

SkillsUSA 2015 Contest Projects

TeamWorks

Click the “Print this Section” button above to automatically print the specifications for this contest. Make sure your printer is turned on before pressing the button.



Competitors Manual 2015

Major Sponsors

Bosch Power Tools

NewellRubbermaid

State Farm Insurance

Lowe's

Advisory Sponsors

Bill Robinson Train2Build.COM

NARI

Program & Contributing Sponsors

Bricklayer's Association

CEMCO

Charlotte Pipe and Foundry Company

Copper Development Association

Grabber

IEC

Maze

Mortar Net

Multiclip

Pactiv

Protecto Wrap

Quikrete

Simpson Strong Tie

Southwire

Print instructions

- Please produce “Competitor Manual 2015
- Complete and bind with Plastic Spirals
- Please print 60 copies of the 2015 Manual
- Front and back cover in color
- Print the Power tool section (2 Teamworks power too catalog.pdf) and the hand tool section(1 TeamWorks Hand Tool Catalog.pdf) in color
- All other sections Black and White
- All 8-1/2” x 11” .
- Print Plans “Teamworks plans 2015.pdf” on 11” x 17” paper folded to 8 1/2” x 11” and placed in an envelope.

Questions, call Dan Taddei or Elsie Iturralde at 847 298-9200

COMPETITOR MANUAL 2015 – BINDER TABS (5-POSITION TABS)

1 Contents

2 Sponsors

3 TeamWorks

4 Schedule

5 Plumbing Skill Check

6 Electrical Skill Check

7 Plans

8 Safety

9 Spec Sheets

10 Tear Down

11 Tools

12 Forms

Sub Tab Positions for under the “Spec Sheets” Tab
TeamWork’s Participant Binder
2015

- 1. DriShield**
- 2. Total Flash**
- 3. Total Flash Install**
- 4. HouseNet 1**
- 5. Pella Window**
- 6. Window Sealing Tape Detail**
- 7. Window Sealing Lit**
- 8. Simpson HDU2**
- 9. Jamsill**
- 10. Hardieplank**



Table of Contents

1) Contents

2) Sponsor's

Sponsors

3) TeamWork's

About TeamWorks	pg. 1
Schedule of Events	pg. 2
Rules and Regulations	pg. 3
Judging Criteria	pg. 9

4) Schedule

5) Plumbing Skill Check

6) Electrical Skill Check

7) Plans

Project Plans

8) Safety

9) Spec Sheets

1. Dri-Shield Product Sheet
2. Total Flash
3. Total Flash Corner
4. HouseNet1
5. Alside Window Install
6. Window Sealing Tape Detail
7. Window Sealing Tape Lit
8. Simpson HDU2
9. Jamsill Guard Brochure
10. Hardieplank HZ10 Installation guide



10) Tear Down

Tear Down Plan

11) Tools

Hand tools

Power tools

12) Forms

Change Order Forms

Tool Check-in Forms

Major Sponsors

Bosch Power Tools

NewellRubbermaid

State Farm Insurance

Lowe's

Advisory Sponsors

Bill Robinson Train2Build.COM

NARI

Program & Contributing Sponsors

Bricklayer's Association

CEMCO

Charlotte Pipe and Foundry Company

Copper Development Association

Grabber

IEC

Maze

Mortar Net

Multiclip

Pactiv

Protecto Wrap

Quikrete

Simpson Strong Tie

Southwire



About TeamWork's

TeamWork's was introduced at the 2000 SkillsUSA Championships in Kansas City to promote and establish a model for "best in class" communication and coordination between trade disciplines; to support and develop skilled personnel capacity within the building trade disciplines; to encourage, recognize and celebrate the most talented young people who have elected a building trade career path; and, to strengthen the link between industry needs and building trade technology and management curriculum.

TeamWork's is a competition where teams of four, with training in carpentry, electrical, plumbing and masonry, compete in planning, scheduling and building a project over a two-day period, in a simulated real-world situation. This two-day competition places a special emphasis on individual trades with students working collaboratively to coordinate all phases of project execution.

The Technical Committee's Mission Statement is;

To provide a learning experience for all participants where they demonstrate relevant competencies that meet the changing needs of industry.

Rules & Regulations

Purpose

TeamWork's is a competition to evaluate team preparation for employment and to recognize outstanding students for excellence and professionalism in the fields of residential carpentry, masonry, plumbing, electrical and teamwork skills.

Refer to the General Regulations in the SkillsUSA Championships Technical Standards.

Clothing Requirement

Official SkillsUSA khaki work shirt and pants, black or brown leather work shoes, and safety glasses with side shields or goggles. Safety prescription glasses can be used only if they are equipped with approved side shields. If not, they must be covered with goggles. To purchase official work clothes, order online at:

<http://www.skillsusastore.org/skillsusa/welcome.asp> or call 800-401-1560.



Eligibility

Open to a team of four SkillsUSA members enrolled in program(s) with building trades as the occupational objective. Two contestants from each team will be required to have an **OSHA Certification** prior to competition. Judges will check for OSHA certification during the team presentations. For every additional member with the OSHA Certification additional points will be awarded to the team. You can learn more about OSHA Certification at <http://skillsusa.org/programs/careersafe-online-safety-training/>

Safety Requirement

Both the instructor and the contestants certify, by their enter in this contest, that the contestants have received instructions and have satisfactorily passed an examination on the safe use of portable electric power tools (including cordless) and all hand tools. The contestants are responsible for inspecting the tools supplied and that they are in safe working condition. Further, they agree that SkillsUSA, Inc. the SkillsUSA Championships Technical Committees, volunteers and the national judges are released from all responsibility relating to personal injuries resulting from their use. Contestants will be removed from competition if proper training has not been provided and/or they are use the equipment in an unsafe manner.

Equipment and Materials

The Technical Committee will supply all equipment, materials and all necessary tools. Contestants who wish to use their own tool belt may do so after Technical Committee approval. If a contestant does not bring their own tool belt one will be provided by the Technical Committee. Any tools that contestants will be required to bring will be published in the April Update (published on www.skillsusa.org annually on April 15 and distributed to state association directors by SkillsUSA).

Scope of Contest

Each team will be given the project manual at the Teamworks Orientation Meeting and given 30 minutes to meet as a team, analyze the manual and formulate a written action plan. Each team will prepare and conduct a 5 to 7 minute professional presentation to the judges on how their team plans to accomplish the project. Every team member will be required to have an active part in the presentation. The written action plan and the presentation will be judged.

Contestants will demonstrate their ability to perform jobs and skills selected from the following list of competencies considered essential by the SkillsUSA Championships Technical Committee. Committee members include: Robert Bosch Tools Corporation, NewellRubbermaid, Train2Build, National Association of the Remodeling Industry, State Farm Insurance Companies and Lowe's.



Contest Elements

I. Team Action Plan and Presentation

- a. Analyze the project manual
 - Understand overall project requirements
 - Interpret project drawing and determine dimensions from multi-views to understand what will be required to “complete” the project.
 - Interpret specifications, abbreviations, symbols and drawing notes
 - Interpret oral and written changes, as possibly communicated, per the Orientation Meeting
 - Prepare material “Take-Off” from blueprint
- b. Write the action plan and give a presentation
 - Be able to organize, prepare and present an action plan
 - Use of data display instruments such as flow chart or cause and effect diagrams is recommended (reference Total Quality Curriculum)
 - As a team, develop a presentation that is 5 to 7 minutes long portraying how your team will accomplish the building project including the team’s safety plan
 - Use of visuals is permitted. Each team will be provided with a flip chart, stand and markers for this component

II. Teamwork

- Safety FIRST in use of all ladders, tools, etc.
- Demonstrate the ability to work as a team
- Demonstrate group problem solving techniques
- Demonstrate team proficiency in construction of a building project
- Other teamwork competencies as determined by the Technical Committee
- Show ENTHUSIASM and CONFIDENCE

III. Trade Skills

Carpentry

- a. Materials, Estimating and Tools
 - Identify, receive and inspect materials
 - Store lumber and other materials properly
 - Use the correct amount of materials for the project in the correct manner



- Correctly identify and use carpentry hand and power tools in a safe manner
- b. Rough Framing
 - Understand elements of the plan details
 - Use of dimensional and engineered wood products and steel products
 - Frame and brace walls to include corners, openings, trimmers, cripples, partitions, plumbing partitions, fixture backing and sheathing
 - Calculate and use the rise and run of a common roof
 - Layout a common roof plan
 - Lay out, cut and install common rafters, ridge board, ceiling joists and collar ties
- c. Finish Carpentry
 - Install interior door unit plumb and square
 - Install interior trim to include miter cuts and or copped joints
 - Install siding and related trim pieces
 - Install windows to include weather resistant barrier and flashing

Masonry

- a. Materials, Estimating and Tools
 - Arrange masonry materials for efficient use
 - Place mortar pans properly
 - Keep areas neat and organized
 - Estimate amount of brick, block, mortar mix and sand to be used
 - Correctly identify and use masonry hand and power tools in a safe manner
- b. Tooling and Polishing Joints
 - Tool concave, rake weather, V-jointer, grapevine and struck joints
 - Polish the joints
 - Tuck-point a wall
 - Brush and touch up a wall
- c. Lay a Brick/Block Wall
 - Lay out a wall in preparation for building a straight and/or corner wall
 - Spread and furrow mortar correctly for brick units
 - Construct a straight wall
 - Construct an outside and inside corner lead
 - Spread bed joints and throw on full head joints for block units



- Build a block corner to a specified height
- Properly install lintels and moisture drainage such as masonry flashing and wee holes
- Be prepared to install brick detailing

Plumbing

- a. Materials, Estimating and Tools
 - Determine type and amount of materials needed
 - Store materials correctly around work area
 - Identify fittings from a isometric drawing of a plumbing system
 - Correctly identify and use plumbing hand and power tools in a safe manner
- d. Rough In
 - Calculate the slope required for waste and vent lines
 - Rough in waste and vent lines for sinks, lavatories, bathtubs, showers and water closets
 - Secure horizontal and vertical lines of pipe to wood, metal or masonry surfaces
 - Rough in water supply lines for sinks, lavatories, bathtubs, showers and water closets
 - Perform pressure tests on water supply system
- e. Joining Pipes
 - Cut, ream and join copper tubing using the sweat method
 - Cut, ream and join copper tubing using the compression method
 - Cut, ream and join CPVC and other similar pipe
 - Cut, ream and join PVC pipe
 - Cut, ream and join ABS pipe
 - Cut, ream and join copper tubing by sweat, compression or other methods



Rules & Regulations

Electrical

- a. Materials, Estimating and Tools
 - Use and apply the current National Electrical Code
 - Plan work and lay out electrical installations
 - Select proper amount and size of materials
 - Correlating specifications, prints and job sites
 - Correctly identify and use electrical hand and power tools in a safe manner
- b. Rough In
 - Choose size and install ganged, octagon and surface mount boxes to a specified height
 - Install and staple all electrical wire essentially free from hazard according to a blueprint
 - Make all necessary splices and junctions in boxes
 - Install distribution panel with main disconnect and breakers
- c. Device and Fixture Installation
 - Install the following devices:
 - Single pole switch
 - Three-way switch
 - Duplex grounded receptacle
 - Ground fault circuit interrupter
 - Light fixtures
 - Install wall plates

Other Competencies That May Be Considered

- Conduit in the electrical unit
- Troubleshooting the electrical circuits
- Installing plumbing fixtures
- Installing electric fixtures
- Repair or replace a P trap
- Brick/block composite wall
- Exterior or interior carpentry finish work
- Install shingles
- Install window(s)
- Install door(s)
- Install underlayment
- Install floor coverings
- Install insulation
- Install finished trim



Rules & Regulations

Team Presentation Judging Criteria

The presentation phase is designed to evaluate the team's awareness and understanding of "non-physical" and "non-technical" expectations. It is intended to reinforce the need for the participants to develop a broad range of physical and non-physical skills needed in order to achieve success. Scoring will be based on a team presentation made to the judges.

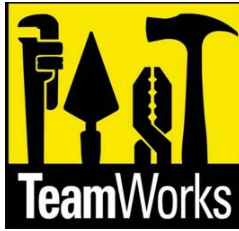
Trade Specific Judging Criteria

The construction phase of the TeamWork's competition will be evaluated using the criteria from score sheets located in the SkillsUSA Championships Technical Standards. For example, the carpentry portion of the competition will be judged using the same criteria from the score sheet as the Carpentry Rules in the Technical Standards. The plumbing portion of the competition will be judged using the Residential Plumbing score sheet in the Technical Standards, etc.

Professionalism and Respect

Teamworks not only stresses the physical construction portion of the competition, but also the leadership and social aspect, which you will encounter in your future job environments. This is very important and stressed during the entire competition by the Technical Committee, judges, volunteers and most importantly...yourselves. Professionalism and respect is critical in order for everyone to be 1) ALWAYS SAFE, 2) experience a fair competition, 3) have a learning environment, 4) be considerate of each other's talents, 5) HAVE FUN! Please take this experience serious to do your "BEST", but have "FUN" doing it!

CONGRATULATIONS on being HERE!!!!!!



COMPETITION SCHEDULE

Tuesday June 23rd

11:00pm – 12:00am Orientation (Lunch will be served for students)

12:00am – 2:00pm Team Presentations
Refer to Schedule Grid for Your Team's Location & Time

2:00pm – 3:00pm Site Visit – teams are allowed to visit their site and inspect their tools

Wednesday, June 24th

8:00am – 2:00pm Competition Build

Thursday, June 25th

8:00am – 5:00pm Competition Build

5:00pm – 5:15pm Site Visit – teams, instructors and family members are allowed to visit their site for an up-close look at the project,

Friday, June 26th

7:45am – 8:00am Site Visit – teams, instructors and family members are allowed to visit their site for an up-close look at the project and photos

8:00am – 12:00pm Demolition – all teams must demolish their project, collect and return their tools. Only students are allowed on the site during demolition

12:00pm – 1:00pm Debrief

(Lunch will be served for students and their instructors)



TeamWork's Plumbing Skill Check

In addition to the plumbing elements of the project, the plumber will have to complete a "Plumbing Skill Check". This will be graded and is part of the project team score.

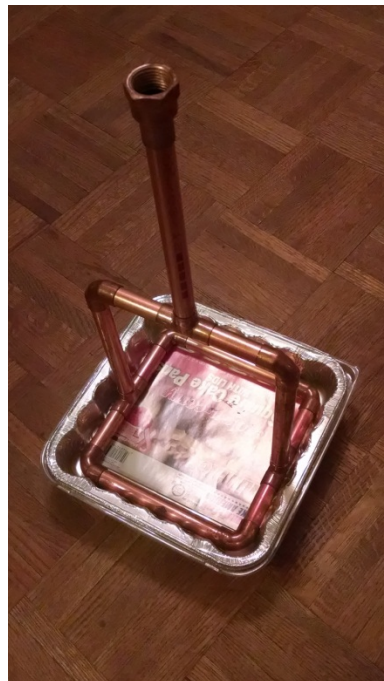
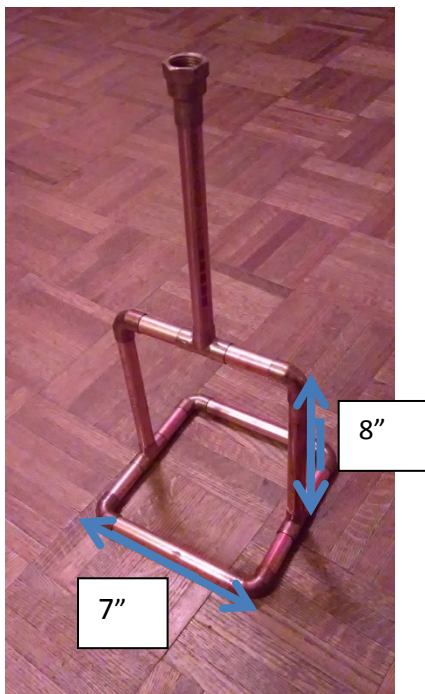
The Plumbing Skill Check schedule will be posted during the Orientation Meeting. At the assigned time, the plumber will proceed to the Plumbing Skill Check area. All required tools will be provided in the skill check area. You will stay in this area while performing the skill check. You will cut all pipe, have your cut pipe checked and then solder your project. Your project will be checked for size and tested for leaks with an air hose while submerged in a bucket of water. Deductions will be made for lack of quality of work, incorrect size, and air leaks.

Competitors are given the following:

1. One ½" copper Type M 48" long (Note to Committee, pipe must be cut to exactly the same length for all teams)
2. 6 pcs ½" 90° Ells wrot
3. 3 pcs ¾ X ¾ X ¾ Tee wrot
4. 1 pc ½ wrot X ½ NFP Female adapter
5. 2 ' solder
6. Flux with brush
7. Rag
8. Pipe Cuter
9. Reamer
10. Torch

Requirements:

1. Competitors will cut, ream, and clean all pipe and fittings and submit for review.
2. Following review they will be instructed to solder and submit for final grading.
3. At final grading, their project will be measured for base dimensions and height of horizontal section.
4. You will attach an air hose fitting to your project.
5. Judge will set your project in a test fixture, if it fits you get points if it does not fit no point are granted.
6. Judge hooks up air hose at 100 PSI and sets project in bucket of water, there should not be any air bubbles from fittings.





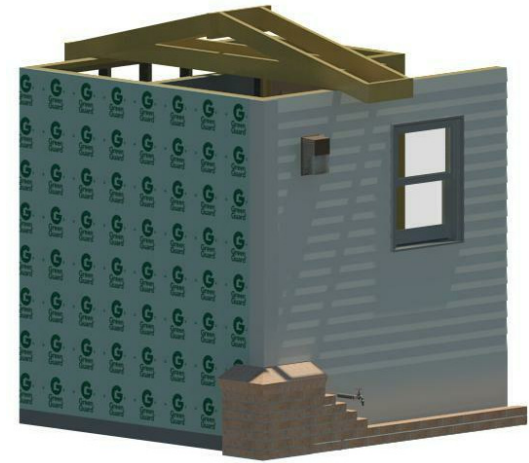
TeamWork's Electrical Skill Check

In addition to the plumbing elements of the project, the electrician will have to complete a “Electrical Skill Check”. This will be graded and is part of the project team score.

The Electrical Skill Check schedule will be posted during the Orientation Meeting. At the assigned time, the electrician will proceed to the Electrical Skill Check area. No tools will be required. You will stay in this area while performing the skill check.

You will diagnose an electrical problem, identify the example that corresponds with the problem, and indicate the proper solution (i.e. how to fix it). Deductions will be made for not diagnosing the electrical problems correctly.

You will have 10 minutes to complete seven (7) problems.



2015 NATIONAL TEAMWORKS COMPETITION

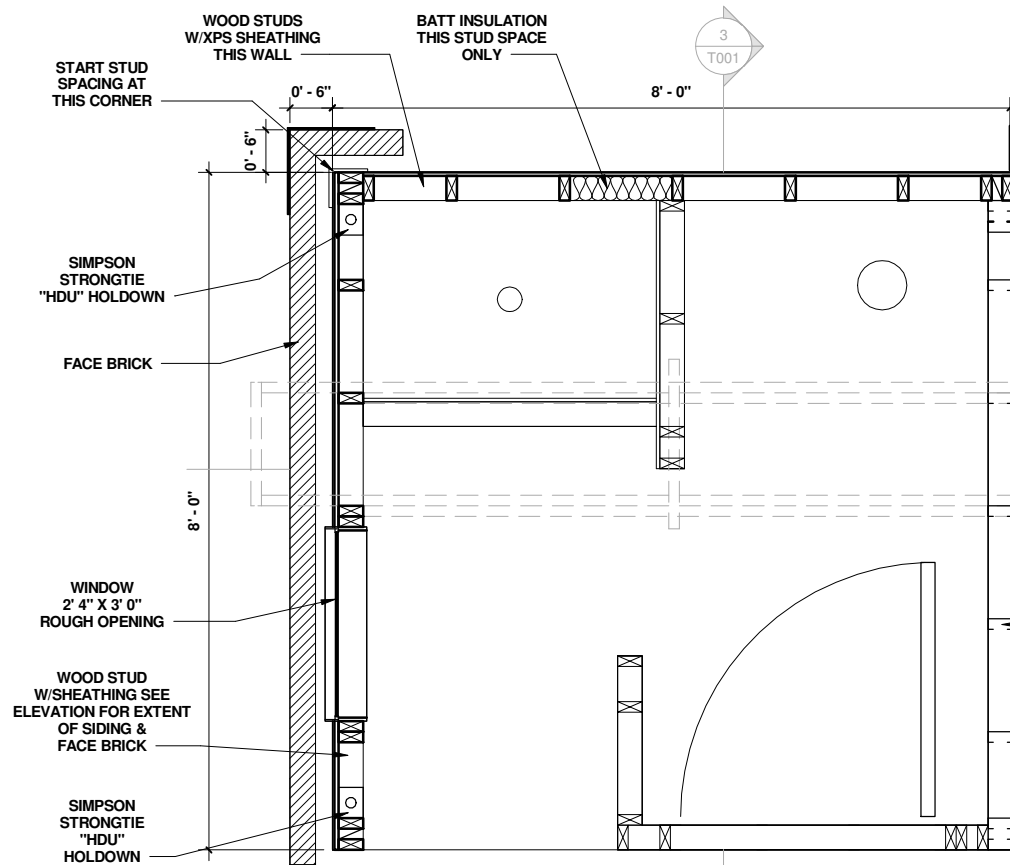
<http://www.skillsusaca.org/content/teamworks>

Title Sheet

Date January 22, 2015

Drawn by Sophie C.H. Reich

T000



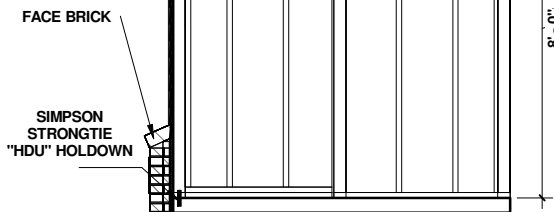
ABBREVIATIONS
 A.F.F. ABOVE FINISHED FLOOR
 O.C. ON CENTER
 O.S.B. ORIENTED STRAND BOARD
 R.O. ROUGH OPENING

