**SECTION 07 65 13.13**

**DRAINAGE PLANE FLASHING**

Date: 18sep12

**PART 1 - GENERAL** 1.01 SUMMARY

A. Section includes:

1. Combination flashing and drainage as integral part of system for draining moisture/water from normal cavity wall construction; thin brick and manufactured stone systems; stucco systems; and other exterior claddings thereby preventing moisture entering building interior.
2. Flashing material may be used in conjunction with moisture, air, and combination moisture/air barriers with no chemical compatibility issues.
3. Flashing material meets requirements for NFPA 285 and mold/mildew resistance.

LEED 4. LEED®-NC, Version 3.0, 2009 requirements apply to this Section by virtue of certain
"Industry standards" referenced below.

B. Related sections: Edit to include only Sections included in PM

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| --- | --- | --- | --- | --- |
| 1. | 01 | 35 | 15 | LEED® Certification Procedures. |
| 2. | 01 | 35 | 15.13 | LEED® Submittal Forms. |
| 3. | 04 | 05 | 23 | Masonry Accessories. |
| 4. | 04 | 21 | 13 | Brick Masonry. |
| 5. | 04 | 21 | 13.16 | Surface-Bonded Brick Masonry. |
| 6. | 04 | 22 | 00 | Concrete Unit Masonry |
| 7. | 04 | 22 | 23 | Architectural Concrete Unit Masonry. |
| 8. | 04 | 42 | 00 | Exterior Stone Cladding. |
| 9. | 04 | 71 | 13 | Calcium Silicate Manufactured Brick Masonry. |
| 10. | 04 | 72 | 00 | Cast Stone Masonry. |
| 11. | 04 | 73 | 00 | Simulated Stone. |
| 12. | 04 | 73 | 00 | Manufactured Stone Masonry. |
| 13. | 04 | 73 | 00.13 | Surface-Bonded Manufactured Stone Masonry. |
| 14. | 04 | 73 | 13 | Calcium Silicate Manufactured Stone Masonry. |
| 15. | 04 | 73 | 13.13 | Surface-Bonded Calcium Silicate Manufactured Stone Masonry. |
| 16. | 05 | 40 | 00 | Cold Formed Metal Framing. |
| 17. | 06 | 10 | 00 | Rough Carpentry. |
| 18. | 07 | 27 | 00 | Air Barriers. |
| 19. | 07 | 27 | 00.13 | Moisture Retarders/Air Barriers. |
| 20. | 07 | 27 | 13 | Modified Bituminous Sheet Moisture/Air Barriers. |
| 21. | 07 | 27 | 19 | Plastic Sheet Air Barriers. |
| 22. | 07 | 21 | 00.13 | Thermal Insulation/Air Barrier Wall System. |
| 23. | 07 | 27 | 26 | Fluid-Applied Membrane Air Barriers. |
| 24. | 07 | 27 | 26.13 | Fluid-Applied Membrane Moisture Retarders/Air Barriers. |
| 25. | 07 | 27 | 26.16 | Fluid-Applied Membrane Moisture/Air Barriers. |
| 26. | 07 | 27 | 26.19 | Fire Resistant Fluid-Applied Membrane Moisture/Air Barriers. |
| 27. | 07 | 60 | 00 | Flashing and Sheet Metal. |
| 28. | 07 | 65 | 00 | Flexible Flashing. |

C. Alternates:

1. Contractor has option in MANUFACTURED UNITS Article of selecting from two base material systems:

1. Stainless steel system listed in Paragraph B.
2. Copper system in Paragraph C.

2. Completed system requirements remain the same regardless of system used.

3. Requests for substitutions for products named under this section are prohibited.

1.02 REFERENCES

A. Standards of the following as referenced: 1. ASTM International (ASTM).

LEED 2. Bay Area Air Quality Management District.

1. Brick Industry Association (BIA).
2. Copper Development Association, Inc. (CDA).
3. National Fire Protection Association (NFPA).

