



Moisture Management for Masonry



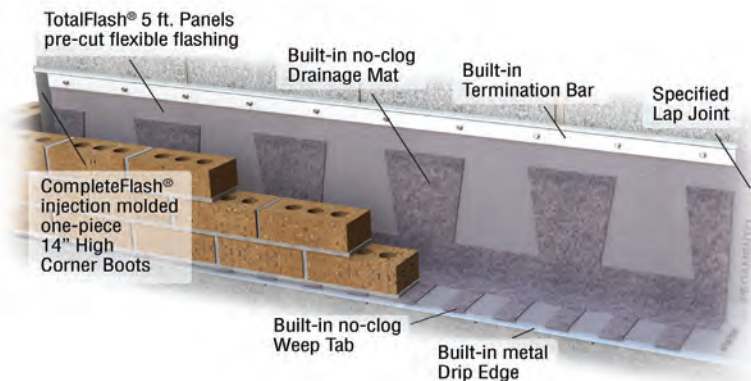
## Product Submittal Sheet

### TotalFlash® Cavity Wall Drainage System - Pre-assembled panels

#### Description

The TotalFlash® Cavity Wall Drainage Solution is a factory-assembled flashing and drainage system for masonry cavity walls with CMU, wood or steel stud backup. Each 5' (net) panel includes a flashing membrane with attached drainage mesh, weep tabs, drip edge and termination bar with self-tapping, self-sealing screws. Each panel is engineered with a precisely defined 6" lap joint to make water-tight overlaps fast and easy to create.

To complete the system, CompleteFlash® one-piece 14" High Inside/Outside Corner Boots and end dams; metal drip edge corners; and BTL-1 sealant may be ordered separately.



#### Short Form Spec

Install all-inclusive flashing/drainage system with adhered Cavity Drainage/Mortar Collection Material, Drip Edge, Termination Bar, Weep Tabs with included Fasteners.

Replaces the requirement for Flashing, Weeps, Mortar Collection products, Drip Edge and Termination Bar.

**TotalFlash® pre-assembled panels**  
5-1/2-ft. (5-ft. net) panel

**Product:** Subject to compliance with requirements, provide "TOTALFLASH® by Mortar Net Solutions™"

**Specifier Note:** The TotalFlash® Cavity Wall Drainage Solution includes an 18", 45-mil Ethylene Propylene Diene Monomer (EPDM), 40-mil High Performance Thermoplastic Vinyl (PVC), 40-mil Rubberized Asphalt, 40-mil Thermoplastic Polyolefin (TPO) or 5-ounce Copper Laminate; recycled polyester 3/16" x 10" MortarNet™ drainage mat; no-clog weep tabs; drip edge choices of 28-gauge 304 stainless steel, 24-gauge cold rolled copper or 24-gauge Kynar®-finish galvanized steel. Colors include Almond, Terra-Cotta, Gray and Tan (all drip edge options available separately in 5' lengths). High strength corrosion and UV resistant plastic termination bar or 16-gauge stainless steel termination bars with or without 1/4" sealant lip are also available. Self-tapping, self-sealing screws are #14 x 2". CompleteFlash® 14" pre-molded inside and outside High Corner Boots and universal, right and left end dams are made of high performance membranes.

**Substitutions** No substitutions permitted.

**Standard Size** 18" x 5-1/2-feet (5-foot net)

#### Available Sizes

- 12" x 5-1/2-feet (5-foot net)
- 18" x 5-1/2-feet (5-foot net)
- 24" x 5-1/2-feet (5-foot net)
- Custom Size

#### Membranes

- 45 mil EPDM
- 40 mil Rubberized asphalt
- 40 mil Thermoplastic polyolefin
- 40 mil Thermoplastic vinyl
- 5 oz. Copper laminate

#### Drip Edges

- 28 ga. Stainless Steel
- 24 ga. Cold Rolled Copper
- 24 ga. Kynar Galvanized Steel
- No Drip Edge

#### Termination Bars

- PVC
- 16 ga. Stainless Steel
- 16 ga. Stainless Steel with 1/4" lip

**Specification Title:** \_\_\_\_\_

Project: \_\_\_\_\_ Date: \_\_\_\_\_

Firm: \_\_\_\_\_ Phone: \_\_\_\_\_

Approval: \_\_\_\_\_ Date: \_\_\_\_\_

General Contractor: \_\_\_\_\_

Bid Date: \_\_\_\_\_

Comments: \_\_\_\_\_



## Technical Data Sheet

### Description

The patented TotalFlash Panel Cavity Wall Drainage Solution is a complete, factory-assembled masonry cavity wall flashing system. It combines a flashing membrane with a mortar dropping collection drainage mat, weep tabs, drip edge and termination bar into a single, easy-to-install panel.

### Features

- Sold in boxes of 10 pre-assembled 5' 6" panels (5' net/panel, 50' net/box)
- 90% open-weave polyester mesh mortar dropping collection mat and weep tabs
- 18" standard height
- Additional available sizes: 12", 24" (Custom sizes available on request)
- Customizable with 5 membranes, 6 drip edges, and 3 term bars
- FREE takeoff service, custom panel sizing, and bid and installation help on awarded projects

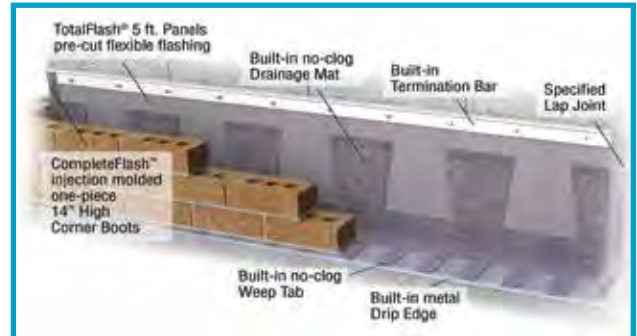
### Sizes and Packaging

STANDARD THICKNESS	PANEL HEIGHT	PANEL LENGTH	# OF PANELS/BOX
0.040"	12"	5-1/2' (5' net)	10 panels/box
0.040"	18"	5-1/2' (5' net)	10 panels/box
0.040"	24"	5-1/2' (5' net)	10 panels/box