2 - 2" x 6" JOISTS,
 RAFTERS & 2' LONG
 RIDGE AT 16" O.C.
 SEE ELEVATIONS

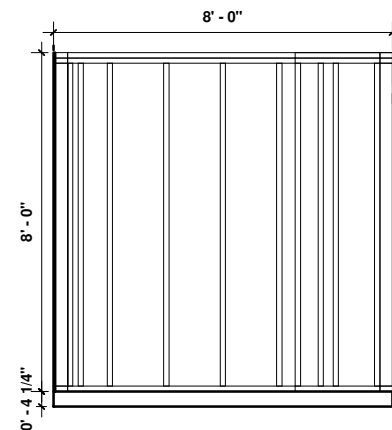
350S 18 GA.
 STEEL STUDS 16 O.C.
 NO SHEATHING
 THIS WALL

GENERAL NOTES

- STUDS IN EXTERIOR BEARING WALLS TO BE 2" X 4" AT 16" O.C.
- W/DOUBLE 2" X 4" TOP PLATE
- CONFIRM WITH MANUFACTURER FOR WINDOW ROUGH OPENING
- CONFIRM WITH MANUFACTURER FOR INSULATION DETAIL
- DO NOT SCALE



② 2 T001
 3/8" = 1'-0"



③ 3 T001
 3/8" = 1'-0"

① 1 T001 - Floor Plan
 3/4" = 1'-0"

2015 NATIONAL TEAMWORKS COMPETITION

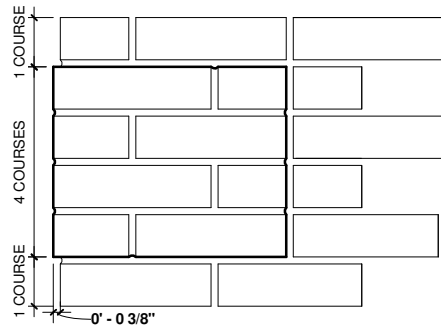
<http://www.skillsusaca.org/content/teamworks>

Sheet 1/4

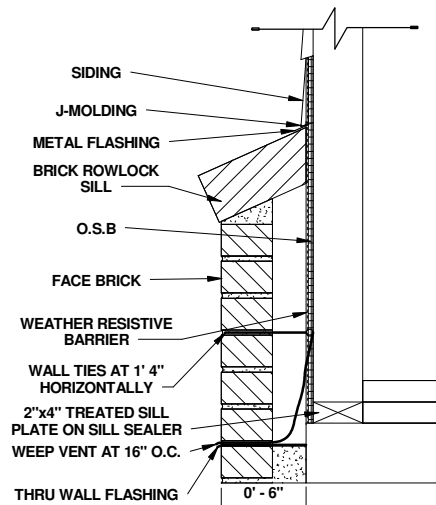
Date January 22, 2015
 Drawn by Sophie C.H. Reich

T001

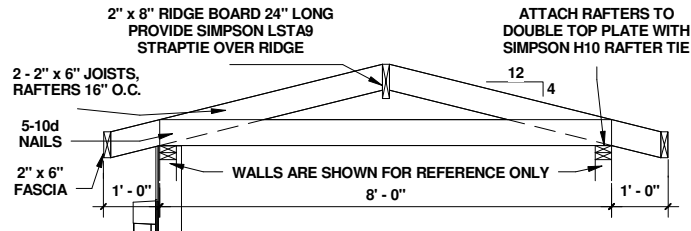
4/10/2015 7:30:14 PM



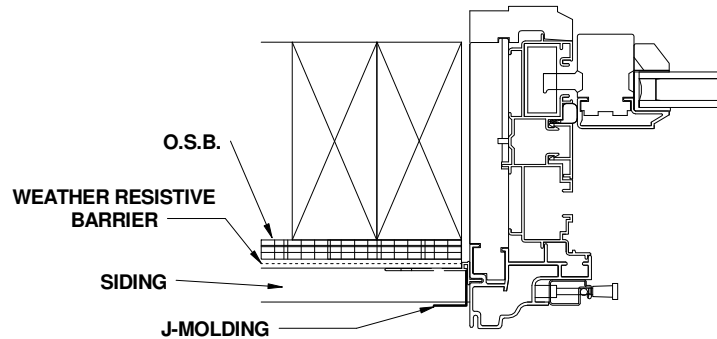
① 1 T002 - Brick Quoined Corner Detail
1" = 0'-7"



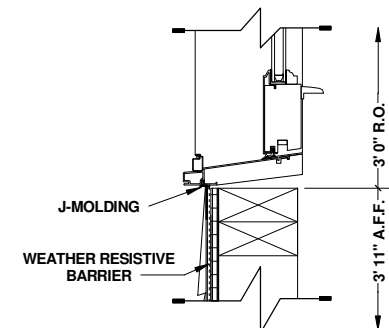
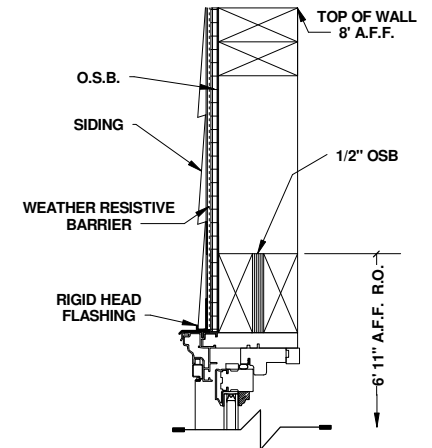
② 2 T002 - Foundation/Floor Section
1 1/2" = 1'-0"



③ 3 T002 - Rafter Detail
1/2" = 1'-0"



④ 4 T002 Window Jamb
6" = 1'-0"



⑤ 5 T002 - Window Sill & Head Details
1" = 0'-5"

2015 NATIONAL TEAMWORKS COMPETITION

<http://www.skillsusaca.org/content/teamworks>

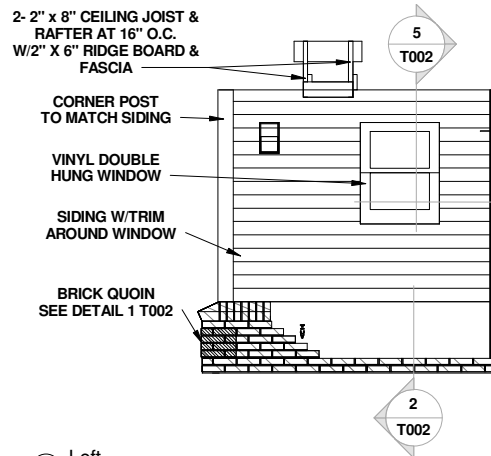
Sheet 2/4

Date January 22, 2015

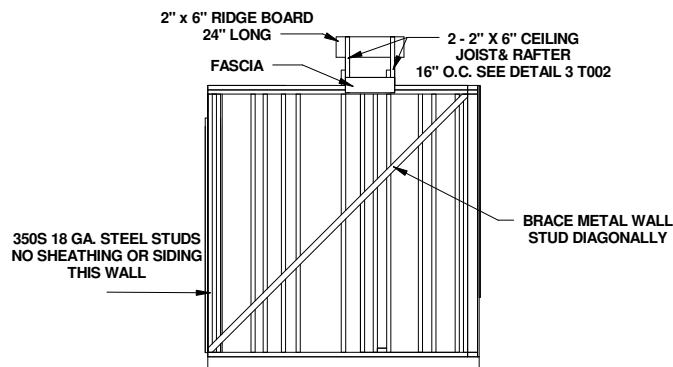
Drawn by Author

T002

4/10/2015 7:30:14 PM

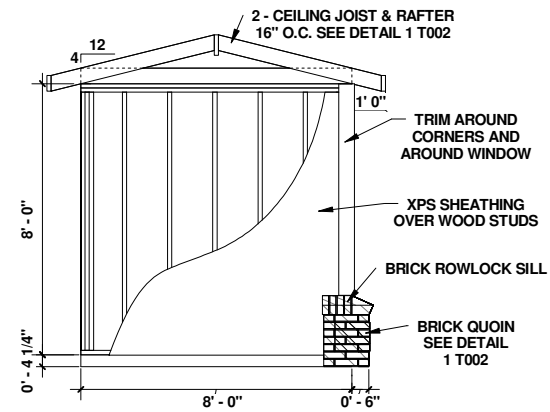


① Left
1" = 3'-4"

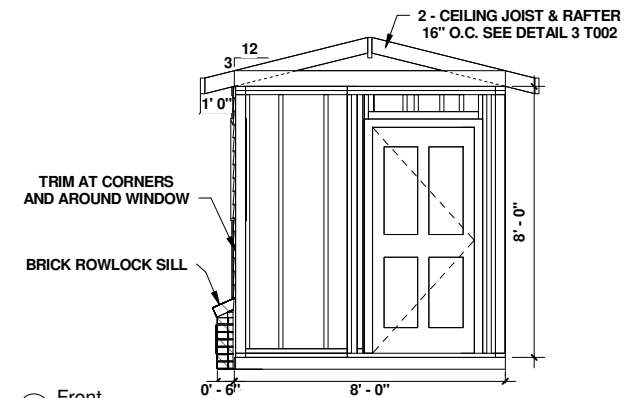


② Right
1" = 3'-4"

GENERAL NOTES
 • FASTEN XPS SHEATHING WITH
 BUTTONCAP FASTENERS AND
 TAPE ALL SEAMS



③ Back
1" = 2'-8"



④ Front
1" = 3'-4"

2015 NATIONAL TEAMWORKS COMPETITION

<http://www.skillsusaca.org/content/teamworks>

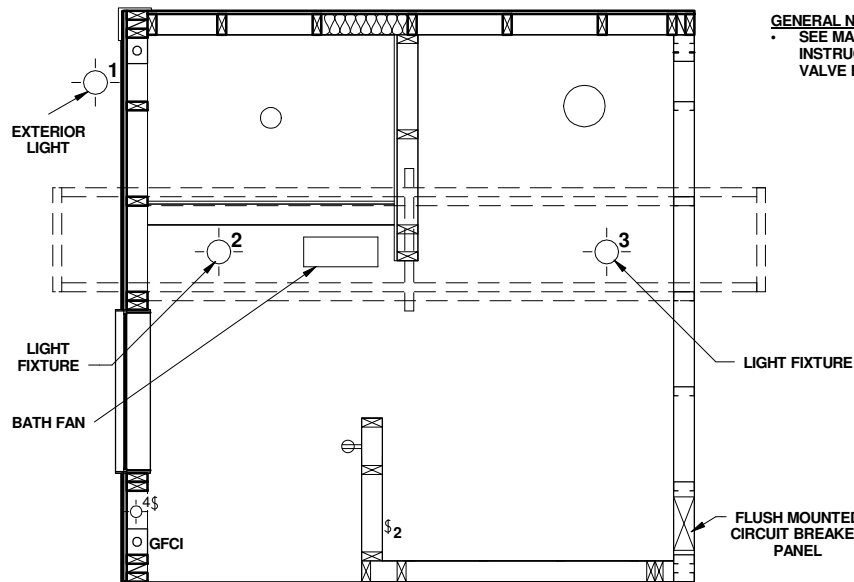
Sheet 3/4

Date January 22, 2015

Drawn by Author

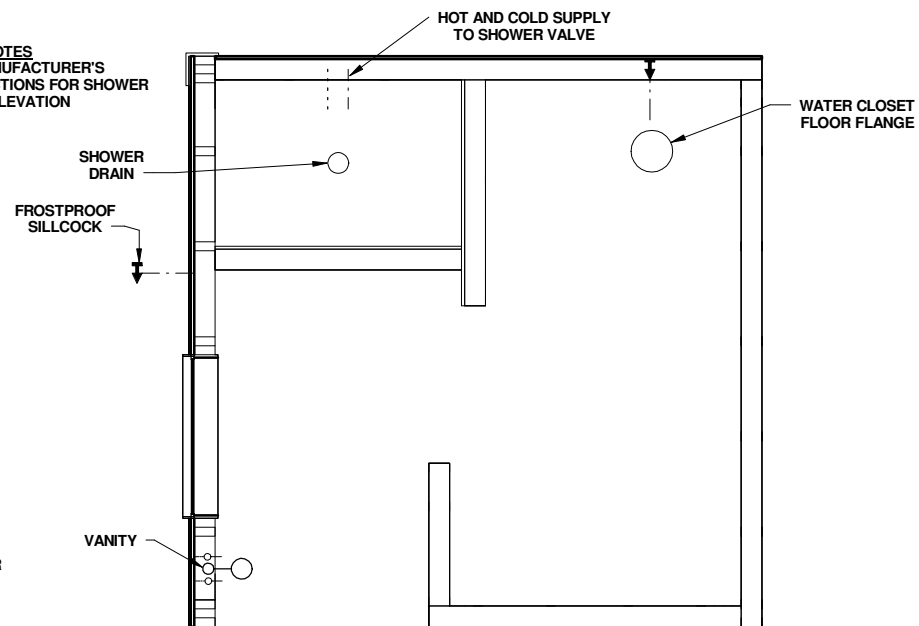
T003

4/10/2015 7:30:16 PM



1 Power Floor Plan
1" = 1'-7"

GENERAL NOTES
• SEE MANUFACTURER'S INSTRUCTIONS FOR SHOWER VALVE ELEVATION



2 Plumbing Plan
1" = 1'-7"

ELECTRICAL LEGEND

GFCI	GROUND FAULT CIRCUIT INTERRUPTER
A.F.F.	ABOVE FINISHED FLOOR
⊖	DUPLEX OUTLET & CIRCUIT NUMBER
\$	SINGLE POLE SWITCH
\$2	DOUBLE POLE SWITCH
○	LIGHT FIXTURE & CIRCUIT NUMBER

BREAKER PANEL

OUTLETS	1	2	INTERIOR LIGHTS
FAN	3	4	EXTERIOR LIGHTS
	5	6	
	7	8	
	9	10	
	11	12	

PLUMBING LEGEND

⌵	STOP VALVE
----- V	VENT
----- W	WASTE
----- CW	COLD WATER
----- HW	HOT WATER
----- WC	WATER CLOSET
----- CO	CLEAN OUT

Notes:
1. All piping is to be extended from stub-up floor.
2. Provide traps for all plumbing fixtures.

2015 NATIONAL TEAMWORKS COMPETITION

<http://www.skillsusaca.org/content/teamworks>

Sheet 4/4

Date January 22, 2015
Drawn by Sophie C.H. Reich

T004

4/10/2015 7:30:16 PM



TeamWorks Safety Manual

During the TeamWorks competition Safety is every one's responsibility. The judging staff and technical committee are committed to maintaining a safe environment for competitors, observes, and staff. If you are notified that you are in an unsafe situation or proceeding in an unsafe manner **Stop, Listen, and Correct.**

If you are injured during the completion let staff know and call for or proceed to the first aid center. Trained specialist will be available during the hours that the construction is taking place.

If you are found to be conducting you self in an unsafe manner points will be deducted from your overall score. While the first violation will result in only 1 point loss subsequent violations will result in 5 or 10 points lost. **Be Safe.**

Each team will have one member assign as the Jobsite Safety Coordinator. This person will have completed the OSHA 10 hour safety course and is responsible to insure that all activities on the jobsite are conducted in a safe manner. This person must be identified during your presentation and identified to judges that ask to confer with him or her.

It is every contestant duty to:

- Follow all safety rules
- Wear and take care of personal protective equipment
- Make sure all safety features for tools and equipment are functioning properly
- Don't let your work put another work in danger
- Replace damaged or dull hand tools immediately
- Avoid horseplay, practical jokes, or other activities that create a hazard
- Don't use drugs or alcohol on the job
- Report any unsafe work practice or any injury or accident to teamworks judges or technical committee members

Each contestant should have attended the OSHA 10 safety training prior to attending the national competition. Each jobsite safety coordinator will review and train his/her team on all safety standards that must be adhered to on the jobsite.

Personal Protective Equipment

Workers must use personal protective equipment, but it is not a substitute for taking safety measures. Workers still need to avoid hazards.



TeamWorks Safety Manual

Head Protection

- Workers must wear hard hats whenever on the jobsite or walking to and from the jobsite except during breaks or lunch.
- Inspect hard hats routinely for dents, cracks or deformation.
- If a hard hat has taken a heavy blow or electrical shock you must replace it even when you detect no visible damage.

Eye and Face Protection

- Workers must wear safety glasses or face shields for welding, cutting, nailing, or when working with concrete and/or harmful chemicals.
- Eye and face protectors are designed for particular hazard so be sure to select the type to match the hazard.
- Replace poorly fitting or damaged safety glasses.

Foot Protection

- Contestants must wear shoes or boots with slip-resistant and puncture-resistant soles.
- Safety-toed shoes are required on the jobsite. Not open toed shoes or sandals are allowed.

Hand Protection

- High-quality gloves can prevent injury
- Gloves should fit snugly
- Glove must be worn when handling metal framing members.

Housekeeping and jobsite access

- Keep all walkways clear of trash/debris and other materials such as tools and supplies to prevent tripping
- Keep boxes, scrap lumber, and other materials picked up. Put them in a dumpster or trash/debris bins to prevent fire and tripping hazards

Ladders

- Keep all ladders in good and free of defects
- Inspect ladders before use for broken rungs or other defects so fall don't happen. Replace ladders if required.
- Do not set up a ladder near passageways or high traffic areas where it could be knock over
- Always face the ladder and maintain 3 points of contact when climbing a ladder.



TeamWorks Safety Manual

Tools and Equipment

- Maintain all hand tools and equipment in a safe condition and check them regularly for defects. Remove broken or damaged tools and equipment from the jobsite.
- Follow manufacturer's requirements for safe use of all tools.
- Use double insulated tools or ensure that the tools are grounded
- Make sure guards are in place before using power saws. Don't use power saws with the guard tied or wedged open.
- Turn off saws before leaving them unattended.
- Raise or lower tools by their handles, not by their cords
- Keep wooden handles free of splinters or cracks and be sure the handles are stay tight in the tool.
- Require proper eye protection for workers.

Electrical

- Don't use frayed or worn electrical cords or cables.
- Maintain all electrical tools and equipment in a safe condition and check regularly for defects.
- Don't bypass any protective system or device designed to protect workers from contact with electrical current.

Fire Prevention

- Locate fire extinguisher near you jobsite

Conclusion

Safety is everyone business. If you see your team member doing something unsafe speak up and take corrective action.

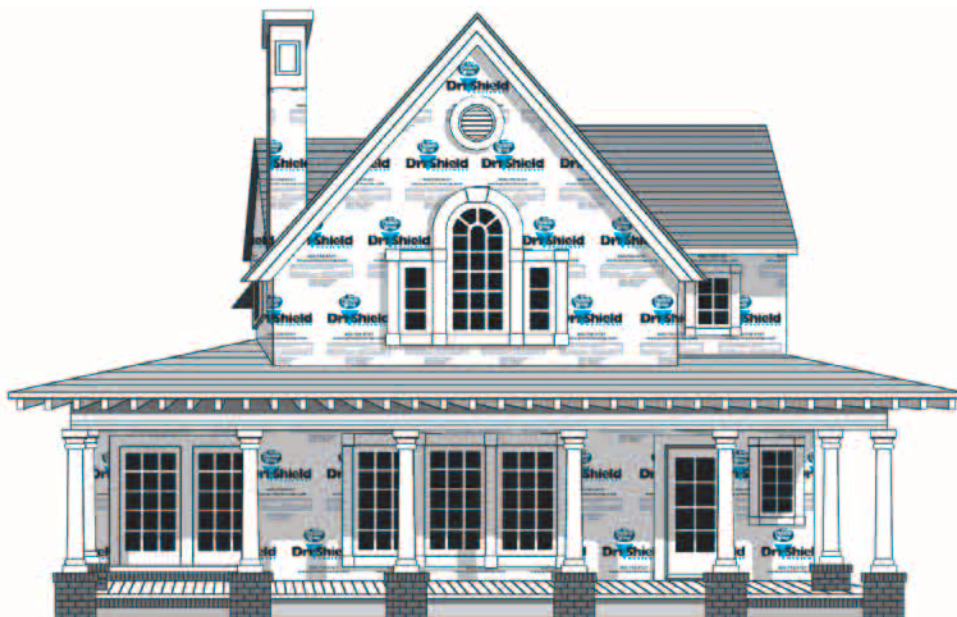


Premium Building Products
That Protect

Dri-ShieldTM

HOUSEWRAP

Another energy saving product from Protecto Wrap[®]



Dri-ShieldTM Housewrap is a perforated polyolefin membrane that is installed beneath exterior siding to help reduce air and moisture infiltration. Dri-ShieldTM Housewrap is not intended for use as a primary water barrier. Used in residential and commercial building, installing housewrap on an entire home or structure is generally the most common industry practice.

ADVANTAGES:

- Meets all building codes including SBCCI-ES 9737B, BOCAI-ES 21-56, and ICBO-ES ER-4449
- Dri-ShieldTM Housewrap has achieved a permeance rating of 9 perms (average) and meets or exceeds all moisture/vapor transmission standards for building codes
- Helps stop mold and mildew by stopping moisture infiltration
- Perforated, high-quality, woven Polyolefin construction provides superior tear resistance
- Advanced perforated polyolefin membrane allows vapor to escape and prevent air infiltration and windblown rain from entering your home
- Protected with UV inhibitors and thermal degradation stabilizers to provide up to 365 day exposure
- Good contact clarity provides ease of stud recognition for precise fastener placement
- Works as a system application with all Protecto Wrap Products

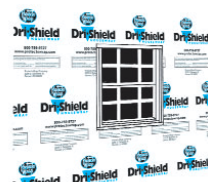
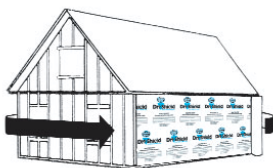
PRODUCT WARRANTY:

Protecto Wrap Company warrants materials to be free of defects and will replace or, at our option, refund the purchase price of any materials proven to be defective. This limited warranty is in lieu of any other warranty or guarantee, expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event will Protecto Wrap Company be liable for incidental or consequential damages nor shall liability, if any, extend beyond the purchase price of the material. Protecto Wrap Company does not warrant the workmanship of the applicator.