LEED 6. South Coast Air Quality Management District (SCAQMD).

B. Industry standards: 1. ASTM:

1. D3273-12: *Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber*.
2. E84-12: *Standard Test Method for Surface Burning Characteristics of Building Materials.*

LEED 2. Bay Area Air Quality Management District Regulation 8, Rule 51.

1. BIA *Technical Notes on Brick Construction No. 7, Water Penetration Resistance- Design and Detailing*, August 2005.
2. BIA *Technical Notes on Brick Construction No. 28B, Brick Veneer/Steel Stud Walls*, August 2005.
3. NFPA 285-12: *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components*.

LEED 6. SCAQMD Rule #1168; *Adhesive and Sealant Applications,* Amended January 7, 2005.

1.03 DEFINITIONS

A. Terms:

1. Cavity wall flashing: Same as flexible flashing.

2. Drainage plane (system):

1. Water repellent materials located behind veneer/cladding; designed and constructed to drain water passing through veneer/cladding.
2. Material interconnected with flashings, window and door openings, and other penetrations of building enclosure providing water drainage to building exterior.
3. Materials forming drainage plane either are fluid applied (pin-hole free), sheet applied overlapping each other shingle fashion; or sealed so that water drains down and out of the wall.

3. Foundation sill flashing: Same as flexible flashing.

4. Flexible flashing: Water-proof material typically used in cavity wall construction to contain and assist in proper water drainage that may penetrate wall system veneer. Other materials may be required to constitute “system”.

5. Head and sill flashing: Same as flexible flashing.

6. Rain screen: Same as drainage plane.

7. Through-wall flashing:

1. Generally considered the same as flexible flashing.
2. Rare definition referred to full width cap flashing under copings or wall caps.

8. Water resistive barrier (WRB): Same as drainage plane.

1.04 SYSTEM DESCRIPTION This Article for LEED use only

A. Performance requirements; LEED® Credit areas:

1. Materials and Resources: Refer to LEED® Requirements Section.

1. Credit 1.1, 1.2, 1.3, and 1.4: Innovation in Design.
2. MR Credit 2.1: Construction Waste Management; divert 50% of project waste (by weight) from landfill.
3. MR Credit 2.2: Construction Waste Management; divert another 25% of project waste (by weight) from landfill.
4. MR Credit 4: Recycled Content; 25% of project materials by weight have 20% post-consumer or 40% post-industrial and Recycled Content; 20% post-consumer +½ pre-consumer.

e. MR Credit 5: Regional Materials; 20% of project materials are manufactured within 500 miles and Regional Materials; raw materials for products obtained within 500 miles of manufacturing.

\*\* f. MR Credit 6: Regional Materials; 20% Extracted, Processed & Manufactured
Regionally.

g. EQ Credit 4.2: Indoor Environmental Quality; Construction Indoor Air Quality Management Plan Before Occupancy.

1.05 SUBMITTALS

A. Product data:

1. Indicate material type, composition, thickness(es), and installation procedures.
2. Data to indicate compliance with required fire tests and applicable code approval for installed system.
3. Indicate chemical comparability with adjacent materials, i.e., air barriers, sealants, insulations.

B. Samples: 3" by 5" flashing material.

C. Quality control submittals: 1. Certificates:

a. Indicate materials supplied or installed are asbestos free.

b. Indicate recycled content:

1. Stainless steel: 60% total recycled material; based on 60% Post Industrial Recycled Content and 0% Post Consumer Recycled Content.
2. Copper: 90% total recycled material; based on 80% Post Industrial Recycled Content and 10% Post Consumer Recycled Content.

c. NFPA 285 requirements: Passes ASTM E84, Class A.

d. When tested as manufactured, product resists growth of mold pursuant to test method \*\*

Non-LEED: \*\* ASTM D3273.

