FOX BLOCKS® TRUEGRID®

# TECHNICAL INFORMATION & PRODUCT GUIDE

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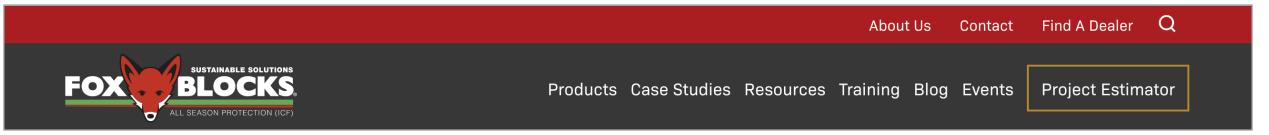
# FOX BLOCKS

**Fox Blocks** are strong, durable products with a very substantial company behind them. Our team is committed to bringing the development, design and construction industry an extremely efficient building envelope with superior strength, sound, air quality and continuous double-insulated walls.

This Technical Information and Product Guide is a comprehensive overview of key technical elements of Fox Blocks products and applications. Accompanying this guide is the Installation Checklist which has a step-by-step process for project sequencing.

## FOX BLOCKS WEBSITE . FOXBLOCKS.COM

Refer to the Fox Blocks website for more detailed information on products, accessories, code evaluations, testing, and technical documents.




The website has an extensive list of **Case Studies** for notable and award-winning Fox Blocks projects for all building types, residential and commercial. The **Resources** library has over 100 technical documents, including technical bulletins, reports, and engineering guides. The **Blog** library addresses current construction techniques, material applications and building product market research. Our **Project Estimator** is an amazing tool for detailed, accurate material estimates for any size project. The **Find a Dealer** tab locates an authorized Fox Blocks dealer anywhere in North America.

## HOW TO USE THIS GUIDE

On specific pages in this Guide, the icons below direct you to our Resource Library or the Integrated Learning Center (ILC) Video Library for more detailed information on a specific topic or application.


# TRAINING PROGRAMS & WALLET CARDS

INTEGRATED LEARNING CENTER
BY FOX BLOCKS

## FOX BLOCKS INTEGRATED LEARNING CENTER (ILC)

Fox Blocks Online Training and Video Library provide comprehensive, step by step, best practice installation courses, plus educational videos on the use and applications of Fox Blocks insulated concrete forms and accessory products. The experience of the Fox Blocks technical team will be expanding this educational portal, addressing all the bases to ensure a better and efficient build for all Fox Blocks applications.
Enroll, creating an account to follow the step-by-step online courses –

- Primary Installer
- Journeyman Installer
- Master Installer
- Elite Premier Installer

Upon completion of an ILC Training Course, you will receive a Certificate of Completion and Wallet card. In addition, the Primary Installer Course has been recognized for six continuing learning credits by some Contractors Associations.

Fox Blocks encourages every designer, contractor, and installer to understand the benefits of the products and utilize those benefits to have a great build through this Integrated Learning Center.

The ILC Video Library is an extensive selection of videos tackling product applications and unique details for any project. The video library is open to search and is constantly being enhanced with more instructional content.

CLICK THROUGH FOR VIDEOS

As Fox Blocks expands throughout North America, training courses follow to ensure proper knowledge and techniques are used during installations.

Trainings are tailored to the region and focus on contractors, building officials, engineers/architects, and building supply yards.

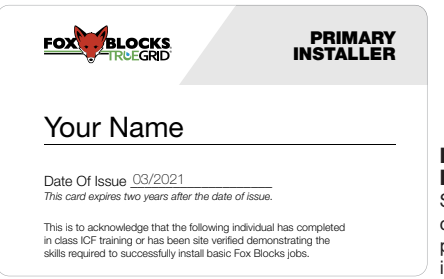
When installing contractors complete a training, they are required to complete the proper paperwork to earn a wallet card (see at right). This wallet card can be used when asked for by building officials.

As contractors gain experience, higher level wallet cards are earned. Tracking experience on successfully completed projects allows us to make appropriate recommendations on all jobs looking for a properly qualified installer.

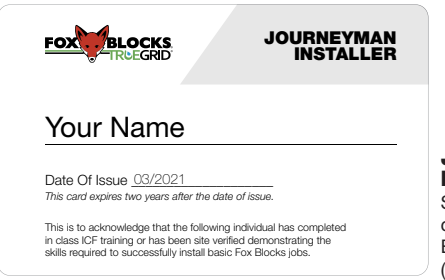
## TRAINING OBJECTIVES

1) Understanding ICF
2) Estimating Your Job
3) Crew Sizing for Your Job
4) Basic Installation of the Fox Blocks Line-Up
5) Enhancing Your ICF Business Skills

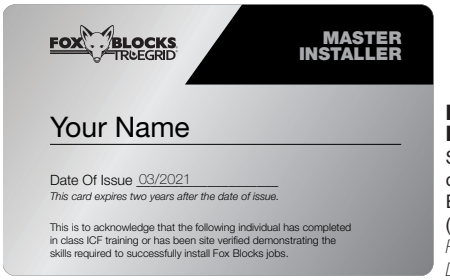
## INSTALLER LEVELS



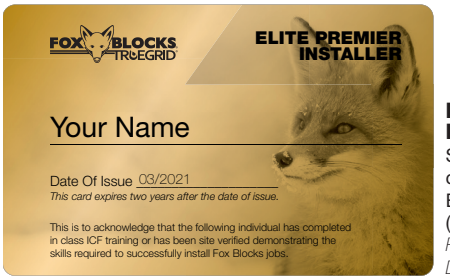

**PRIMARY INSTALLER:** Successfully completed one ICF project or completed in class training.




**JOURNEYMAN INSTALLER:** Successfully completed 5 Fox Blocks projects (or 1500+ Block).




**MASTER INSTALLER:** Successfully completed 15 Fox Blocks projects (or 4500+ Block). *Regional Manager & Dealer will Confirm*




**ELITE PREMIER INSTALLER:** Successfully completed 30 Fox Blocks projects (or 9000+ Block). *Regional Manager & Dealer will Confirm*

# THE TRUE COST OF FOX BLOCKS

To help understand the cost advantage of using Fox Blocks Industrial Strength Insulated Concrete Forms (ICF) consider the following key points:

## THREE KEY AREAS GIVE YOU THE TRUE ACCURATE COST OF THE ICF YOU CHOOSE:

1) **ICF BLOCK COST**
   Most ICFs fall to within $0.10 per square foot of each other in block cost which is a minor portion of the overall cost of the wall construction. You must get “All-In” landed ICF System cost to accurately compare.

2) **ANCILLARY PRODUCT COST**
   Add in all ancillary product costs that are not in the block quote. A common example is most ICF require internal truss wire to give needed strength to the system. Know what's required within system install guidelines to produce a straight wall. See next page for examples that will save you time & money on your next job.

3) **MAN HOUR RATE TO INSTALL**
   Eliminating tasks will shave hours/days off the project. Installation labor is the largest portion of overall ICF cost. Seek full disclosure on man hour rates to install the ICF system you are considering. Listening to experienced installing contractors and gaining an understanding of the attributes of ICF products can make the difference between a streamlined, profitable job and one that is not.

## AT FOX BLOCKS:

### EXPERIENCE
Airlite Plastics Co., the parent company of Fox Blocks, manufactured many different brands of ICF over the past 15+ years. Much experience was gained while producing over a hundred million square feet of ICF. Designed, engineered and delivered to your local market.

### COMPETENCE
Airlite Plastics controls all aspects of development and production = “Industry Leading Products.”

### COMMON SENSE
We went to the field and asked the professionals what they needed to be effective and efficient. After listening to them we produced an Industrial Strength ICF called Fox Blocks!

### STABILITY
Since 1946 the family run Airlite Plastics business has grown and provided high quality proven products over the decades. We have and will continue to provide the highest quality products to the construction industry for years to come.

# REMOVE COSTS ON YOUR ICF PROJECT

## TWO PROVEN AREAS TO REMOVE COST:

### 1) CORNERS

**PROBLEM:** Historically, corner blocks have proved to be very difficult for installing contractors to hold the corner positioning or actually holding concrete during the consolidation process. Contractors have resorted to inserting internal ties, external strapping and bracing to gain needed strength. This adds cost in additional materials and man hour rates.

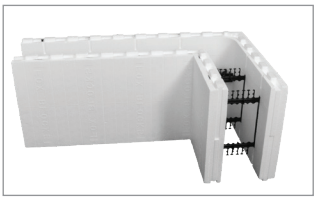
Some other ICF brands strap corners with lumber for strength during concrete placement.

**SOLUTION:** Our engineering staff at Fox Blocks developed more length to the corners and introduced the heaviest cross tie corner bracket on the market. Adding these features to our large/strong interlock stopped rotation and movement within the blocks during the pour and added needed burst strength. Having this bracket, and no less than two ties from each corner in all 45˚ and 90˚ block, eliminates need for additional strapping or internal ties.

**RESULT:** Confidence to the installing contractor, lower man hour rates, and lower material costs proven by over 10 years of successful projects. Utilizing our Fox Blocks “next generation” corner block design will save you money through time and material reductions.

**COST:** The Fox Blocks corners cost the same per square foot as the Fox Blocks straight block. Cost may appear higher than our competitors because our corners are 16" or more in length. In many cases, our corners are actually lower in cost per square foot and at the same time save you even more in time and materials.

The Fox Blocks extended 90˚ corner block showing it's stand alone strength during concrete placement.



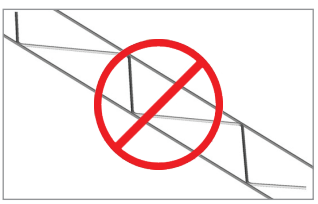
The Fox Blocks extended 90˚ corner block with an extra tie on each end for strength.

### 2) ELIMINATE TRUSS WIRE (FORM LOCK, BLOCK LOCK)

**PROBLEM:** Some ICF interlocks and slender plastic webs have caused the need for internal truss wire to aid in producing adequate strength to add rigidity to produce a straight wall.

**SOLUTION:** Two very simple Fox Blocks innovations cured this problem: 1) A bold and reversible interlock was created to help hold the wall true. 2) A full height internal tie was designed to use solid stacking strength to hold the wall from settling or racking.

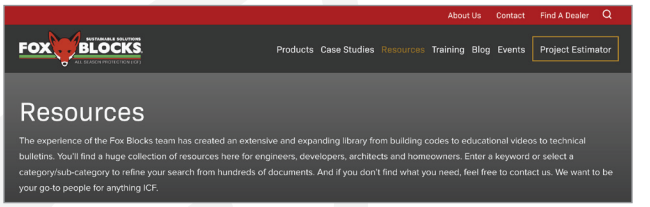
**RESULT:** A wall that, through design, eliminates the need for truss wire.



**USING FOX BLOCKS ELIMINATES THE NEED FOR TRUSS WIRE**
Truss wire costs over $0.50 per lineal foot and is called for at bottom of wall and then every 4 or 5 rows of block. Actual cost = Over $0.14 per sq ft in materials and at least $0.04 per sq ft labor for a total of $0.18 or more per sq ft cost. This is equivalent to $0.40 per block

# FOX BLOCKS RESOURCES

Visit the Fox Blocks Resource Page to gain access to the essential resources, documentation and tools you need to plan and design your next innovative ICF project. Some of these key tools:




## INTEGRATED LEARNING CENTER

Fox Blocks Integrated Learning Center (ILC) provides Comprehensive, free step by step training modules for all installer levels and a product knowledge course for dealers. Plus, access to an educational video library.

## CONTINUING EDUCATION

AEC Daily website provides free access to Fox Blocks AIA approved online ICF courses for 1.0 HSW credits.

## AUTOCAD DETAILS

Fox Blocks full product and construction detail library is available on CADdetails website. Details may be downloaded as dwg, pdf, 2D or 3D models. Specifications are also available.

## BIMSMITH, BIM FORGE AND BIM MARKET

BIM 3D product details are available for download to use in Revit. BIM Forge creates 3D Fox Blocks wall assemblies for Revit designs. BIM Market provides product details descriptions and applications

## MASTERSPEC

Fox Blocks specifications are AIA approved and listed by DELTEK on www.productmasterspec.com, in Section 031119.

## YOUTUBE

In addition to the ILC educational videos, Fox Blocks has may installation videos listed on our YouTube channel

## AND MUCH MORE

On the Resources Web Page - Technical Bulletins, Specifications, Testing, Building Science Reports, Code Compliance, Engineering Tables, Install Guidebooks and Checklists, etc.

Find everything you need to get started on at www.foxblocks.com.

# FOX BLOCKS STUDS

You are a sheetrock, residential wood frame, commercial steel stud or siding contractor that has been trained, and are efficient with, a continuous 1½" wide attachment surface @ 16" on center.

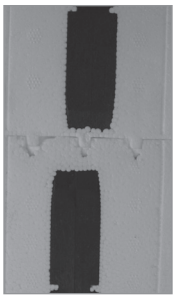
Our team agrees with this tradition and therefore created Fox Blocks with the same, continuous 1½" wide attachment surface, but increased it to 8" on center.

Just think, when attaching sheet rock or siding to Fox Blocks, you can use the same training you have used until now and understand.


Photo shows a wood stud on top of a Fox Blocks stud for size comparison.

**FOX BLOCKS**
- A full 1½" wide
- 8" o/c to achieve industry standard 16" o/c's
- No gap every 16" vertically due to ties touching
- Minimal settling due to ties touching
- Not effected by moisture, will not rot
- Will not move due to temperature and humidity changes
- Eliminates most sheetrock/drywall repairs
- Made of non-organic materials

**ACTUAL FOX BLOCKS WALL**
- Studs clearly marked @ 8" o/c
- Studs are in contact with each other vertically
- Studs buried into foam ⅝" for stucco application and thermal performance



**OTHER ICF**
- As narrow as 1" wide
- As much as 1¾" gap every 16" vertically due to ties not touching
- Settling due to ties not touching

**WOOD STUDS TODAY**
- Much larger grain than 15 years ago
- More knots and checks than 15 years ago
- Reject screws more than 15 years ago
- Prone to movement through seasons
- Prone to rot when sealed with moisture
- Prone to sheetrock/drywall repairs
- Food for insects

**FOX BLOCKS STUDS**
- Recycled polypropylene
- LEED credits*
- 120 lbs+ pullout / shear strength with screws**
- Use screws that are the thickness of material plus 1⅛" + in length.
- If the screws that you are using do not hold, try the next size longer. The tip of the screw must pass completely through the tie to achieve full strength.

* *See LEED documents at: http://www.foxblocks.com/Resource-Center/Technical-Resources/LEED-and-Environmental-Documents.aspx*

** *See testing results at: www.foxblocks.com/Resource-Center/Technical-Resources/Testing-Reports.aspx*

# FOX BLOCKS INTERLOCK

## THE OLD

For the past 20+ years, the interlock of most ICFs in the industry have been designed to be within ½" to 1" of the desired building dimension. Most contractors have been trained that it is acceptable to be this far off the desired dimension.

## THE NEW

When the Fox Blocks interlock was designed, our engineering staff made the choice not to focus on being within ½" to 1" from the building dimension, but to give the strongest interlock possible. To do this they turned the projections and recesses of the interlock parallel to the block itself and for simplicity/strength they made them 1" wide and 2" long. ***Walls should be square and built to the building dimensions. For this reason, Fox Blocks recommends stacking seams when needed.***

Shows the large 2" long projections and recesses and the full height 1½" wide tie

## BENEFITS OF THE LARGE INTERLOCK

- Minimized movement during concrete placement
- No adhesive required due to tightness of interlock
- Eliminates the need for truss wire within the wall
- The full height ties are always on top or 4" apart of each other

*Review next page to see the proper procedure for stacking seams.*

Here is a job, post concrete, that has been constructed exactly to the building dimension by properly stacking seams.

## CUT LINES

Every block has cut lines inscribed on the face. The cut lines are spaced @ 2" o/c and when used will place the cut precisely at the end of the interlocking tooth on top and bottom of block. The design was made for simplicity and speed of construction.

When required to cut block, use the cut line to maintain a running bond on each course.

*Note: In most cases, when not cutting precisely on a cut line a stacked seam will be created.*

## THE NEW TRAINING

### ROW ONE
Simply start from each corner to a point within the wall. Cut one of the blocks to fit perfectly. The cut does NOT need to be on the cut lines. Measure the cut block and mark its measurement to the side of that block large enough for everyone to see.