- 1 starter strip for left-to-right installation per box
- 100 self-tapping #14 x 2" termination bar screws per box

### Recycled Content

MATERIAL	RECYCLED CONTENT
Drainage mat/weep tabs	40% Pre-consumer
PVC termination bar	100% Pre-consumer
Thermoplastic vinyl membrane	55% Pre-consumer
Stainless steel drip edge	80% Post-consumer
Kynar® drip edge	23% Post-consumer





## Technical Data Sheet

### Components Options

- Flashing membranes
  - Thermoplastic Vinyl: UV Stable
  - Rubberized Asphalt: 0.032" rubberized asphalt bonded to 0.008" polyethylene film, self-adhering, excellent tensile/elongation/permanence characteristics, temperature resistant to 245° F
  - Copper Laminate: 5 oz. Copper sheet reinforced with 2 layers of fiberglass fabric
  - Thermoplastic Polyolefin (TPO): UV stable, ozone resistant, chlorine-free, recyclable
  - EPDM synthetic rubber
- Termination bars
  - PVC: 1.125" high x 0.120" thick x 10' 0" long, UV stabilized, non-migratory plasticizers, high strength, corrosion resistant, predrilled holes
  - Stainless Steel: 0.750" high x 16 gauge thick x 10' 0" long, ¼" lip, pre-drilled holes 6" on-center, 100% recyclable
  - Stainless Steel: 1.25" high x 16 gauge thick x 59-5/8" long, 1/2" lip, predrilled holes 6" on-center, 100% recyclable
- Drip edges
  - Stainless Steel: 3.0" high x 28 gauge, 3/8" hemmed edge, 100% recyclable
  - Cold-rolled Copper: 3.0" high x 24 gauge, 3/8" hemmed edge, 100% recyclable
  - Kynar®-coated galvanized steel: 3.0" high x 24 gauge, 3/8" hemmed edge, 4 color choices (Almond, Tan, Gray, Terra-cotta)
  - No drip edge: Membrane edge exposed

### Available Options Sold Separately

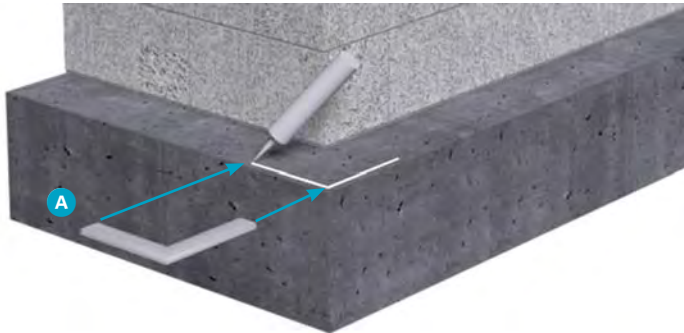
- CompleteFlash® - TPO, or synthetic rubber/polypropylene blend
  - 14" High inside/outside Corner Boots
  - End Dams: right, left, universal
- Metal Drip Edge Corners
  - Pre-formed outside 90°
  - Adjustable 325° to 22°
- Sealants
  - BTL-1 Butyl

**Notes:**

- The use of Carborundum Saw blades to cut the Stainless Steel Drip Edge can result in a slight surface rust on any exposed metal.
- Muriatic Acid at any dilution is not recommended on Stainless Steel. • Uses a 5/32" Drill Bit & 5/16" Nut Driver
- Instructions for removing drip edge: When long runs of TotalFlash do not require the starter panel, the lap can be created by cutting with a knife the glue that holds the drip edge to the membrane and snipping off 6 inches of drip edge.

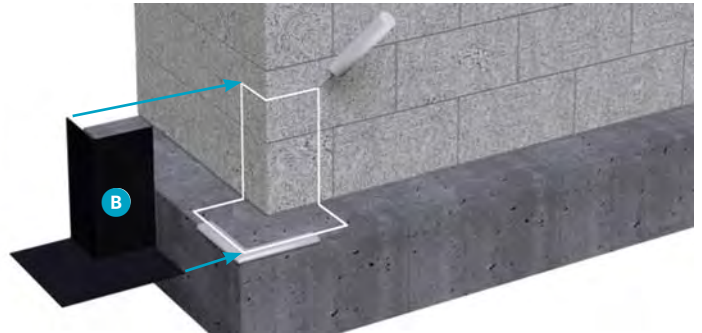
### 1 STEP ONE

Apply sealant / adhesive to prefabricated Stainless Steel Corner **A** using 1 bead of adhesive.



### 2 STEP TWO

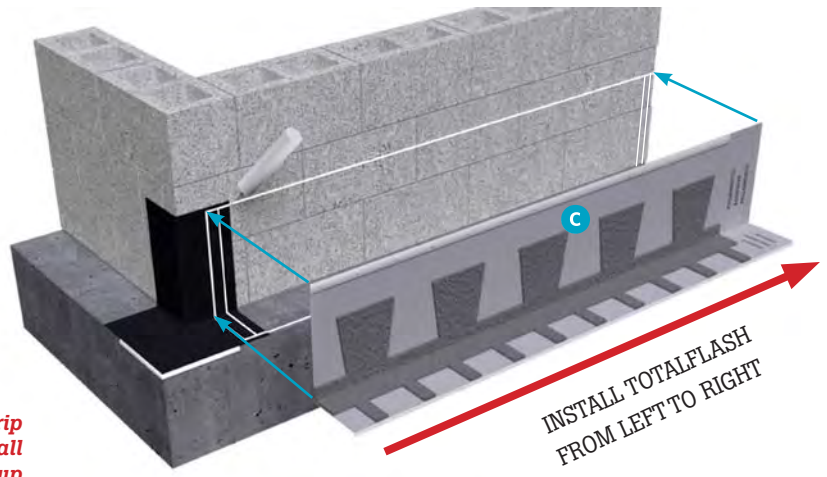
Install pre-formed 14" Corner Boot **B** using 1 bead of sealant / adhesive.



### 3 STEP THREE

Begin TotalFlash installation at the leftmost corner using the TotalFlash starter strip.

