notes in final copy of text specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text.

The specification specifies HydraFlash and HydraFlash-TWF self-adhering modified bituminous sheet flashing. Flashing can be used in conjunction with AirGuard 0727 to form an air barrier assembly in exterior wall assemblies. This product is manufactured by Applied Technologies LLC. Revise section number and title to suit project requirements, specification practices and section content. Refer to CSI MasterFormat for other section numbers and titles.

Part 1 General

1.01 Summary

- A. Section Includes: HydraFlash and HydraFlash-TWF modified bituminous sheet flashing and its installation in exterior wall assemblies. HydraFlash and HydraFlash-TWF are accessory products used with AirGuard 0727 fluid applied air barrier membrane to form an air barrier assembly in exterior wall assemblies.

1.02 Related Sections

- A. Section 033000-Cast in Place Concrete
- B. Section 040523-Masonry Accessories
- C. Section 042000-Unit Masonry
- D. Section 044000-Stone Assemblies
- E. Section 047000-Manufactured Masonry
- F. Section 061000-Rough Carpentry
- G. Section 072100-Thermal Insulation
- H. Section 075000-Membrane Roofing
- I. Section 076000-Flashing and Sheet Metal
- J. Section 077000-Roof and Wall Specialties and Accessories
- K. Section 07900-Joint Protection

- L. Section 08000-Openings
- M. Section 092000-Plaster and Gypsum

1.03 References

- A. ASTM D-412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension
- B. ASTM E-96 Standard Test Methods for Water Vapor Transmission of Materials
- C. ASTM D-903 Standard Test for Peel and Stripping Strength of Adhesive Bonds
- D. ASTM D-1876 Standard Test Method for Peel Resistance of Adhesives
- E. ASTM D-570 Standard Test Method for Water Absorption of Plastics
- F. ASTM D-146 Standard Test Method for Sampling and Testing Bitumen Saturated Felts and Woven Fabrics for Roofing and Waterproofing
- G. ASTM E-2178 Standard Test Method for Air Permeance of Building Materials
- H. ASTM E 283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls by Uniform Static Pressure Difference
- I. ASTM E-331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Pressure

1.04 Submittals

- A. General: Submit Listed Submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product data and installation instructions.
- C. Quality Assurance/Control Submittals: Submit the following:
 - 1. Certificates: Submit certificate that applicator complies with the requirements of this section.

Specifier Note: Article below should include prerequisites, standards. Limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 1 Quality Assurance Section.

1.05 Quality Assurance

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

- A. Applicator Qualifications: Utilize an applicator trained and approved by waterproofing manufacturer.
- B. Regulatory Requirements and Approvals: Comply with applicable codes, regulations, ordinances and laws.
- C. Obtain materials, components and accessories of the air barrier assembly from one manufacturer.

1.07 Warranty

- A. Upon completion and acceptance of the work required by this section, the flashing materials manufacturer will provide a written five (5) year material warranty. All defective materials shall be replaced for a period of five (5) from date of application. Issuance of Manufacturer's Material Warranty requires the

following: Manufacturer's Approved Applicator to install HydraFlash and HydraFlash-TWF. Manufacturer's warranty shall be independent from any other warranties made by the Contractor under requirements of the Contract Documents and may run concurrent with said warranties.

- B. Applied Technologies does not warrant that mold, mildew, fungi or air quality problems will be reduced. There are many factors in a building that can allow a mold, fungi and mildew to grow such as nutrients, moisture, temperatures, humidity, heating/ventilating systems, and proper maintenance of the building itself. These and other factors are beyond the control of Applied Technologies, LLC and Applied Technologies will not be responsible for any claims, repairs, restoration or damages relating to the presence of fungi, bacteria, spores, mycotoxins, in any building or in the air, water or land that serve a building.
- C. Upon completion installer shall warranty that materials have been installed in accordance with manufacturer's recommendations.

1.08 Delivery, Storage and Handling

- A. General, comply with Division 1 Product Requirement Section
- B. Delivery, deliver products in the manufacturer's original factory sealed containers displaying manufacturer's name and intact label displaying products name and lot number.
- C. Store products in a well ventilated area. Do not allow products to freeze during storage or transport.