### ROW TWO
Start at the corners again placing the corner block the opposite direction from row one to give an overlap with the block. When you reach the cut block on row one, cut the block above it to line up exactly. Again the cut does not need to be on the cut line. Measure the cut block and mark its measurement to the side of that block large enough for everyone to see.

### ROW THREE
*(five, seven, nine, etc)*
Should be exactly the same as row one.

### ROW FOUR
*(six, eight, ten, etc)*
Should be exactly the same as row two.

### PRIOR TO CONCRETE
Simply connect the vertical seam that you created, at the one point in the wall, with strapping, or plywood, on both sides of each block. Use one 12" to 24" long strap, 3" to 6" wide, made out of 1 x wood boards or plywood sheathing attached with one screw in each tie on each side of seam.

### RESULTS
We have found that the man hour rate will drop using this method because the crew spends less time thinking how they can get closer to the building dimension and more time actually being productive.

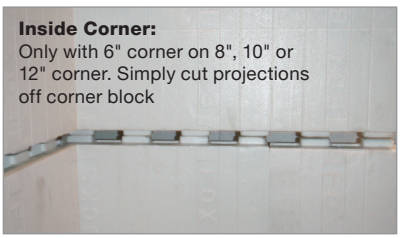
**WRONG**

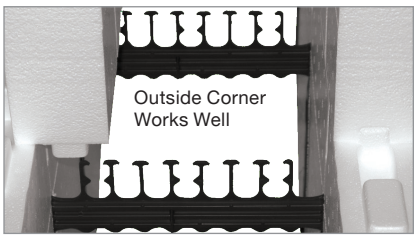
**CORRECT**

We have found it to be a waste of time and energy to attempt to offset or stagger the block, at the meeting point, as in the photo above-left. By creating a vertical stacked seam, you will be more accurate with the job dimensions and will increase your profit by gaining efficiency with your crew.

### BUILDING MULTIPLE LEVELS WITH DIFFERENT SIZED BLOCK
All sizes of Fox Blocks fit well on top of each other for any type of configuration with little or no modifications needed. This is simple math. Fox Blocks are reversible with 2" projections and recesses which means you will work with a 4" offset. For this reason the 4", 8" and 12" block all work well together as they are all divisible by 4". Using the same math, the 6" block attaches to all sizes of Fox Blocks with a 2" difference in tie alignment. This is not a concern as this joint line will usually happen at a floor diaphragm.

### 6" CORNER BLOCK ON TOP OF 8", 10" OR 12" CORNER BLOCK:
The 6" corner works well on top of the 8", 10" or 12" corner blocks when going around an outside corner. For inside corners, simply remove the projections off the corner block and continue building. You may need to create a stacked seam on one or both sides of the inside corner at which time we recommend moving the stacked seams for each wall closer to that inside corner.




6" 90˚ corner block on top of 8", 10" or 12" 90˚ corner block

# FOX BLOCKS ADVANTAGES

### CONSTRUCTION ADVANTAGES
As a modular, easy to install building product (one block equals 5.33 sq. ft. of wall area), the construction process is expedited with less labor and faster completion timelines. As a 6 in 1 product, fewer materials are required to meet the requirements for high-performance wall assemblies. Fox Blocks may be used to construct below grade and above grade walls for all building types and sizes. There is a definite business advantage in being a Fox Blocks Installer/Contractor.

### THERMAL COMFORT
The continuous, double insulated, mass concrete core performs better than the calculated R-value of R22+ for the wall assembly. Fox Blocks ICF wall assemblies meet and exceed current and pending energy codes for thermal comfort, in cold and hot climates zones. The use of the Fox Blocks Energy Stick enhances the R-value to R30+ or R39+.

### AIR TIGHTNESS
The air tightness of a building envelope is one of the main contributors to energy efficiency and control of the indoor environment. Fox Blocks enables Air Changes per Hour (ACH) to be evaluated at much less than code requirements without extra sealants, tapes, or membranes. Another material and labor advantage.

### INDOOR COMFORT
The high thermal performance and air tightness of the Fox Blocks wall assembly provides excellent indoor comfort and improves the buildings operational performance characteristics for the interior environment. They eliminate moisture intrusion, function as a vapor retardant, and maximize airtightness, all while managing the indoor air quality and allowing for healthy climate control and sound mitigation.

### BUILDING SCIENCE
Fox Blocks ICFs address all four building science properties – air, moisture, vapor and thermal to create a comfortable and safe environment.

**Conduction:** Continuous Insulation, High R-Value Wall Assembly of R-22+
**Convection:** Airtightness with an ACH of less than 0.03
**Radiation:** High thermal Mass of Double Insulated Concrete Core
**IAQ:** The EPS or Concrete does not off-gas or contribute to mold or mildew growth

### ENERGY EFFICIENCY
All the characteristics of a Fox Blocks building envelope provide 40% plus in operational costs savings, and enable a Net Zero Ready evaluation. The continuous double layer of insulation utilizes the thermal mass of the concrete core to moderate temperature transfer through the wall assembly. The EPS wall assembly will not deteriorate or lose R-value over time.

### REDUCED HVAC
The performance characteristics of a Fox Blocks wall assembly, when initially evaluated or modelled for the design of HVAC equipment, dramatically reduces the first cost sizing and ongoing operational expenses of the heating and cooling systems, as well as the Photovoltaic (Solar) requirements.

### RESILIENCY
Fox Blocks creates a reinforced concrete wall assembly that has certified fire testing for fire resistance ratings - 2HR for a 4" form and 4HR for a 6", 8", 10" or 12" forms. The wall assembly may be designed to resist high winds over 200 mph and flying debris. The concrete and EPS wall is not damaged from flood waters. FEMA recognizes ICFs for the construction of safe rooms and storm shelters.

### PASSIVE SURVIVABILITY
Fox Blocks ICF high-thermal-mass wall systems significantly contribute towards passive survivability and resilient design. The continuous insulation with an R-value of 23 creates an airtight-building envelope, preventing heat loss through conduction, while its vapor retarder stops air and moisture infiltration through convection. The high-thermal mass of Fox Blocks ICF helps to stabilize and maintain a building's temperature during lengthy power outages.

### DESIGN

Design professionals have easy access to product and application details in 2D or 3D CAD, or BIM libraries. The BIMsmith Forge free library allows for the construction of wall assemblies with a Fox Blocks ICF core. These libraries also provide PDF files, and specifications. Fox Blocks is also approved by the AIA and listed in MasterSpec library.

### TECHNICAL SUPPORT AND EDUCATION

Fox Blocks provides technical support along with the extensive Resource reference library. The Integrated Learning Center (ILC) provides a comprehensive, free, Installer training course for all levels of Installers. There is also a Product Knowledge course for authorized distributors.

The ILC site also has an ever-expanding video library for product applications and techniques.

CLICK THROUGH FOR RESOURCES

6 IN ONE ICF WALL

1. Structure
2. Continuous Insulation
3. Air Barrier, WRB
4. Vapor Retardant
5. Attachment Surface
6. Reversible Interlock

## FOX BLOCKS 6 IN 1 WALL CONSTRUCTION ASSEMBLY

The Fox Blocks 6 in 1 Wall Construction Assembly expedites the building process and creates faster results! By completing these steps all in one ICF wall, you can dramatically reduce the construction schedule vs. traditional multi-layer wall assemblies. A faster construction time means a faster move-in date to start enjoying your new home!

**REVERSIBLE INTERLOCK**
Reversible top & bottom interlock saves time and reduces product needs

**REBAR SADDLE**
Horizontal positioning and secured placement of lap splices

**CONCRETE FORM**
Exterior and interior

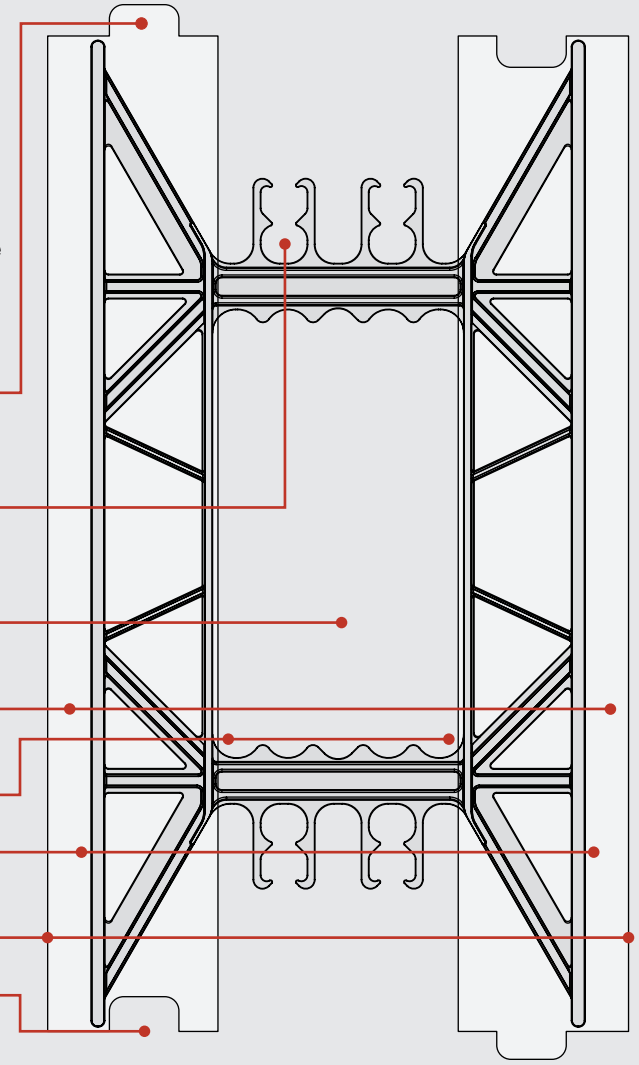
**CONTINUOUS INSULATION**
Embedded full height for exterior and interior

**AIR BARRIER**

**FURRING**
Embedded full height for exterior and interior

**VAPOR RETARDER**

**REVERSIBLE INTERLOCK**



# FOX BLOCKS LINE-UP

With advice from leading contractors in the Insulated Concrete Form business, Fox Blocks has created an incredible group of blocks.

## FOX BLOCKS LINE-UP INCLUDES

*(Please note: Fox Blocks are reversible. As an example, each corner block is a left or a right.)*

**A) STRAIGHT BLOCKS**
Available in 4", 6", 8", 10" and 12".

**B) STRAIGHT 1/2 BLOCK**
Available in 4", 6", 8", 10" and 12".

**C) EXTENDED 90° CORNERS**
Available in 4", 6", 8", 10" and 12".

**D) EXTENDED 90° CORNER 1/2 BLOCK**
Available in 4", 6", 8", 10" and 12".

**E) 45° CORNER BLOCKS**
Available for 4", 6" and 8".

**F) T-BLOCKS**
Standard T: Available in 6" x 6" and 8" x 8"
Transition T: Available in 4" x 6", 6" x 4", 8" x 4", and 8" x 6"

**G) CORBEL LEDGE BLOCKS**
Available in 6" and 8".

**H) RADIUS BLOCKS**
For 5', 6', 7', 8', 9' and 10' radius.
Only available in the 6" blocks.

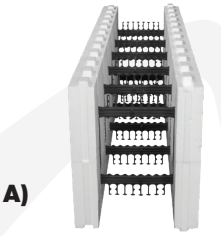
**I) TAPER TOP BLOCK**
Available in 6" and 8".

**J) CURB BLOCK**
Available in 8" and 10" Straight and 90°

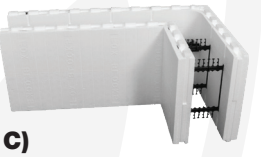
**K) 4" HIGH EXTENSION**
When you need extra height or to help with openings.

**L) ENERGY STICKS**
One size fits all.

**M) FOX BUCK**
Available in 4", 6", 8", 10" and 12".


A)


B)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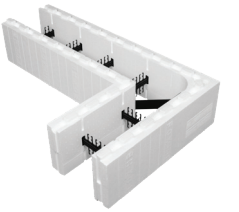
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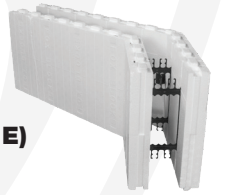

E)


F)


G)


H)


I)


J)


K)


L)


M)

# FOX BLOCKS STANDARD (STRAIGHT) BLOCK

The standard block is the core of the product line, typically makes up between 80-85% of the ICF wall assembly on most residential and commercial jobs.

## STANDARD BLOCKS

**1)** 16" high x 48" long available in concrete core sizes 4", 6", 8", 10" and 12"

**2)** One standard block is 5.33 sq. ft. of wall area

**3)** Solid 2⅝" thick EPS continuous insulation panels providing R4.1 per inch

**4)** Cross-ties, polypropylene recycled industrial plastic at 8" o.c.

**5)** Cross-ties are designed with a full height 1½" wide fastening strips at 8" o.c. on each side of the block

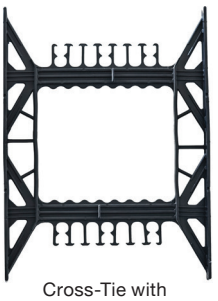
**6)** Rebar clips are built into the cross-ties to secure and space the rebar

**7)** Blocks have a robust, reversible, tight fitting interlocking system on the top and bottom

**8)** The locations of all cross ties are indicated on the exterior face of the block

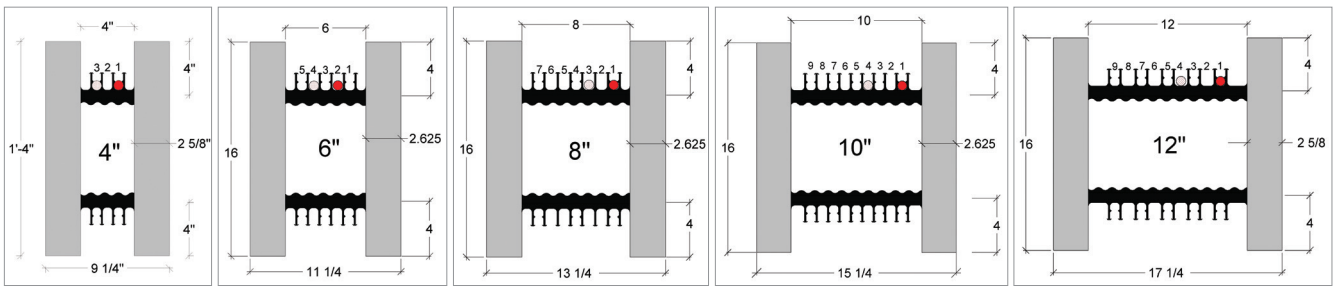
**9)** Cut lines are scribed on the exterior face of the block to allow cut blocks to maintain interlock

**10)** Fox Blocks creates a flat wall reinforced concrete wall assembly



Cross-Tie with Fastening Strip

## FOX BLOCKS END VIEW SIZING

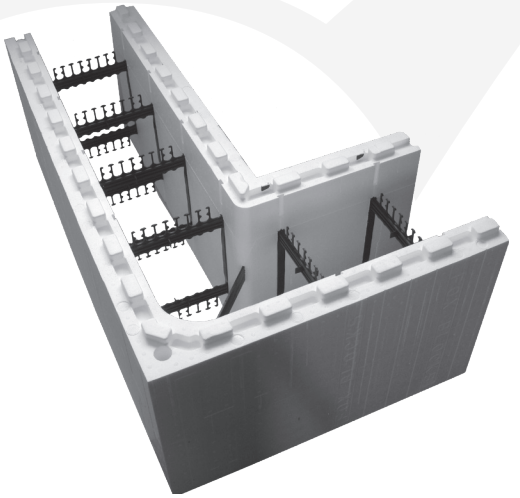


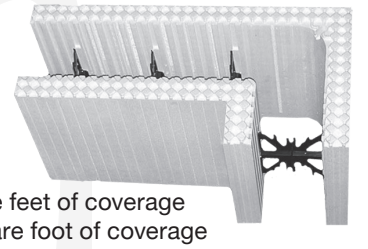

### CONCRETE VOLUMES - CU.YD (CU.M)

| | | | | | |
|---|---|---|---|---|---|
| 4" | 0.066 | (0.05) | 10" | 0.165 | (0.126) |
| 6" | 0.099 | (0.075 | 12" | 0.198 | (0.151) |
| 8" | 0.132 | (101) | | | |

# FOX BLOCKS EXTENDED 90° CORNER

Fox Blocks engineered the 90° corner to hold concrete without the need for extra strapping or external bracing.