LEED: \*\* ASTM D3273 and may qualify for a LEED® Innovation Credit based upon the environmental mitigation of mold and mildew hazards related to Indoor Air Quality (IAQ).

e. Certificate from WRB manufacturer indicating drainage plane flashing compatibility with WRB.

LEED f. VOC requirements; NOTE - VOC limits depend on substrate (see Chart page 273 of
LEED® Reference Guide):

LEED g. Indicate sealants supplied or installed meet or are lower than allowable by SCAQMD Rule #1168.

LEED h. Indicate sealants supplied or installed meet or exceed the requirements of the Bay

Area Air Quality Management District Regulation 8, Rule 51.

LEED i. LEED® report: Submit VOC content documentation for non-preformed materials.

1.06 QUALITY ASSURANCE

A Qualifications; manufacturer: Provide flashing materials by single manufacturer with not less than 25 years of experience in manufacturing flexible flashing products.

1.07 WARRANTY

A. Special warranty:

1. Manufacturer: Warrant drainage plane system material for life of the wall.
2. Begin warranty at Date of Substantial Completion.

**PART 2 - PRODUCTS**

2.01 MANUFACTURED UNITS

A. Voluntary alternates: Contractor has option in selecting from either Paragraph B. or Paragraph C.

B. Drainage plane flashing; stainless steel core flexible flashing with drainage fabric:

1. Acceptable products:

1. STS Coatings ([www.stscoatings.com](http://www.stscoatings.com)); Wall Guardian TWF Stainless steel.
2. York Manufacturing, Inc. ([www.yorkmfg.com](http://www.yorkmfg.com)); York® Flash-Vent™ SS.

2. Product standard of quality: York Manufacturing, Inc.; York® Flash-Vent™ SS.

3. Characteristics:

a. Type:

1. Stainless steel core with polymer fabric non-asphalt adhesive laminated to one stainless steel face and non-woven drainage fabric non-asphalt adhesive laminated to opposing face.
2. Fire rating; ASTM E84: Passes Class A (NFPA 285 requirement).
3. Mold and mildew resistant; ASTM D3273.

b. Stainless steel type: ASTM A167-99(2009).

c. Stainless steel weight: Recommended by flashing manufacturer.

d. Fabrics:

1. Polymer fabric; laminated back face stainless steel core with core weight manufacturer identified on product with color coded laminate.
2. Non-woven drainage fabric: Fabric laminated to front face.

e. Size: Manufacturer's standard width rolls.

C. Drainage plane flashing; copper core flexible flashing with drainage fabric:

1. Acceptable products:

1. Building Materials West Company; Evacu-Flash.
2. STS Coatings ([www.stscoatings.com](http://www.stscoatings.com)); Wall Guardian TWF copper.
3. York Manufacturing, Inc. ([www.yorkmfg.com](http://www.yorkmfg.com)); York® Flash-Vent™ AB.

2. Product standard of quality: York Manufacturing, Inc.; York® Flash-Vent™ AB.

3. Characteristics:

a. Type:

1. Copper core with polymer fabric non-asphalt adhesive laminated to one copper face and non-woven drainage fabric non-asphalt adhesive laminated to opposing face.
2. Fire rating; ASTM E84: Passes Class A (NFPA 285 requirement).
3. Mold and mildew resistant; ASTM D3273.

b. Copper type, ASTM B370-11e1: CDA Alloy 110, 060 temper.

c. Copper weight: Recommended by flashing manufacturer.

d. Fabrics:

1. Polymer fabric; laminated back face copper core with core weight manufacturer identified on product with color coded laminate.
2. Non-woven drainage fabric: Fabric laminated to front face.

e. Size: Manufacturer's standard width rolls.

2.02 ACCESSORIES

A. Mastic/sealant:

1. Acceptable products:

1. BASF Construction Chemicals, LLC – Building Systems; Sonneborn® Sonolastic® 150.
2. ChemLink Advanced Architectural Products; DuraLink.
3. STS Coatings; GreatSeal PE-150.
4. York Manufacturing, Inc.; US100.