1.09 Project/Site Conditions

- A. Apply HydraFlash and HydraFlash-TWF at ambient temperatures above 25° F. When applying materials between 25°F and 40°F store products in heated areas between 50° F and 90° F and condition materials prior to application. Apply products using solvent based or aerosol contact adhesive.
- B. Do not apply HydraFlash or HydraFlash-TWF to wet, damp or frozen substrates.
- C. Wear applicable protective clothing and respiratory protection while applying adhesive primer.
- D. Keep flammable products away from sparks and flame. Post *NO SMOKING* signs
- E. Coordinate flashing assembly with other trades.

Part 2 Products

Specifier Note: Retain article below for proprietary method specification. Add product attributes performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 Manufacturer

Applied Technologies, LLC P. O. Box 18476 Fairfield, OH 45018. Phone: 1-877-277-5948, (513) 939-3767. Fax: (513) 939-3787.

2.02 Products

- A. HydraFlash 40 mil (40 mm) thickness self-adhering membrane made of modified asphalt adhesive and HDPE laminated film. Rolls are 6" x 75' and 12" x 75'. Release liner made of disposable silicon release paper.
- B. HydraFlash-TWF 40 mil (40 mm) thickness self-adhering membrane made of modified asphalt adhesive and woven HDPE laminated film coated with low density polyethylene. Rolls are 12" x 75' and 18" x 75'. Release liner made of disposable silicon release paper.
- C. HydraFlash modified bituminous sheet flashing and air barrier shall meet the following requirements:

- a. Material: modified asphalt adhesive laminated to HDPE
- b. Tensile Strength: Not less than 500 psi (ASTM D-412)
- c. Elongation of Adhesive: Not less than 250 % (ASTM D-412)
- d. Puncture Resistance: Not less than 45 lbs (ASTM E-154)
- e. Peel Strength: Not less than 7.5 lb/in over concrete when prepped with contact adhesive (ASTM D-903)
- f. Lap Adhesion: Not less than 7.0 lb/in (ASTM D-1876)
- g. Water Absorption: Not more than 0.12% by weight (ASTM D-1876)
- h. Vapor Permeability: Not more than 0.05 perm (ASTM E-96, Method B)
- i. Low Temperature Flexibility: Unaffected at -25°F (ASTM D-146)
- j Color: White exterior side, black asphalt adhesive side
- k. Air Permeance: Not more than 0.02 L/s per m² of area at 75 Pa pressure differential (ASTM E-2178)
- l. Air leakage not more than 0.004 CFM/ft²@0.3" water (ASTM 283)

D. HydraFlash-TWF modified bituminous sheet flashing and air barrier shall meet the following requirements:

- a. Material: modified asphalt adhesive laminated to HDPE
- b. Tensile Strength: Not less than 900 psi (ASTM D-412)
- c. Elongation of Adhesive: Not less than 40 % (ASTM D-412)
- d. Puncture Resistance: Not less than 85 lbs (ASTM E-154)
- e. Peel Strength: Not less than 7.9 lb/in over concrete when prepped with contact adhesive (ASTM D-903)
- f. Lap Adhesion: Not less than 7.5 lb/in (ASTM D-1876)
- g. Water Absorption: Not more than 0.12% by weight (ASTM D-1876)
- h. Vapor Permeability: Not more than 0.05 perm (ASTM E-96, Method B)
- i. Low Temperature Flexibility: Unaffected at -25°F (ASTM D-146)
- j Color: White exterior side, black asphalt adhesive side
- k. Air Permeance: Not more than 0.02 L/s per m² of area at 75 Pa pressure differential (ASTM E-2178)
- l. Air leakage not more than 0.004 CFM/ft²@0.3" water (ASTM 283)

2.03 Accessories

- A. Solvent-Based Contact Adhesive: A-Tech VOC Primer in 5 gallon pails. Coverage 50-300 sq.ft/gallon
- B. Mastic: Applied Technologies trowel grade asphalt Membrane Mastic

Part 3 Execution

3.01 Inspection

- A. The applicator shall make sure that all surfaces are structurally sound before the application of modified bituminous flashing and accessories are applied. Any deficiencies will be brought to the attention to the architect, owner and general contractor to be corrected.
- B. Surfaces over transitions between doors, floors, windows, columns, and beams will be continuous and flush with the exterior wall.
- C. Gaps around penetrations will be filled with suitable grout or material and struck flush.
- D. Exterior sheathing shall be attached securely to the structure. Sheathing joints over $\frac{1}{4}$ " shall be filled with Membrane Mastic or suitable sealant by others to fill the gaps.
- E. Concrete block shall have the mortar joints filled and struck flush. Imbedded masonry ties shall have mortar droppings removed with complete flush mortar fill around the ties. Gaps greater than $\frac{1}{4}$ " shall be filled with mortar and struck flush.
- F. Concrete shall be cured seven days minimum. Fill non moving cracks greater than $\frac{1}{4}$ " and honeycombs with non shrinking grout or mortar.