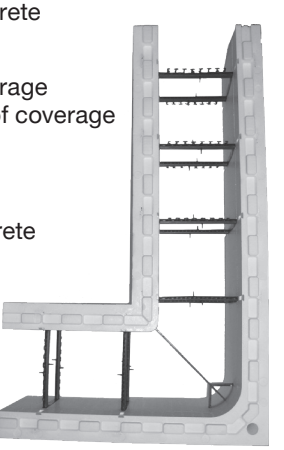


**OTHER ICF 90s**

- 5 to 5.33 total square feet of coverage
- More costly per square foot of coverage
- 16" shorter than Fox Blocks
- Only 4 ties
- Only one tie on short end
- More movement during concrete

**FOX BLOCKS 90s**

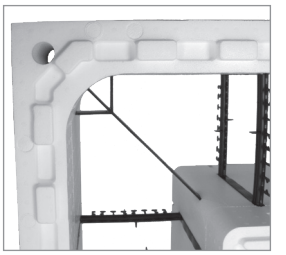
- 7.56 total square feet of coverage
- Less costly per square foot of coverage
- 16" longer than other ICF
- 6 ties
- Two ties on short end
- Less movement during concrete

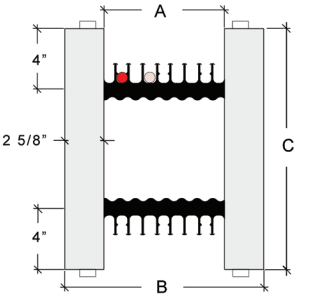


Being 16" longer than other ICF allows you to eliminate one full straight block for every three Fox Blocks corners used. This also saves you money!

**Radius** on the inside face of the Fox Blocks Corners are:
4", 6" and 8" Blocks = **3"** 10" and 12" Blocks = **8½"**
Additional EPS was added to the 10" and 12" Corner Blocks to give additional strength for the longer distance from corner to 1st tie.

Every Fox Blocks corner has a large 100 sq. inch fastening zone in the corner.






| A | B | C |
|---|---|---|
| 4" | 9.25" | 8" or 16" |
| 6" | 11.25" | 8" or 16" |
| 8" | 13.25" | 8" or 16" |
| 10" | 15.25" | 8" or 16" |
| 12" | 17.25" | 8" or 16" |

Fox Blocks 90° Extended Corner Size Chart

## FOX BLOCKS EXTENDED CORNER FEATURES

**1)** All blocks have Ties* at 8" o/c and are available in 4", 6", 8", 10" and 12" cavities.

** Ties are the black recycled polypropylene members that give the block strength and provide rebar positioning.*

**2)** Like all Fox Blocks, corner blocks are reversible so when you ask for a corner you will get the correct one every time. Each corner is left or right automatically!

**3)** Foam thickness is 2⅝" on all forms.

**4)** Tie allows rebar lap splices to lay on top of each other for good flowability during concrete placement.

**5)** Ties are clearly marked on EPS for attachments.

**6)** Tie flanges are 1½" wide and full height for ease of attachment.

**7)** Ties touch vertically when stacked, eliminating form settlement.

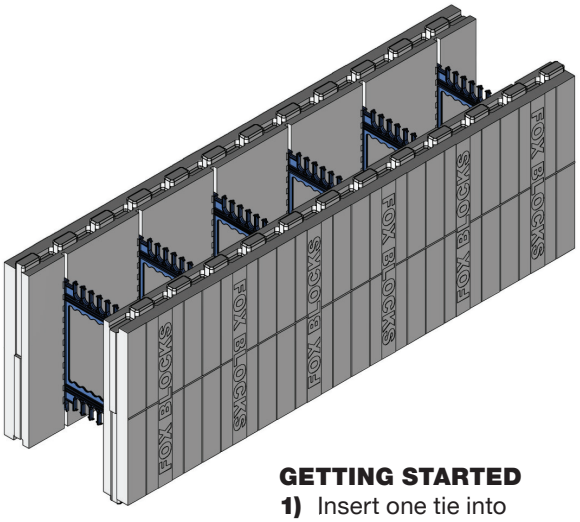
**8)** Each corner has a 1" hole strategically placed allowing the ICF contractor the option of inserting a full height ¾" PVC conduit to tie all courses together for extra form support.

## OUTSIDE DIMENSIONS ARE:

4" Corner = 38" x 22"
6" Corner = 40" x 24"
8" Corner = 42" x 26"
10" Corner = 42" x 26"
12" Corner = 46" x 30"

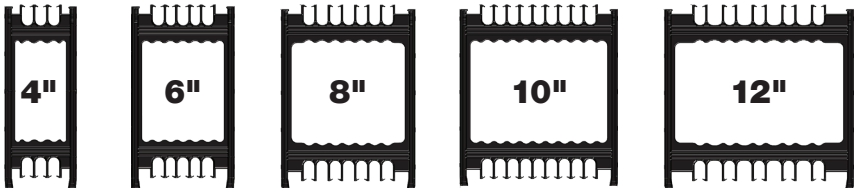
# FOX BLOCKS COMPACT PRODUCT

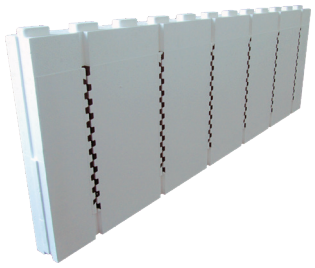
Fox Blocks Compact is a panelized product designed to stack seamlessly with the traditional Fox Blocks line. The Compact Block reduces freight costs by delivering flat. Ties are then easily inserted into the panels at the jobsite.



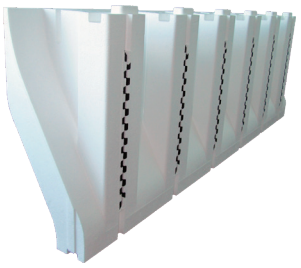

## FOX BLOCKS COMPACT BLOCK APPLICATIONS

- Double Taper Top in any size
- Double Corbel in any size
- Emergency stock where storage is a premium
- Large block size required at a long distance from plant



STRAIGHT PANEL



CORBEL PANEL

TAPER PANEL

## QUICK COMPACT BLOCK FACTS

- Dimensions are consistent with traditional Fox Blocks
- Rebar locations match traditional Fox Blocks ties
- Straight, Taper and Corbel panels available
- Ties lock into position when inserted into the panels
- Start with traditional Fox Blocks corners to anchor your wall
- When ties are locked into position use Fox Blocks HV Clips

### GETTING STARTED

1) Insert one tie into one panel.
2) Lift this unit and slide the opposite side of the same tie to a second panel that is aligned with first panel.
3) Insert the remaining 5 ties into this unit to complete your first full block.
4) Press ties down until they lock into position.
5) Continue this procedure until first row is completed.

### CONSECUTIVE ROWS

1) Lock two panels on top of lower row of block.
2) Insert 6 ties to complete the block.
3) Be sure to force ties down until they lock into position.

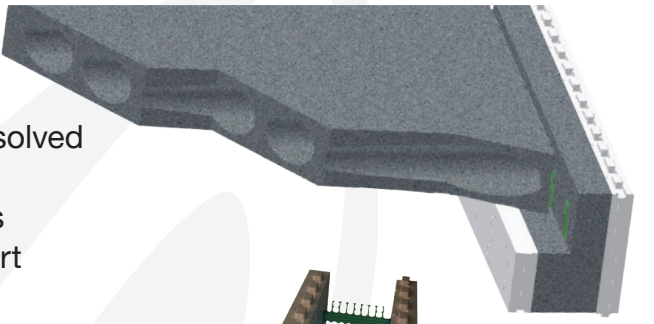
### INTENSE REBAR CAGES

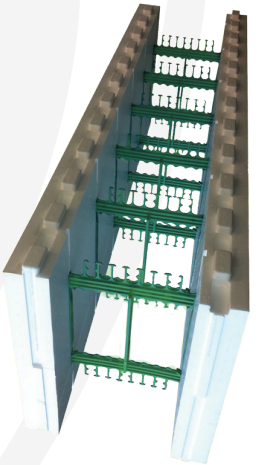
1) Install vertical rebar.
2) Assemble Compact Block around rebar.
3) Place and install stirrups as needed while assembling Compact Block.

**GO TO FOXBLOCKS.COM FOR UPDATED INFORMATION**

# FOX BLOCKS CURB BLOCK

There has always been a need for a block that can create a ledge to support floor systems within the wall without limiting course heights. The Fox Blocks team has solved this by adding an extra attachment point within the tie. This patented solution allows you to form a curb with the block to support whatever you need to support.





## USING THE CURB BLOCK

**1) INSTALLATION**
See following page for proper steps using the curb block.

**2) SHAPES AVAILABLE WITH THE CURB BLOCK**
Curb block is currently available in 8" and 10" straights, as well as 8" and 10" ninety degree corners.

**3) RANGE OF USE**
The Curb Block can be cut down as low as 11" from the top of the block. You can also cut up to as much as 11" from the bottom of the block to use when wrapping around concrete slabs. See page two for an example of this.

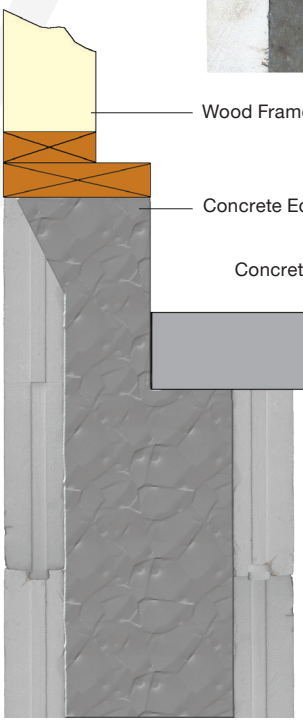
**4) ESTIMATING**
Straight blocks = 4'-0" long.
Formula: (Total linear footage of wall - total linear footage taken up by 90˚ corners)/ 4 = Number of straight curb blocks
90˚ corner blocks = 5'-4" each.
Formula: Number of 90˚ turns = Number of 90˚ corner blocks

**5) IDENTIFICATION**
The Curb Block has been designed with a green tie for easy identification. By producing the ties in green, supply yards will be able to identify and send you the proper block. This will also ensure your crew will not use it in the wall at the wrong time.

**6) BUNDLE SIZES**

| | |
|---|---|
| 8" straight block = 12 per bundle | 8" 90˚ corner block = 6 per bundle |
| 10" straight block = 9 per bundle | 10" 90˚ corner block = 6 per bundle |

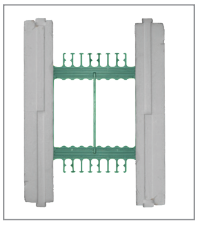
**7) EXCESS BLOCK?**
If you end up with extra Curb Block on site, you can save for next job or simply use them up within the walls you are building. The shape and size of the Curb Block is identical to the normal straight and 90˚ corner blocks.



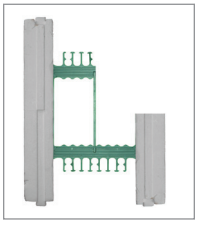

**EXAMPLE OF A GARAGE SLAB/BEAM**
Using the Curb Block in a garage situation allows a raw concrete finish on the interior face, eliminating the need to cover EPS. Any height beam or wall can use curb block on top row. Optionally, a field cut taper can be cut into outside face for extra bearing.

# FOX BLOCKS CURB BLOCK INSTALLATION & USES

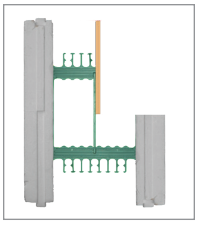
## INSTALLATION STEPS:



**STEP 1**
Separate Curb Block bundles and set aside until needed. You can identify the Curb Block by the green ties.



**STEP 2**
Decide where you need the concrete shelf elevation to land and either mark and rip-cut the block with a circular saw or set a fence on a table saw and make your cut. Finish cut by cutting the tie with a handsaw.



**STEP 3**
Attach forming to the Curb Block inner ties. Simply screw two #8 coarse threaded screws to each tie to withstand concrete pressure. Fox Blocks recommends the use of ½" or thicker plywood or equivalent.

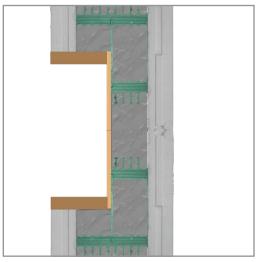
**STEP 4**
Place concrete as normal. For best results, Fox Blocks recommends properly consolidating entire wall including Curb Block.

**STEP 5**
After sufficient curing remove form boards. You now have a solid concrete ledge for supporting what you need supported.

**STEP 6**
If you need extra support, a taper can be cut prior to concrete placement to allow for up to a 6¼" ledge.

## CURB BLOCK USES:

- Hollowcore
- Precast
- Dimensional Wood Floors
- Engineered Wood Floors
- Truss Floors
- Brick
- Garage Slabs
- Creating Recesses (See Below)
- Composite Floor Systems
- Pan Deck



**EXAMPLE OF A WALL RECESS**
This type of application will be treated as an opening in the wall and will require extra reinforcing within the concrete (rebar). The Curb Block will allow openings up to 22" in height using two blocks.

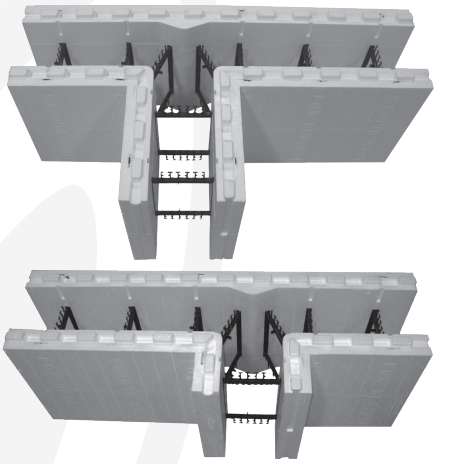
**WOOD FLOORS**
For the real life example above, we cut off 6" from the left side, turned the cut-off over and connected to the right side creating a 12" curb. This works well with wood floors, giving you ultra strength without any concerns of moisture in the future.

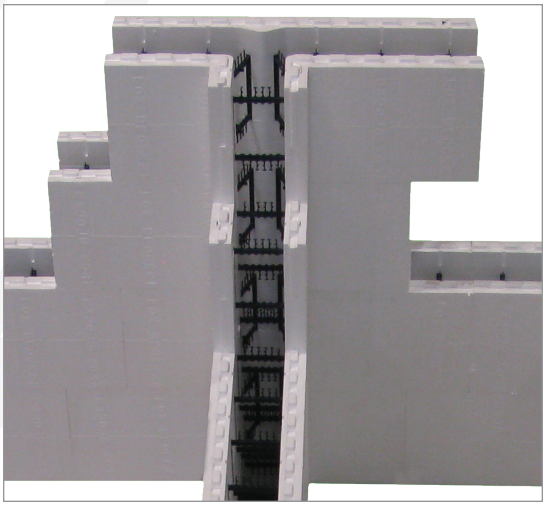
CLICK THROUGH FOR VIDEOS

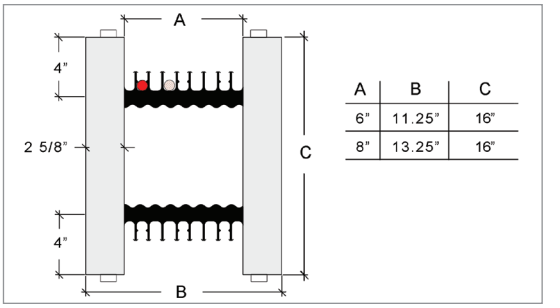
# FOX BLOCKS T-BLOCK

Sure you can build T walls with a couple of straight block and some tie wire, but if you want to lower your man hour rate, you need the **Fox Blocks T-Block**.

When contractors said they needed a T-Block, Fox Blocks delivered with one that is easy to use and incredibly strong.








| A | B | C |
|---|---|---|
| 6" | 11.25" | 16" |
| 8" | 13.25" | 16" |

## FOX BLOCKS T-BLOCK FEATURES

**1)** The T-Blocks are available in 6" and 8" concrete cores.

**2)** Six T-Blocks per bundle (3 short and 3 long)

**3)** Two ties* are used at the intersection of the "T" to give maximum strength and attachment. These ties are placed in such a way as to allow proper rebar placement and ultimate form strength.
** Ties are the black recycled polypropylene members that give the block strength and provide rebar positioning.*

**4)** Like all Fox Blocks, blocks are reversible which gives you double the options with just one block. You can choose to have the T section on the right or left of center simply by flipping the block over.