INSTALLATION INSTRUCTIONS:

- Dri-Shield™ Housewrap should be installed on the exterior side of the exterior wall with the printed side facing outward.
- Place the roll 2-3 feet from the corner and fasten to studs with staples or roofing nails.
- Unroll the sheet horizontally around the building and fasten to studs and plates.
- Space the fasteners every 12"-18" along the vertical studs using large-headed or plastic cap nails or minimum 1" crown staples.
- Lap the sheet a minimum of 12 inches and tape it in both the vertical and horizontal dimensions.
- Seal all edges with an approved pressure sensitive tape.



FOR FINNED WINDOWS AND DOORS:

Cut the Dri-Shield™ even with the rough opening at the sill and header, trim back one inch at side jambs. Make relief cuts at the corners, fold back to expose exterior sheathing at the sides and top of the rough opening. Install window in accordance with manufactures instructions, flash with Protecto Wrap's BT25XL window and door sealing tape or Protecto Flex flexible flashing tape. After window is installed fold the Dri-Shield to cover the flashing and tape all seams.

For superior air infiltration resistance:

- Sill plates should be covered and taped or caulked.
- The wrap-around is completed with a 6 inch (152 mm) or greater overlap.
- All horizontal joints created by multiple layers must be positioned with the upper layer overlapping the lower layer by at least 2 inches (51 mm).
- Seal all edges, overlaps and punctures with a 2 inch minimum strip of BT25XL Window Sealing Tape, Housewrap seaming tape or equivalent product. **BT25XL Flashing Tapes have proven superior sealing and longevity over standard housewrap tapes.**

Protecto Wrap Dri-Shield™ Housewrap must be covered by approved siding product following the siding manufacturer's installation instructions and prevailing building codes within 12 months of installation for maximum product performance and warranty. Protecto Wrap Dri-Shield™ Housewrap is not intended to perform the function of an exterior siding product.

DIMENSIONS:

Weight:	27 lbs/1,500 sq. ft.
Thickness:	5 mils
Roll Sizes/Widths Available:	9', 10'
Roll Sizes/Lengths Available:	150'

WARNING:

Protecto Wrap Dri-Shield™ Housewrap is slippery and should not be walked on. Dri-Shield™ Housewrap is not to be used directly with cedar siding. A cedar breather must be installed for correct air flow. Also, Protecto Wrap Company recommends code-approved kickbacks or scaffolds for exterior labor above the first floor.

PROTECTO WRAP COMPANY

1955 South Cherokee Denver, Colorado 80223 (303) 777-3001 Fax (303) 777-9273 (800) 759-9727

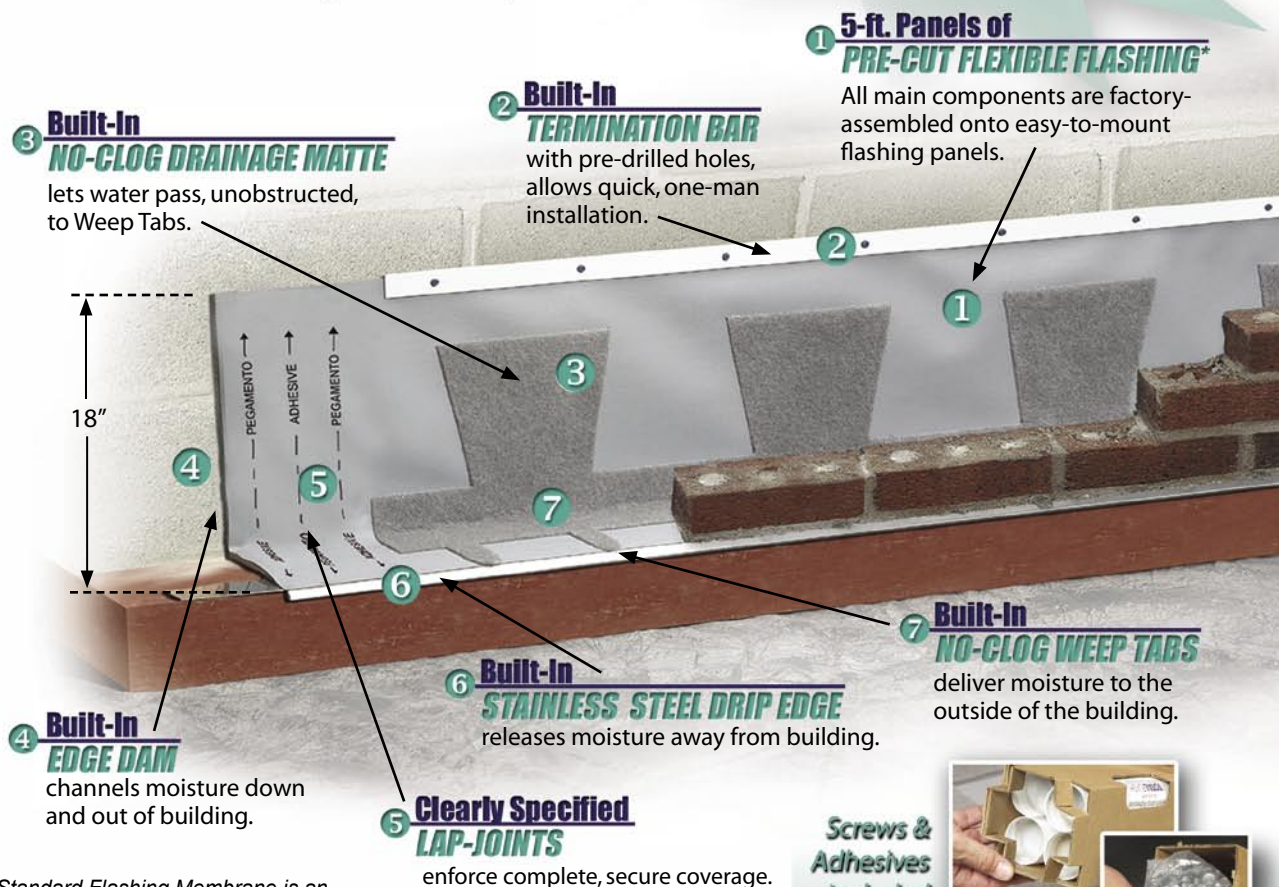
www.protectowrap.com

Dri-Shield 001 12/05

TOTALFLASH™

CAVITY-WALL DRAINAGE SYSTEM
by Mortar Net USA, Ltd.

*Special Sizes for Restoration
or Remediation Jobs, Too!*



*Our Standard Flashing Membrane is an 18-inch, 40-mil polymeric, reinforced, UV stable membrane, incorporating DuPont's Elvaloy® KEE polymer.

**IT'S 100 YEARS OF MOISTURE-CONTROL TECHNOLOGY
THAT YOU CAN HOLD WITH ONE HAND.**

Wondering how anyone could give you twice your usual protection (or more), with half your usual time & labor (or less)? Just see what our masonry experts have managed to build into each handy, 5-foot panel of premium flashing.

**With
TOTALFlash™ -
Everyone Wins!**

Flashing alone isn't enough to meet today's rigorous moisture-control demands. But until now, higher protection meant higher expenses for time & labor.

TOTALFlash™ changed all that, delivering higher protection with lower costs. But the benefits don't end there:

BUILDERS see quicker completion while lowering the risk of future wall-damage or mold-growth.

MASONS no longer have to order an array of components, then hope everything arrives on time.

- They no longer have to struggle with "field-cutting" awkward flashing-rolls.

- Our new Pre-Formed Corners get them off to a quicker start.

- **TOTALFlash™** high-speed installation lets them start laying brick much sooner.

ARCHITECTS get the coverage they specified. (Our clearly marked Lap Joints make it foolproof!)

OWNERS enjoys greater peace-of-mind and a longer building-life.

TENANTS breathe easier, knowing there's far less chance of moisture-related illness.

What will

Mortar Net®
think of next? USA LTD.

www.MortarNet.com
800-664-6638

TOTALFLASH™

CAVITY-WALL DRAINAGE SYSTEM
by Mortar Net USA, Ltd.

NOTHING to Cut

The job starts with corners, but you don't have to make them by hand any more. Our flawless, factory-built Corner Boots save you time & trouble. And of course our new TOTALFlash™ means masons can quit being roofers, because each panel comes pre-cut to a handy, 5-foot length. (See inside.)

NOTHING Faster

TOTALFlash™ can be installed by one worker, at speeds twice as fast as anything else they've used. Half the labor, half the time—it adds up to nice savings all around.

NOTHING Protects Better

For example, even when mortar or grout droppings pile up to the top of the flashing-panel, water will still escape through TOTALFlash™ layer of no-clog polyester mesh.

The Beauty of *Green*

Ideally, masonry buildings should last for centuries. Such longevity isn't just a benefit to the building's owner, it's a plus for our whole environment. Demolition wastes the resources that went into the old building, then spends new resources to build its replacement.

TOTALFlash™ guards against the damage trapped moisture can cause to a building's exterior masonry walls, thus helping to prevent costly waste. It also works to suppress the air-quality hazards that can arise in damp wall cavities.

SECOND Chances

It happens that TOTALFlash™ was invented by Tom Sourlis, who restored the masonry of Chicago's famed Water Tower and many other historic landmarks.

Tom made sure to create TOTALFlash™ in sizes that could be easily installed in existing structures, without removing any additional courses of brick.

It can give older buildings a new lease on life, while helping to sustain our nation's resources.



The use of TOTALFlash™ may help your project to qualify for LEED credits.



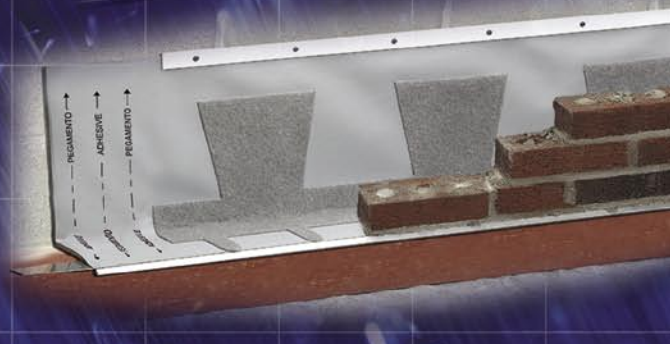
NEW

TOTALFLASH™

CAVITY-WALL DRAINAGE SYSTEM
by Mortar Net USA, Ltd.

THE FIRST MASONRY FLASHING SYSTEM...

That
Has It All!



Super Protection.
Super-Quick Installation.
Super Savings.

TOTAL Protection That Installs In A *FLASH*

What will

Mortar Net®
think of next?

Mortar Net®
USA LTD.

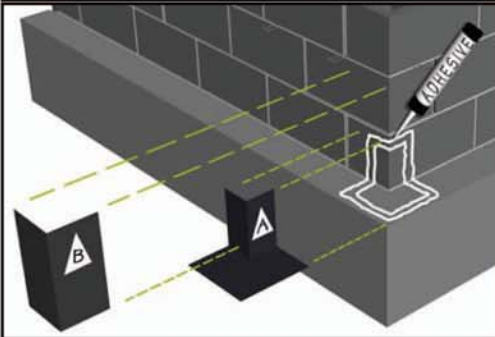
541 South Lake Street, Gary, IN 46403

800-664-6638

www.MortarNet.com

1

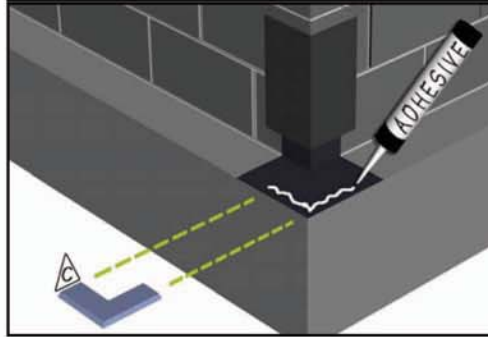
STEP ONE



INSTALL PREFORMED CORNER **A** USING 2 BEADS OF ADHESIVE. APPLY PEEL & STICK LEGGING **B** OVER PRE FORMED CORNER BOOT.

2

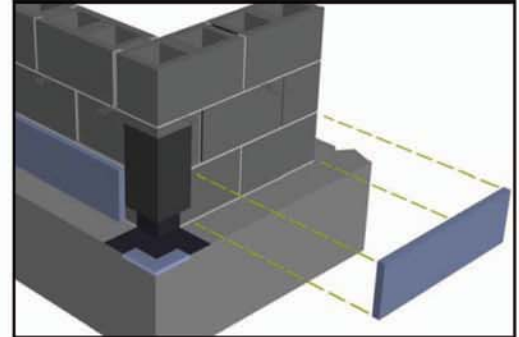
STEP TWO



APPLY SEALANT / ADHESIVE TO PREFABRICATED STAINLESS STEEL CORNER **C**. AND INSTALL OVER BOOT.

3

STEP THREE



INSTALL 8" HIGH SECTIONS OF RIGID INSULATION BOARD AGAINST BACKUP WALL. HOLD INSULATION 6" FROM EACH CORNER.

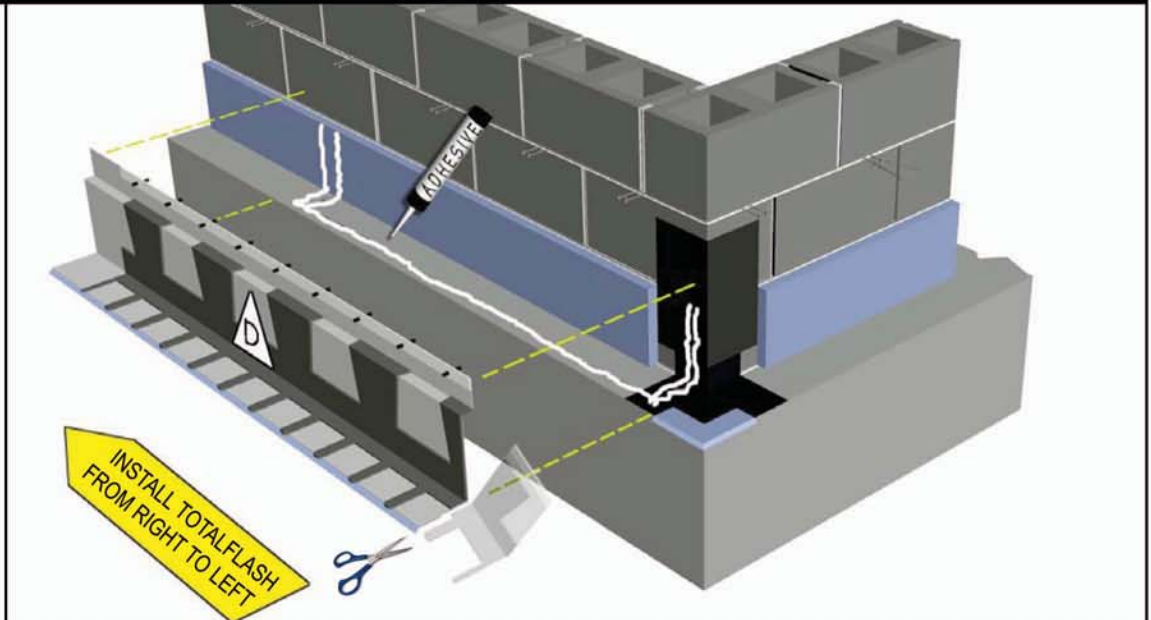
4

STEP FOUR

TRIM 6" LAP SECTION FROM RIGHT SIDE OF FIRST SECTION OF TOTALFLASH.

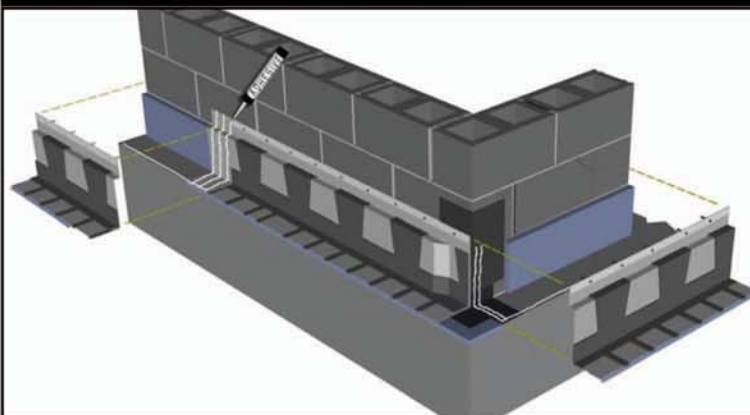
INSTALL TOTALFLASH **D** ADJACENT TO CORNER DRIP USING ADHESIVE.

INSTALL THE FIRST SECTION AT THE RIGHTMOST CORNER AND LAP SUBSEQUENT SECTIONS FROM RIGHT TO LEFT.



5

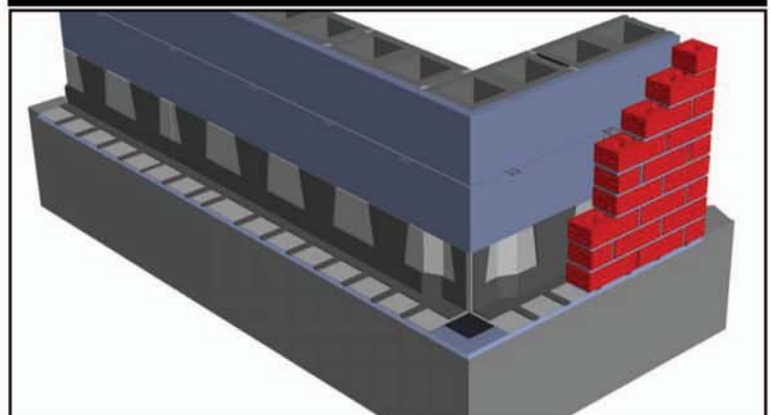
STEP FIVE



INSTALL REMAINING SECTIONS USING THE INTEGRATED LAP SYSTEM AND SEALANT, TRIM END SECTION FLUSH WITH CORNER DRIP. CAULK TOP OF TERMINATION BAR.

6

STEP SIX

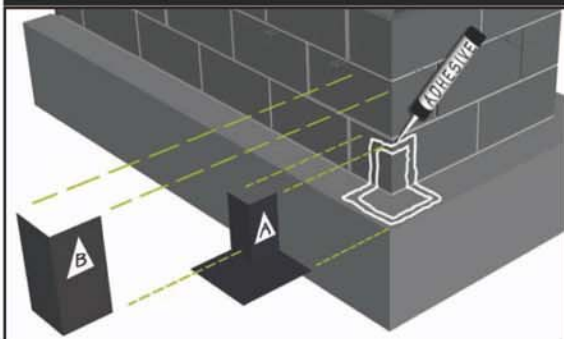


INSTALL REMAINING RIGID BOARD INSULATION ABOVE TOTALFLASH.

(800) 664-6638

1

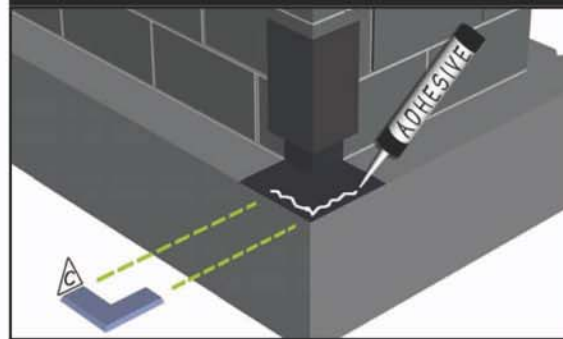
STEP ONE



INSTALL PREFORMED CORNER A. USING 2 BEADS OF ADHESIVE. APPLY PEEL & STICK LEGGING B. OVER PRE FORMED CORNER BOOT.

2

STEP TWO



APPLY SEALANT / ADHESIVE TO PREFABRICATED STAINLESS STEEL CORNER C. AND INSTALL OVER BOOT.

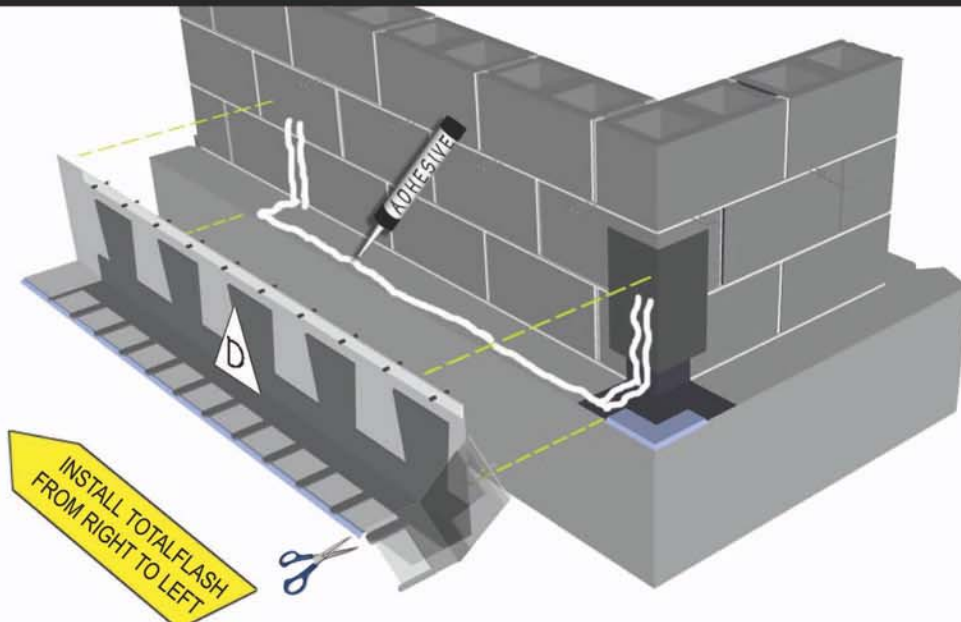
3

STEP THREE

TRIM 6" LAP SECTION FROM RIGHT SIDE OF FIRST SECTION OF TOTALFLASH.