Install starter strip **C** adjacent to corner drip using sealant / adhesive applied horizontally behind termination bar and drip edge and two beads vertically at ends of TotalFlash panel as shown to the right. Install subsequent sections of TotalFlash from left to right.

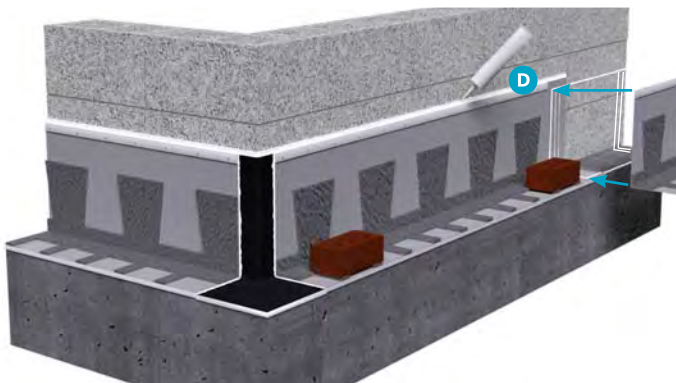


**Sealant / Adhesive sets up quickly:**

*Install the Drip Edge on brick ledge. Create the crease at Drip Edge & backup wall until tight. Work the TotalFlash up the wall creating a smooth tight fit. Attach Termination Bar to the backup wall. Termination Bars may not align horizontally.*

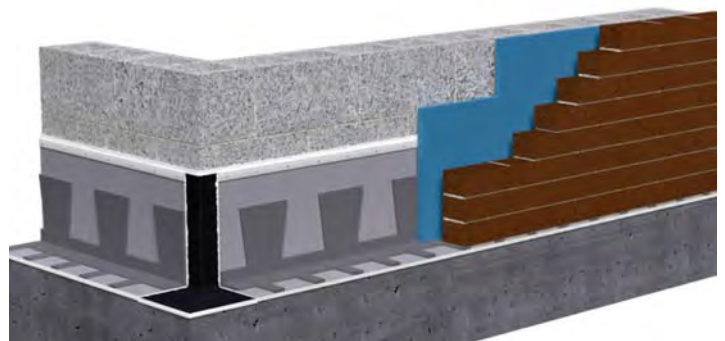
### 4 STEP FOUR

Install remaining sections using the lap system and sealant / adhesive. Caulk top of termination bar **D**. Loose brick units can be used to temporarily hold down TotalFlash while sealant / adhesive cures.



### 5 STEP FIVE

Install remaining rigid board insulation over TotalFlash. Lay a mortar bed directly atop the TotalFlash weep tabs and install the brick veneer. For proper drainage, ensure the tips of the weep tabs are exposed when tooling the first mortar joint.

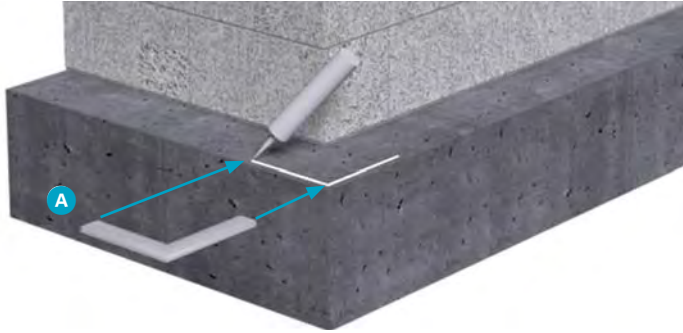


**Notes:**

- The use of Carborundum Saw blades to cut the Stainless Steel Drip Edge can result in a slight surface rust on any exposed metal.
- Muriatic Acid at any dilution is not recommended on Stainless Steel. • Uses a 5/32" Drill Bit & 5/16" Nut Driver
- Instructions for removing drip edge: When long runs of TotalFlash do not require the starter panel, the lap can be created by cutting with a knife the glue that holds the drip edge to the membrane and snipping off 6 inches of drip edge.

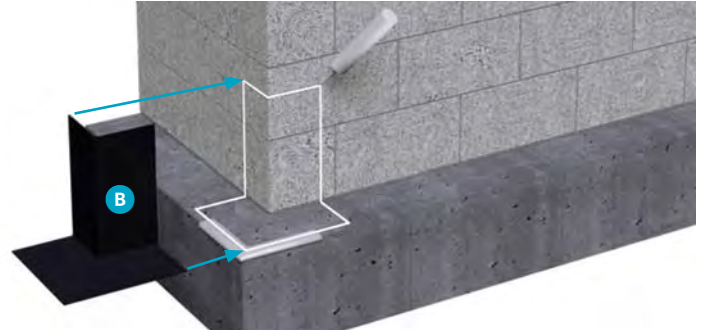
### 1 STEP ONE

Apply sealant / adhesive to prefabricated Stainless Steel Corner **A** using 1 bead of adhesive.



### 2 STEP TWO

Install pre-formed 14" Corner Boot **B** using 1 bead of sealant / adhesive.

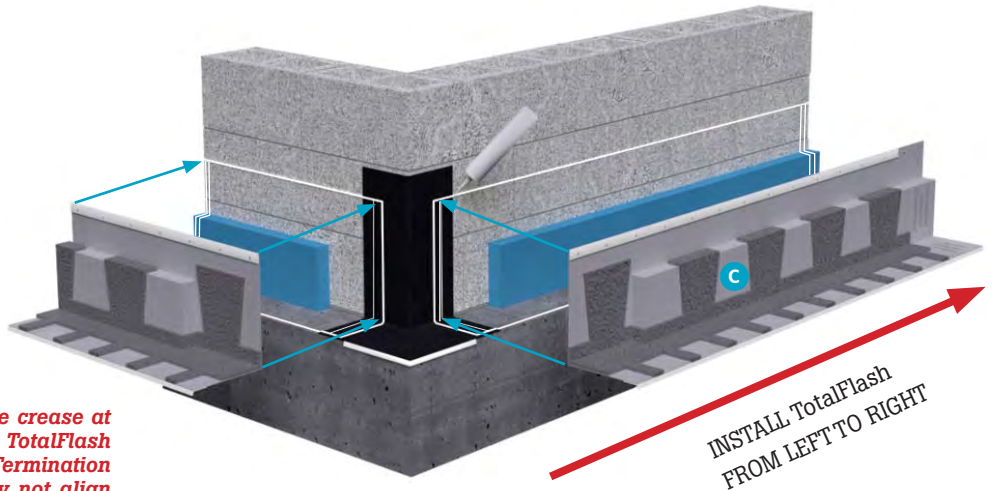


### 3 STEP THREE

Install 8" high sections of rigid insulation board against back up wall.