**5)** Foam thickness is 2⅝" on all blocks.

**6)** Ties allow proper rebar lap splices, for maximum flowability during concrete placement and consolidation.

**7)** Ties are clearly marked in EPS for attachments.

**8)** Tie flanges are 1½" wide and full height for ease of attachment.

**9)** Ties touch vertically when stacked eliminating form settlement.

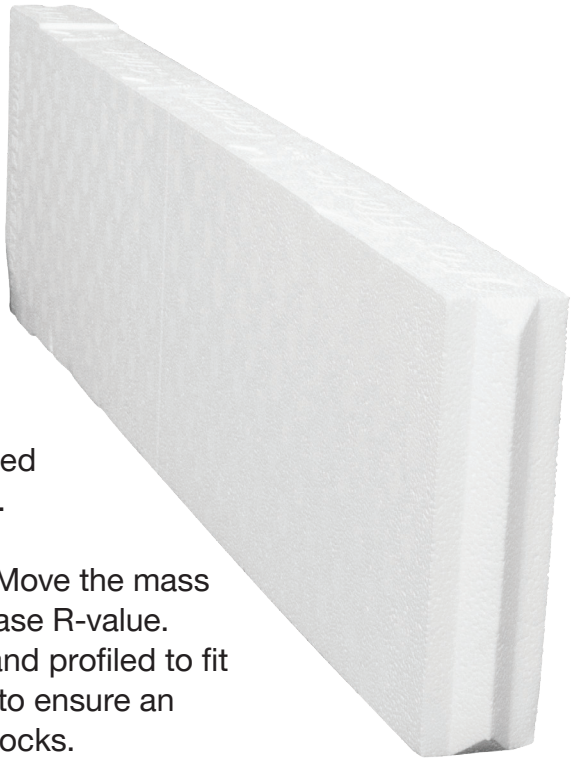
**10)** The T-Block will give you 8" of overlap most directions.

## 8" T-BLOCK INSTALLATION

The unique manufacturing challenges were overcome for the 8" T-Block by establishing a 4" offset. This off-set results in rows of ties staggered by 4" if placed with factory ends against each other. The easy fix to properly line up ties is to install the T-Block and create a stacked joint at the butt end of the long T leg. Strap stack joint prior to concrete placement.

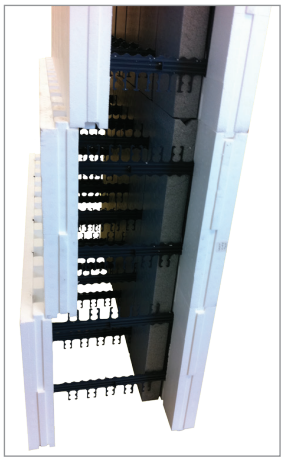
**OUTSIDE DIMENSIONS ARE:**
6" T - Block Short = 44" x 4⅜"
6" T - Block Long = 44" x 12⅜"
8" T - Block Short = 44" x 4¾"
8" T - Block Long = 44" x 8¾"

# FOX BLOCKS ENERGY STICK



How do you improve an Insulated Concrete Form wall that already out-perform most wall system in all climates? You move the concrete mass toward the living side of the wall. This unbalanced R-value will allow the mass to be closer to the living temperature of the conditioned space allowing for a more comfortable building.

The Fox Blocks design team had two goals: 1) Move the mass away from the harsh temperatures and 2) Increase R-value. Each Energy Stick is 8" wide, 32" tall, 2" thick and profiled to fit within all Fox Blocks. The Energy Stick is used to ensure an R-8 boost to the already high R-Value of Fox Blocks.



## SIZING AND ACTUAL R-VALUE

6" Block + 1 Energy Stick (R-30+*) = 4" Concrete
8" Block + 1 Energy Stick (R-30+*) = 6" Concrete
10" Block + 1 Energy Stick (R-30+*) = 8" Concrete
10" Block + 2 Energy Sticks (R-39+*) = 6" Concrete
12" Block + 1 Energy Stick (R-30+*) = 10" Concrete
12" Block + 2 Energy Sticks (R-39+*) = 8" Concrete
12" Block + 3 Energy Sticks (R-48+*) = 6" Concrete

** This represents the overall average wall R-value. As an example in wood frame construction a wall with R-19 batt insulation will have an overall average wall R-value of less than R-16 due to thermal bridging.*

## USING THE ENERGY STICK

**1) INSTALLATION**
Simply insert the patented Energy Sticks between the plastic ties and to the outside face of wall after every two rows of blocks have been placed.

**2) CORNER BLOCKS**
Fox Blocks corners are naturally thicker eliminating the need to insert Energy Sticks from the corner tie on. From the last straight tie to the corner tie you will need to wedge the Energy stick in place. A spot of expanding foam will also help to secure the Energy Stick from movement.

**3) OPENINGS/STACKED SEAMS**
Simply cut the Energy Stick to fit in locations that are narrower than 8". When larger than 8" use expanding foam to hold cut Energy Sticks.

**4) RANGE OF USE**
The Energy Stick will fit all Fox Blocks.

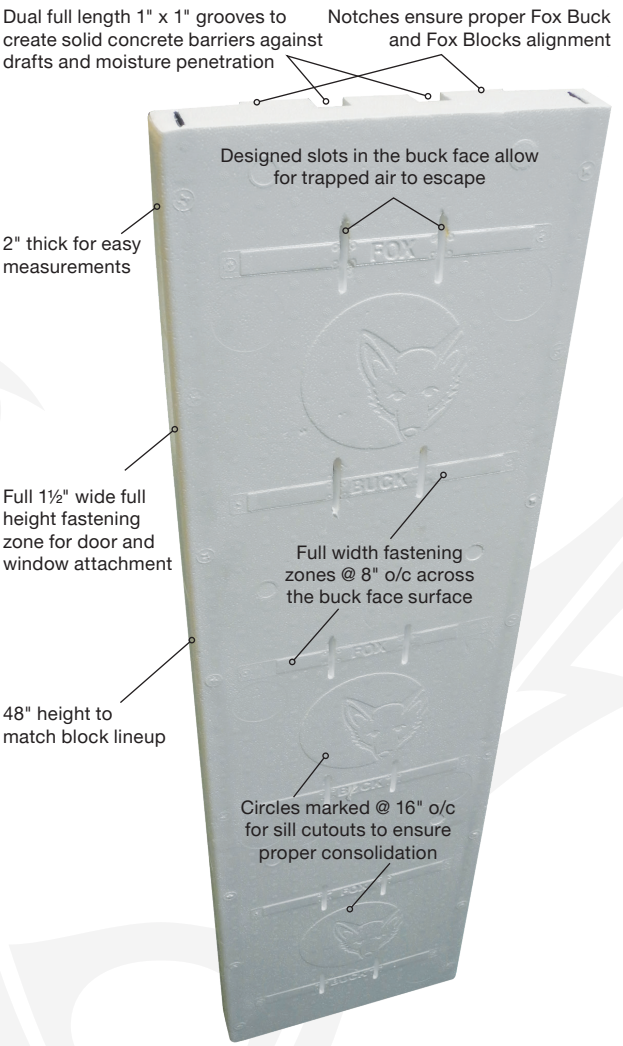
**5) ESTIMATING**
3 Energy Sticks for every block ordered.
One box = 36 Energy Sticks
One box of Energy Sticks will fill 12 blocks

**6) MAN HOURS**
Allow 4 minutes per box when inserting for the first time (= 950 square feet of wall per hour or .001 man hours per square foot)

**7) BUNDLE SIZES**
Each box of 36 Energy Sticks = approximately 24" x 24" x 33"

# FOX BUCK CONTINUOUS INSULATION

The Fox Buck is a certified, fully integrated, continuous insulation window and door buck for commercial and residential ICF wall openings. Fox Buck completed 3rd party testing and obtained State of Florida product approval (FL 17775) for all of Florida, including Miami-Dade counties. To obtain certification and Florida code approval, the Fox Buck met and passed several tests related to wind and impact resistance, moisture and air infiltration, and fire related tests. The Fox Buck can be used in place of pressure treated wood bucks that tend to expand, contract, warp and move within the high moisture climates.




| FOX BUCK NUMBERS | | | | | |
|---|---|---|---|---|---|
| Available Sizes | 4" | 6" | 8" | 10" | 12" |
| Total Width | 9¼" | 11¼" | 13¼" | 15¼" | 17¼" |
| Total Length | 48" | 48" | 48" | 48" | 48" |
| Bag Quantity | 10 | 10 | 10 | 10 | 10 |
| Bag Weight | 26 lbs | 28 lbs | 32 lbs | 35 lbs | 38 lbs |

Photo above reveals consolidated concrete barriers created within the Fox Buck

The 1" x 1" notches create a dual barrier against drafts and moisture penetration. When installed properly, the concrete barrier protection is continuous around the entire opening. These barriers also anchor the Fox Buck to the wall with enough strength to hold in most weather* conditions

** Contact Fox Blocks for high wind anchoring recommendations.*

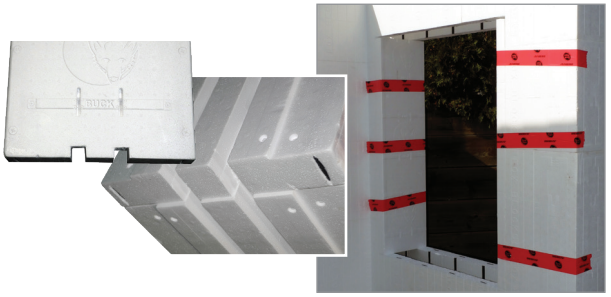
# FOX BUCK INSTALLATION

## INSTALLATION STEPS:

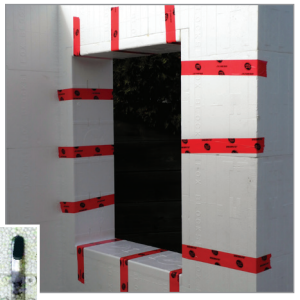
**STEP 1**
**a)** Build wall as normal with opening 4" larger than rough opening.
**b)** Ensure all opening rebar is properly placed and secured.
**c)** Double check opening measurements.

Temporary support can be attached to Fox Buck fastening zones.

**STEP 2**
**a)** Cut sides to length and notch each end 1" as in photo.
**b)** Place Fox Buck sides into place and hold with tape.
*Option: Spray foam can be used to completely seal buck to block*



**STEP 3**
**a)** Cut and place top and bottom Fox Bucks
*Option: Spray foam can be used to completely seal buck to block*
**b)** Penetrate all slots with a nail or screw to ensure entrapped air can escape during concrete placement.




**STEP 4**
Cut and remove all circles in sill. This will ensure proper concrete consolidation during concrete placement.

*Notes:*
*It is preferred to have these circles cut out prior to placing the Fox Buck sill in place. This will eliminate any foam cutouts accidently falling into wall cavity.*

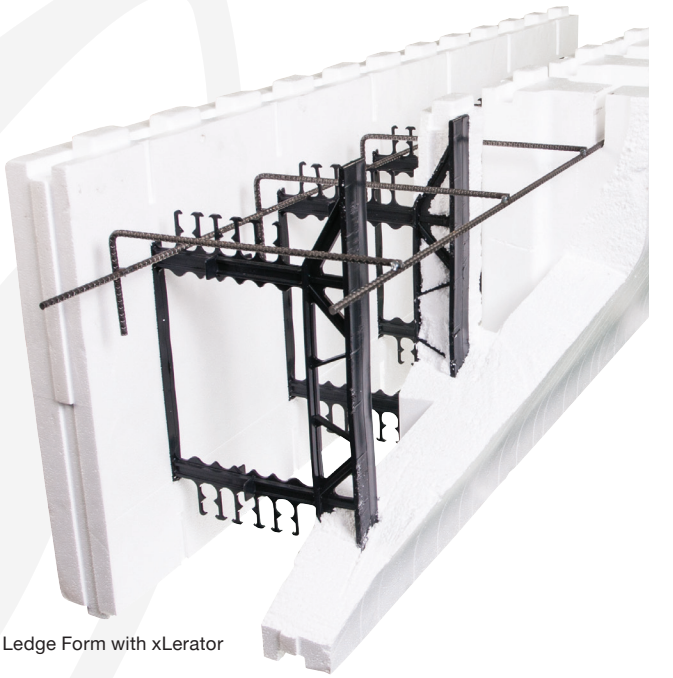
*Holes can be cut square to allow maximum hole size for concrete placement.*

**STEP 5**
Brace inside opening to hold square during concrete placement.

**STEP 6**
When openings are close to a corner, strapping is required to hold corner in place during concrete placement.

# xLERATOR® LEDGE REINFORCEMENT

From foundation to finish, the Fox Blocks patented family of products helps you get the job done more efficiently. Combining industry feedback with the Fox Blocks product design team creativity, we offer an impressive array of product innovations that benefit the owner, the contractor, AND the design team.

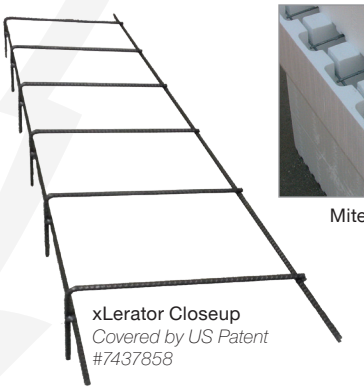


Ledge Form with xLerator

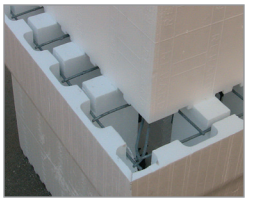
**FOX BLOCKS' xLERATOR** – the only product of its kind in the industry and first one to meet ACI 318 guidelines – is a patented ICF ledge reinforcement system that offers unmatched versatile performance ideal for supporting brick and stone exterior finishes, as well as slabs, floors and other structural features.

The one-piece, 4-foot long, welded wire reinforcement piece simply drops into the pre-formed slots in Fox Blocks' ledge form.

There's never been a faster way to meet deadlines and building code requirements, all while significantly reducing labor costs and delays associated with pre-bent stirrups or in-field rebar reinforcement.



xLerator Closeup
*Covered by US Patent #7437858*



Mitered Ledge Corner

xLERATOR®
Engineered Reinforcement System

## BENEFITS INCLUDE

- **DROP & GO**
  Fully engineered ledge system allows you to easily place the ledge form, drop in the xLerator reinforcement piece and fill with concrete.
- **ACI 318 COMPLIANT**
  ONLY xLerator meets ACI 318 guidelines for ICF ledge reinforcement.
- **WEATHER RESISTANT**
  Hot-dipped galvanized to protect from corrosion for lasting durability.
- **FULLY ENGINEERED**
  Comes complete with full engineering details for multiple applications.
- **MAXIMUM STRENGTH**
  Reinforcement in all 6 ledge corbels.
- **VERSATILE**
  One size fits both 6" and 8" ledge forms.

## WHY HOT-DIPPED GALVANIZED?

Hot-dip galvanization is the process of taking steel and dipping it into molten zinc to serve as a protective coating. If rebar in a ledge form is NOT galvanized, it's subject to corrosion because it is placed close to the outside edge of the brick ledge, sits in a foam slot, and is not completely encased in concrete. This allows water to reach the rebar and causes it to rust. As the rebar rusts, it expands, causes concrete to crack, and undermines the stability of the ledge.

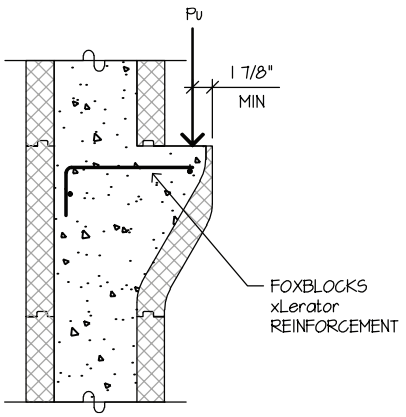
Since the xLerator is hot-dipped galvanized, it protects the reinforcement from rusting and maintains the integrity of the concrete meeting ACI 318 guidelines.