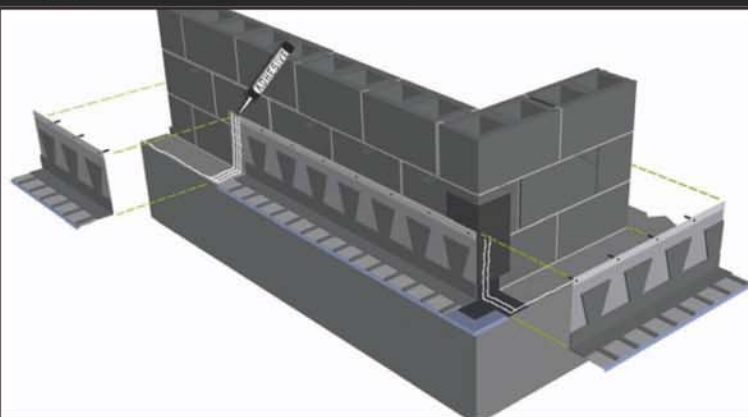
INSTALL TOTALFLASH D. ADJACENT TO CORNER DRIP USING ADHESIVE.

INSTALL THE FIRST SECTION AT THE RIGHTMOST CORNER AND LAP SUBSEQUENT SECTIONS FROM RIGHT TO LEFT.



4

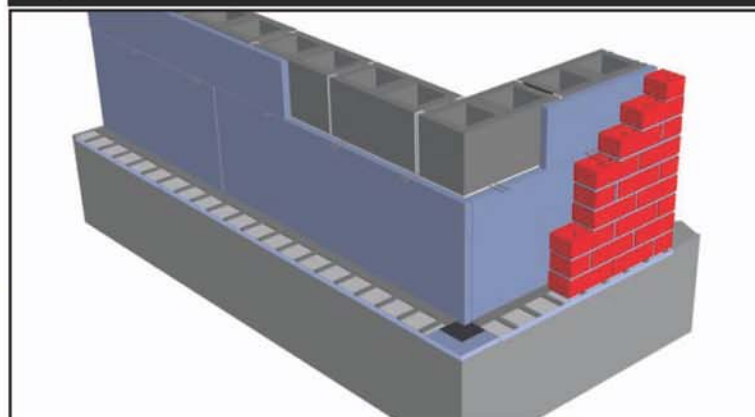
STEP FOUR



INSTALL REMAINING SECTIONS USING THE INTEGRATED LAP SYSTEM AND SEALANT, TRIM END SECTION FLUSH WITH CORNER DRIP. CAULK TOP OF TERMINATION BAR.

5

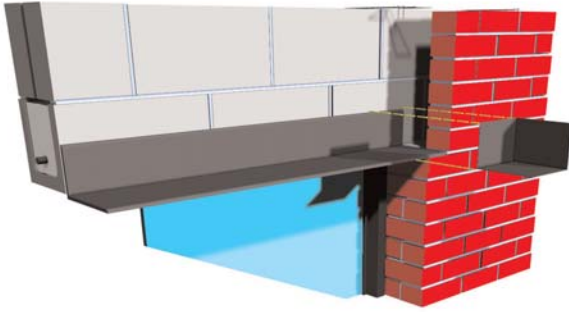
STEP FIVE



INSTALL RIGID BOARD INSULATION ABOVE TOTALFLASH.

1

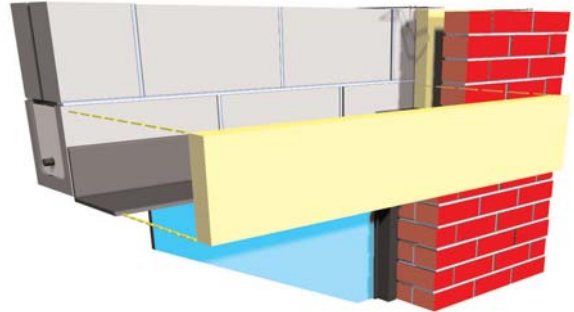
STEP ONE



INSTALL SELF ADHERED PREFORMED END DAM ON BOTH ENDS OF OPENING, TRIM TO FIT.

2

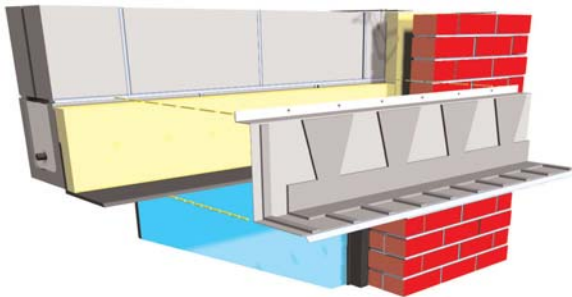
STEP TWO



INSTALL 8 " HIGH SECTION OF RIGID INSULATION BOARD AGAINST THE BACKUP WALL AT LINTEL.

3

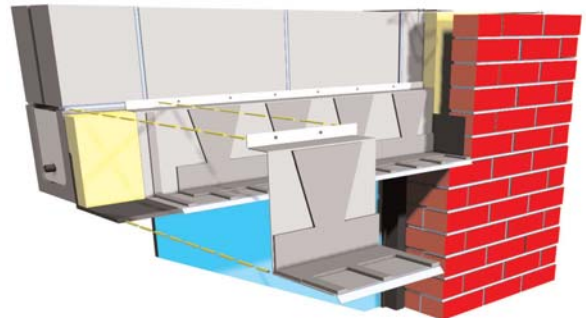
STEP THREE



INSTALL FIRST SECTION OF TOTALFLASH ADJACENT TO END DAM USING ADHESIVE AND PRESSURE BAR SCREWS.

4

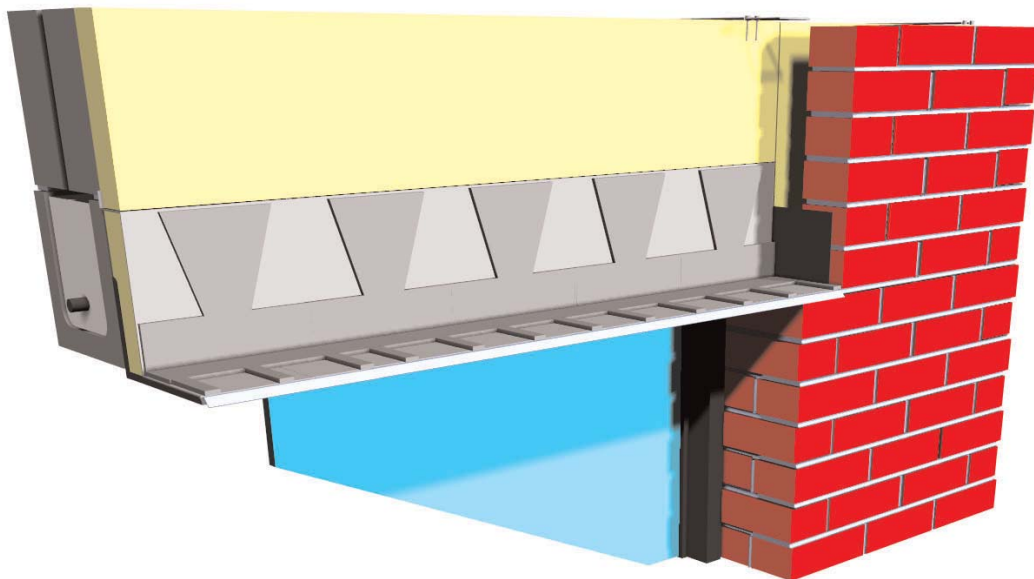
STEP FOUR



INSTALL REMAINING SECTIONS OF TOTALFLASH AS NEEDED USING THE INTEGRATED LAP SYSTEM, SEALANT AND SCREWS. CAULK TOP OF TERMINATION BAR.

5

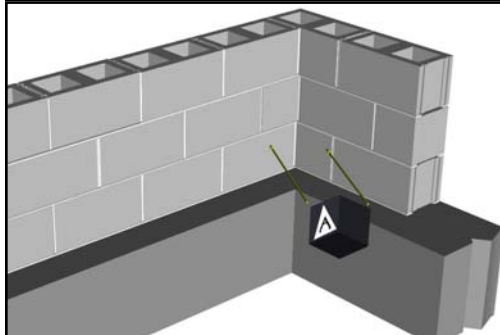
STEP FIVE



INSTALL REMAINING RIGID BOARD INSULATION ABOVE TOTALFLASH.

1

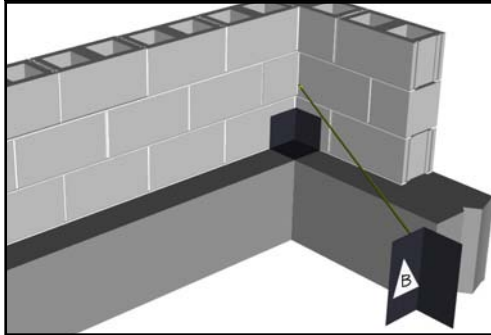
STEP ONE



INSTALL PREFORMED CORNER **A** USING 2 BEADS OF ADHESIVE.

2

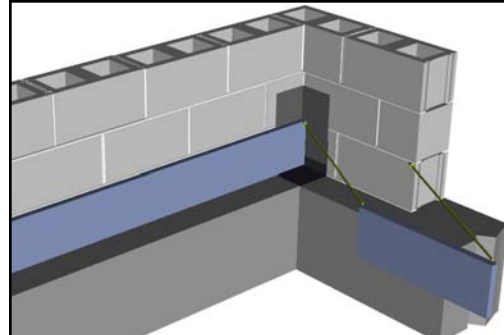
STEP TWO



APPLY PEEL & STICK LEGGING **B** OVER PREFORMED CORNER BOOT.

3

STEP THREE



INSTALL 8" HIGH SECTIONS OF RIGID INSULATION BOARD AGAINST BACKUP WALL..

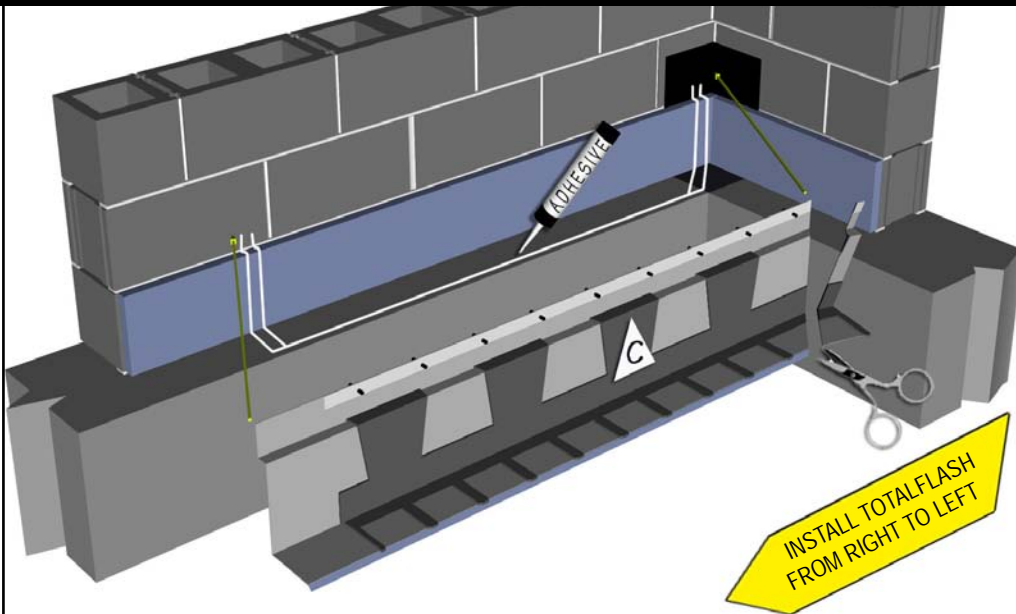
4

STEP FOUR

TRIM 6" LAP SECTION FROM RIGHT SIDE OF FIRST SECTION OF TOTAL FLASH AT A 45 DEGREE ANGLE.

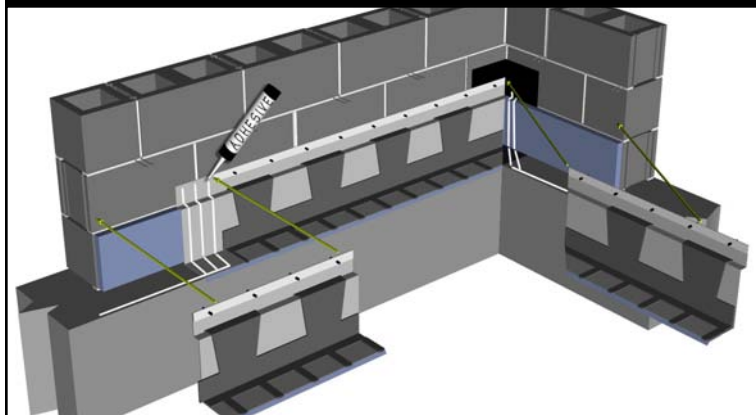
INSTALL TOTALFLASH **C** ADJACENT TO INSIDE CORNER USING ADHESIVE AND TERMINATION BAR SCREWS.

INSTALL THE FIRST SECTION AT THE RIGHTMOST CORNER AND LAP SUBSEQUENT SECTIONS FROM RIGHT TO LEFT.



5

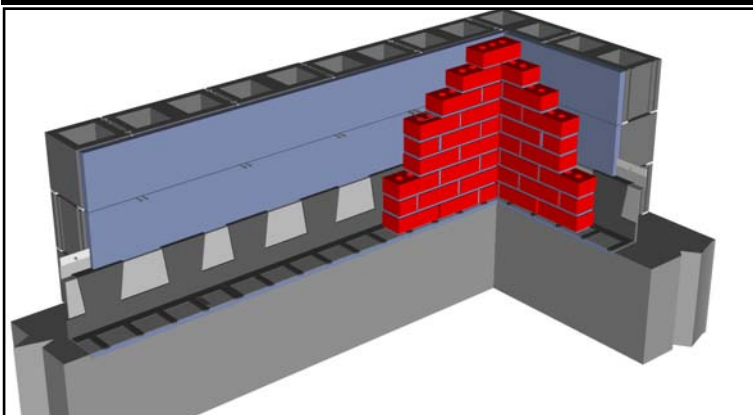
STEP FIVE



INSTALL REMAINING SECTIONS USING THE INTEGRATED LAP SYSTEM AND SEALANT, MITER END SECTION FLUSH WITH INSIDE CORNER. CAULK TOP OF TERMINATION BAR

6

STEP SIX



INSTALL REMAINING RIGID BOARD INSULATION ABOVE TOTALFLASH

RESIDENTIAL HOUSENET™ CAVITY WALL SPECIFICATIONS

1/6

MASONRY ACCESSORIES 04090

This MANU-SPEC utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat*, *SectionFormat*, and *PageFormat*. A MANU-SPEC is a manufacturer specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets (); delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies a fabricated open mesh intended to catch and permanently suspend mortar droppings above weep holes, marketed under the Residential HouseNet™ brand name, as manufactured by Mortar Net USA, Ltd. (Patent Reissue #36676) When placed in the collar joint or cavity on top of the flashing at the base of a wall, the Mortar Net catches and permanently suspends mortar droppings in an irregular pattern above the weep hole vents. Due to its unique trapezoidal shape and strong plastic construction, mortar droppings cannot fall to the base of the flashing, so weep hole vents stay open. Because it prevents mortar droppings from forming a continuous dam, and due to its 90% open weave, moisture can pass quickly and easily to the weeps and air pressure differentials between the cavity and the exterior can equalize through the open weeps and Mortar Net itself. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI MasterFormat for other section numbers and titles. Including 04050 Basic Masonry Materials & Methods; 04090 Masonry Accessories; 04200 Masonry Units; and 04800 Masonry Assemblies.

SECTION 04090 MASONRY ACCESSORIES (MASONRY ASSEMBLIES)

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Mortar dropping collection device for masonry veneer walls.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and title per CSI MasterFormat and specifier's practice.

B. Related Sections: Section(s) related to this section include:

1. Unit Masonry: Division 4 Unit Masonry Assembly Section.
2. Wall Flashing: Division 7 Flashing Section.
3. Brick and Block Vents: Division 10 Vents Section.

Specifier Note: Retain paragraph below to suit project requirements. Coordinate with Part 2 Products herein and other Contract Documents.

C. Unit Prices: Products and Installation included in this section are specified by unit prices. Refer to Division 1 Unit Prices Section for unit prices amounts and requirements.

1. Unit Price: Unit price is per lineal foot (304.8 mm).

1.02 SYSTEM DESCRIPTION

- A. System Description: Use Residential HouseNet™ as part of standard masonry veneer wall flashing/weep hole wall drainage systems. The Residential HouseNet™ keeps weep hole vents open and flashing free of mortar droppings and debris by catching and permanently suspending droppings above the level of the top of the weep hole vents, by preventing mortar from forming a continuous barrier against proper water flow to the weeps and by providing routes through the body of the product itself for water to flow to the flashing and weeps.
- B. Performance Requirements: Provide (Section/Product Title) which has been manufactured, fabricated and installed to withstand loads from (specify code/standard reference,) and to maintain (specify performance criteria,) performance criteria stated (certified) by manufacturer without defects, damage or failure.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products.
- C. Samples: Submit selection and verification samples.
- D. Quality Assurance Submittals: Submit the following:
1. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria.
 2. Manufacturer's Instructions: Manufacturer's Installation Instructions.
- E. Closeout Submittals: Submit the following:
1. Warranty: Warranty documents specified herein.

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

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

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.

- B. Regulatory Requirements: (Specify applicable requirements of regulatory agencies.)

Specifier Note: Coordinate paragraph below with Division 1 Project Management and Coordination (Project Meetings) Section.

1.04 QUALITY ASSURANCE (cont.)

- C. Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 1 Product Requirements Section.

1.05 DELIVERY, STORAGE AND HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Packing, Shipping, Handling and Unloading: (Specify applicable requirements.)

Specifier Note: Products of 1", 2", and .4" thick material are shipped 80 lineal feet (24,384 mm) per cardboard box, with sixteen 5' (1524 mm) sections per box. Product requires no special handling, is very lightweight, and boxes and loose materials are easily handled by 1 person. Secure loose and boxed material during strong winds.

- D. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- E. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
1. Do not expose material to direct sunlight for more than 2 weeks. If material is protected from exposure to direct sunlight it may be stored indefinitely.

1.06 SEQUENCING

- A. General: Install the Residential HouseNet™ product after flashing has been installed, the first 1 or 2 courses of brick have been laid, and weep holes have been created. Install product before third or higher courses of brick have been laid.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1.07 WARRANTY (cont.)

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements. Mortar Net USA, Ltd. warrants its products to be of the quality and composition stated and free of manufacturer's defects. It will replace or refund the purchase price of any product proved defective. This limited warranty is the only warranty extended by Mortar Net USA, Ltd. In regard to its product, Mortar Net USA, Ltd.'s liability shall not exceed the purchase price of the material in question. Every construction project is unique; therefore, every use of Residential HouseNet™ and Mortar Net Weep Vents must be evaluated and approved by a qualified professional such as an architect or engineer familiar with the project.

1. Warranty Period: (Specify term,) years commencing on Date of Substantial Completion.

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 MASONRY VENEER WALL DRAINAGE SYSTEM

A. Manufacturer: Mortar Net USA, Ltd.

Specifier Note: Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

1. Contact: 541 South Lake Street, Gary, IN 46403; Telephone: (800) 664-6638, (219) 939-3870; Fax: (219) 939-3877, E-mail: webmaster@mortarnet.com Website: www.mortarnet.com

Specifier Note: The Mortar Net is manufactured of nylon, high density polyethylene (HDPE) or polyester, fabricated in a 90% open mesh, 2", 1" or 0.4" (51, 25.4, 10.2 mm) thick. It has no negative reaction to PVC, polyethylene, polystyrenes, copper, lead, rubberized asphalt, or stainless steel and will not degrade or decompose over the life of the building. It will not absorb or trap moisture and water, and it will not support mold or fungus. The Mortar Net is patented, U.S. Patent Reissue #36676.

B. Proprietary Product(s)/System(s): The Residential HouseNet™ accessory.

1. Mortar Net MN 10-1: 7¾" (196.9 mm) high x 1" (25.4 mm) thick material.
2. Mortar Net MN 10-4: 7¾" (196.9 mm) high x 0.4" (10.2 mm) thick material.
3. Mortar Net MN 10-2: 7¾" (196.9 mm) high x 2" (51 mm) thick material.

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

2.02 SUBSTITUTIONS

A. Product Substitutions: No substitutions permitted.

2.03 MATERIALS

Specifier Note: 1" (25.4 mm) material is high density polyethylene (HDPE), 0.4" (10.2 mm) thick material is nylon, and 2" (51 mm) thick material is recycled polyester. None of these materials will oxidize, rot, support mold or fungus, or react with common building materials, including mortar, cement asphalt, modified bitumen, PVC, copper, steel, or galvanized metal, and they are not edible by insects. The material retains its slope anti-rigidity and is undamaged by extended exposure to normal field temperatures, and is highly resistant to UV degradation.

A. Materials: Manufacturer's standard Residential HouseNet™ material for specified product.

1. All dimensions are nominal. Measurements are inclusive of the continuous bottom strip and the dovetail shape.
2. Four available sizes: 1" (25.4 mm) and 0.4" (10.2 mm) thicknesses by 10" (254 mm) height by 5' (1524 mm) long. 2" (51 mm) thick by 10" (254 mm) x 5' (1524 mm) long.
3. Continuous bottom strip on all sizes of material is 3" (76.2 mm) high, regardless of material thickness or overall material height.
4. 1" (25.4 mm) thick product is high density polyethylene (HDPE), 0.4" (6.4 mm) thick product is nylon, and 2" (51 mm) thick material is recycled polyester. Product is a 90% open weave mesh in a dovetail configuration connected by a continuous bottom strip.

2.04 SOURCE QUALITY

A. Source Quality: Obtain the Mortar Net materials from a single manufacturer.

PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI SectionFormat and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections are acceptable for product installation in accordance with manufacturer's instructions.
1. Match product size to cavity size. Cavity should be no more than 1/4" (6.4 mm) wider than 1" (25.4 mm) thick material and 2" (51 mm) thick material, and 0.4" (10.2 mm) thick material should touch both the outer wythe and the inner wall. For cavities larger than 2" (51 mm), place rigid insulation of sufficient height to extend at least 6" (152 mm) above the top of the Residential HouseNet™ against the outside of the inner wythe and of appropriate thickness to reduce the cavity to the appropriate size.
 2. Inspect for and repair holes in flashing immediately prior to installing Residential HouseNet™.