Begin TotalFlash installation at the leftmost corner using the TotalFlash starter strip **C** adjacent to corner drip using sealant / adhesive applied horizontally behind termination bar and drip edge and two beads vertically at ends of TotalFlash panel as shown to the right. Install subsequent sections of TotalFlash from left to right.

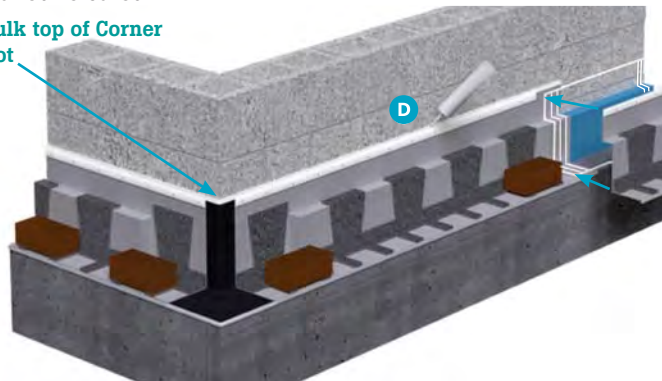
**Sealant / Adhesive sets up quickly:**  
Install the Drip Edge on brick ledge. Create the crease at Drip Edge & backup wall until tight. Work the TotalFlash up the wall creating a smooth tight fit. Attach Termination Bar to the backup wall. Termination Bars may not align horizontally.



### 4 STEP FOUR

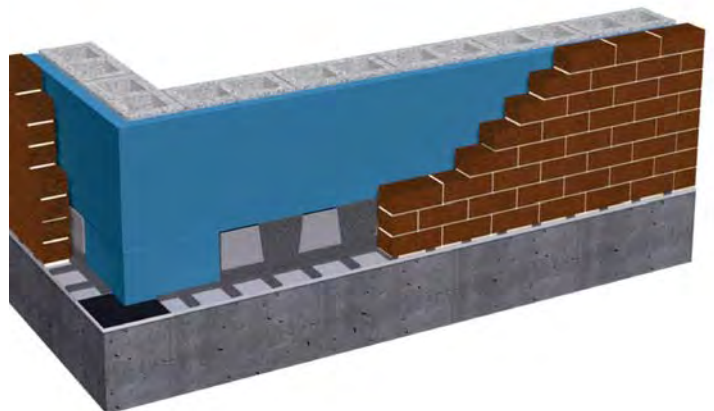
Install remaining sections using the lap system & adhesive, trim end section flush with corner drip. Caulk top of termination bar **D**. Use loose bricks to temporarily hold down TotalFlash while sealant / adhesive cures.

Caulk top of Corner Boot



### 5 STEP FIVE

Install remaining rigid insulation board.

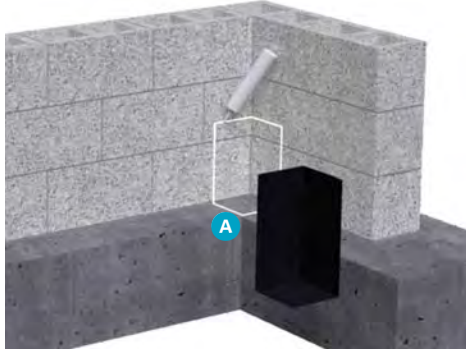


**Notes:**

- The use of Carborundum Saw blades to cut the Stainless Steel Drip Edge can result in a slight surface rust on any exposed metal.
- Muriatic Acid at any dilution is not recommended on Stainless Steel. • Uses a 5/32" Drill Bit & 5/16" Nut Driver
- Instructions for removing drip edge: When long runs of TotalFlash do not require the starter panel, the lap can be created by cutting with a knife the glue that holds the drip edge to the membrane and snipping off 6 inches of drip edge.

### 1 STEP ONE

Install pre-formed 14" Corner Boot **A** using 1 bead of sealant / adhesive.



### 2 STEP TWO

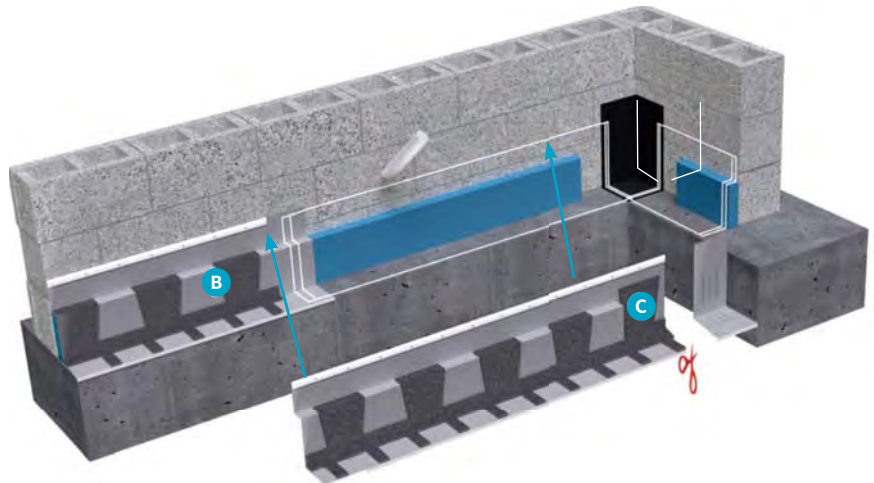
Install 8" high sections of rigid insulation board against backup wall 12" from corner.