## APPLICABLE ACI 318 GUIDELINES

**Deformed Welded Wire Reinforcement (WWR)**

- Reinforcement in every corbel
- WWR 60,000 PSI Yield Strength
- xLerator meets these guidelines

## xLERATOR® ENGINEERING LOAD CAPACITY




| ULTIMATE LOAD CAPACITY, PU = 2000PLF | |
|---|---|
| Example Application | Calculated ultimate load<br>tributary area X LoadX Load Factor |
| Brick | 35 Ft. x 40 PSF x 1.4 = 1960 PLF |
| Stone | 17½ Ft. x 80 PSF = 1960 PLF |
| Wood Floor Joists | 22½ Ft. tributary area or 45 Ft. clear span<br>22½ Ft. X (20 PSF x 1.2 + 40 PSF x 1.6) = 1980 PLF |
| Precast Hollowcore Floor | 14½ Ft. tributary area or 29 Ft. clear span<br>14½ Ft. x (60 PSF x 1.2 = 40 PSF x 1.6) = 1972 PLF |

*Notes:*

1. *Load capacity is based on a concrete strength of 2500 PSI or greater and to KSI Fox Blocks' xLerator reinforcement meeting ASTM A496*
2. *Load factors are based on ACI 318-11.*
3. *Tributary floor span is the length of floor supported by the ledge form, which is commonly half of the clear span.*
4. *Acceptable masonry heights and floor spans shown in the table are based on the structural capacity of the ledge only and may be limited by other factors. Consult a design professional for acceptable heights or unsupported masonry and floor spans.*

# tieKEY® MASONRY ANCHOR

Designed by Fox Blocks, the tieKey anchor is a patented, cast-in-place, adjustable masonry tie anchor that embeds into the concrete wall formed by Fox Blocks. This award winning product provides the strength and security required when installing brick or stone veneer finishes.

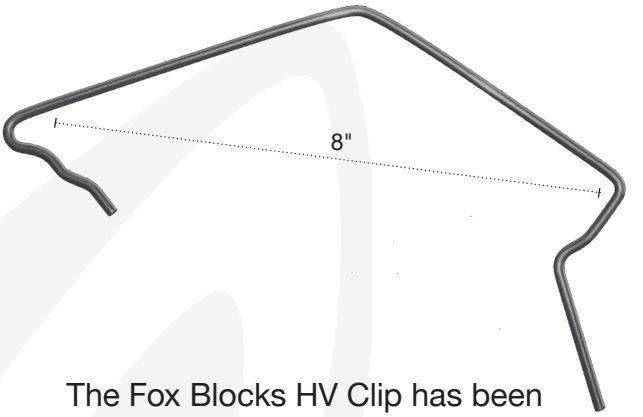
### SEE HOW THE TIEKEY HAS BEEN PUT TO THE TEST

- Third party tested for tension and compression strength.
- Simplifies the installation of brick or stone exterior finishes.
- Adjustable wire tie accommodates construction tolerances and allows for larger differential movement for the brick finish.
- Provides strong resistance to negative and positive lateral forces.
- Available in two materials: hot-dipped galvanized steel or stainless steel.
- Recipient of the World of Concrete's Most Innovative Products Award.


tieKey Closeup
*Covered by US Patent #8347531*

tieKey In Use

# FOX BLOCKS HV CLIP




Contractors asked for a wire clip to secure their Fox Blocks jobs together so the team at Fox Blocks went to work designing one. Fox Blocks ties are engineered to be perfectly balanced, spaced at 8" o/c Horizontally and Vertically, giving flat walls post concrete. This allowed us to put all of our design into one wire clip which helps everyone with only one SKU.

The Fox Blocks HV Clip has been engineered with eight bends allowing one clip to work horizontally or vertically.

## HV CLIP PLACEMENT:

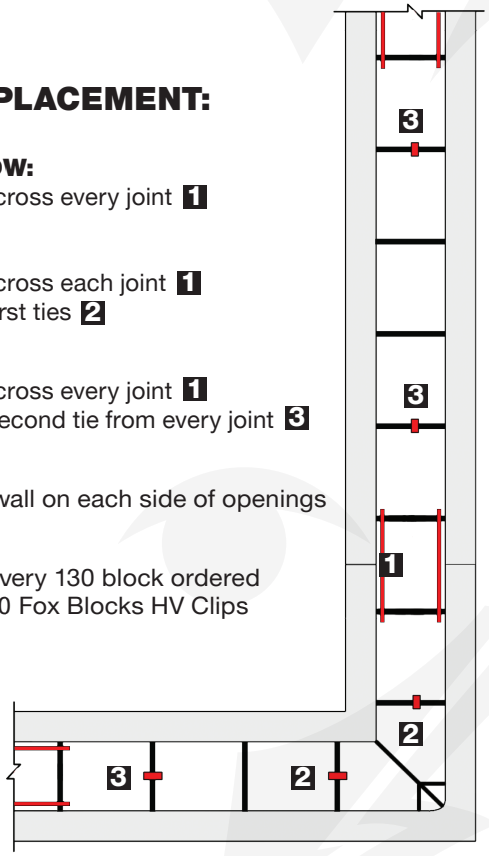
**BOTTOM ROW:**
Horizontally across every joint 1

**CORNERS:**
Horizontally across each joint 1
Vertically on first ties 2

**TOP ROW:**
Horizontally across every joint 1
Vertically on second tie from every joint 3

**OPENINGS:**
Vertically up wall on each side of openings

**BUDGET:**
One box for every 130 block ordered
One box = 250 Fox Blocks HV Clips



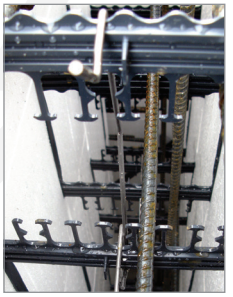

## FOX BLOCKS HV CLIP POSITIONS

Vertical Clips in Place

Horizontal Clips in Place

*Note: You can skew the HV Clip a notch or two for an even tighter fit, if needed.*

## FOX BLOCKS HV CLIP BEING USED ON JOBS



Vertical & Horizontal Clips in place close to corner

Showing HV Clips holding down a top row that has been cut down to +/- 8" in height

Using the Fox Blocks HV Clip eliminates the need for truss wire completely on your jobs. The result is that for about half the cost of the truss wire you will get a stronger and straighter job.


Product Label

# ICF BRACING/SCAFFOLD

When building walls over three courses tall Fox Blocks recommends the use of an OSHA approved ICF Bracing/Alignment/Scaffolding system.

With proper kits, most systems can be used for walls up to 24' tall.
*Contact Fox Blocks for walls over 24' tall. Systems are available for ICF tall walls 30' to 60' in height.*

## ICF BRACING/SCAFFOLD HAVE THREE MAIN PARTS

1) **STIFF BACK WHICH IS ATTACHED TO THE STUDS IN THE WALL**
   Screw to ties in block which are 8" o/c. One screw per block row.

2) **TURNBUCKLE WHICH ADJUSTS THE WALL.**
   Threaded rod within the turnbuckles tilt wall in or out as you turn it.

3) **PLANK SUPPORT ARM FOR SCAFFOLD.**
   Will accept two 2 x 10s and toe kick.
   ** Guard rail posts are also provided for those taller jobs*

Most scaffold brands have racks to store and transport ICF Bracing.

Simply stake or screw the turnbuckle feet to the ground or floor.

Adjustable Turnbuckle on each set.

**FACTS**

Bracing is typically installed on inside wall face but can also be on the outer side.

Budget one brace set for every 6' of wall length. End user provides planks, railing & screws.

Typical bracing set is 3 pieces - Steel Strongback, Platform Bracket and Adjustable Brace Pole.

**WHY WE USE ICF BRACING/SCAFFOLD**

*Safe work site and straight walls*

ICF Bracing Systems provide adjustment to align the walls to a string line, enabling perfectly straight walls after concrete placement. No one has an eye good enough to straighten walls longer than 20'.

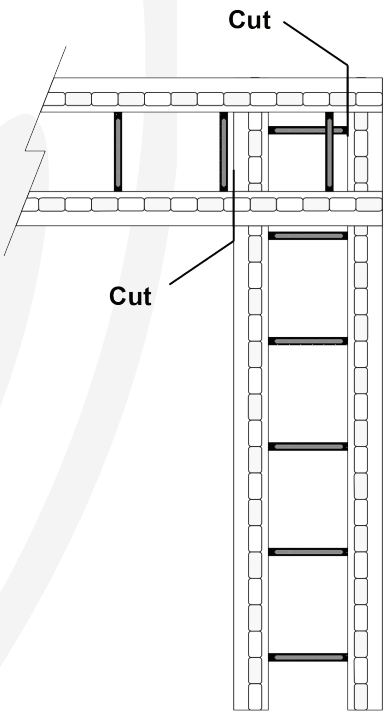
Typical Bracing / Scaffold Setup
**AVAILABLE THROUGH FOX BLOCKS**

*Follow bracing/scaffold manufacturer recommendations.*

# FOX BLOCKS FIELD CUT 90° CORNERS

## USING STANDARD FORMS FOR CORNERS

The versatility of Fox Blocks allows for the standard forms to be cut on-site to make 90° corners, angled-mitered corners or radius walls.




### STEPS FOR FIELD CUT 90° CORNERS

**1)** Use a full block and a half length block to make the corner. This will allow for the running bond coursing in the wall.

**2)** Place one block on top of another block and mark the cut lines to allow the short block to butt against the long block.

**3)** This alignment requires that only one tie in each block needs to be cut.

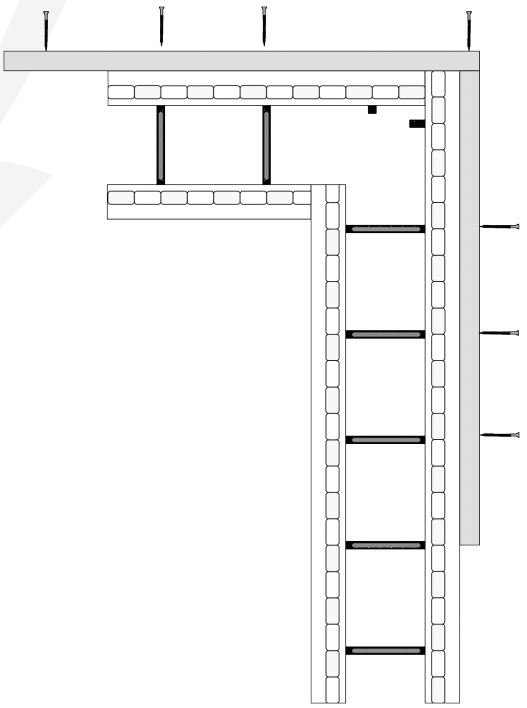
**4)** Align the blocks as per the second diagram.

**5)** On the next course, use a full block over the short block and a short block over the full block. Cut the blocks having the same joint alternate the alignment joint configuration on each course.

**6)** After installing the strapping, spray foam the exterior vertical joint.

**7)** The outside of the corner will require robust strapping (2 x 4, two per course) on every course, as detailed to control the pressure during concrete placement.

**8)** In placing concrete, minimize the internal pressure at these corners by slowly allowing the concrete flow into the concrete.



*Notes:*

*A) Field cut corners will interlock with standard corner forms.*

*B) For additional support, vertically brace the outside of each block at these corners.*

*C) Field cut corners will interlock with standard corner forms.*

*D) For additional support, vertically brace the outside of each block at these corners.*

*E) Refer to Technical Bulletin 1.02.09 for Field Cut Angle-Mitered Corners.*

*F) Refer to ILC Video Library on Field Cuts.*

CLICK THROUGH FOR RESOURCES

# FOX BLOCKS FIELD CUT ANGLES

## WHEN A MITERED CORNER IS NEEDED

**1)** Place a straight block on top of another block and rotate to the desired angle. Take care to place plastic ties in a position that will minimize the amount of cutting.

**2)** When you are satisfied with the positioning mark both block on the outside faces where they meet. Notice in the example the block was positioned so no plastic ties are cut. *See Note B.*

**3)** Cut both block and position in the wall. Take care to ensure the block has been cut so that it does not force the wall apart. It is better to be a bit short than too long. *See Note A.*

**4)** Once wall is built, stitch and brace the outside with plywood or dimensional lumber. At this point some spray foam can be used to fill in any gaps as long as you have it braced together to keep the expanding spray foam from pushing angle apart.

**5)** Place concrete.

**NOTE:** Corner will have a very high load of concrete during placement. Please take the time to brace the corner properly.

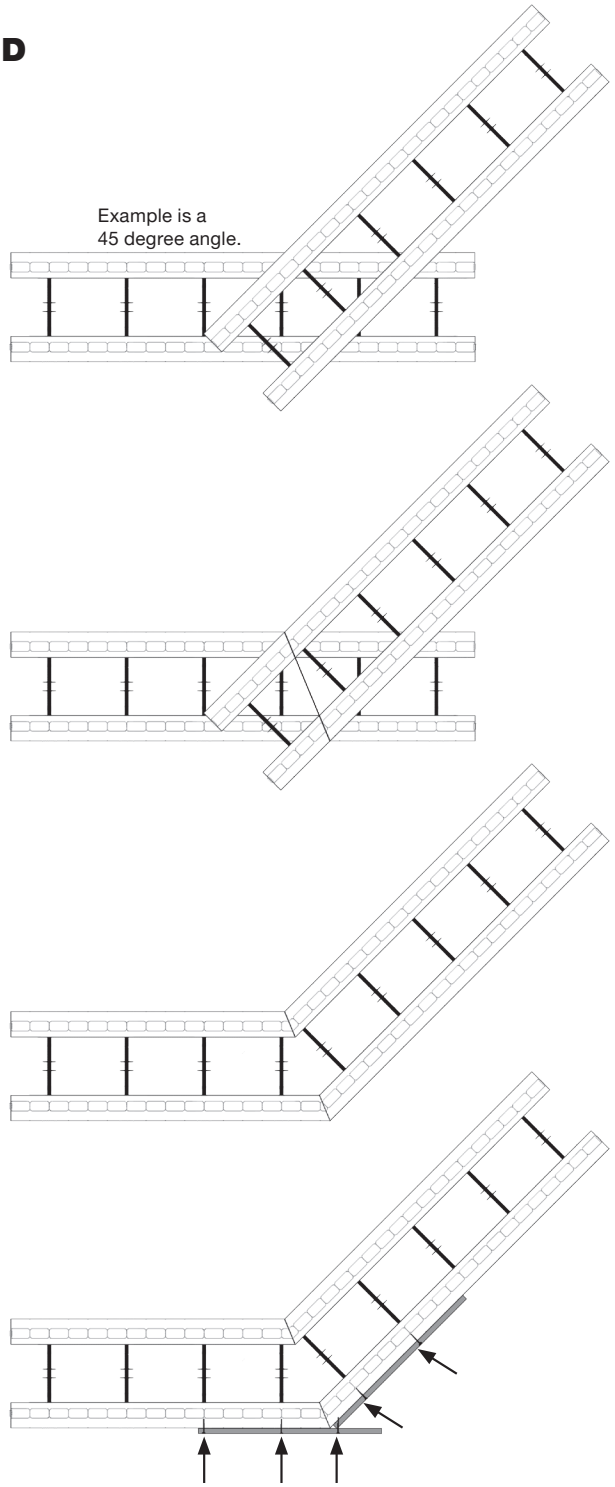
*Notes:*

*A) It is better to be short than it is to be long when making cuts. If the cuts are short you can always use spray foam once the wall is completely built, leveled and plumbed.*

*B) Plastic ties can be cut if needed as the corner will be braced with lumber anyway. We just try to not cut through the plastic because it takes more effort.*

*C) When cutting remaining rows of block ensure the cut starts at the same location as the first row so that interlock will line up.*

*D) Use spray foam only after is completely stacked and prior to placing concrete.*



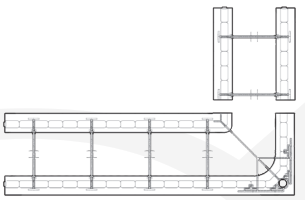

Use screws long enough to pass through the plastic ties completely. If your screws do not hold they need to be longer.

CLICK THROUGH FOR VIDEOS

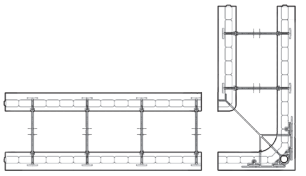
# FOX BLOCKS FIELD CUT SHORT CORNERS

## USING EXTENDED FOX BLOCKS CORNERS

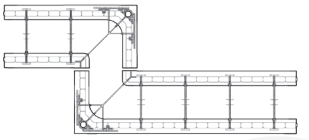
### OPTION ONE



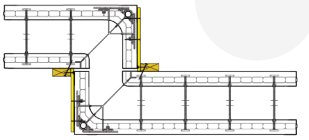
**1)** Cut block for long leg of corner (cut-off will give you an 8" off cut you can use elsewhere in your wall).