3.03 PREPARATION

- A. Preparation: Clean flashing and weep holes so they are free of mortar droppings and debris immediately prior to installing Mortar Net. If wicks are used (not recommended), prevent mortar from coating or covering wicks inside the cavity. Washing flashing with water or chemicals prior to installation is not necessary.

Specifier Note: Coordinate article below with manufacturer's recommended installation details and requirements.

Specifier Note: Manufacturer recommends placing 1 continuous row of Residential HouseNet™ in the collar joint or cavity on the flashing at the base of the wall, at each flashing level and over lintels. Position with the zigzag side up (see manufacturer's CAD details). The Mortar Net should fit snugly in cavity, so if cavity is greater than 2" (51 mm) wide, either use several thicknesses of The Mortar Net or use appropriately sized styrofoam board (or equivalent) not less than 16" (406 mm) high as a spacer to fill excess space. Place spacer against the outside of the interior wall so The Mortar Net is against the inside of the exterior wythe. If no spacer is used, flashing should extend not less than 6" (152 mm) above the top of The Mortar Net to avoid the possibility of mortar bridging between the exterior wythe and interior wall. Adhesives, fasteners, special skills or tools are not required.

3.04 INSTALLATION

- A. Mortar Net Installation:

1. For most walls, install 1 continuous row of The Mortar Net at base of wall and over all wall openings directly on flashing.
2. To prevent mortar bridging between the outer wythe and inner wall, install flashing extending from the bottom of The Mortar Net to at least 6" (152 mm) above the top of The Mortar Net.
3. Multiple thicknesses of Residential HouseNet™ may be installed to match cavity widths and if excessive droppings are expected. Inspection, preparation and installation procedure for multiple thicknesses is the same as for single thickness. When installing multiple thicknesses, align the dovetail sections with each other.
4. To match cavity width to product thickness without using multiple thicknesses of Residential HouseNet™, place rigid insulation of appropriate thickness against outside face of inner wall.
5. Lay the first 1 or 2 courses of brick at flashing level, then install Residential HouseNet™ continuously by placing it against the inside of the openings. No fasteners or adhesives are required, and mortar need not have set.
6. Residential HouseNet™ shall not come in contact with wall ties standard wall tile installations, but if it does, it may be cut or torn to accommodate wall ties, conduit, plumbing or other materials that bridge or intrude into cavity between inner and outer walls.
7. Compress Residential HouseNet™ horizontally so it can be forced into cavities slightly smaller than its nominal thickness without affecting Mortar Net or wall performance.
 - a. When forcing Residential HouseNet™ into a cavity, be sure mortar has set sufficiently to resist outward pressure from product.

- B. Related Products Installation: Refer to other sections for installation of related products as follows:
 1. Masonry: Refer to Division 4 Unit Masonry Sections.

3.05 PROTECTION

1. Protection: Protect installed product from damage during construction.

END OF SECTION

R:\A - Projects\Project Folders\Proj 1301-1400\PF 1361\D. RWBC Drawings\FL 2010\FL-10453.1-8.dwg



3773 STATE ROAD, CUYAHOGA FALLS, OH 44223

MODEL 0100
SINGLE HUNG WINDOW
with NAILING FIN
"NON- IMPACT"

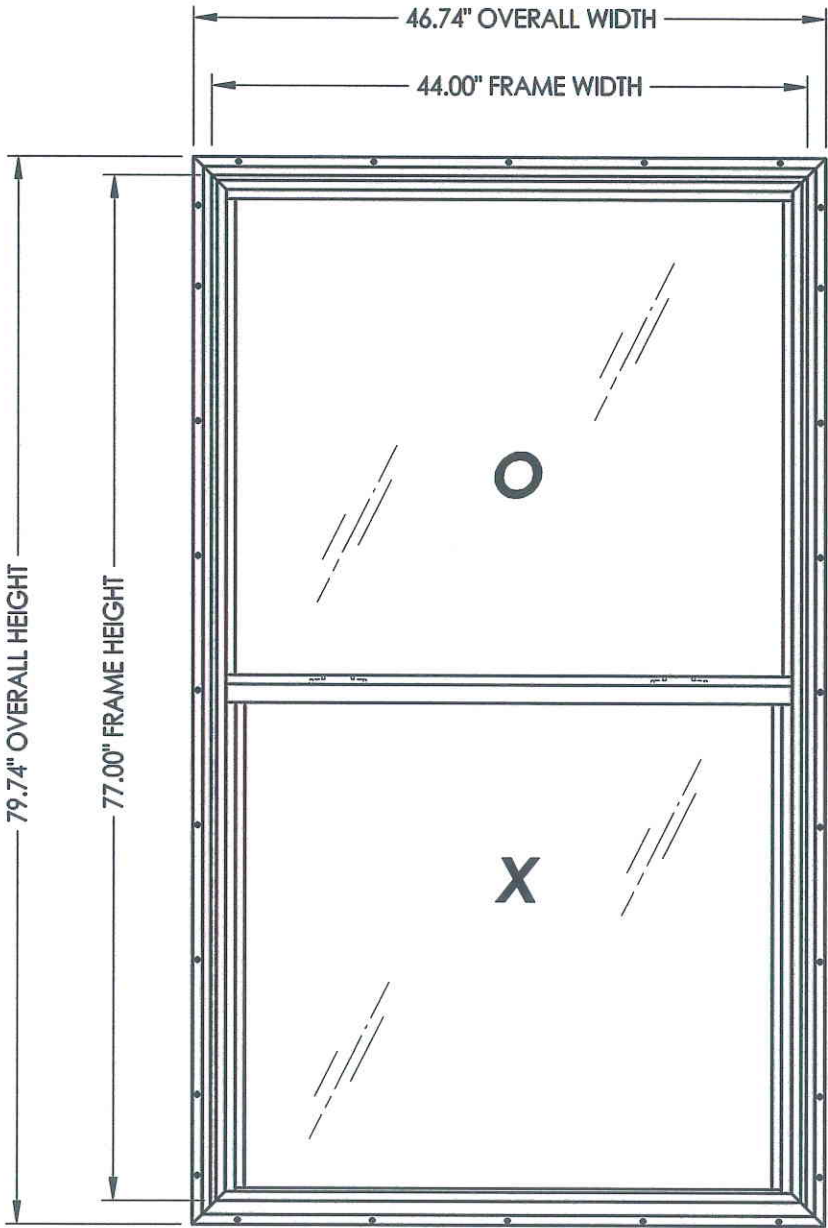
GENERAL NOTES

- 1. This product has been evaluated and is in compliance with the 2007/2010 Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone".
- 2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
- 3. When used in areas requiring wind borne debris protection this product must be protected with an impact resistant covering that complies with Section 1609.1.2 of the FBC.
- 4. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.

TABLE OFCONTENTS	
SHEET#	DESCRIPTION
1	Typical elevations, design pressures and general notes
2	Vertical & horizontal cross sections
3	Vertical & horizontal cross sections
4	Buck and frame anchoring
5	Glazing detail, components and bill of materials

1

OVERALL FIN DIMENSION	OVERALL FRAME DIMENSION	OVERALL (O) D.L.O. DIMENSION	OVERALL (X) D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
					POSITIVE	NEGATIVE
46.74" x 62.74"	44.00" x 60.00"	40.87" x 26.94"	38.87" x 27.31"	G1	+25.0	-40.0
46.74" x 79.74"	44.00" x 77.00"	40.87" x 35.44"	38.87" x 35.81"	G1	+20.0	-20.0

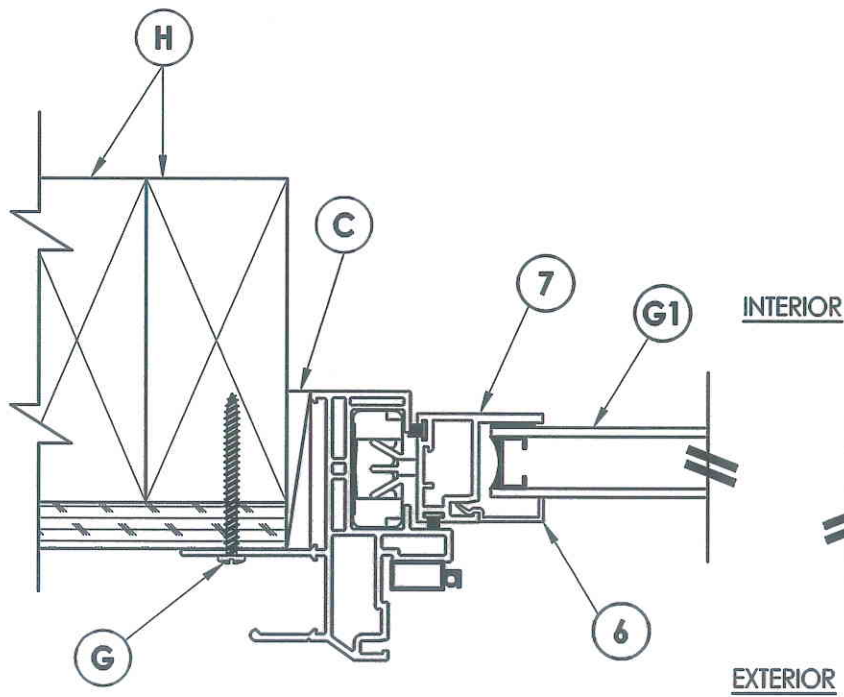


Documents Prepared By:
RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
Florida Board of Professional Engineers
Certificate Of Authorization No. 9813
17 Oct 11.14.11
Lyndon F. Schmidt, P.E. No. 43409

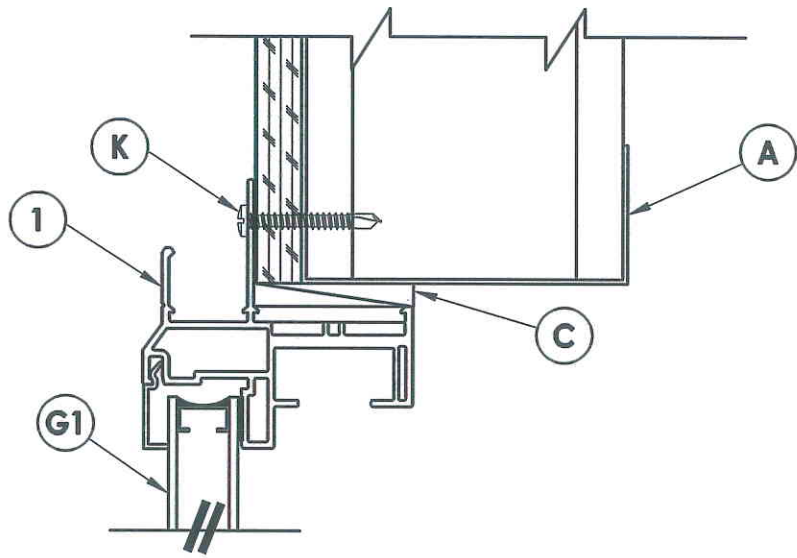
PRODUCT: MODEL 0100
SINGLE HUNG WINDOW
"NON-IMPACT"
PART OR ASSEMBLY:
TYPICAL ELEVATION, DESIGN
PRESSURE AND GENERAL NOTES

REVISE TO 2010 FBC	REVISED SHEET LAYOUT	DATE	REVISIONS	
			NO.	BY
2	6/14/11	REVISE TO 2010 FBC	JK	
1	9/02/08	REVISED SHEET LAYOUT	RW	

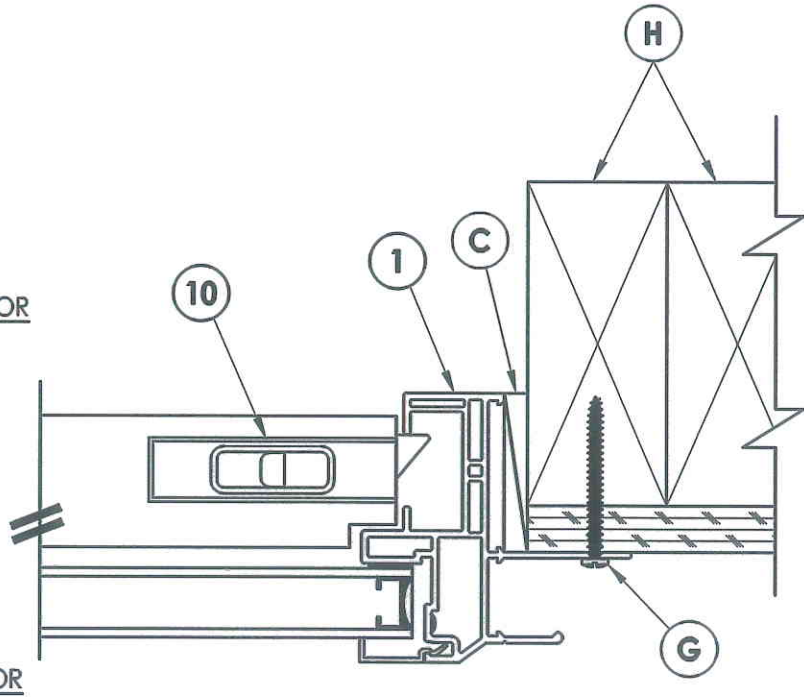
DATE: 03/14/08
SCALE: N.T.S.
DWG. BY: ROF
CHK. BY: LFS
DRAWING NO.:
FL-10453.1
SHEET 1 OF 5



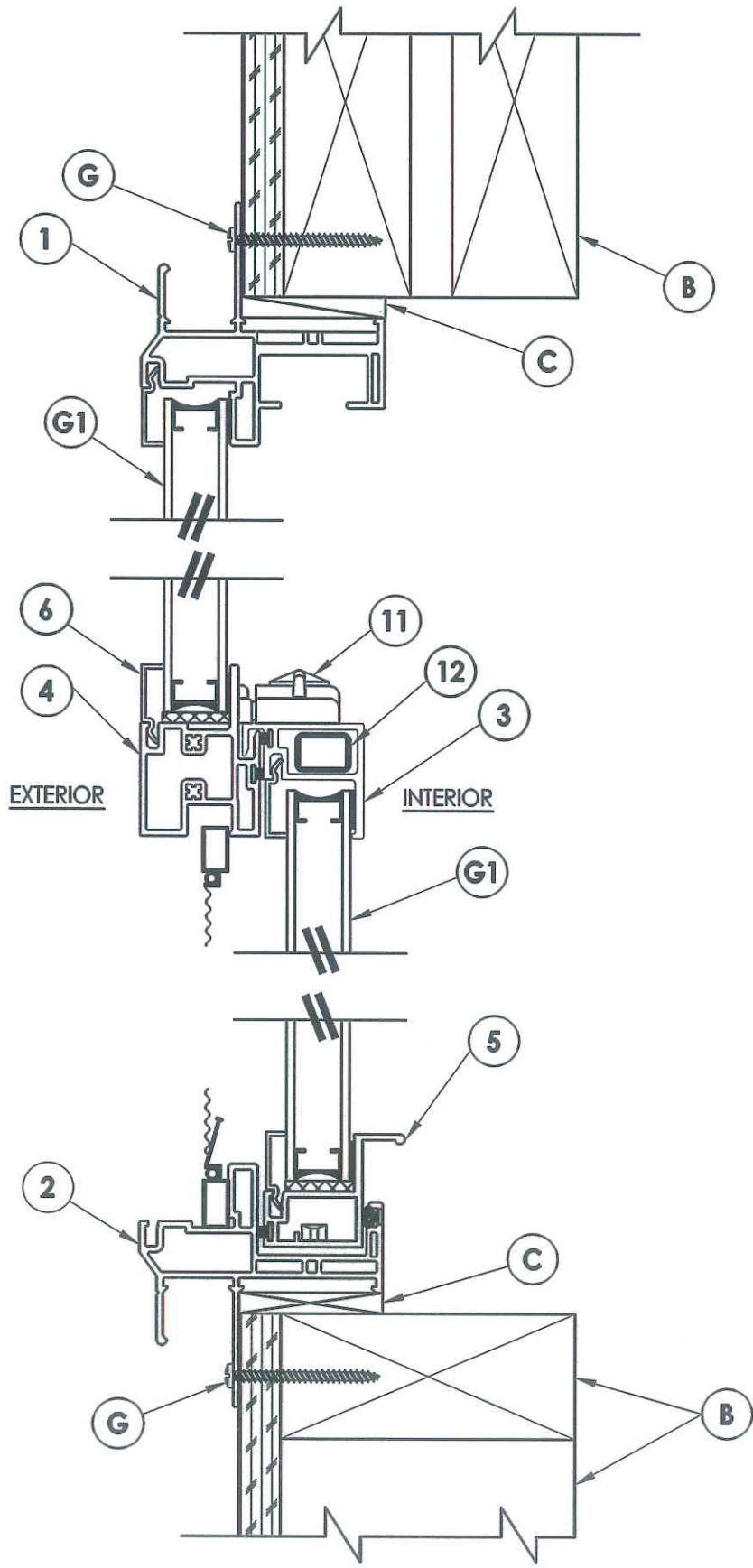
1
3 **HORIZONTAL CROSS SECTION**
2X Stud Construction



4
3 **VERTICAL CROSS SECTION**
Shown w/ Steel Stud Framing Option



2
3 **HORIZONTAL CROSS SECTION**
2X Stud Construction

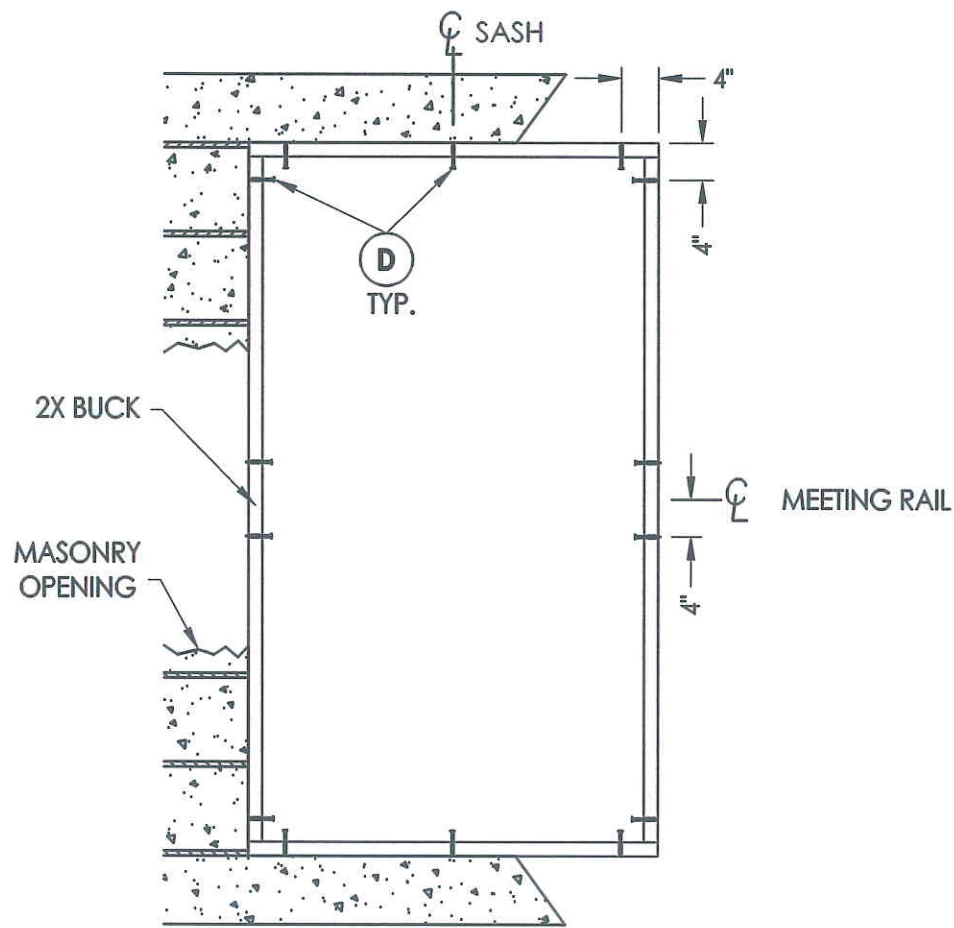


3
3 **VERTICAL CROSS SECTION**
2X Stud Construction

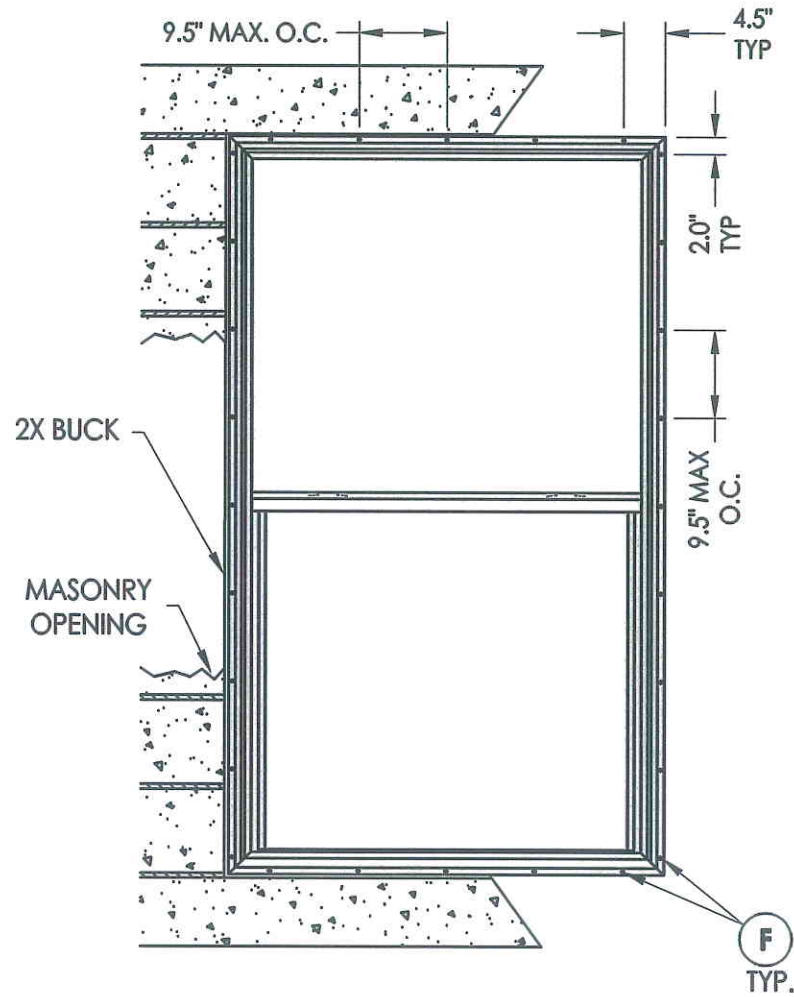
DATE: 3/14/08
SCALE: N.T.S.
DWG. BY: ROF
CHK. BY: LFS
DRAWING NO.: FL-10453.1
SHEET 3 OF 5