### 3 STEP THREE

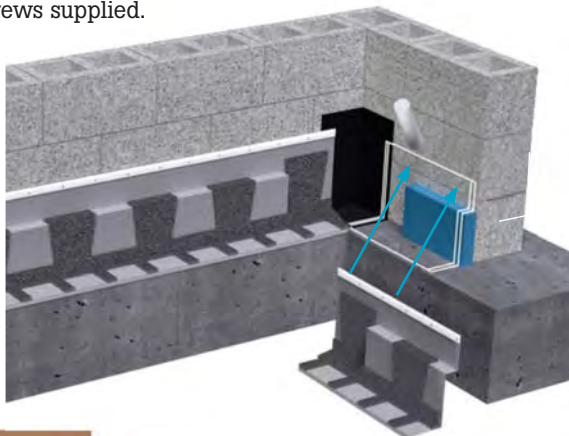
Begin TotalFlash installation at the leftmost edge of the wall using the TotalFlash starter strip piece **B** (place it directly against the stainless steel corner piece previously set). Use sealant / adhesive applied horizontally behind termination bar and drip edge and two beads vertically at ends of TotalFlash panel as shown to the right. Trim off excess TotalFlash panel. **C**.

Install remaining sections using the lap system and sealant / adhesive. Caulk top of termination bar



### 4 STEP FOUR

Trim the left side of the TotalFlash drip edge hem at 45° and install into inside corner with sealant / adhesive and termination bars screws supplied.



### 5 STEP FIVE

Trim top of Corner Boot flush with Termination Bar. Caulk top of termination bar **D**. Loose brick units can be used to temporarily hold down TotalFlash while sealant / adhesive cures.



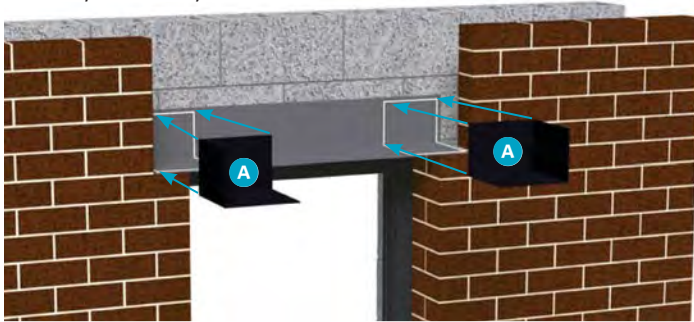
**Notes:**

- The use of Carborundum Saw blades to cut the Stainless Steel Drip Edge can result in a slight surface rust on any exposed metal.
- Muriatic Acid at any dilution is not recommended on Stainless Steel. • Uses a 5/32" Drill Bit & 5/16" Nut Driver
- Instructions for removing drip edge: When long runs of TotalFlash do not require the starter panel, the lap can be created by cutting with a knife the glue that holds the drip edge to the membrane and snipping off 6 inches of drip edge.

1

### STEP ONE

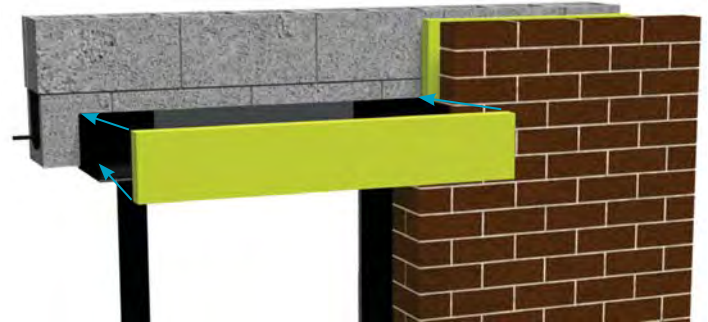
Install pre-formed end dams **A** on both ends of opening using sealant / adhesive, trim to fit.



2

### STEP TWO

Install 8" high sections of rigid insulation board against back up wall at lintel.



3

### STEP THREE

Install first section of TotalFlash adjacent to end dam using sealant / adhesive and screws. Trim TotalFlash to fit opening.

For larger openings, install additional TotalFlash sections using the integrated lap system, sealant / adhesive and screws.



4

### STEP FOUR

Caulk top of Termination Bar.



5

### STEP FIVE

Install remaining rigid insulation board and install brick veneer.



**BEFORE PROCEEDING:** If you have questions or need more information, please contact Mortar Net Solutions® at **800-664-6638** or go to **www.mortarnet.com**

**Notes:**

• The use of Carborundum Saw blades to cut the Stainless Steel Drip Edge can result in a slight surface rust on any exposed metal.

• Muriatic Acid at any dilution is not recommended on Stainless Steel.

• Uses a 5/32" Drill Bit & 5/16" Nut Driver

• Instructions for removing drip edge: When long runs of TotalFlash do not require the starter panel, the lap can be created by cutting with a knife the glue that holds the drip edge to the membrane and snipping off 6 inches of drip edge.

## 1 STEP

Install pre-formed end dams **A** on both ends of opening using sealant / adhesive, trim to fit.

## 2 STEP TWO

Install first section of TotalFlash adjacent to end dam using sealant / adhesive and screws. Trim TotalFlash to fit opening.