**2)** Cut block for short leg of corner (cut-off will give you a 24" off cut you can use elsewhere in your wall).



**3)** Build wall creating a stacked seam.

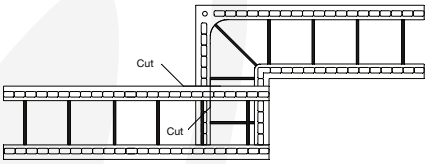


**4)** Once wall is built brace with plywood and 2 x 4s.
- a) Screw plywood to 2 x 4
- b) Screw 2 x 4 to Fox Blocks ties
- c) Screw plywood to Fox Blocks corners

**5)** Place concrete.

### OPTION TWO

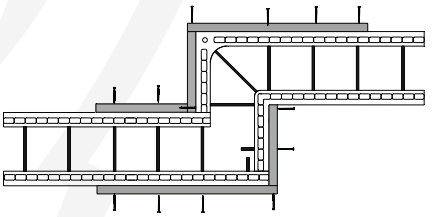
**1)** Place a Standard form over a Corner Form.




**2)** Mark the cut lines to cut one leg of the corner form and one side of the standard form.

**3)** Cut the forms and cut out one web in the corner and one in the standard form.

**4)** Build the wall creating a stack seam.



**5)** Once the wall is built brace with plywood and 2 x 4s.

### SHORTEST RETURN POSSIBLE

4" = 9¼"
6" = 11¼"
8" = 13¼"
10" = 15¼"
12" = 17¼"

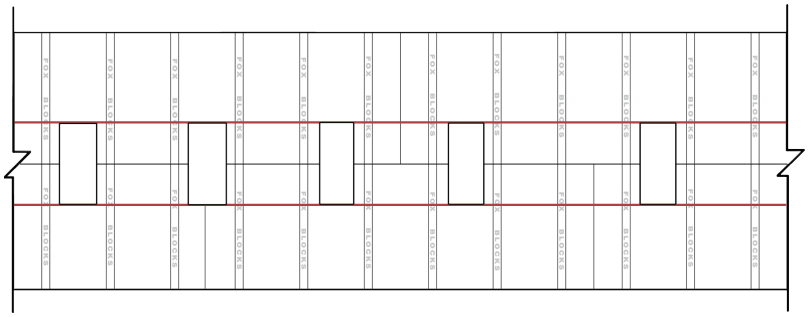
You may need to leave a gap at the stacked seam and use spray foam to fill prior to installing the bracing.

Each properly placed #8 deck screw will give you 27 pounds of holding power in straight pullout and 70 pounds in shear. This includes a safety factor of 5.

*Note: Corner will have a very high load of concrete during placement. Please take the time to brace the corner properly.*

# FOX BLOCKS RIM JOIST ATTACHMENT

There are several ways to attach a floor diaphragm to a Fox Blocks wall. The most common has been to simply use common anchor bolts. See bottom of page for other options.



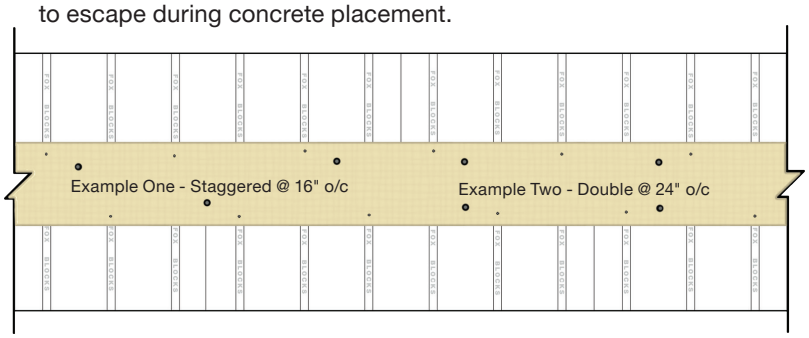
## STEPS FOR RIM JOIST ATTACHMENT

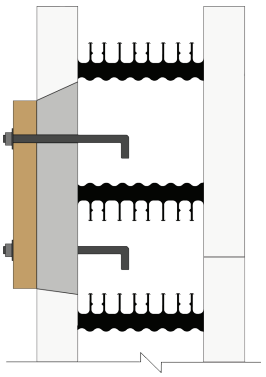
**1)** Build wall to within one row above rim joist location

**2)** Mark out top and bottom of rim joist location

**3)** Mark out o/c locations for anchor bolts

**4)** Cut out 4" x height of rim joist. Angle top cut up into block to allow air to escape during concrete placement.



End view of completed Rim Joist attachment

**5)** Place rim joist and attach to Fox Blocks ties with 3" deck screws

**6)** Mark out anchor bolt locations and drill holes

**7)** Reach inside the Fox Blocks wall and insert the anchor bolt through the hole you drilled

**8)** Place washer and nut onto anchor bolt. You are now ready for concrete.

### OTHER OPTIONS INCLUDE

**A)** Simpson Strong-Tie ICF Ledger Connector
**B)** Fox Blocks Corbel Ledge

# BASIC CONCRETE PLACEMENT

## IMPORTANT STEPS TO A SUCCESSFUL CONCRETE PLACEMENT

### A) VOLUME AND MIX DESIGN AND SLUMP

#### CALCULATING VOLUME

Fox Blocks are exactly 4", 6", 8", 10" or 12" in concrete width. Length x Height x Width to calculate volume needed.

#### CHOOSING MIX DESIGN

Follow building code and/or Engineer of Record specifications for your concrete mix design requirements.

Admixtures are not required but may help your concrete placement.

Concrete changes throughout North America due to different aggregate, sand, water quality and cement brand being used. Admixtures that work good in one area may not work in another area. Fox Blocks recommends you work closely with your local ready mix supplier for a mix design that will work on your project.

**1)** Fly ash replacement of cement content up to 30% works well in Fox Blocks walls to improve flow-ability and consolidation.
**2)** Mid-Range water reducers work well in Fox Blocks walls and will help in flow-ability and consolidation.
**3)** Gradated mix designs with optimum coarse, intermediate, and fine aggregate ratios can improve flow-ability and consolidation within Fox Blocks walls.

#### PROPER SLUMP

**1)** Slump should be as close to 5" to 6" (125mm to 150mm) as possible.
**2)** Exceeding this slump could cause wall to grow.
**3)** Less than recommended slump could create consolidation issues.
**4)** Slump can be roughly measured within the wall as you place the concrete. Use the chart below to know how far ahead your concrete should flow from your placement position when using the desired slump. This is only a rough guide and can change with concrete design and age.

| HEIGHT OF LIFT | 5" (125MM) SLUMP DISTANCE AHEAD | 6" (150MM) SLUMP DISTANCE AHEAD |
|---|---|---|
| 1½ Blocks (2' - 0") | 2' - 4" | 3' - 0" |
| 2 Blocks (2' - 8") | 3' - 0" | 3' - 8" |
| 2½ Blocks (3' - 4") | 3' - 8" | 4' - 4" |
| 3 Blocks (4' - 0") | 4' - 6" | 5' - 6" |

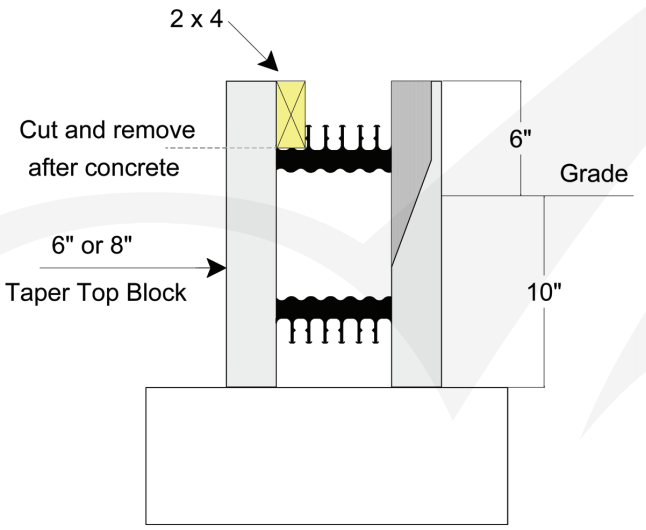

## B) CONCRETE PLACEMENT PLAN

**1)** Start concrete placement away from corners. Freshly placed concrete will act as an anchor to hold wall in place as concrete enters the corners.
**2)** Divide wall height into lifts heights for a comfortable placement. Most wall 8' to 12' high will work best with three lifts of concrete.
**3)** Final lift of concrete should be no less than 16" and preferably 24". If the final lift is less than 16", concrete placement will be very difficult due to concrete pump needing to slow down.

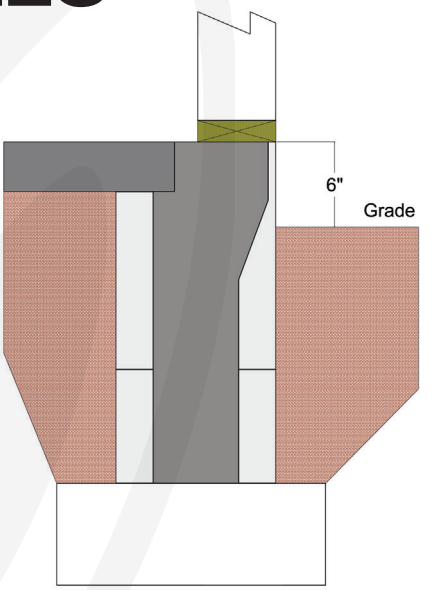
## C) CONSOLIDATION PLAN

**1)** Fox Blocks walls require consolidation.
**2)** Internal, external or rodding are acceptable consolidation techniques.
**3)** Internal vibrator head should be 1" in diameter or less.
**4)** Consolidate each lift of concrete prior to placing the next lift.
**5)** Internal vibrator should be dropped to bottom of the current lift of concrete and then slowly brought to the surface (approximately 3" per second).
**6)** External vibration can be using an impact tool which will shake the internal ties which will ensure rebar is completely encased in concrete.
**7)** External consolidation should start at bottom of concrete lift and move to top of concrete lift to move entrapped air to the surface.

# FOX BLOCKS SHALLOW FROST/STEM WALLS

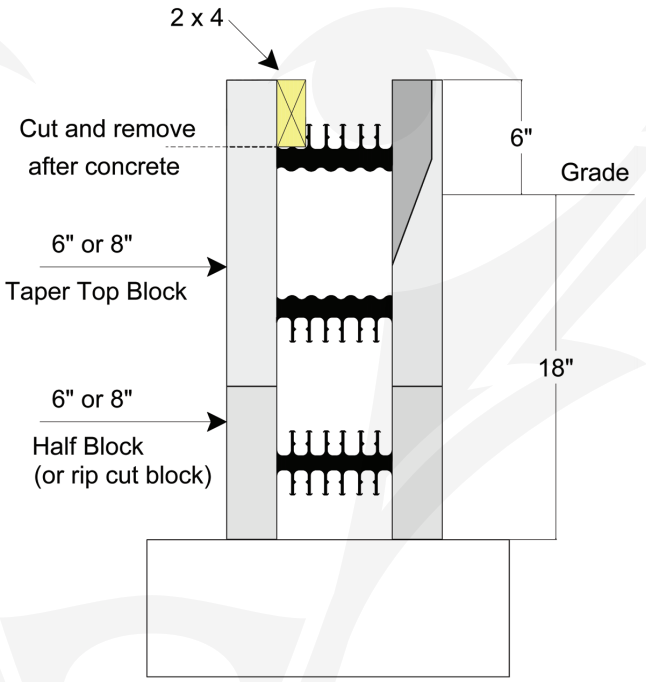



One row of Fox Blocks.
Fox Blocks is designed to accept
a 2 x 4 resting on top of the tie.
Attach with screws through face of tie.

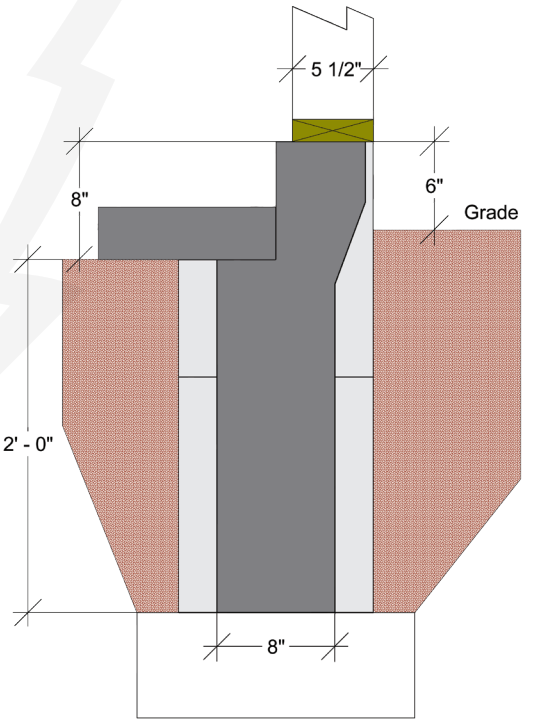



After concrete placement, cut block
and remove 2 x 4 to create a shelf for
slab to rest on.

Footings and reinforcing
to meet local building codes.



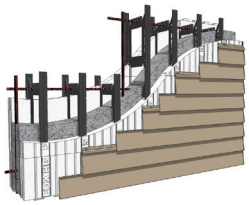
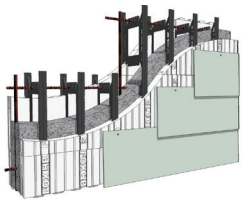
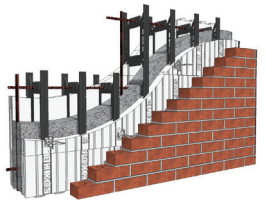
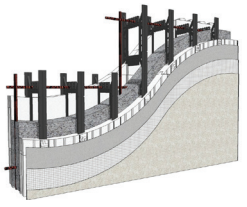

One and one half rows of Fox Blocks




Using Curb Block allows you to lower
slab, giving a curb that does not require
any finish. Taper is field cut into the top
outside edge.

# EXTERIOR FINISHES

Fox Blocks provide a high-performance solid wall substrate, with high thermal efficiency, as a weather resistive barrier, air and vapor barriers, with continuous fastening strips, equally spaced to meet specifications for attachment of all exterior finishing materials. The EPS and reinforced concrete provide a compatible and resilient substrate for all finishes, residential and commercial – either attached or directly applied.

| EXTERIOR FINISH | | FOX BLOCKS ADVANTAGES |
|---|---|---|
| **SIDING** |  | Vinyl or aluminum siding is attached directly to the blocks with screws at the specified spacing. The Fox Blocks fastening strips, continuous (no gaps) are spaced at 8" o.c. and indicated on the blocks. Fox Blocks corner forms have extra wide fastening strips to accommodate siding corner trim strips. Only Wood siding requires furring strips between the ICF and wood, providing air flow to dry the surface. |
| **CEMENT BOARD** |  | Cement board siding is directly attached to the blocks with self-counter sinking screws. Screw spacing is per siding manufacturers specifications. Vertical siding will require furring strips fastened to the Fox Blocks.<br>*Review the Fox Blocks Fastener Technical Bulletin 1.08.08.* |
| **MASONRY VENEER** |  | The Fox Blocks 'tieKey' is a masonry anchor that is inserted through the EPS and cast into the concrete. Masonry veneer is supported on the Fox Blocks Corbel block or a Taper-Top block. No WRB is required over the Fox Blocks, once the concrete has been placed and the tieKeys are secure, masonry or stone can begin. |
| **STONE VENEER** |  | Simulated stone is a direct applied application with a base coat over the Fox Blocks. As a solid substrate, with minimum expansion or contraction, Fox Blocks provides an excellent substrate for simulated stone finishes.<br>*Review the Manufactured Stone Veneer Technical Bulletin 1.08.06* |
| **STUCCO** |  | Fox Blocks EPS is Type II which is very compatible for the direct application of acrylic stucco, just prep the walls and apply the base coat. The metal lath for hard coat (traditional) stucco is directly fasten to the Fox Blocks fastening strips with screws or staples and finish coats are applied. |
| **METAL** |  | Industrial, flat or corrugated, metal siding is typically installed vertically, this will require metal girts installed directly the Fox Blocks. The girts provide an air space to dissipate and moisture behind the siding. |

# FOX BLOCKS ESTIMATOR PRO

**Fox Blocks Estimator Pro** is a simple program to achieve a full summary of all the materials required for a Fox Blocks project, residential or multi-story commercial. Using the program provides a clear and accurate estimate to which material and labor prices may be assigned to develop precise quotes and orders for any project. From the Fox Blocks website access the web based program and also find 'how to' documentation and videos.