PRODUCT: MODEL 0100			
SINGLE HUNG WINDOW			
"NON-IMPACT"			
PART OR ASSEMBLY:			
VERTICAL & HORIZONTAL CROSS SECTIONS			
NO.	DATE	REVISIONS	
		BY	DATE
2	6/14/11	JK	REVISE TO 2010 FBC
1	9/2/08	RW	REVISED SHEET LAYOUT

Documents Prepared By:
RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
Florida Board of Professional Engineers
Certificate Of Authorization No. 9813
17-A-11.14-11
Lyndon F. Schmidt, P.E. No. 54157

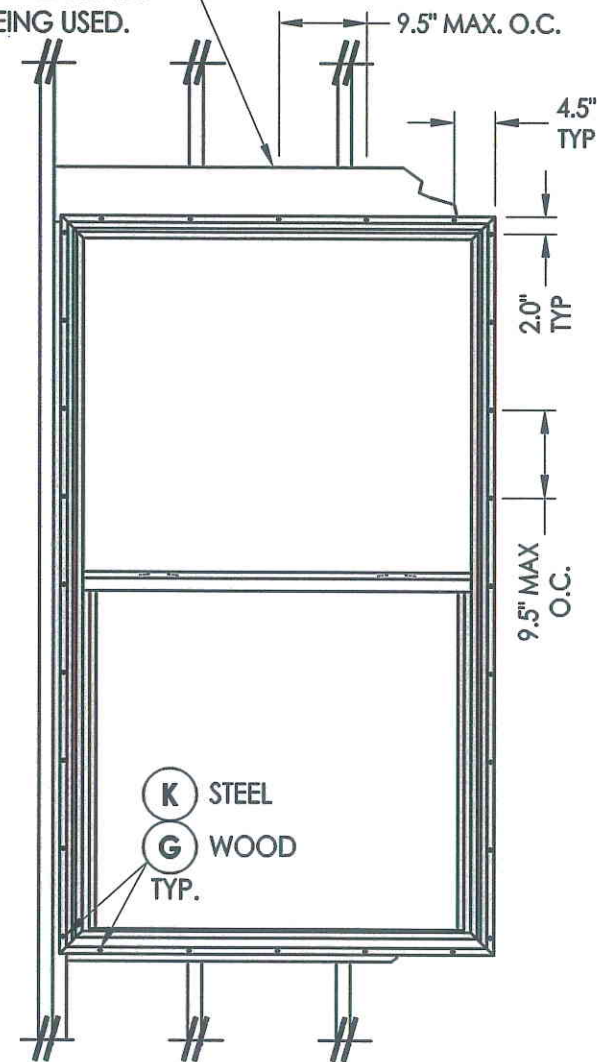


BUCK ANCHORING



FRAME ANCHORING
Masonry 2X Buck Construction

2X/STEEL STUD FRAMING TO BE DESIGNED
BY THE ENGINEER OR ARCHITECT
OF RECORD BASED ON WIND LOADS
AND THE CLADDING BEING USED.



FRAME ANCHORING
Stud Construction

CONCRETE ANCHOR NOTES:

1. Substitution of equal concrete anchors from a different supplier may have different edge distance and center distance requirements.
2. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints. If concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimensions are not exceeded.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW	1/4"	1-1/4"	2-1/2"	3"
ELCO	1/4"	1-1/4"	1"	4"

Documents Prepared By:
RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
Florida Board of Professional Engineers
Certificate Of Authorization No. 9813
11-14-11
Lyndon F. Schmidt, P.E. No. 54157

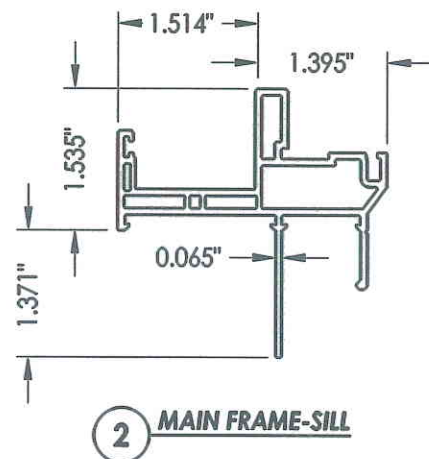
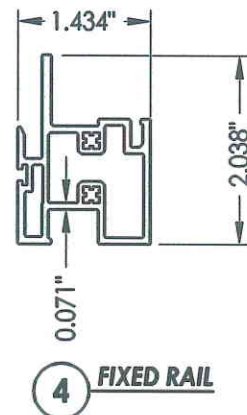
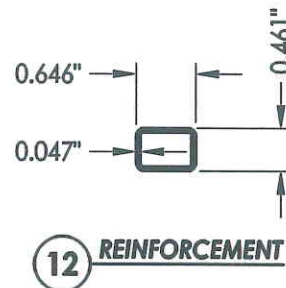
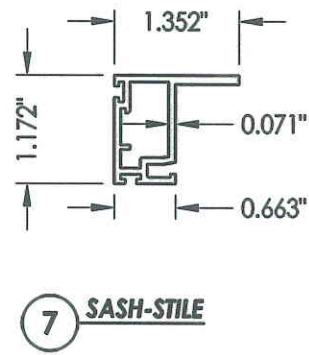
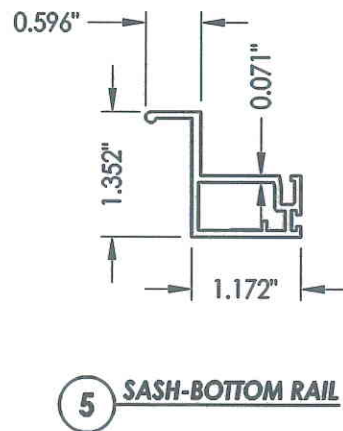
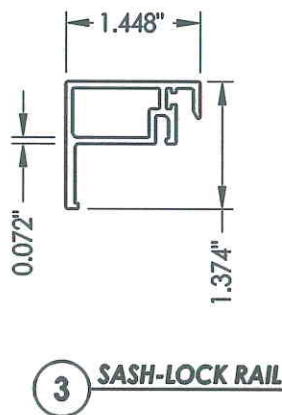
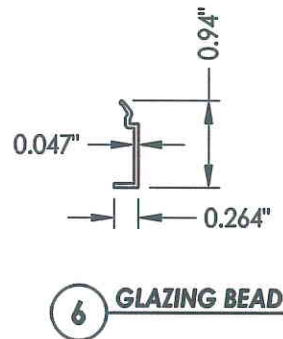
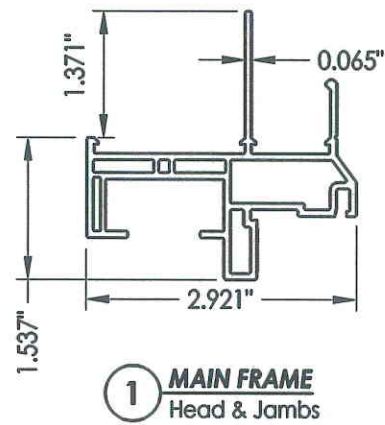
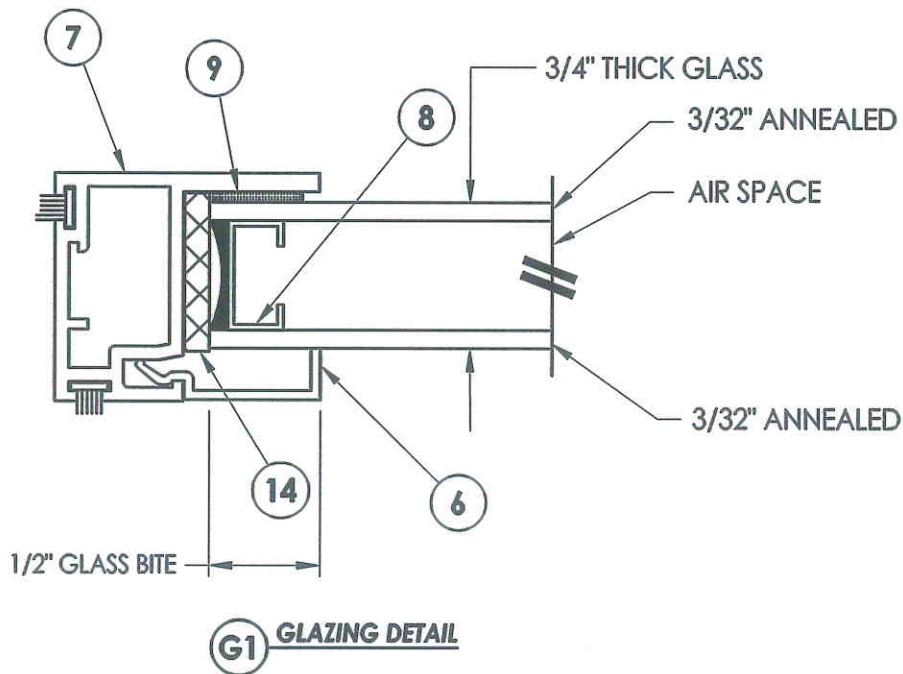
PRODUCT: MODEL 0100
SINGLE HUNG WINDOW
"NON-IMPACT"
PART OR ASSEMBLY:
BUCK AND FRAME ANCHORING

NO.	DATE	BY	REVISIONS
2	6/14/11	JK	REVISE TO 2010 FBC
1	9/2/08	RW	REVISED SHEET LAYOUT

DATE: 3/14/08
SCALE: N.T.S.
DWG. BY: ROF
CHK. BY: LFS
DRAWING NO.: FL-10453.1
SHEET 4 OF 5

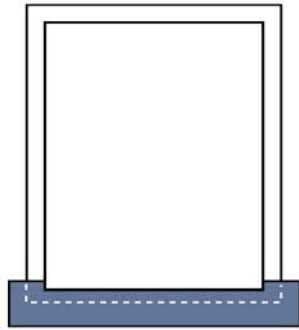
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
A	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 Ksi Min, Fu=45 Ksi Min)	STEEL
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW	STEEL
E	MASONRY - 3,192 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#8 X 2" PPH SMS	STEEL
G	#8 X 2-1/2" PPH SMS	STEEL
H	2X FRAMING SG >= 0.42	WOOD
K	#10 x 1-1/2" PPH SELF-DRILLING SMS	STEEL
1	MAIN FRAME - HEAD AND JAMB*	RIGID PVC
2	MAIN FRAME - SILL*	RIGID PVC
3	SASH - LOCK RAIL*	RIGID PVC
4	FIXED RAIL*	RIGID PVC
5	SASH - BOTTOM RAIL*	RIGID PVC
6	GLAZING BEAD*	RIGID PVC
7	SASH - STILES*	RIGID PVC
8	GLAZING SPACER	STEEL
9	GLAZING TAPE - DOUBLE SIDE ADHESIVE	-
10	TILT LATCH	POLYMER
11	METAL CAM LOCK AND KEEPER	STEEL
12	REINFORCEMENT - ALSIDE #UY00B2	STEEL
14	GLAZING BLOCK	-

* THE APPROVED WHITE RIGID PVC EXTERIOR EXTRUSIONS FOR WINDOWS ARE TO BE PRODUCED BY EXTRUDERS LICENSEES IN "AAMA CERTIFICATION PROGRAMS FOR RIGID PVC EXTRUSIONS".

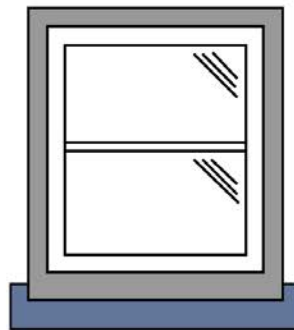


Documents Prepared By:		BUILDING CONSULTANTS, INC. P.O. Box 230 Valrico FL 33595 Phone No.: 813.659.9197 Florida Board of Professional Engineers Certificate of Authorization No. 9813 <i>17 Oct 11-14.11</i> Lyndon F Schmidt, P.E. No. 54157	
PRODUCT: MODEL 0100 SINGLE HUNG WINDOW "NON-IMPACT"		PART OR ASSEMBLY: GLAZING DETAIL, COMPONENTS AND BILL OF MATERIALS	
		JK	
		RW	
		BY	
2	6/14/11	REVISE TO 2010 FBC	
1.	9/2/08	REVISED SHEET LAYOUT	
NO.	DATE		
		REVISIONS	
DATE: 3/14/08			
SCALE: N.T.S.			
DWG. BY: ROF			
CHK. BY: LFS			
DRAWING NO.: FL-10453.1			
SHEET 5 OF 5			

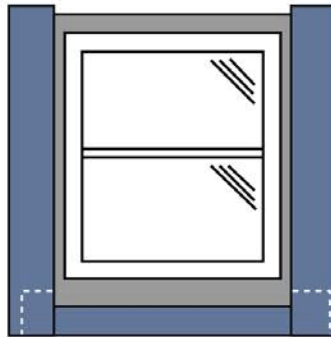
WINDOW APPLICATION



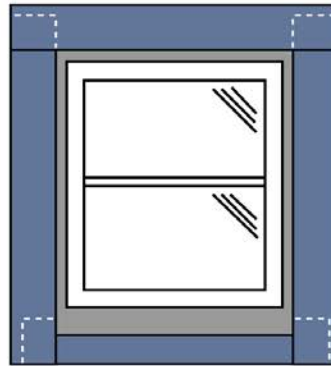
- 1.** Apply a piece of BT25XL on top of the window sill prior to setting the window.



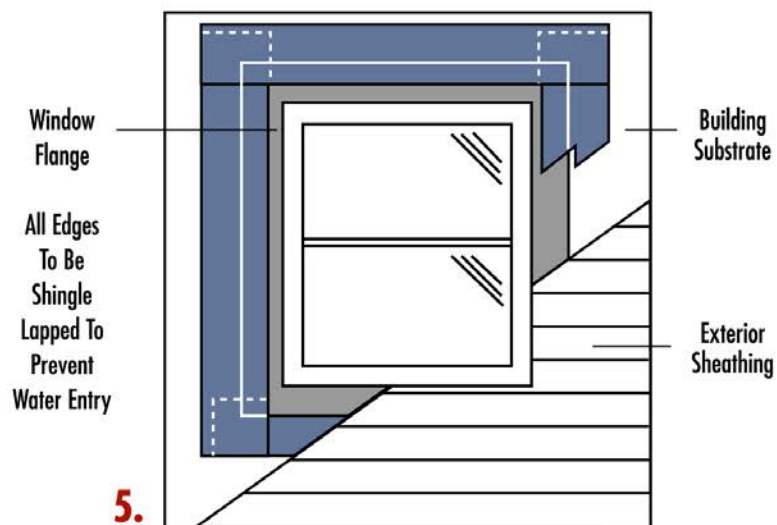
- 2.** Set the window and mechanically fasten the fins to the building substrate.



- 3.** Apply the vertical pieces of BT25XL on top of the window fin.



- 4.** Apply the final top horizontal piece of BT25XL on the top of the window fin.



BT-PRIMER and PROTECTO-TAK SPRAY ADHESIVE DATA SHEET

DESCRIPTION:

BT-Primer and Protecto-Tak Spray Adhesive are high tack primers for use under the BT-Series products over Dens-Glass Gold*, all OSB board, black sheathing board, metal, wood, dry concrete and dry masonry. When used over Dens-Glass Gold*, BT-Primer is moisture tolerant and is suitable for use on moist or damp Dens-Glass Gold*. BT-Primer is VOC compliant.

PROPERTIES:

	BT-Primer	Protecto-Tak Spray Adhesive
Adhesion to wood	Excellent	Excellent
Adhesion to steel	Excellent	Excellent
Adhesion to dry concrete	Excellent	Excellent
Adhesion to dry masonry	Excellent	Excellent
Adhesion to membrane	Excellent	Excellent
Coverage	150 sq. ft./gal.	2 oz: 4" x 100' roll
Shelf life (min.)	One Year	One Year
Tack free time (minutes)	10-20 minutes	10 sec to 15 min
Flash Point	24°F TCC	-42°F TCC

DIRECTIONS FOR USE:

PREPARATION:

BEFORE HANDLING read material safety data sheets for health information.

- The surface shall be cleaned so that all dirt, dust, loose concrete, or other contaminants that may adversely affect the adhesion of the membrane are removed.

BT-PRIMER APPLICATION:

- Apply primer to all surfaces by roller or brush.
- Primed surface shall be free of runs, puddles or excessive primer as this could cause blistering. Brush or roll out all primer puddles or drips immediately.
- Prime only as much area as can be covered in half a day's work. Re-prime areas not covered in half a day's work with a light coat of BT-Primer.
- Tack free time is approximately 10 to 20 minutes.

NOTE: Some bubbling in the primer may occur on the surface as it cures. This has no effect on the performance of the product and will smooth out as the membranes are applied.

PROTECTO-TAK SPRAY ADHESIVE APPLICATION:

- Shake can before using.
- Turn spray tip so arrow points to dot on rim.
- Hold can 6 – 8 inches from surface to be sprayed and apply to surface.
- After use, invert can, depress spray tip until spray is free of adhesive. Clean spray tips with turpentine.
- Clean oversprayed areas with a mix of 25% - 30% water added to isopropyl alcohol.

PACKAGING AND WEIGHTS:

BT-PRIMER

QUANTITY	PACKAGING	WEIGHT
1 U.S. Gallon	4 gallons/carton	38 lbs
5 U.S. Gallon pail	1 pail	46 lbs

PROTECTO-TAK SPRAY ADHESIVE

QUANTITY	PACKAGING	WEIGHT
16.5 oz can	12 cans/carton	19 lbs

*Dens-Glass is a registered trademark of Georgia-Pacific Corporation



BT25XL Window and Door Sealing Tape

Forms a permanent waterproofing air/vapor seal around doors and windows that prevents air and moisture leaks.



- Stop moisture intrusion that causes black mold
- No special tools needed, peel and stick installation
- Meets or exceeds all building codes including ASTM 2112
- Meets or exceeds ICC Code Approval ESR1825
- The only flashing tape that passed hurricane level windblown rain test ASTM E331-90
- Adheres to vinyl, plywood, OSB, foam, metal, aluminum, and masonry
- Can be left exposed up to 120 days



Premium Building Products
That Protect

1955 South Cherokee St., Denver, Colorado 80223
(303) 777-3001 • Fax (303) 777-9273 • 1-800-759-9727
www.protectowrap.com

Protecto Wrap's building tape **BT25XL** is a tough-faced superior self-adhering, air/vapor barrier and waterproofing membrane for vertical and horizontal above grade substrates. **BT25XL** seals window perimeters to building substrates to create an impenetrable barrier. This 20-mil polyethylene-backed aggressive rubberized adhesive membrane can be applied to vinyl, plywood, OSB, concrete, metal, aluminum, polyethylene, building wrap products, block and masonry surfaces to form an air/vapor moisture barrier system. **BT25XL is the only window sealing tape that can be installed and left exposed for 120 days without UV degradation.**

EASE OF INSTALLATION

Since BT25XL is a peel and stick self-adhering membrane, you simply center the tape over the area to be sealed and firmly **roll** the BT25XL against the surface. BT25XL also seals itself around nails, screws and staples.

ENERGY EFFICIENT

Not only will BT25XL waterproof around doors and windows, it stops air leakage, thus reducing heating and air conditioning costs to the homeowner.

Using this field tested product will prove that you are a builder who cares about providing the highest quality building materials to your customers.

Protecto Wrap's BT25XL is suitable for sealing the following applications:

- Window and door perimeters to the building substrate
- Joints in stucco insulation systems
- Sheet rock joints in roof assemblies
- Beneath metal cap flashings
- Full building coverage as an air/vapor barrier
- Sealing joints on gypsum sheathing in cavity wall construction
- Other areas where a water or air seal is required.

APPLICATION

There should be no solvent-based caulks used in conjunction with Protecto Wrap BT25XL.

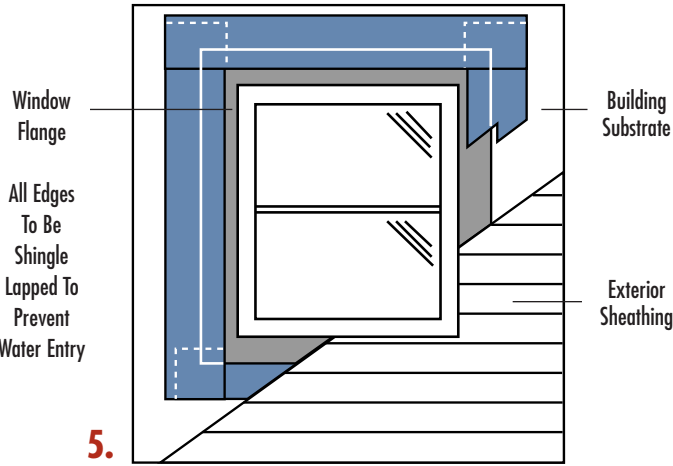
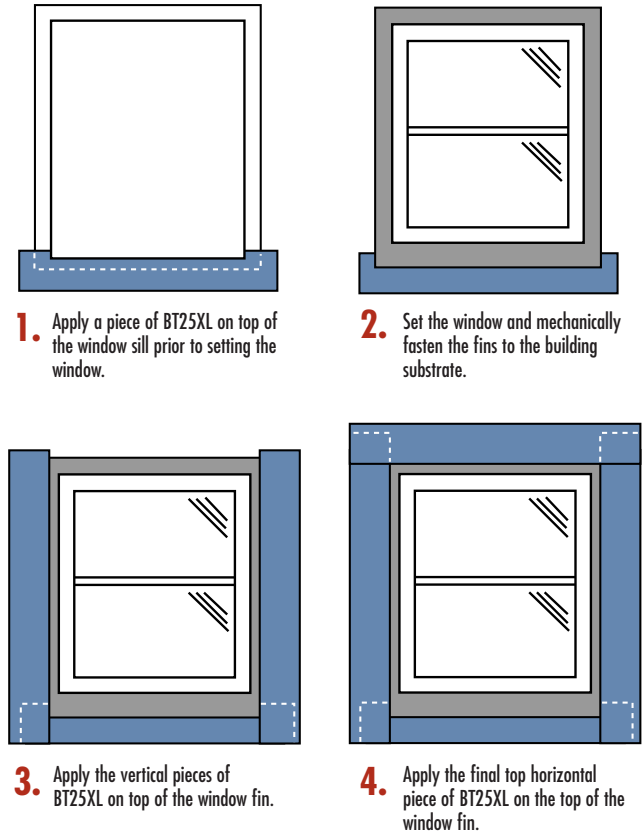
Surfaces should be clean, dry, free of dirt and other foreign matter. For best results, BT25XL should be applied at a temperature above 45°F (7°C). For applications from 20°F to 45°F (-6°C to 7°C), the material must be stored in a warm area prior to use and used with Protecto Wrap BT-Primer or Protecto-Tak Spray Adhesive. When used as an air/vapor barrier system, all lap and butt joints must overlap a minimum of 4". Masonry ties should be placed on top of the BT25XL and sealed with Protecto Wrap's JS160H Mastic. Cut a piece of BT25XL in a length that can be easily handled. Begin application by removing approximately 12 inches of the release paper and center the tape over the area being sealed. **Firmly roll** the BT25XL against the surface and

continue pulling off the release paper while rolling the tape into place. Rolling the BT25XL is essential to gain 100% surface contact of the BT25XL adhesive to the substrate and will minimize trapping air beneath the tape. **Do not stretch BT25XL.** Lap building wrap material 4" on top of BT25XL and seal the building wrap to BT25XL.