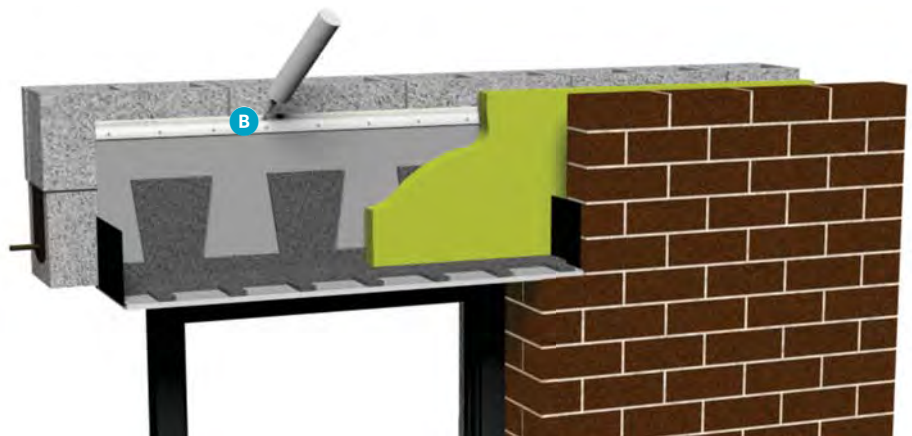
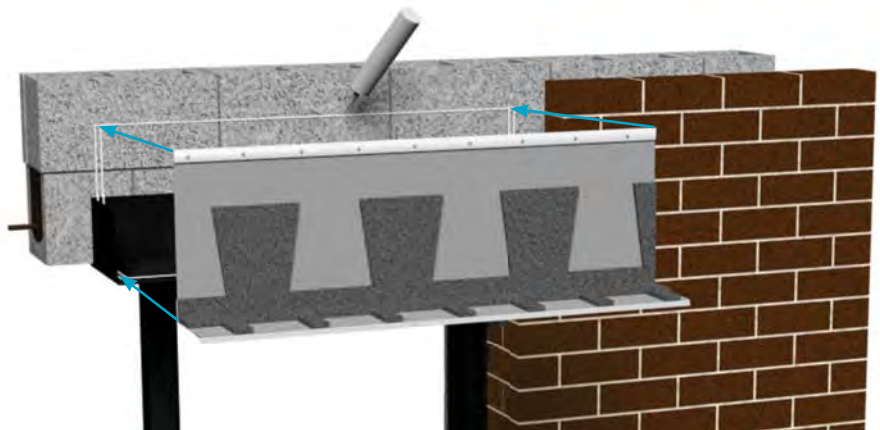
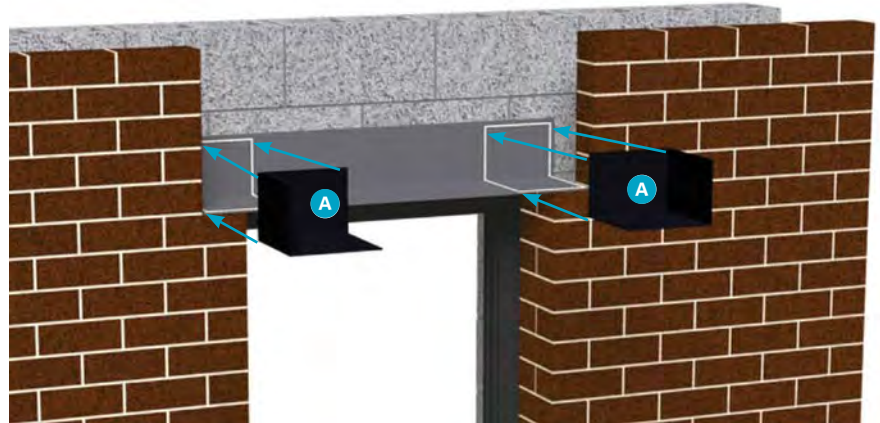
For larger openings, install additional TotalFlash sections using the integrated lap system, sealant / adhesive and screws.

## 3 STEP THREE

Caulk top of Termination Bar **B**. Install rigid insulation on top of TotalFlash. Install brick veneer above lintel.

# INSTALLATION GUIDE B Window Head Flashing TotalFlash Installed in Front of Rigid Insulation Board

For even faster installation contact Mortar Net Solutions® to inquire about TotalFlash window head panels made to the exact size needed.



**BEFORE PROCEEDING:** If you have questions or need more information, please contact Mortar Net Solutions® at **800-664-6638** or go to [www.mortarnet.com](http://www.mortarnet.com)





Moisture  
Management  
for Masonry

326 Melton Rd., Burns Harbor, IN 46304  
P 800 664 6638 F 219 787 5088  
www.mortarnet.com

### **Certificate of Compliance**

This letter is to certify that TotalFlash® meets specifications as described.

TotalFlash® was tested in accordance with ASTM E514, "Test Method for Water Penetration and Leakage Through Masonry".

TotalFlash® is manufactured in the United States and meets the requirements as described in the American Recovery and Reinvestment Act (ARRA) of 2009.

Regards,

A handwritten signature in black ink, appearing to read "Greg Skyta", is written over a light gray circular stamp.

Greg Skyta  
Construction Services  
Business Development Associate  
gskyta@mortarnet.com  
219-850-4516



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# TotalFlash®

## Testing

TotalFlash®

1/9

## NELSON TESTING LABORATORIES

*Construction Materials*

1210 REMINGTON ROAD

SCHAUMBURG, ILLINOIS 60173 USA

Phone (847) 882-1146 Fax (847) 882-1148

[www.nelsontesting.com](http://www.nelsontesting.com)

December 5, 2007

Mortar Net Solutions®  
326 Melton Road  
Burns Harbor, IN 46304

### REPORT OF TESTS

**SUBJECT:** Water Penetration Study to Determine the Effectiveness of the Mortar Net TotalFlash Cavity-Wall Drainage System Used in Masonry Cavity Wall Construction

**PROJECT:** Mortar Net Solutions® Research Program - TotalFlash®

**TEST METHODS:** ASTM E 514, "Test Method for Water Penetration and Leakage Through Masonry"

ASTM C 67, "Test Methods of Sampling and Testing Brick and Structural Clay Tile"

ASTM C 140, "Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units"

ASTM C 270, "Specification for Mortar for Unit Masonry"

**NTL PROJECT #:** 1039-07

**PAGE:** 1 of 9

### TEST OVERVIEW

This study was designed to test the effectiveness of Mortar Net's TotalFlash cavity-wall drainage system in masonry cavity wall construction. Within this study, three masonry cavity walls were constructed and subjected to the test procedures outlined in ASTM E 514, "Test Method for Water Penetration and Leakage Through Masonry". The walls were constructed each with a first course of brick and a second course of concrete masonry units. Two wall systems were constructed with the TotalFlash cavity-wall drainage system installed at the base of the second course of concrete masonry units, while the third wall was constructed with no water management system, except for standard peel and stick flashing. All three walls were constructed with the intent to allow leakage through the brick to test the effectiveness of the TotalFlash cavity-wall drainage system.