**PROJECT MENU**
Create new or open existing estimates, export data, print, add pricing and notes.

**PROJECT DATA**
Insert the exact information regarding the project and create worksheet for each phase of the build.

**WORKSHEET**
Unlimited number of worksheets which user can name for reference.

**WALL**
Enter the exact info on each wall per worksheet.

**FOX BLOCKS ACCESSORIES**
Enter the required accessories per worksheet.

**OPENINGS**
Enter the opening sizes, remove concrete volumes, add buck material.

**WALL DATA & WORKSHEET MATERIAL SUMMARY**
Calculated summary of materials on worksheet and wall data.

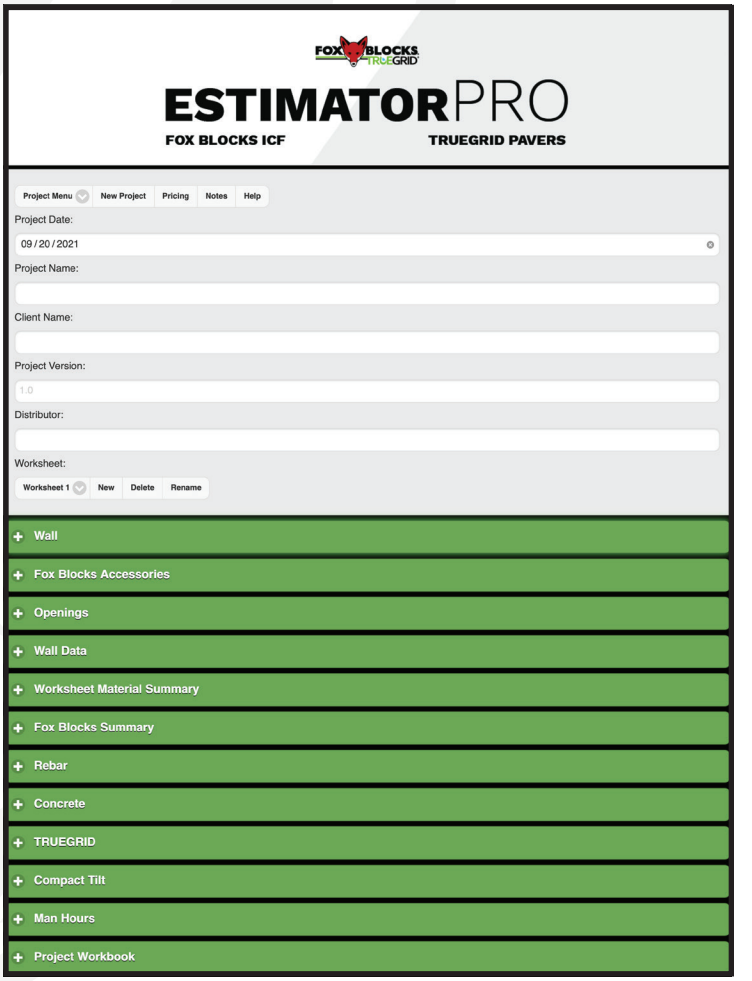
**FOX BLOCKS SUMMARY**
The sum of all worksheets combined.

**REBAR**
Enter rebar size and spacing per worksheet.

**CONCRETE**
Calculates the concrete volume per worksheet, allows for waste. Can add for footings, slabs, piers, etc.

**TRUEGRID**
Calculate material quantities for TRUEGRID products.

**COMPACT TILT**
Calculate compact forms for tilt-up.



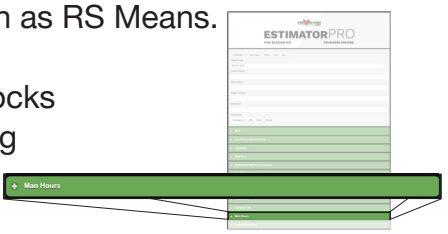

**MAN HOURS**
Calculates construction man hour rates using construction variables and crew size.

**PROJECT WORKBOOK**
Summarizes all input for project materials from all tabs. Allows user to input other costs for project.

The Estimator Pro has helpful hints and product information easily accessible within the program. It is a browser-based program that does not need to be downloaded or installed, and is compatible across all formats and all devices. Once opened, bookmark or save as a favorite, and you will be able to use it even when you do not have internet access.

# MAN HOUR RATES

Man Hour Rates (MHR) are used to budget a job properly and efficiently based on square footage with a specific crew size. There are many variables in establishing the overall timeline to estimate and complete projects. Most contractors document their production rates without realizing that time /square footage built will give them a man hour rate, similar to one found in cost estimating programs, such as RS Means.




Over 25 years of history in the ICF business has allowed Fox Blocks to establish accurate numbers to budget future ICF jobs by using the Man Hour Rate tab in the Estimator Pro program.

This table lists examples of MHR based on project square footage and various conditions.

| | MHR | JOB TYPE |
|---|---|---|
| **1** | .055 or less | Very efficient crew building a simple job with less than six corners, less than four openings and few or no embeds. |
| **2** | .06<br>.065<br>.07 | Average job with less than eight corners,<br>less than eight openings, and less than eight embeds. |
| **3** | .075<br>.08<br>.085 | Most common MHR for new crews on moderate or large jobs. This covers complex residential jobs with 12 or less corners. This MHR area also works with large commercial jobs with basic 16" o/c rebar and few openings. |
| **4** | .085<br>.095<br>.10<br>.105 | Very complex residential jobs with 12 or more corners and many openings and embeds. Also includes commercial jobs with many openings and embeds or more than 3 levels in height. |
| **5** | .11 and over | Jobs with at least three of the following:<br>More than 8 short corners (30" or less), high seismic rebar design, more than 20 openings, many embeds, extreme weather, using the wrong scaffold for wall height, over 3 levels in height. |

**NOTES:**
Size of job is not as big of a factor as you would think. The only time the size of job is really a factor is when the job is so large that the crew can gain speed while building, which lowers the MHR. This will usually be on jobs over 20,000 square feet using the same crew throughout.

**WAYS TO LOWER YOUR MHR:**
1. Pre-Plan Job
2. Proper Size Crew for Job
3. Stage Materials Close to Job
4. Use Proper Scaffold/Bracing
5. Pre-Build Opening Bucks
6. Proper Rebar Placement
7. Fox Training for Crew

Square Foot of Job (SFJ) = Length * Height (of Fox Walls being built)

**SFJ * MHR = MAN HOURS TO BUILD JOB**

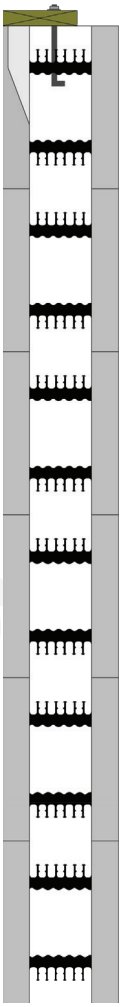
Example: Job has 180 Lineal feet (LF) of wall that is 12' tall. 180 * 12 = **2160** square feet (SF)
Job has 6 corners with 6 openings and basic 16" o/c rebar design. Crew has a bit of experience and ICF scaffold is used. We recommend aiming for a .075 MHR but use **.085** MHR as a budget number. With experience you will become more efficient, landing more work with more profit.
**2160 * .085** = 183.6 Total Man Hours (TMH) for job
183.6 TMH / 6 man crew = 30.6 Total Crew Hours (TCH)

*These numbers are estimates only. Many factors will effect the outcome of a job which needs to be taken into account. Please document all work and reflect back to your own crews history when completing budgets for upcoming work. We would like to thank contractors for sharing past history allowing us to build accuracy into this document.*

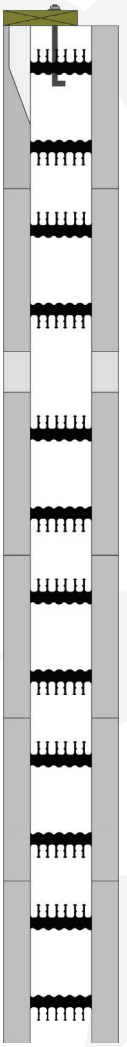
Estimator Pro is available, free, on the Fox Blocks website. Contractors are also encouraged to keep a history of MHRs to improve accurate for successfully quoting on future projects. Utilize the Fox Blocks Field Guide to record this information.

# SAMPLE CROSS SECTIONS

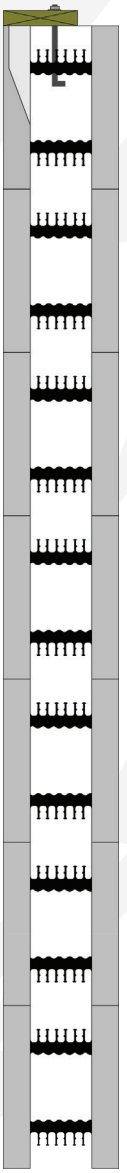
Fox Blocks are designed to make walls. Take the time to understand your on site height requirements to ensure accurate material takeoffs.



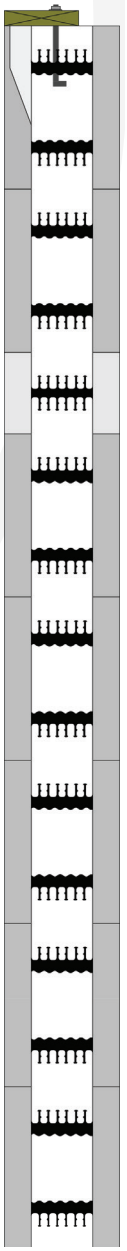
**8' 0" WALL**
6 - 16" Tall Block



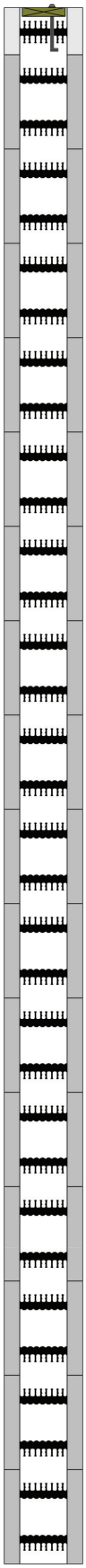
**8' 4" WALL**
6 - 16" Tall Block
1 - 4" Tall Block



**9' 4" WALL**
7 - 16" Tall Block



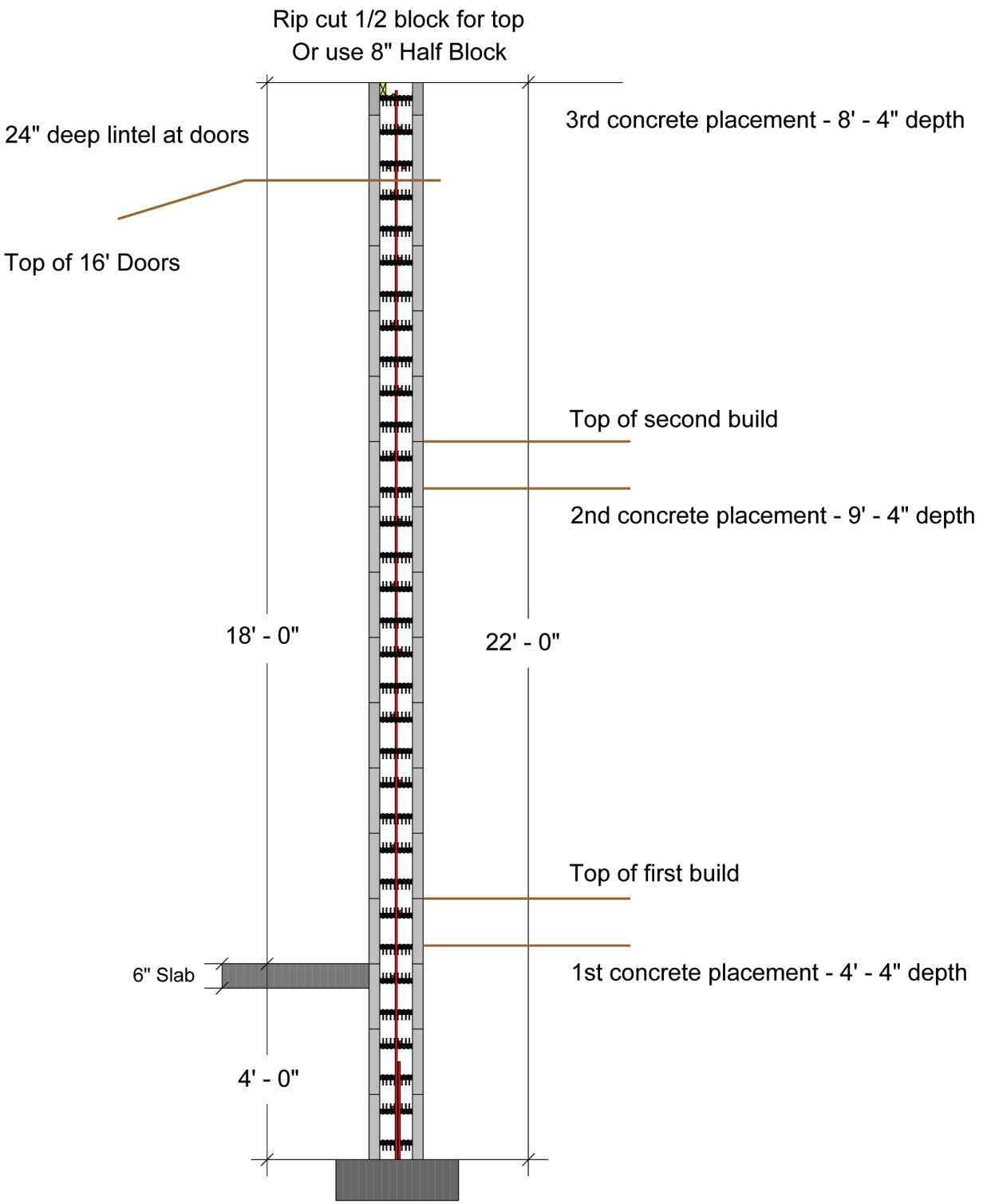
**10' 0" WALL**
7 - 16" Tall Block
1 - 8" Tall Half Block



**22' 0" WALL**
16 - 16" Tall Block
1 - 8" Tall Half Block

**FOR ALL WALLS:**

- Walls can be 4", 6", 8" 10" or 12" concrete thickness
- Taper Top Block at top of wall is optional
- Bearing on slab or footing designed to carry load
- Place proper rebar to meet local building codes or engineering




**22'-0" TALL SAMPLE SHOP WALL**

When planning any wall you want full understanding of the job for accurate takeoffs and low man hour rates. The above job required a 4'-0" stem / frost wall and 16'-0" tall door openings. The contractor used the same cross section to decide the concrete lift heights. The concrete lift heights decide the vertical rebar lengths.