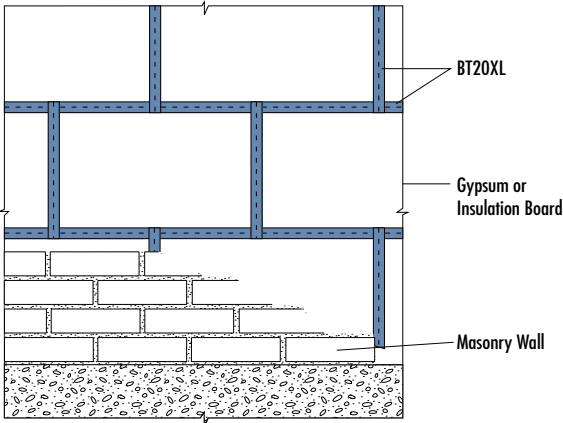
NOTE: When applying BT25XL to masonry, concrete, black sheathing board and OSB products or Dens-Glass Gold*, the surface must be primed with Protecto Wrap BT-Primer or Protecto-Tak Spray Adhesive.

*Dens-Glass is a registered trademark of Georgia-Pacific Corporation

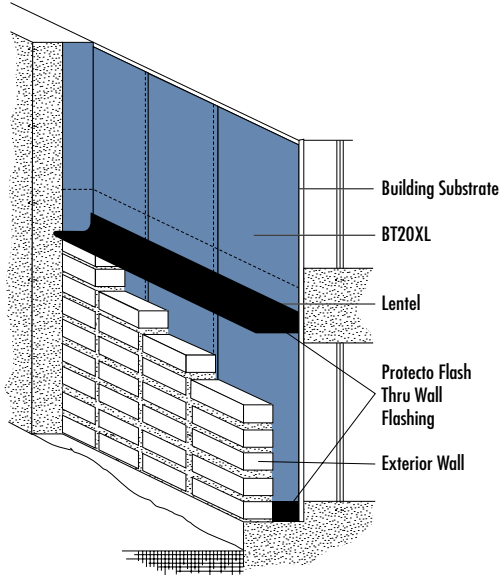
WINDOW APPLICATION



BT25XL as a Seam Sealing Tape



BT25XL for Cavity Wall Protection



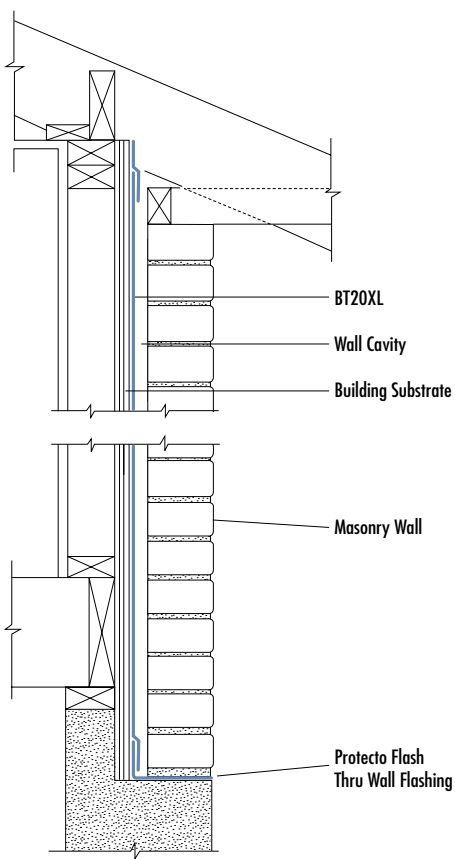
TESTING

BT25XL is the only flashing tape to pass hurricane level wind-driven rain testing. (ASTM E331-90, test method for water penetration of exterior windows.) Meets ASTM 2112. Meets or exceeds ICC Code Approval ESR1825.

PROPERTIES

		Test Method
Color:	White	
Thickness:	25+ mils	
Tensile Strength:	975 psi	ASTM D412
Elongation:	over 500% (rubberized adhesive only)	ASTM D412
Moisture Vapor Transmission Rate:	0.01 perms max.	ASTM E96
Max. Exposure Time:	120 Days	

BT25XL as a Thru-Wall Flashing



PRECAUTIONS

1. Rolling the BT25XL is essential to gain 100% surface contact of the BT25XL adhesive to the substrate and will minimize trapping air beneath the tape.
2. When Protecto Wrap's BT25XL is used as an air/vapor barrier, the dew point must be engineered to the exterior of the building.
3. Care should be taken not to leave the membrane exposed to direct sunlight for over 120 days.
4. Any caulking that contains solvents must not be used on or around the BT25XL membrane.
5. Do not stretch BT25XL. Stretching will adversely affect the adhesion of the product.
6. BT-Primer or Protecto-Tak Spray Adhesive must be used in applications with temperatures below 45°F (7°C).
7. BT-Primer or Protecto-Tak Spray Adhesive must be used on weathered surfaces, masonry, concrete and Dens-Glass Gold*, black sheathing board and OSB.
8. Some chemicals used in the production of OSB may adversely affect the adhesion of BT25XL. BT-Primer or Protecto-Tak Spray Adhesive will enhance the adhesion of BT25XL to OSB.
9. BT25XL must be stored in a location with temperatures above 50°F (10°C).
10. Protecto Wrap's EIFS Tape is recommended if stucco is to be applied directly to the air/vapor barrier.

HDU Holdown

HDU Holdowns are pre-deflected during the manufacturing process, virtually eliminating deflection under load due to material stretch. They use Simpson Strong-Tie® Strong-Drive® screws (SDS) which install easily and provide reduced fastener slip. Using SDS screws results in a greater net section, when compared to bolts, as no material is removed.

The HDU series of holdowns are designed to replace previous versions of the product such as PHD's as well as bolted holdowns. The HDU2, 4 and 5 are direct replacements for the PHD2, 5 and 6, respectively.

For more information on holdown options, [contact Simpson Strong-Tie](#).

Special Features:

- ⌄ Pre-deflected body virtually eliminates deflection due to material stretch.
- ⌄ Uses SDS screws which install easily, reduces fastener slip, and provides a greater net section area of the post compared to bolts.
- ⌄ SDS screws are supplied with the holdowns to ensure proper fasteners are used.
- ⌄ No stud bolts to countersink at openings.

Material: See [table](#).

Finish: Galvanized.

Installation:

- ⌄ Use all specified fasteners. See [General Notes](#).
- ⌄ For use in vertical and horizontal applications.
- ⌄ No additional washer required.
- ⌄ To tie multiple 2x members together, the Designer must determine the fasteners required to join the members to act as one unit without splitting the wood. See [SDS Screw information](#).
- ⌄ See [SB](#) and [SSTB Anchor Bolts](#) for anchorage options.
- ⌄ SDS screws install best with a low speed high torque drill with a 3/8" hex head driver.
- ⌄ Refer to [Anchor Designer Software™](#) for ACI 318 for anchoring solutions.

For holdowns, per ASTM test standards, anchor bolt nuts should be finger-tight plus 1/3 to 1/2 turn with a hand wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut. Impact wrenches should not be used.

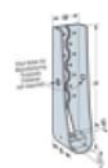
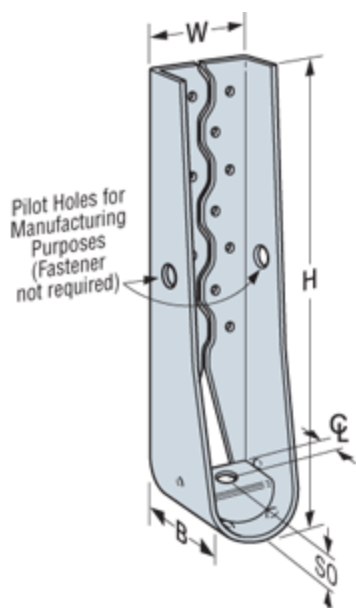


[Load Table](#)
[Gallery of images](#)
[Code Reports](#)
[Drawings](#)
[Catalog Page](#)
[Anchoring Solutions](#)
[Related Categories](#)
[Fliers](#)
[Help for downloads](#)

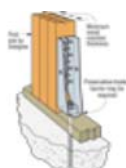
Gallery:

▲ [top](#)

[roll over images below to see larger image](#)



✓ HDU
U.S. Patent
6,112,495



Vertical HDU Installation



Typical HDU Tie Between Floors



Horizontal HDU Offset Installation

(Plan View)
See footnote 7.

Load Table: See [code report listings](#) below

▲ [top](#)

Model No.	Ga	Dimensions (in.)					Fasteners		Minimum Wood Member Thickness ⁴ (in.)	Allowable Tension Loads (l (160)) ¹		
		W	H	B	C	SO	Anchor Bolt Dia. (in.)	SDS Screws		DF/SP	SPF/HF	Def Allow.
HDU2-SDS2.5	14	3	8 ¹ / ₁₆	3 ¹ / ₄	1 ¹ / ₁₆	1 ³ / ₈	5/8	6-SDS 1/4"x2 1/2"	3	3075	2215	
HDU4-SDS2.5	14	3	10 ¹ / ₁₆	3 ¹ / ₄	1 ¹ / ₁₆	1 ³ / ₈	5/8	10-SDS 1/4"x2 1/2"	3	4565	3285	
HDU5-SDS2.5	14	3	13 ³ / ₁₆	3 ¹ / ₄	1 ¹ / ₁₆	1 ³ / ₈	5/8	14-SDS 1/4"x2 1/2"	3	5645	4065	
HDU8-SDS2.5	10	3	16 ⁵ / ₁₆	3 ¹ / ₂	1 ¹ / ₈	1 1/2	3/4	20-SDS 1/4"x2 1/2"	3	5980	4305	
									3 1/8	6970	5020	
									4 1/2	7870	5665	
HDU11-SDS2.5	10	3	22 ¹ / ₄	3 ¹ / ₂	1 ¹ / ₈	1 1/2	1	30-SDS 1/4"x2 1/2"	5 1/2	9535	6865	
									7 1/4	11175	8045	
HDU14-SDS2.5	7	3	25 ¹ / ₁₆	3 ¹ / ₂	1 ¹ / ₁₆	1 ¹ / ₁₆	1	36-SDS 1/4"x2 1/2"	7 1/4	14390 ⁸	10360	
									5 1/2 ⁸	14925 ^{8,9}	10745	

1. Allowable loads have been increased for wind or earthquake load durations with no further increase allowed; reduce where other load durations govern.
2. The Designer must specify anchor bolt type, length and embedment. See [SB and SSTB Anchor Bolts](#). Refer to [Anchor Designer Software™](#) for ACI 318 for anchoring solutions.
3. Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. Values in the tables reflect installation into the wide face. See technical bulletin [T-SCLCOLUMN](#) for values on the narrow face (edge).
4. Post design by Specifier. Allowable load values are based on a minimum wood member thickness in the direction of the fastener penetration. Posts may consist of multiple 2x members provided they are designed to act as one unit independently of the holdown fasteners. Holdowns shall be installed centered along the width of the attached post.
5. Tension values are valid for holdowns flush or raised off of sill plate.
6. Deflection at Highest Allowable Tension Load includes fastener slip, holdown elongation, and anchor bolt elongation (L = 6"). Additional elongation of anchor bolts longer than 6" shall be added to holdown deflection.
7. Tabulated loads may be doubled when the HDU is installed on opposite sides of the wood member provided either the post is large enough to prevent opposing holdown screw interference or the holdowns are offset to eliminate screw interferences.
8. Noted HDU14 allowable loads are based on a 5 1/2" wide post (6x6 min.). All other loads are based on 3 1/2" wide post minimum.
9. Requires heavy hex anchor nut to achieve tabulated loads (supplied with holdown).

Code Reports (PDFs):

▲ [top](#)

					LEGACY REPORTS		
	IAPMO ESR	ICC-ES ESR	CITY OF LOS ANGELES	STATE OF FLORIDA	ICC-ES NER	ICC-ES ER	ICC-ES ES
HDU	See specific model numbers for code listings.						
HDU11-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU11-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU14-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU14-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU2-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU4-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU5-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			
HDU8-SDS2.5		ESR-2330 / ESR-2523 *	RR25720	FL10441			

* ESR-2523 is an Index of many of Simpson Strong-Tie Stamped and Welded Cold-formed Steel Products for Wood or Cold-formed Steel Construction

Drawings: To download drawings, right-click or Ctrl-click on the link, then choose "Save Target As..."

DWG

Orthographic

Download the [Simpson AutoCad Menu](#)

[HDU2](#) [HDU2 front view](#) [HDU2 right view](#) [HDU2 top view](#) [HDU4](#)
[HDU4 front view](#) [HDU4 right view](#) [HDU5](#) [HDU5 front view](#) [HDU5 right view](#) [HDU8](#)
[HDU8 front view](#) [HDU8 right view](#) [HDU11](#) [HDU11 front view](#) [HDU11 right view](#)
[HDU11 top view](#)

DXF

Orthographic

[HDU2](#) [HDU2 front view](#) [HDU2 right view](#) [HDU2 top view](#) [HDU4](#) [HDU4 front view](#)
[HDU4 right view](#) [HDU5](#) [HDU5 front view](#) [HDU5 right view](#) [HDU8](#) [HDU8 front view](#)
[HDU8 right view](#) [HDU11](#) [HDU11 front view](#) [HDU11 right view](#) [HDU11 top view](#)

Catalog Pages (PDFs):

[C-2009 \(Wood Construction Connectors\), page 37](#)

Order [free catalogs](#) by mail

Anchoring Solutions:

Refer to [Anchor Designer Software™](#) for ACI 318 for anchoring solutions.

Related Categories:

[Holdowns - Concrete](#) (Wood Construction)

[Tension Ties](#) (Wood Construction)

Technical Bulletins (PDFs):

Panelized Roof Systems **Expiration extended to 1/31/09**

Connectors Installed on SCL Columns

Fliers (PDFs):

The Effects of Wind

New Longer Titen HD[®]s Can Be Used With Simpson Holdowns

Holdowns for Alternate Braced Wall Panels

Need help with downloads?

Jamsill Guard[®]

The ORIGINAL Sill Pan Flashing Since 1983!

*Door & Window
Sill Pan Flashing*



MADE IN THE

USA



Jamsill Guard®

The ORIGINAL Sill Pan Flashing Since 1983!

Jamsill Guard® is an adjustable sill pan flashing for exterior doors and windows, designed to prevent water damage from window and door leaks.

Jamsill Guard® is injection molded and extruded from high impact ABS plastics that do not facilitate thermal transfer and will not deteriorate or corrode over time. In fact, Jamsill Guard® has been time tested for over 25 years with over 2 million sold.

Jamsill Guard's simple design is inexpensive, easy to install, and more user friendly than other sill pans on the market. Jamsill Guard's multiple piece, telescoping design allows the installer on-site adjustability, to fit all rough openings and is bonded together in the field with P.V.C. cement.

- ✓ Reduce call backs due to water damage
- ✓ Quick, Simple, and Adjustable Installation
- ✓ Sloped weep areas direct moisture out
- ✓ Glue joints located away from door and window leak areas
- ✓ Multiple-piece design and large glue tabs allow adjustability during install
- ✓ Accommodates virtually any size rough opening
- ✓ Available in many different depths, to fit a wide variety of applications
- ✓ Visit Jamsill.com for more information

Most leaks originate at...

The Critical Corner

- 1-piece molded corners block leaks before they can damage the framing and sub-floor.
- Sloped weep areas located directly beneath the Jamb-to-Sill joint to direct moisture toward the exterior.
- Large glue joint located well away from the Jamb-to-Sill joint.

1-PIECE
MOLDED
CORNERS

SLOPED
WEEP
AREA

LARGE
GLUE
JOINT

8 Common Depths

- ✓ 1 1/8"
- ✓ 2 3/8"
- ✓ 3 1/4"
- ✓ 3 5/8"
- ✓ 4 1/8"
- ✓ 4 9/16"
- ✓ 6 9/16"
- ✓ 6 13/16"

Contact Us

Phone:

1-800-JAMSILL (526-7455)

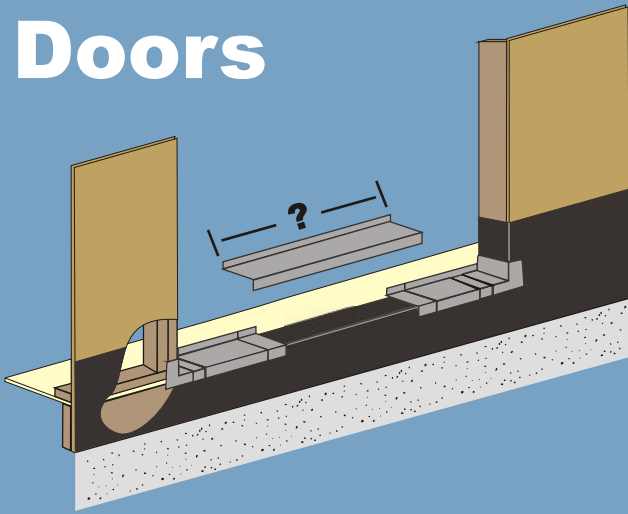
Fax:

1-541-488-7472

Web:

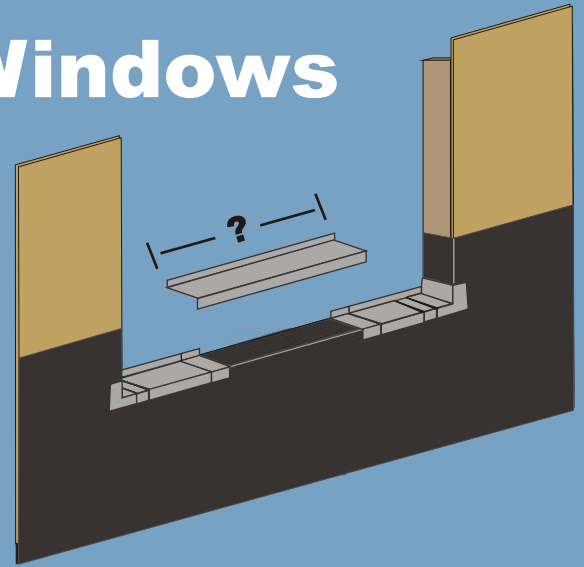
www.jamsill.com

Doors

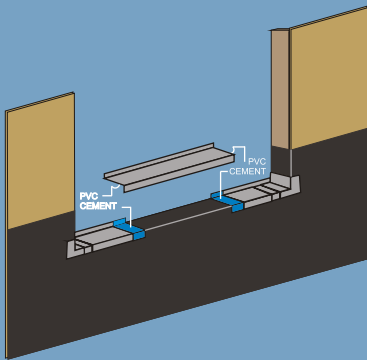


1. Install lower course of housewrap. Place left & right corners tight against framing. Measure center section and cut if necessary maintaining 1 ½" overlap at glue joints. Center section must fit within recessed areas of corner pieces.

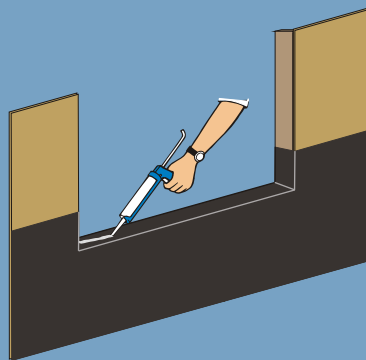
Windows



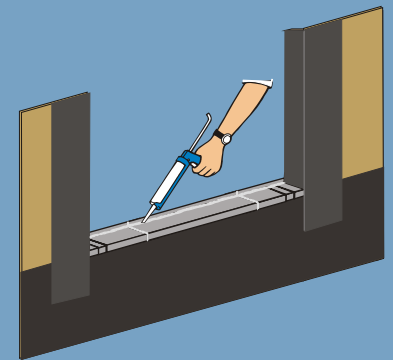
1. Install lower course of housewrap. Place left & right corners tight against framing. Measure center section and cut if necessary maintaining 1 ½" overlap at glue joints. Center section must fit within recessed areas of corner pieces.