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Mortar Net Solutions®  
TotalFlash Cavity-Wall Drainage System  
NTL Project #1039-07  
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### TEST WALL DESCRIPTIONS

#### Wall #1 – TotalFlash #1

- Brick facing wythe;
- TotalFlash cavity-wall drainage system installed within a 1" cavity;
- Concrete masonry unit wythe.

#### Wall #2 – TotalFlash #2

- Brick facing wythe;
- TotalFlash cavity-wall drainage system installed within a 1" cavity;
- Concrete masonry unit wythe.

#### Wall #3 – Control #1

- Brick facing wythe;
- Peel and stick flashing installed within a 1" cavity;
- Concrete masonry unit wythe.

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### TEST WALL FABRICATION

Three (3) walls for water penetration testing were constructed according to ASTM E 514 requirements. The three walls were double-wythe wall panels, 48" wide x 56" high. Each wall was assembled using a face of clay brick and a second of concrete masonry units (cmu). A one-inch air cavity was located between the clay brick and the concrete masonry units. Each open end of the walls used a water end dam. In the first two walls, the mason installed the Mortar Net TotalFlash product in the 1" cavity according to the manufacturer recommendations. In the third wall, the mason installed peel and stick flashing in the 1" cavity.

The walls were built during a two day period by an experienced lead mason. Workmanship was judged as to be average. Ambient temperature was maintained between 60 degrees F. and 75 degrees F. during the fabrication and subsequent curing period. Each wall was constructed by one mason and required approximately 1.5 hours to complete with the masonry work being done over a period of about 60 minutes. The walls were constructed on an inverted steel channel, and the bottom course was laid on a bed of mortar. Full bedded mortar joints were used, and the walls were constructed one course at a time by applying mortar the full length of the bed joint, then buttering the ends of a brick one at a time before setting on the bed joint. The joints were initially struck and tooled with a concave jointer after the top course was laid, and a final tooling was done approximately 30 to 60 minutes later. The bed and head joints were full.

The walls were constructed in a random order to avoid potential systematic errors which might have occurred if the walls had been built in a particular order. The walls were cured according to ASTM E 514 which requires curing for 7 days enclosed in plastic sheeting and for a minimum of 7 subsequent days curing in laboratory air. The total curing time for the walls ranged from 14 to 21 days. Flashing was built into the wall to collect water that had passed completely through the wall. There was a bottom trough which was built under the wall to collect water that penetrated into the interior cavities on the blocks, collected at the bottom of the cavities and leaked through the weep holes and mortar joints.

### TEST PROCEDURES

ASTM E 514 test procedures were followed throughout the test. ASTM E 514 test chambers were constructed of welded aluminum angle stock, and the observation face of the chambers was outfitted with Lexan sheet to allow full view into the chamber. All fixtures and appurtenances were in conformity with ASTM E 514, section 4. Each frame was outfitted with a monometer to measure interior pressure and a flow meter to monitor the amount of flow. During the testing, the frame was pressurized to 10 psf, and the water flow was adjusted to 40.8 gal/hour which is equal to 3.4 gal/sq.ft./hr. The units were held in place with clamps, and closed cell foam gasket materials.

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 TotalFlash Cavity-Wall Drainage System  
 NTL Project #1039-07  
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### MATERIAL TEST DATA

#### A. Concrete Masonry Units

Nominal 8" x 8" x 16", two core, medium weight concrete masonry units (CMU) were manufactured by Northfield Block Company, Mundelein, Illinois. The following are the CMU physical properties. The results represent the average of three units tested in conformity with ASTM C 140.

Compressive Strength, net, psi	2970
Dimensions	
Length, in.	15.65
Height, in.	7.65
Width, in.	8.00
Thickness	
Face shell, minimum in.	1.33
Web, minimum in.	1.25
Absorption	
Pcf	6.45
Percent	4.78
Moisture Content, percent	11.2
Unit weight, dry, pcf	114.3

#### Brick Analysis (ASTM C 67)

Brick size: 7.62 inches long x 3.62 inches wide x 2.25 inches high. The following are the clay brick physical properties. The results represent the average of three units tested in conformity with ASTM C67.

Absorption (%)	
24 hour	8.8
5 hour boil	10.3
Saturation Coefficient	0.83
IRA (g/min/30 sq.in.)	16.2
Compressive Strength (psi)	10,170

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 NTL Project #1039-07  
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## B. Mortar Batches

### a. Mortar Batching Information

Similar Mix designs were utilized for each mortar batch. Mortar constituents were weigh-batched to assure accuracy. ASTM C 270, Type "S" mortar proportions were selected for the evaluation. The amount of water was adjusted to provide the required consistency as judged by the mason.

Mortar proportions are as follows:

Cement, Type 1	1 part
Lime	½ part
Mason Sand	4 ½ parts

### b. Mortar Cementitious Materials

Cement	Portland Cement Type 1 (ASTM C 150)
Lime	Type "S" Hydrated Lime (ASTM C 207)

### c. Mortar Aggregates – Mason Sand

Gradation	% Passing Each Sieve
# 4	100.0
# 8	100.0
# 16	90.4
# 30	78.3
# 50	28.9
# 100	2.0

F.M. 1.94

The mason sand meets ASTM C 144 specifications

### d. Mortar Physical Properties

All mortar properties were obtained in accordance with ASTM C 780. Air contents were determined using the pressure method (ASTM C231). Compressive strengths were determined on 3-inch diameter by 6-inch high cylinders (ASTM C 39).

Plastic Mortar	
Cone penetration, mm	50
Air content, %	5.3
Hardened Mortar	
Compressive strength, PSI	
7 days	2480
28 days	2970

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TotalFlash Cavity-Wall Drainage System  
NTL Project #1039-07  
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## TEST RESULTS

### A. OBSERVATIONS

#### Wall #1 – TotalFlash #1

No signs of dampness were visible on the back wall after the four-hour test. Also, no water was collected through the back of the wall. Measurable water began flowing through the weep holes 10 minutes after the start of the test. During the course of the four-hour test a total of 15 gallons of water exited through the weep holes. At the completion of the test, no water was found to have collected within the wall cavity.