# FOX BLOCKS BY THE NUMBERS

| | ITEM NUMBER | BLOCK TYPE | TOTAL WIDTH | TOTAL HEIGHT | OUTSIDE DIMENSIONS LENGTH/ SURFACE AREA | | INSIDE DIMENSIONS LENGTH/ SURFACE AREA | | CONCRETE VOLUME YD | CONCRETE VOLUME M | BUNDLE QUAN-TITY | ACTUAL BUNDLE SIZE LENGTH/WIDTH/ HEIGHT | | | WEIGHT BUNDLE/ PIECE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | FOX-S400 | Straight Block | 9.25 | 16 | 48 | 5.33 | 48 | 5.33 | 0.066 | 0.05 | 12 | 38 | 49 | 49 | 84 | 7 |
| | FOX-S400HB | Straight Half Block | 9.25 | 8 | 48 | 2.67 | 48 | 2.67 | 0.033 | 0.025 | 24 | 38 | 49 | 49 | 84 | 3.50 |
| | FOX-EC490 | 90° Corner Block (38 x 22) | 9.25 | 16 | 60 | 6.67 | 41.5 | 4.61 | 0.07 | 0.0535 | 12 | 46 | 47 | 49 | 95 | 7 |
| | FOX-EC490HB | 90° Corner Half Block | 9.25 | 8 | 60 | 3.34 | 41.5 | 2.31 | 0.0348 | 0.027 | 24 | 46 | 47 | 49 | 95 | 3.5 |
| | FOX-BUCK4 | Fox Buck | 9.25 | 2 | 48 | 3.08 | N/A | N/A | N/A | N/A | 10 | 48 | 9.25 | 23 | 29 | 2.9 |
| | FOX-EC445 | 45° Corner Block (34 x 18) | 9.25 | 16 | 52 | 5.78 | 44 | 3.57 | 0.066 | 0.05 | 9 | 40 | 50 | 49 | 58 | 6.4 |
| | FOX-TBT4T6 | Transition T Block (4" to 6") | 9.25 | 16 | 36.75 | 4.083 | 4.75 | 0.528 | 0.066 | 0.05 | 12 | 49 | 38 | 49 | 87 | 7.25 |
| 6 | FOX-S600 | Straight Block | 11.25 | 16 | 48 | 5.33 | 48 | 5.33 | 0.099 | 0.0757 | 12 | 45.5 | 49 | 49 | 90 | 7.5 |
| | FOX-S600HB | Straight Half Block | 11.25 | 8 | 48 | 2.67 | 48 | 2.67 | 0.494 | 0.0378 | 24 | 45.5 | 49 | 49 | 90 | 3.75 |
| | FOX-EC690 | 90° Corner Block (40 x 24) | 11.25 | 16 | 64 | 7.11 | 41.5 | 4.6 | 0.105 | 0.08 | 12 | 53 | 49 | 49 | 102 | 8.47 |
| | FOX-EC690HB | 90° Corner Half Block | 11.25 | 8 | 64 | 3.56 | 41.5 | 2.31 | 0.0543 | 0.0415 | 24 | 53 | 49 | 49 | 102 | 4.25 |
| | FOX-C645 | 45° Corner Block (26 x 18) | 11.25 | 16 | 44 | 4.89 | 34.875 | 3.85 | 0.082 | 0.063 | 9 | 40 | 49 | 49 | 58 | 6.4 |
| | FOX-TB600 | T-Block Short | 11.25 | 16 | 44 | 4.89 | 4.375 | N/A | 0.105 | 0.08 | 6 (3+3) | 40.25 | 43.25 | 49 | 56 | 9.4 |
| | | T-Block Long | 11.25 | 16 | 44 | 4.89 | 12.375 | N/A | 0.121 | 0.0925 | | | | | 56 | 9.4 |
| | FOX-BL600 | Corbel Ledge | 11.25 | 16 | 48 | 5.33 | N/A | N/A | 0.129 | 0.099 | 9 | 45.25 | 49 | 49 | 80 | 8.8 |
| | FOX-TT600 | Taper Top | 11.25 | 16 | 48 | 5.33 | N/A | N/A | 0.111 | 0.085 | 12 | 45.25 | 49 | 49 | 87 | 7.25 |
| | FOX-RB60_ | Radius | 11.25 | 16 | 16 | 1.77 | N/A | N/A | 0.033 | 0.025 | 27 | 39 | 49 | 49 | 68 | 2.5 |
| | FOX-BUCK6 | Fox Buck | 11.25 | 2 | 48 | 3.75 | N/A | N/A | N/A | N/A | 10 | 48 | 11.5 | 23 | 33 | 3.3 |
| | FOX-TBT6T4 | Transition T Block (6" to 4") | 11.25 | 16 | 34.75 | 3.861 | 4.75 | 0.528 | 0.082 | 0.063 | 9 | 44 | 36 | 50 | 64 | 7.1 |
| 8 | FOX-S800 | Straight Block | 13.25 | 16 | 48 | 5.33 | 48 | 5.33 | 0.132 | 0.101 | 12 | 54.5 | 49 | 49 | 90 | 7.5 |
| | FOX-S800HB | Straight Half Block | 13.25 | 8 | 48 | 2.67 | 48 | 2.67 | 0.065 | 0.05 | 24 | 54.5 | 49 | 49 | 90 | 3.75 |
| | FOX-EC890 | 90° Corner Block (42 x 26) | 13.25 | 16 | 68 | 7.56 | 41.5 | 4.6 | 0.153 | 0.117 | 6 | 41 | 44 | 49 | 60 | 9.83 |
| | FOX-EC890HB | 90° Corner Half Block | 13.25 | 8 | 68 | 3.78 | 41.5 | 2.3 | 0.076 | 0.058 | 12 | 41 | 44 | 49 | 60 | 4.91 |
| | FOX-C845 | 45° Corner Block (28 x 20) | 13.25 | 16 | 48 | 5.33 | 37 | 4.11 | 0.117 | 0.089 | 9 | 53 | 47 | 49 | 58 | 6.4 |

*continued...*

| | ITEM NUMBER | BLOCK TYPE | TOTAL WIDTH | TOTAL HEIGHT | OUTSIDE DIMENSIONS LENGTH/ SURFACE AREA | | INSIDE DIMENSIONS LENGTH/ SURFACE AREA | | CONCRETE VOLUME YD | CONCRETE VOLUME M | BUNDLE QUAN-TITY | ACTUAL BUNDLE SIZE LENGTH/WIDTH/ HEIGHT | | | WEIGHT BUNDLE/ PIECE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | FOX-TB800 | T-Block Short | 13.25 | 16 | 44 | 4.89 | 4.75 | N/A | 0.141 | 0.108 | 6 (3+3) | 40.25 | 43.25 | 49 | 56 | 9.4 |
| | | T-Block Long | 13.25 | 16 | 44 | 4.89 | 8.75 | N/A | 0.152 | 0.116 | | | | | 56 | 9.4 |
| | FOX-BL800 | Corbel Ledge | 13.25 | 16 | 48 | 5.33 | N/A | N/A | 0.162 | 0.124 | 9 | 53.25 | 49.5 | 49 | 80 | 8.9 |
| | FOX-TT800 | Taper Top | 13.25 | 16 | 48 | 5.33 | N/A | N/A | 0.144 | 0.11 | 12 | 54.5 | 49.25 | 49 | 87 | 7.3 |
| | FOX-S800CB | Curb Block - Straight | 13.25 | 16 | 48 | 5.33 | N/A | N/A | 0.132 | 0.101 | 12 | 54.5 | 49 | 49 | 91.2 | 7.6 |
| | FOX-EC-890CB | Curb Block - 90˚ Corner | 13.25 | 16 | 68 | 7.56 | 41.5 | 4.6 | 0.145 | 0.111 | 6 | 41 | 44 | 49 | 60 | 9.92 |
| | FOX-BUCK8 | Fox Buck | 13.25 | 2 | 48 | 4.42 | N/A | N/A | N/A | N/A | 10 | 48 | 13.5 | 23 | 38 | 3.2 |
| | FOX-TBT8T4 | Transition T Block (8" to 4") | 13.25 | 16 | 34.75 | 3.861 | 4.75 | 0.528 | 0.106 | 0.081 | 9 | 49 | 36 | 50 | 66 | 7.3 |
| | FOX-TBT8T6 | Transition T Block (8" to 6") | 13.25 | 16 | 36.75 | 4.083 | 4.75 | 0.528 | 0.116 | 0.089 | 9 | 49 | 38 | 50 | 69 | 7.67 |
| 10 | FOX-S1000 | Straight Block | 15.25 | 16 | 48 | 5.33 | 48 | 5.33 | 0.165 | 0.126 | 9 | 46 | 49 | 49 | 74 | 7.86 |
| | FOX-S1000HB | Straight Half Block | 15.25 | 8 | 48 | 2.67 | 48 | 2.67 | 0.0823 | 0.063 | 18 | 46 | 49 | 49 | 74 | 3.93 |
| | FOX-EC1090 | 90˚ Corner Block (42 x 26) | 15.25 | 16 | 68 | 7.56 | 41.5 | 4.6 | 0.181 | 0.138 | 6 | 41 | 44 | 49 | 68 | 10.5 |
| | FOX-EC1090HB | 90˚ Corner Half Block | 15.25 | 8 | 68 | 3.78 | 41.5 | 2.3 | 0.092 | 0.07 | 12 | 41 | 44 | 49 | 68 | 5.25 |
| | FOX-BUCK10 | Fox Buck | 15.25 | 2 | 48 | 5.08 | N/A | N/A | N/A | N/A | 10 | 48 | 15.5 | 23 | 42 | 4.2 |
| | FOX-S1000CB | Curb Block - Straight | 15.25 | 16 | 48 | 5.33 | 48 | 5.33 | 0.165 | 0.126 | 9 | 47 | 49 | 49 | 74 | 7.9 |
| | FOX-EC-1090CB | Curb Block - 90 Corner | 15.25 | 16 | 68 | 7.56 | 41.5 | 4.6 | 0.181 | 0.138 | 6 | 43 | 43 | 49 | 68 | 10.6 |
| 12 | FOX-S1200 | Straight Block | 17.25 | 16 | 48 | 5.33 | 48 | 5.33 | 0.198 | 0.151 | 9 | 54 | 49 | 49 | 74 | 8.22 |
| | FOX-S1200HB | Straight Half Block | 17.25 | 8 | 48 | 2.67 | 48 | 2.67 | 0.099 | 0.076 | 18 | 54 | 49 | 49 | 74 | 4.12 |
| | FOX-EC1290 | 90˚ Corner Block (46 x 30) | 17.25 | 16 | 76 | 8.42 | 41.5 | 4.6 | 0.212 | 0.162 | 6 | 46.5 | 49.25 | 49 | 68 | 11.17 |
| | FOX-EC1290HB | 90˚ Corner Half Block | 17.25 | 8 | 76 | 4.21 | 20.75 | 2.3 | 0.106 | 0.081 | 12 | 46.5 | 49.25 | 49 | 68 | 5.75 |
| | FOX-BUCK12 | Fox Buck | 17.25 | 2 | 48 | 5.75 | N/A | N/A | N/A | N/A | 10 | 48 | 17.25 | 23 | 46 | 3.7 |
| ALL | FOX-HV CLIP | HV Clips | 8 | 4 | N/A | N/A | N/A | N/A | N/A | N/A | 250 | 11 | 11 | 7 | 7 | 0.028 |
| | FOX-TIEKEY | tieKey | 1.25 | 2.75 | 6 | N/A | N/A | N/A | N/A | N/A | 200 | 9.5 | 8.5 | 6.75 | 29 | 0.15 |
| | FOX-XLERA-TOR | xLerator | 48 | 10.31 | N/A | N/A | N/A | N/A | N/A | N/A | 9 | 52 | 13.5 | 6.5 | 22 | 2.45 |
| | FOX-EXTR | 4" High Block Extender | 2.625 | 4 | 48 | 1.33 | N/A | N/A | 0.049 | 0.0378 | 20 | 49 | 17 | 14 | 13 | 0.65 |
| | FOX-ESTICK | R8 Energy Stick | 2 | 32 | 8 | 1.78 | N/A | N/A | N/A | N/A | 36 | 24 | 24 | 34 | 20 | 0.56 |

# TECHNICAL PERFORMANCE DATA

## Fox Blocks ICF Wall System

Intertek

Intertek

Find us in MasterSpec® a product of The American Institute of Architects

### CONCRETE WALL CONSTRUCTION (4", 6", 8", 10" & 12" Reinforced Structural Concrete Core)

| | |
|---|---|
| Design criteria for the structural concrete wall system | ACI 318 design standards for slender wall concrete construction |
| Recommended concrete consolidation | Fox Blocks Website Resource, Installation Checklist, ACI 309 |
| Fox Blocks Installation Checklist | Fifth Edition (2021) |
| Prescriptive Design of Exterior Concrete Walls | PCA 100-2012, IRC R404.1, R608, ACI 332, ACI 318, ICFMA Can Part 9 |
| Average weight of the reinforced structural concrete | 150 lbs. / cu. ft. (including steel reinforcement) |
| Thermal Mass (form & 4" reinforced concrete core) | 50 lbs. / sq. ft. |
| Thermal Mass (form & 6" reinforced concrete core) | 75 lbs. / sq. ft. |
| Thermal Mass (form & 8" reinforced concrete core) | 100 lbs. / sq. ft. |
| Thermal Mass (form & 10" reinforced concrete core) | 125 lbs. / sq. ft. |
| Thermal Mass (form & 12" reinforced concrete core) | 150 lbs. / sq. ft. |
| Recommended concrete core compressive strength | Minimum 3000 psi for the walls (minimum 2500 psi for footings) |
| Recommended concrete core slump flow for pump mix design | 4" ICF - 6" to 7"; 6" ICF - 5.5" to 6.5"; 8", 10" or 12" ICF - 5" to 6" |
| Recommended aggregate size for the concrete mix design | 4" ICF - 3/8" max.; 6" ICF 3/8" to 1/2" max; 8", 10" & 12" ICF - 1/2" to 3/4" max. |

### PRODUCT PERFORMANCE & THIRD PARTY TESTING

**Expanded Polystyrene (EPS) Testing:**

| | |
|---|---|
| EPS Foam Resin | Modified low pentane, B/C bead size (resin is self-extinguishing) |
| EPS Average Manufacturing Density / Type | 1.5 lbs. / cu. ft. (Type II, Rigid Cellular EPS Foam Plastic) |
| ASTM C578, EPS Thermal Insulation Properties | |
| CAN / ULC S701, EPS Thermal Insulation Properties | |

**Plastic Tie Strength Testing:**

| |
|---|
| Fastener Withdrawal, ASTM D1761 |
| Fastener Lateral (Shear), ASTM D1761 |
| Tie Tensile and Shear, ASTM D638 and D732 |

**Performance Testing:**

| |
|---|
| Sound Transmission Class (STC), ASTM E90, STC 45-50+ |

**Environmental, Safety & Energy Performance:**

| |
|---|
| No HCFCs or CFCs emitted during the manufacturing process |
| No toxins or formaldehydes produced |
| Plastic ties are recycled and the EPS Foam forms are recyclable |

**Products & Energy Efficient Accessories:**

| | |
|---|---|
| Energy Stick | R-8 / Stick |

**Fire Safety & Testing:**

| | |
|---|---|
| Surface Burning Characteristics of Foam Plastics, ASTM E84 & ANSI / UL 723 | |
| Flame spread from the EPS Foam | less than 25 |
| Smoke Development of the EPS Foam | less than 450 |
| Surface Burning Characteristics of Foam Plastics, CAN / ULC S102 | |
| Fire Burning Characteristics of Plastic Ties | |
| ASTM D1929, Flash Ignition Temp | 400 (C) 752 (F) |
| ASTM D1929, Spontaneous Ignition Temp | 380 (C) 716 (F) |
| ASTM D635, Burn Rate | Meets Class CC1 |
| Fire Resistance Rating, ASTM E119 (equivalent Standard Test Methods) | |
| 4" Concrete Core | 2 hrs. |
| 6" Concrete Core | 4 hrs. |
| 8", 10" or 12" Concrete Core | 4 hrs. |
| Fire Endurance Test of Building Construction Materials, CAN / ULC S101 | |
| Room Fire Test, UL 1715 (with 1/2" gypsum board) | |

*SDS sheets available at www.foxblocks.com*

**Energy Efficiency Data & Performance:**

| | |
|---|---|
| Thickness of the EPS | 2.625" / wall panel (5.25" total EPS thickness) |
| EPS Steady State R-Value (thermal resistance of the material) | R - 4.17 (@ 70 degrees Fahrenheit) |
| CTL Group Thermal Resistance R-Value Calculation Report | R - 23+ / Block (calculated in accordance with ASHRAE 90.1) |
| EPS U-Value (thermal conductivity of the material) | U - 0.04 / inch (@ 70 degrees Fahrenheit) |
| Air Leakage (infiltration rate) ASTM E283 | 0.002 cfm / ft² |

**Storm Safety:**

| | |
|---|---|
| Wind Capacity | Fox Blocks Walls can be designed to meet code requirements. Recognized by FEMA for Safe Rooms. |
| Seismic Zones | Fox Blocks Walls can be designed to meet code requirements |

Fox Blocks is code compliant for foundations and Building Types I, II, III, and IV (noncombustible) any height.

### BUILDING CODE REFERENCES

| |
|---|
| CCRR-1010, ICC Code Compliance |
| Florida Product Approval - FL7497-R5<br>City of New York - MEA 201-08-M<br>City of Los Angeles - RR25689<br>State of Wisconsin - 20199008 |
| ASTM E2634 |
| CAN/ULC S717.1 |
| AC 353 Acceptance Criteria for Flat Wall ICFs |

# LOCATIONS

## Multiple Locations Across North America


Fox Blocks products are manufactured at locations throughout North America. We ship directly to dealers and projects from the nearest facility.

**USE THE FIND A DEALER TAB AT FOXBLOCKS.COM.**

Please go to:
**FOXBLOCKS.COM**

**WHERE YOU WILL FIND:**

Product Information
Local Dealer and Regional Advisor Contact Information
Downloadable Technical Files
Estimating Program
Case Studies
Training - Integrated Learning Center (ILC)
Links to 2D and 3D CAD and BIM Details
Educational Video Library (ILC)

**TRUEGRIDPAVER.COM**


**HEAD OFFICE:**
6110 Abbott Drive | Omaha, NE 68110 | 1-877-369-2562

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