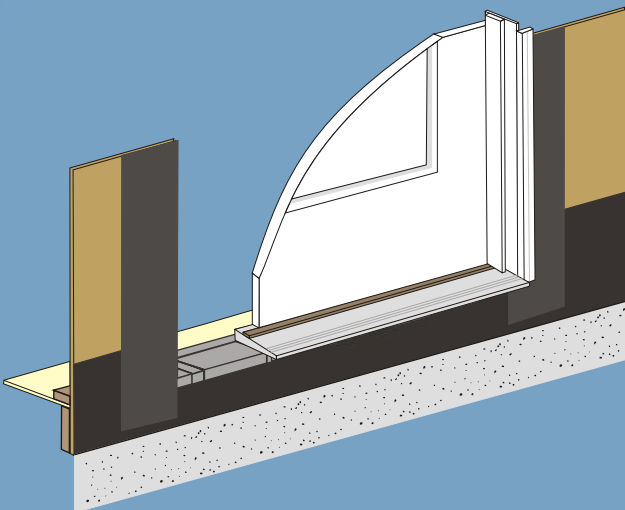
2. Apply PVC cement to the recessed areas of the corner pieces and the underside of the center section where it overlaps the recessed areas. Hold or clamp pieces together long enough to ensure a complete bond.



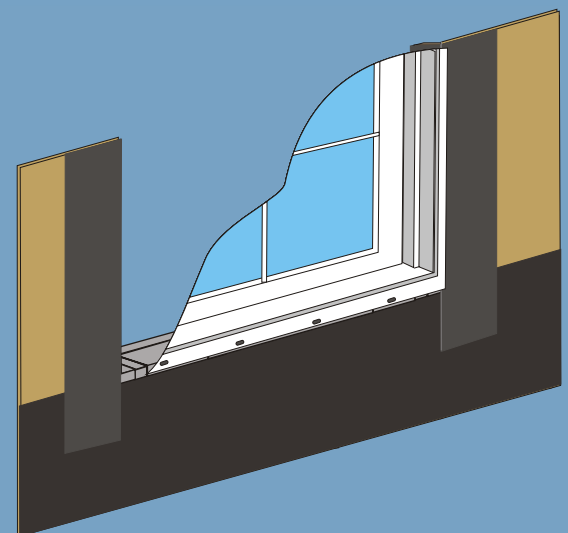
3. Remove pan and apply caulking where the pan will contact the framing. Set pan in caulking.



4. Apply caulking to interior edge of pan to seal window frame/door sill to pan. Apply caulking to glue joints for added protection. Adhere flexible flashing to sides of opening, wrapping around from sheathing to studs and shingle over and into the sill pan.



5. Install door. Do not block sloped weep areas.



5. Install window. Do not block sloped weep areas.

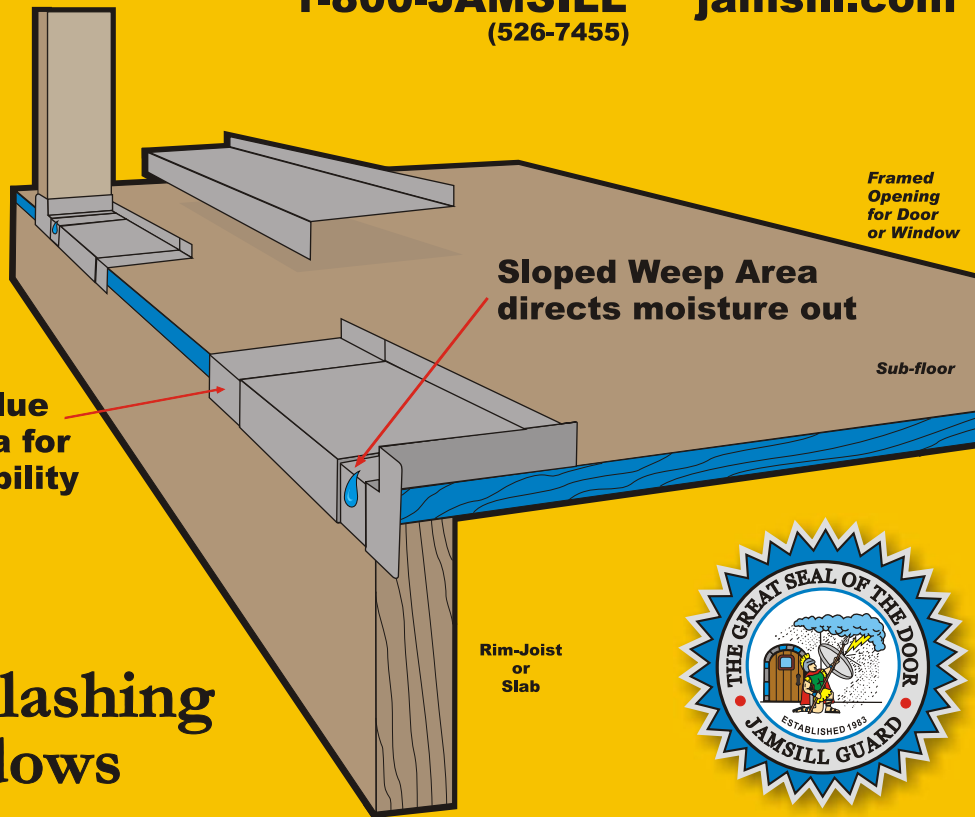
**Prevent moisture
damage from leaking
doors & windows!**

Jamsill Guard®

The ORIGINAL Sill Pan Flashing Since 1983!

1-800-JAMSILL
(526-7455)

jamsill.com



Adjustable Sill Pan Flashing for Doors & Windows

Jamsill Guard®

The **ORIGINAL** Sill Pan Flashing since 1983!

Jamsill, Inc. P.O. Box 485 Talent, OR 97540
1-800-JAMSILL (526-7455) www.jamsill.com

HardiePlank® **HZ10** Lap Siding



EFFECTIVE SEPTEMBER 2013

Visit www.jameshardie.com for the most recent version.

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS

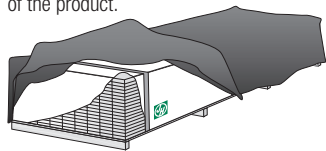
**SELECT CEDARMILL® • SMOOTH • CUSTOM COLONIAL™ SMOOTH • CUSTOM COLONIAL™ ROUGHSAWN
CUSTOM BEADED CEDARMILL® • CUSTOM BEADED SMOOTH • STRAIGHT-EDGE SHINGLE PLANK**

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE™ PRODUCT INSTRUCTIONS.

INSTALLATION OF HZ10® PRODUCTS OUTSIDE AN HZ10® LOCATION WILL VOID YOUR WARRANTY. TO DETERMINE WHICH HARDIEZONE™ APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

- Position cutting station so that wind will blow dust away from user and others in working area.
- Use one of the following methods:
 - Best:
 - Score and snap
 - Shears (manual, electric or pneumatic)
 - Better:
 - Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - Good:
 - Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

- Cut only using score and snap, or shears (manual, electric or pneumatic).
- Position cutting station in well-ventilated area

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep – Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

SD083105

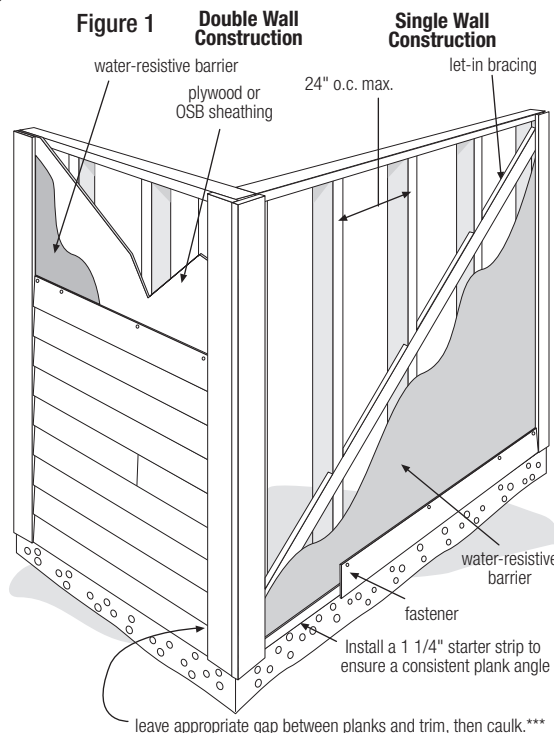
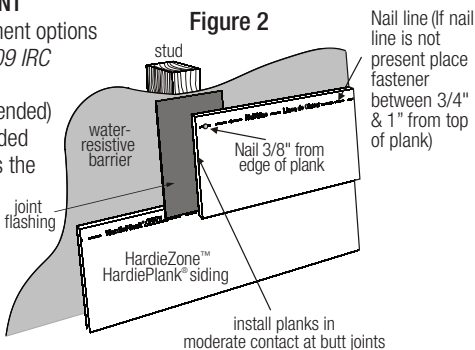
GENERAL REQUIREMENTS:

- HardiePlank® lap siding can be installed over braced wood or steel studs spaced a maximum of 24" o.c. or directly to minimum 7/16" thick OSB sheathing. See general fastening requirements. Irregularities in framing and sheathing can mirror through the finished application.
- Information on installing James Hardie products over foam can be located in **JH Tech Bulletin 19** at www.jameshardie.com
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap® Weather Barrier, a non-woven non-perforated housewrap¹, which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 3-14 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- Do not use HardiePlank lap siding in fascia or trim applications.
- Do not install James Hardie products, such that they may remain in contact with standing water.
- HardiePlank lap siding may be installed on flat vertical wall applications only.
- For larger projects, including commercial and multi-family projects, where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie® Siding Products" at www.JamesHardie.com.
- DO NOT use stain, oil/alkyd base paint, or powder coating on James Hardie® Products.

INSTALLATION: JOINT TREATMENT

One or more of the following joint treatment options are required by code (as referenced 2009 IRC R703.3.2)

- Joint Flashing (James Hardie recommended)
- Caulking* (Caulking is not recommended for ColorPlus for aesthetic reasons as the Caulking and ColorPlus will weather differently. For the same reason, do not caulk nail heads on ColorPlus products.)
- "H" jointer cover



Note: Field painting over caulking may produce a sheen difference when compared to the field painted PrimePlus. *Refer to Caulking section in these instructions.

¹ For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

SD050905

CLEARANCE AND FLASHING REQUIREMENTS

Figure 3
Roof to Wall

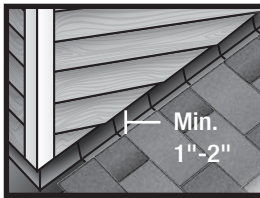


Figure 4
Horizontal Flashing

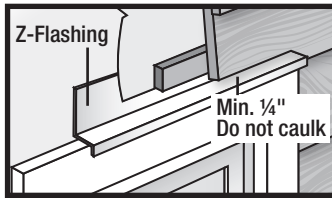


Figure 5
Kickout Flashing

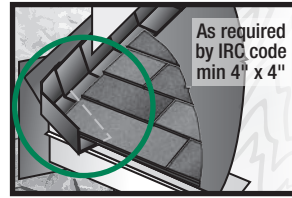


Figure 6
Slabs, Path, Steps to Siding

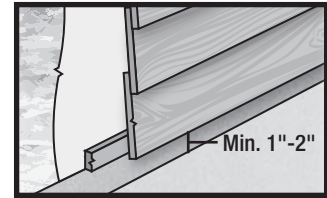


Figure 7
Deck to Wall

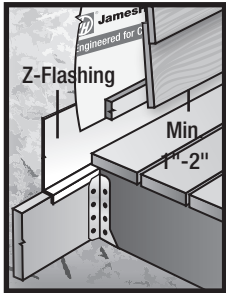


Figure 8
Ground to Siding

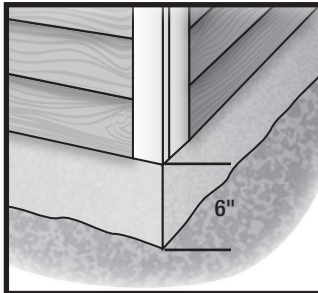


Figure 9
Gutter to Siding

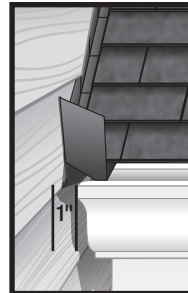


Figure 10
Sheltered Areas

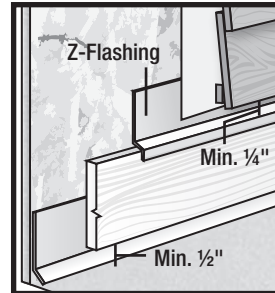


Figure 11
Mortar/Masonry

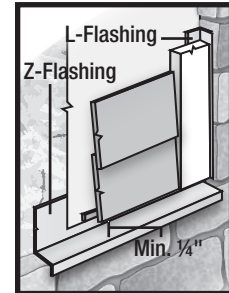


Figure 12
Drip Edge

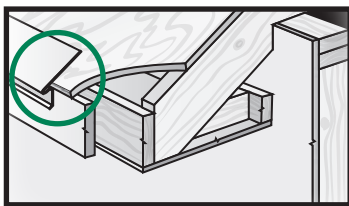
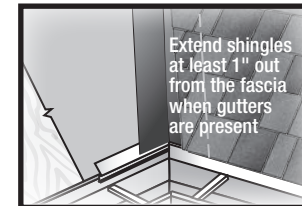


Figure 13
Block Penetration
(Recommended in HZ10)



Figure 14
Valley/Shingle Extension



FASTENER REQUIREMENTS **

Blind Nailing is the preferred method of installation for HardiePlank® lap siding products. Face nailing should only be used where required by code for high wind areas and must not be used in conjunction with Blind nailing (Please see JH Tech bulletin 17 for exemption when doing a repair). **Pin-backed corners may be done for aesthetic purposes Only. Pin-backs shall be done with finish nails only, and are not a substitute for blind or face nailing.**

BLIND NAILING

Nails - Wood Framing

- Siding nail (0.09" shank x 0.221" HD x 2" long)
- 11ga. roofing nail (0.121" shank x 0.371" HD x 1.25" long)

Screws - Steel Framing

- Ribbed Wafer-head or equivalent (No. 8 x 1 1/4" long x 0.375" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F Panelfast® nails or equivalent (0.10" shank x 0.313" HD x 1-1/2" long)
- Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- 11ga. roofing nail (0.121" shank x 0.371" HD x 1.75" long)
- Ribbed Wafer-head or equivalent (No. 8 x 1 5/8" long x 0.375" HD).

FACE NAILING

Nails - Wood Framing

- 6d (0.113" shank x 0.267" HD x 2" long)
- Siding nail (0.09" shank x 0.221" HD x 2" long)

Screws - Steel Framing

- Ribbed Bugle-head or equivalent (No. 8-18 x 1-5/8" long x 0.323" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F pin or equivalent (0.10" shank x 0.25" HD x 1-1/2" long)
- Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- Siding nail (0.09" shank x 0.221" HD x 1-1/2" long)*

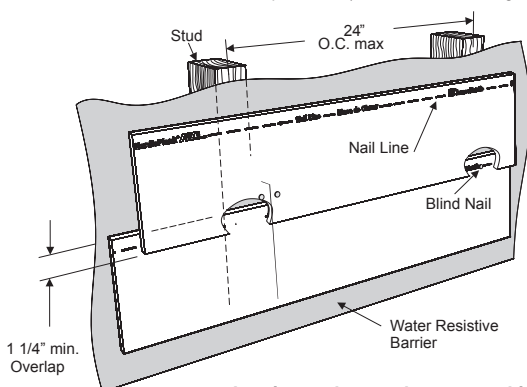


Figure 15

Minimum overlap
for Both Face
and Blind Nailing

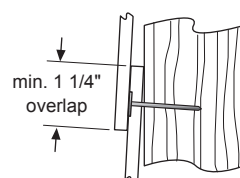
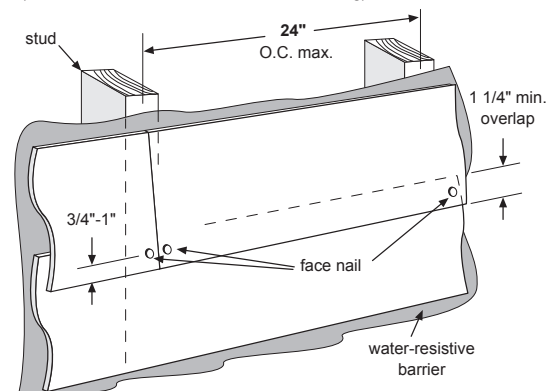


Figure 16



Laminate sheet to be removed immediately after installation of each course for ColorPlus® products.

* When face nailing to OSB, planks must be no greater than 9 1/4" wide and fasteners must be 12" o.c. or less.

** Also see General Fastening Requirements; and when considering alternative fastening options refer to James Hardie's Technical Bulletin USTB 17 - Fastening Tips for HardiePlank® Lap Siding.

GENERAL FASTENING REQUIREMENTS

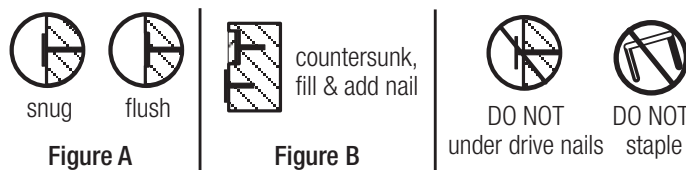
Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5.

- Consult applicable product evaluation or listing for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- NOTE: Whenever a structural member is present, HardiePlank should be fastened with even spacing to the structural member. The tables allowing direct to OSB or plywood should only be used when traditional framing is not available.
- **Do not use aluminum fasteners, staples, or clipped head nails.**

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).



PAINTING

DO NOT use stain, oil/alkyd base paint, or powder coating on James Hardie® Products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. **Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.**

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie® ColorPlus® products. During installation use a wet soft cloth or soft brush to gently wipe off any residue or construction dust left on the product, then rinse with a garden hose.
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain, oil/alkyd base paint, or powder coating on James Hardie® Products.
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

COVERAGE CHART/ESTIMATING GUIDE

Number of 12' planks, does not include waste

COVERAGE AREA LESS OPENINGS		HARDIEPLANK® LAP SIDING WIDTH								
SQ (1 SQ = 100 sq.ft.)	(exposure)	5 1/4 4	6 1/4 5	7 1/4 6	7 1/2 6 1/4	8 6 3/4	8 1/4 7	9 1/4 8	9 1/2 8 1/4	12 10 3/4
1		25	20	17	16	15	14	13	13	9
2		50	40	33	32	30	29	25	25	19
3		75	60	50	48	44	43	38	38	28
4		100	80	67	64	59	57	50	50	37
5		125	100	83	80	74	71	63	63	47
6		150	120	100	96	89	86	75	75	56
7		175	140	117	112	104	100	88	88	65
8		200	160	133	128	119	114	100	100	74
9		225	180	150	144	133	129	113	113	84
10		250	200	167	160	148	143	125	125	93
11		275	220	183	176	163	157	138	138	102
12		300	240	200	192	178	171	150	150	112
13		325	260	217	208	193	186	163	163	121
14		350	280	233	224	207	200	175	175	130
15		375	300	250	240	222	214	188	188	140
16		400	320	267	256	237	229	200	200	149
17		425	340	283	272	252	243	213	213	158
18		450	360	300	288	267	257	225	225	167
19		475	380	317	304	281	271	238	238	177
20		500	400	333	320	296	286	250	250	186

This coverage chart is meant as a guide. Actual usage is subject to variables such as building design. James Hardie does not assume responsibility for over or under ordering of product.

RECOGNITION: In accordance with ICC-ES Evaluation Report ESR-2290, HardiePlank® lap siding is recognized as a suitable alternate to that specified in: the 2006, 2009, & 2012 International Residential Code for One- and Two-Family Dwellings, and the 2006, 2009, & 2012 International Building Code. HardiePlank lap siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#889, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

© 2013 James Hardie Building Products. All rights reserved.
TM, SM, and ® denote trademarks or registered trademarks of
James Hardie Technology Limited.  is a registered trademark
of James Hardie Technology Limited.

Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



Panelfast is a registered trademark of ET&F Fastening Systems, Inc.



2015 Tear Down Plan

Phase One

- ❑ Remove and salvage
 - Remove Frost Proof Sill Cock
 - Other – as communicated
 - Carry plumbing fixtures to designated location for

Plumbing

SAVE all parts and place in containers provided by us

- ❑ Remove Light Fixtures and Re-Box
- ❑ Remove Breaker Panel with Breakers
- ❑ Other – as communicated

Electrical

SAVE all parts and place in containers provided by us

- ❑ The brick will be scoped up by skid loader (two 20yd dumpsters for brick only).
- ❑ Remove trim and siding from around the window only
- ❑ Take the siding and trim pieces you removed to the debris pile
- ❑ Carefully remove the window
 - Carry window to designated location for *Window*

Phase Two

- ❑ Remove copper pipes and wire from walls and take to *Copper Recycle* area.
- ❑ Remove the *PVC* from the walls and put in a Gray-Mate.
- ❑ Remove the steel studs and track, **take the studs and track apart**, then to the *Steel Recycle* dumpster.
- ❑ Remove both walls with wood studs, take them to the *Wood Wall* area and stack for banding.
- ❑ Remove any screws holding pipe to the slab sections
- ❑ Remove any Simpson connectors from the slab sections.
- ❑ Take the Orange slab section to the *Orange Slab* area and stack for banding.
- ❑ Take the Blue slab section to the *Blue Slab* area and stack for banding.

Phase Three

- ❑ Teams that have completed previous tasks can remove the felt paper and tape from the concrete and discard in trash receptacle.
- ❑ Sweep up all debris and place in trash bins
- ❑ Help other teams as needed
- ❑ Skid loader will pick up the debris.
- ❑ Take tools to the tool area
- ❑ Wait quietly for further directions

.

Teams that have completed this segment should help any other teams.

Demolition is complete, wait for FINAL instructions.



CHANGE ORDER FORM

Date: _____

Deletion:

Addition:

Comments:

Signature _____



In the upcoming days of the competition you will receive all the hand and power tools you will need to complete your project. You are responsible for those tools and should treat them with the same care you would afford borrowed from a good friend tools.

You should inventory the tools to ensure all the items on your Tool Checklist are there. If there are missing items, you must inform a Technical Committee member immediately.

Once you have all your tools it is your responsibility to charge all your batteries so the tools are ready to be used the next morning.

Friday, your tools will be checked as you return them. Failure to return a tool or returning a tool in a poor condition may impact your score.

If at any point during the competition you have a problem with a hand or power tool, please talk with a Technical Committee member so your problem can be addressed.

Remember, job site safety includes tool safety. Use your tools only for their intended use so you do not hurt yourself, others around you or damage the tool. Always use your eye protection and maintain a clean work area.

Best of luck in the competition

TeamWork's Technical Committee