#### Wall #2 – TotalFlash #2

No signs of dampness were visible on the back wall after the four-hour test. Also, no water was collected through the back of the wall. Measurable water began flowing through the weep holes 15 minutes after the start of the test. During the course of the four-hour test a total of 14.5 gallons of water exited through the weep holes. At the completion of the test, no water was found to have collected within the wall cavity.

#### Wall #3 – Control #1

Measurable water began trickling through the weep holes 90 minutes after the start of the test. During the course of the four-hour test a total 0.25 gallons of water exited the weep holes. At the completion of the test, water collected within the cavity to a height of 4.0 inches.

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Mortar Net Solutions®  
TotalFlash Cavity-Wall Drainage System  
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TEST RESULTS (continued)

B. DATA

**ASTM E 514 Testing**

Test Date:	11-13-07	11-14-07	11-14-07
	<u>TotalFlash Wall - 1</u>	<u>TotalFlash Wall - 2</u>	<u>Control Wall - 3</u>
<b>First dampness on back of wall</b>	no signs	no signs	180 minutes
<b>First visible water on back of wall</b>	no water	no water	no water
<b>Percent dampness on back of wall @ 4 hours</b>	0%	0%	10%
<b>Total leakage through back of wall (gallons)</b>	none	none	none
<b>Total leakage rate through back of wall (gallons/hour)</b>	0.00	0.00	0.00



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TEST RESULTS (continued)

C. COMPARATIVE DATA

Water Collection Comparative Study

	<u>Water Collected Through Weep Holes</u>	<u>First Sign of Water Exiting Weep Holes</u>	<u>Depth of Water Remaining in Cavity Wall</u>
<u>Wall #1</u> – TotalFlash #1	15.0 gallons	10 minutes	no water
<u>Wall #2</u> – TotalFlash #2	14.5 gallons	15 minutes	no water
<u>Wall #3</u> – Control #1	0.25 gallons	90 minutes	4.00 inches
 <u>Average</u>			
TotalFlash	14.75 gallons	12.5 minutes	no water
Control	0.25 gallons	90 minutes	4.00 inches

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TEST RESULTS (continued)

D. SUMMARY

The Mortar Net TotalFlash cavity-wall drainage system test walls showed no signs of dampness or water penetration through the back of the concrete masonry units at the conclusion of the ASTM E 514 tests. In addition, Mortar Net TotalFlash strongly outperformed the standard peel and stick flashing system during the course of this test procedure. While the wall cavities and the corresponding weep holes in the control wall became almost completely blocked with mortar droppings, the TotalFlash water management system provided a system for preventing mortar blockage, allowing water to escape through the weep holes.

Respectfully submitted,

NELSON TESTING LABORATORIES



Mark R. Nelson  
Principal



**Material Safety Data Sheet**

**Thermoplastic Polyolefin**

Manufacturer:  
Mortar Net Solutions™  
326 Melton Rd., Burns Harbor, IN 46304

www.mortarnet.com  
Emergency Telephone Number: 1-800-664-6638  
Date Prepared: 6/21/2014

**Section II,A—Hazardous Ingredients/Identity Information**

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
The rating of this product is Non-hazardous. Therefore it is not subject to hazardous labeling of mandatory retention of Material Safety Data Sheets.				

**Section II,B—Ingredients/identification Information**

CAS No.	Material	Range
9010-79-1	Resin	0-100
1333-86-4	Carbon Black	0-5

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**Section III—Physical/Chemical Characteristics**

Boiling Point	Does Not Apply	Specific Gravity (H <sub>2</sub> O = 1)	0.98
Vapor Pressure (mm Hg)	Does Not Apply	Melting Point	
Vapor Density (AIR = 1)	Does Not Apply	Evaporation Rate (Butyl Acetate = 1)	< 1

Solubility in Water

Insoluble

Appearance and Odor

Pellet form- essentially odorless

**Section IV—Fire and Explosion Hazard Data**

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Not Available	Not Available		

Extinguishing Media

Carbon Dioxide, Water Fog, Foam

Special Fire Fighting Procedures

Use routine fire fighting procedures.

Unusual Fire and Explosion Hazards

Thermal oxidative decomposition may yield carbon monoxide, carbon dioxide and low molecular weight hydrocarbons

(Reproduce locally)

OSHA 174

Sept. 1985



## Material Safety Data Sheet

### Thermoplastic Polyolefin

Section V—Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable	X	Not Applicable
Incompatibility (Materials to Avoid) Not Applicable			
Hazardous Decomposition or Byproducts Not Applicable			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	
Section VI—Health Hazard Data			
Route(s) of Entry	Inhalation?	Skin?	Ingestion?
Low risk of entry in present form	Not Applicable	Not Applicable	Is not expected to occur. If swallowed, may physically irritate digestive system.
Health Hazards (Acute and Chronic)			
Harmful effects have not been recorded over a period of many years.			
Carcinogenicity	NTP?	IARC Monographs?	OSHA Regulated?
IARC, NTP, and OSHA do not list this product as a carcinogen.	Not Known	Not Known	No
Signs and Symptoms of Exposure Not Applicable			
Medical Conditions Generally Aggravated by Exposure No known effects or other illnesses			
Emergency and First Aid Procedures			
Routine Symptomatic			
Section VII—Precautions for Safe Handling and Use			
Steps to Be Taken in Case Material Is Released or Spilled			
Sweep / clean up and dispose of material in accordance with good housekeeping practices.			
Waste Disposal Method			
Incinerate or landfill in compliance with Local, State, and Federal regulation.			
Precautions to Be Taken in Handling and Storing Not Applicable			
Other Precautions			
None			
Section VII—Control Measures			
Respiratory Protection (Specify Type)			
Respiratory protection is optional			
Ventilation	Local Exhaust	Special	
	Not Applicable	Not Applicable	
	Mechanical (General)	Other	
	Not Applicable	Not Applicable	
Protective Gloves		Eye Protection	
Optional		Optional	
Other Protective Clothing or Equipment			
Optional			
Work/Hygienic Practices			
Routine			