2. Characteristics:

a. Type: One part 100% solids, solvent-free formulated silyl-terminated polyether (STPE), ASTM C920-01, Type S, Grade NS, Class 50.

1. Meets SCAQMD requirements.
2. Meets LEED®-NC, Version 3.0, 2009.

d. Color: \*\*

\*\* Selected by Architect from manufacturer’s standard colors. \*\* Manufacturer’s standard for unexposed locations.

B. Outside corner, inside corner, and end dam material:

1. Copper: York Multi-Flash 500™.
2. Stainless steel: York Multi-Flash™ SS.

C. Splice material: Manufacturer’s standard self-adhered material; material matching system material.

\*\*\* DELETE below Where No WRB Is Required. \*\*\*

1. Termination bar: Not required.

\*\*\* RETAIN below Where WRB Is Required. \*\*\*

1. Termination bar: Manufacturer's standard 1" wide, minimum by 1/8" thickness, minimum
by continuous length pre-punched stainless steel bar or composite material bar complete with stainless steel fasteners.
2. Repair and other materials/accessories: Manufacturer’s standard.
3. Weather resistive barrier, WRB (rain screen): Specified in \*\*

\*\* Moisture Retarders/Air Barriers Section.

\*\* Modified Bituminous Sheet Moisture/Air Barriers Section.

\*\* Plastic Sheet Air Barriers Section.

\*\* Fluid-Applied Membrane Air Barriers Section.

\*\* Fluid-Applied Membrane Moisture Retarders/Air Barriers Section.

\*\* Fluid-Applied Membrane Moisture/Air Barriers Section.

\*\* Fire Resistant Fluid-Applied Membrane Moisture/Air Barriers.

**PART 3 - EXECUTION** 3.01 EXAMINATION

A. Verification of conditions: Verify WRB is in place and cured.

3.02 INSTALLATION

A. General:

1. Install where indicated, specified, or required in accord with flashing manufacturer's

written instructions \*\* over previously installed WRB \*\* and as follows.

1. Splicing material on material width to manufacture wider pieces is prohibited unless flashing detail requires material wider than normally manufactured.
2. Prohibited practice: Bonding or splicing stainless steel or copper to non­woven drainage fabric or non-woven drainage fabric to non-woven drainage fabric except for splices at material lengths.

2. Extend flashing 6" minimum, beyond opening, each side without stretching flashing material. Fold flashing ends at end of openings or horizontal flashing terminations to form end dam.

3. Flashing width: Width required to start 1" from outside face of exterior cladding, extend through to back-up material, rising height required to extend 6" above horizontal plane.

4. Splice end joints by folding over one end and lapping next piece 6" sealing lap joint with manufacturer’s standard mastic/sealant.

5. Mark flashing height on back-up substrate using level; apply continuous mastic/sealant bead along mark’s top edge lapping over mark 1"; apply mastic/sealant on entire horizontal lintel, wythe, or exterior wall surface.

6. Apply flashing with drainage fabric surface to outside.

7. Bed flashing into mastic/sealant at vertical and horizontal surfaces; roll into mastic/sealant.

\*\*\* RETAIN below Where WRB Is Required. \*\*\*

8. Install continuous termination bar to flashing face at flashing top.

1. Steel stud construction: Fasten through substrate material to each stud with manufacturer approved headed fastener.
2. Masonry construction: Fasten to masonry back-up at 16" O.C. with flashing manufacturer approved headed fastener.
3. Fold ends of flashing at end of opening to form dam; seal.
4. Inside corners: Folded, not cut; seal.
5. Outside corners: Make in industry accepted manner using outside corner and splice material.

3.03 SCHEDULES

A. Locations:

1. Exterior door heads.
2. Window heads and sills.
3. Storefront heads.
4. Horizontal control joints.
5. Changes in veneer materials, vertically.
6. Other wall openings.
7. Other locations indicated.

**END OF SECTION 07 65 13.13**