

SECTION 04 22 00 - COLD-FORMED METAL FRAMING

PART I - GENERAL

I.01 SUMMARY

- A. Section includes combination flashing, mortar deflection, and weep as complete one step system. Using this system deletes requirement for mortar deflection devices.
- B. Related sections:
1. 04 05 23 Masonry Accessories.
 2. 04 21 13 Brick Masonry
 3. 04 22 00 Concrete Unit Masonry
 4. 04 72 00 Cast Stone Masonry.
 5. 05 40 00 Cold Formed Metal Framing.
 6. 06 10 00 Rough Carpentry.
 7. 07 11 10 Damp Proofing or Air Barrier
 8. 07 60 00 Flashing and Sheet Metal.
 9. 07 65 00 Flexible Flashing.
- C. Alternates: This Section replaces the multiple component technology and multiple trade involvement of older technologies; providing a single source/single trade engineered & warranted system.

I.02 REFERENCES

- A. Standards of the following as referenced:
1. ASTM.
 2. Brick Industry Association (BIA).
- B. Industry standards:
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.

I.03 DEFINITIONS

- A. Terms:
1. Cavity wall flashing: Same as flexible flashing.
 2. Foundation sill flashing: Same as flexible flashing.
 3. Flexible flashing: Water-proof material typically used in cavity wall construction to contain and assist in the proper water drainage that may penetrate wall system veneer. Other materials may be required to constitute the system.
 4. Head and sill flashing: Same as flexible flashing.
 5. Through-wall flashing:
 - a. Generally considered the same as flexible flashing.
 - b. Rare definition referred to full width cap flashing under copings or wall caps.

I.04 SUBMITTALS

- A. Product data: Indicate material type, composition, thickness, and installation procedures.
- B. Samples: 3" by 5" flashing material.

C. Product Quality & Environmental submittals:

1. **Certificates:**
 - a. Indicate materials supplied or installed are asbestos free.
 - b. Indicate recycled content: a minimum of 60% total recycled material; based on 60% Post Industrial Recycled Content.
2. **Critical Performance Attributes:**
 - a. Tensile Strength, stainless steel 100,000 psi average
 - b. Puncture Resistant, stainless steel 2,500 psi average
 - c. When tested as manufactured, product resists growth of mold pursuant to test method ASTM D 3273.
 - d. Fire Rating: flame spread and smoke generation
 1. Rated Class A, ASTM E84
 - e. Certify the use of domestic manufactured stainless steel for flashing.
 - f. Certify products contain no silica or asbestos.

I.05 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer: Provide flashing materials by single manufacturer with not less than twenty five years of experience in manufacturing flexible flashing products.
2. If product is used with spray polyurethane foam, then flashing materials must be able to withstand 300 ° F temperatures without changing the long term performance of the flashing.

I.06 WARRANTY

A. Special warranty:

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

PART 2 - PRODUCTS

2.01 MANUFACTURED UNITS

A. Stainless steel core flexible flashing with drainage fabric:

1. Product standard of quality: York Manufacturing, Inc.; York Flash-Vent SS,
2. Accepted products:
 - a. York Manufacturing, Inc.; York Flash-Vent SS, (www.yorkmfg.com)
 - b. STS Coatings, Inc.; Wall Guardian Venting Stainless Steel TWF (www.stscoatings.com)
 - c. Building Materials West Company, Inc.; Evacu-Flash SS (www.evacu-flash.com)
 - d. Other flashings that meet the requirements in section I.04.C
3. Characteristics:
 - a. Type: Engineered system, with high resistant to damage, composite with a stainless steel with non-asphalt adhesive polymer fabric laminated to one stainless steel and non-woven drainage fabric laminated to opposing face with non-asphalt adhesive.
 - b. Stainless steel: type 304, ASTM A240. Domestically sourced per DFARS 252.225-7008 and/or DFARS 252.225-7009.
 - c. Fabrics:
 - 1) Polymer fabric; laminated back face to stainless steel core
 - 2) Non-woven drainage fabric: Fabric laminated to front face stainless

- steel core.
- d. Recycled content: stainless steel is 60% recycled
- e. Size: Manufacturer's standard width rolls.