3.02 Surface Preparation

- A. Inside corners must be sealed with $\frac{1}{2}$ " bead of sealant by others or Membrane Mastic.
- B. Solvent Based Primer or aerosol contact adhesive shall be applied to all surfaces in a thin and continuous coating.
 - 1. Solvent-based primer shall dry until the surface is tacky to the touch but will not transfer to the touch
 - 2. Areas contaminated by dirt, dust or debris shall be recoated and allowed to dry prior to application of modified bituminous sheet flashing.

3.03 Application

- A. General:
 - 1. Allow all primers, sealers, mastic, mortar and joint filler compounds to dry or cure prior to application of flashing materials.
 - 2. Install where indicated, specified or required in accord with flashing manufacturer's written instructions
 - 3. Extend flashing 6" past openings. Lap end joints 4" minimum, seal all joints with mastic. Fold flashing ends at end of openings or where horizontal flashing forms end dams.
 - 4. Seal reverse flaps and corner pinholes with mastic
 - 5. Roll flashing with hand roller to ensure air is removed and to increase adhesion to lap seams and to substrate.
 - 6. Seal vertical edges and lap seams with mastic
- B. Masonry back up:
 - 1. Start flashing from outside face of exterior wythe, extend through cavity rising to height required to extend above lintel steel and mortar deflection device.
 - 2. Use one of two methods below for installation:

- a. Method 1: Tuck at least 2" into masonry bed joint during back-up construction
 - b. Method 2: Using reglet specified elsewhere, tuck flashing into reglet and seal with mastic.
- C. Concrete back-up:
 - 1. Start flashing from outside face of exterior wythe, extend through cavity rising to height required to extend above lintel steel and mortar deflection device.
 - 2. Use one of two methods below for installation:
 - a. Method 1: Tuck at least 2" into masonry bed joint during back-up construction
 - b. Method 2: Using reglet specified elsewhere, tuck flashing into reglet and seal with mastic.
- D. Stud back-up:
 - 1. Start flashing from outside face of exterior wythe, extend through cavity rising to height required to extend above lintel steel and mortar deflection device.
 - 2. Apply full bed of primer adhesive against sheathing material. Seal all edges with mastic.
- E. Lay flashing in continuous bed of mastic on masonry supporting steel.
- F. Fold ends of flashing at end of openings to form a dam, seal with mastic.
- G. Inside corner: fold flashing, do not cut
- I. Outside corner: Make industry accepted manner using splice material.
- J. Hold flashing back from masonry face for UV protection.

3.04 Repair and Protection

- A. Protect and maintain an air and water tight installation of the HydraFlash and HydraFlash-TWF in subsequent construction:
 - 1. Penetration by fasteners: No detailing is needed for fasteners driven straight with flashing sealing around the shank. Seal holes made by fasteners with Membrane Mastic
 - 2. Penetration by duct, pipe or conduit: Seal perimeter with strips of HydraFlash or HydraFlash-TWF. Flashing membrane shall extend 3" minimum onto wall surface and penetration.
 - 3. Junction to fenestration without mounting flange: Seal the interior side of installed fenestration to film surface of modified bituminous sheet flashing/air barrier in opening with elastomeric joint sealant over backer rod.
 - 4. Junction to fenestration with mounting flanges: Cover mounting flange along jambs and head with minimum 6" width strip of modified bituminous sheet flashing/air barrier. Seal vertical termination of modified bituminous sheet flashing/air barrier strip over window head with a bead of mastic. Seal the interior side of fenestration to the film side of modified bituminous sheet flashing/air barrier in opening with elastomeric joint sealant over backer rod.
- B. Before covering, inspect flashing membrane to ensure no damage or defects have occurred.
 - 1. Large holes or tears: Remove loose material and cover with flashing material. Seal edges with mastic.
 - 2. Small holes < 1": Cover with mastic.
- E. Protection: Flashing is not meant to be exposed to UV rays. Cover flashing as soon as scheduling allows, 60 days maximum.

3.05 Scheduling

A. Locations:

1. Exterior door heads
2. Window heads and sills
3. Storefront heads
4. Horizontal control joints
5. Same bed joints as weep holes
6. Brick ledges