2.2 ACCESSORIES

- A. Mastic/sealant: Product standard of quality is York Manufacturing, Inc.; UniverSeal US100.
 - 1. Characteristics:
 - a. Type: One part 100% solids, solvent-free formulated silyl-terminated polyether (STPE), ASTM C920-11, Type S, Grade NS, Class 50.
- B. Outside corner and inside corner material; manufacturer's standard available units using:
 - 1. Stainless steel: 26 gauge stainless steel.
- C. End dam: Product may be folded in line with the flashing material or utilize preformed end dams by manufacturer using:
 - 1. Stainless steel: 26 gauge stainless steel
- D. Splice material: Product standard of quality is York 304 by York Manufacturing, standard self-adhered metal material; material matching system material or use York Manufacturing's Multi-Flash Stainless Steel lap piece and polyether sealant as a splice.
- E. Termination bar: Product standard of quality is York T-96 termination bar. Manufacturer's standard 1" composite material bar or a 1" 26 gauge stainless steel termination bar with sealant lip.
- F. Weep vent protection: Product standard of quality is York's Weep Armor. Geotextile drainage fabric at least 12" in height.
- G. Repair and other materials/accessories: Manufacturer's standard.
- H. Fasteners: Domestic manufactured fastener types and sizes recommended by flashing manufacturer for intended use.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General:
 - 1. Install where indicated, specified, or required in accord with flashing manufacturer's written instructions and as follows.
 - a. Prohibited practice: Tucking the flashing into the backer wall.
 - b. Prohibited practice: Bonding or splicing to non-woven drainage fabric.
 - 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 or use preformed end dams from manufacturer.
 - 3. Flashing width: Width required starting 1.5" to the exterior of the outside face of exterior wythe, extending through cavity, rising height required to extend above lintel steel at least 2". After inspection by the agreed upon parties the flashing should be cut flush with the leading edge of the brick.
 - 4. Splice end joints by butting ends together over 4" wide piece of self-adhering stainless steel flashing. The self-adhering stainless steel flashing should be sealed metal face down on to the substrate with the mastic. Remove the release liner and butt the two piece of flashing together and embed them into the splice sealant. Then seal the butt seam with sealant.
 - 5. Masonry back up:
 - a. Surface mount flashing after damp proofing installation specified in Damp

- Proofing Section in accord with manufacturer's installation instructions.
- b. Apply flashing with drainage surface to outside.
 - c. Fasten to masonry back-up surface at top by embedding in layer of sealant and use a termination bar to fasten to the backer wall and seal the top of the termination bar with sealant.
6. Concrete back up:
 - a. Surface mount flashing after damp proofing installation specified in Damp Proofing Section in accord with manufacturer's installation instructions.
 - b. Apply flashing with drainage surface to outside.
 - c. Fasten to concrete back-up surface at top by embedding in layer of sealant and use a termination bar to fasten to the backer wall and seal the top of the termination bar with sealant.
 7. Stud back up with sheathing:
 - a. Surface mount flashing after certified compatible damp proofing installation specified in Damp Proofing Section in accord with manufacturer's installation instructions
 - b. Apply flashing with drainage surface to the outside.
 - c. Fasten to stud back-up surface at top by embedding in layer of sealant and use a termination bar to fasten to the backer wall and seal the top of the termination bar with sealant.
 8. Confirm compatibility with manufacturer's mutual letters for all lapping components, Air barrier installation lapping over flashing top in the Air Barrier Section.
 9. Lay flashing in continuous bead of sealant on masonry supporting steel.
 10. Fold ends of flashing at end of opening to form dam; seal with sealant or utilize preformed end dams from manufacturer.
 11. Inside corners: Make in manufacturers accepted manner using corner and splice material or utilize preformed corners from manufacturer.
 12. Outside corners: Make in manufacturers accepted manner using corner and splice material or utilize preformed corners from manufacturer.
 13. Do not coat the entire drainage fabric with air barrier. Leave the drainage fabric exposed at least an inch over the top of the mortar droppings.
 14. Weep vent protection use the geotextile drainage and install it on the third row height of standard bricks to have the fabric reach the base of the flashing and covering the weep vents.
 15. Cover flashing within a few days of installation to protect it from damage from the different trades, the environment and falling debris. If flashing is left unprotected and it is punctured, torn, or has loose scrim you should contact the manufacturer for repair instructions.

3.02 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 04 22 00