

TruFireWalls™

Installation Guide



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This Installation Manual is intended to assist in the preparation and installation of TruFireWalls™ products manufactured by Oldcastle Infrastructure. The TruFireWalls™ technology and design are proprietary to Oldcastle Infrastructure and this installation manual should not be used for any other products.

Your project will have a layout and plans supplied by Oldcastle Infrastructure which shall be referred to while using this Installation Manual. Any questions regarding the installation of this product should be directed to a TruFireWalls™ technical support member at (888) 868-5214.

1. Site Preparation

1.1. Excavation

The customer is responsible for the excavation of the TruFireWalls™ foundation and disposal of all excavated material.

The foundation (engineering and drawings provided by others) will support the weight of the TruFireWalls™ and any loads from wind or seismic activity. Therefore, it is critical the footing is constructed on properly compacted solid ground, and the excavation does not disturb the soil under the foundation.

1.2. Form Setup

Formwork shall be constructed to match the foundation as per project plans. Care shall be taken to ensure that reinforcing matches the plan details with proper clearances to all faces of the concrete.

1.3. Anchor Bolt Setting

Anchor Bolts shall be of the size and grade shown on the plans. It is critical that the bolts shall be plumb, at the proper spacing and projection, and protected during casting to prevent fouling of the bolt threads. A template shall be used to ensure the bolts meet these requirements. Templates and Anchor Bolts can be supplied by Oldcastle, upon request, to help ensure your project is successful.

1.4. Cast in Place Concrete

Concrete for the foundation shall meet or exceed the strength and properties called out in the project plans. Placement of the concrete shall be continuous, with consolidation required to ensure no voids exist. The bolt spacing from column to column shall be checked after the placement of concrete to ensure they have not moved.

1.5. Replacement and Compaction of Soil

Once the forms have been removed, and the concrete has cured to adequate strength, the soil can be backfilled over the foundation. The backfill materials and compaction shall meet the requirements of the specifications. The foundation shall be backfilled to the grade as shown on the plans.

1.6. Final Preparation for Columns and Panels

Remove the anchor bolt templates and double-check the bolt spacing between bolts, and from column to column. Place the column leveling nuts to the proper elevation for setting the columns. Clean the panel groove between the columns to accept the panels.

Ensure you have the proper grout on hand for grouting underneath the column bases (6,000 psi high-strength, non-shrink grout, provided by customer) and sealing the column base plate covers (refractory grout, provided by Oldcastle) after they are set in place.

2. Delivery Setup

2.1. Scheduling

Oldcastle will reach out to the site contact at least one week prior to the documented need date to confirm a delivery date/time of the wall. At that time if there are any delivery requirements, the site contact can discuss those with the plant prior to delivery. If there are any further questions, please contact the Project Manager.

2.2. Crane and Personnel Lift Requirements

Oldcastle will reach out to the site contact at least one week prior to the documented need date to confirm a delivery date/ The site conditions and access points will determine the placement of the Crane, Personnel Lift, and Truck egress to allow the TruFireWalls™ to be installed. A typical TruFireWalls™ will include all components on one truck. Larger walls will require additional trucks.



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The product weights are shown on the plans. The drawings/plans of the wall can be obtained from Oldcastle's Project Manager. The crane used should be capable of lifting the product weights at the radius required to pick them off the truck and set them in place on the foundation.

A Personnel Lift will be required to disconnect the lift gear, guide the panels into place at the top of the columns, and install backer rod.

Typical lifting diagrams are shown at the end of this document.

2.3. Site Assistance

A sales representative or Oldcastle Technician will be available, as requested, to oversee the installation of the TruFireWalls™ product.

3. Setting and Handling of Components

3.1. Offloading and Storage

Panels will be supplied in a rack, which shall be offloaded with a fork loader. The weight of the pallet with panels is available on request. Pallets shall be placed on level ground and remain in the rack with banding in place until ready for setting. Do not move pallets once banding has been removed. Panels should always be stored and handled in the vertical position. Never lay the panels flat or place weight on top of them.



Columns should be offloaded and set on the ground, then tilted up and set directly on the foundation. Use the top lift point and the anchor bolt holes in the base plate when offloading columns from the truck. Oldcastle will provide a Ring Clutch to be used for lifting the columns. This will require cables of adequate length or a spreader bar as long as the column. You can also use slings placed at ¼ the length from each end to handle the column. A tag-line shall be used to guide and stabilize the columns while suspended



Use dunnage under the column, placed at ¼ the length from each end, to protect the column during storage.

Base Plate Caps will be supplied on a pallet and can be offloaded then stored on level ground using the fork loader. Depending on the specific job, Base Plate Caps will come in two pieces (as shown) or four pieces.



3.2. Setting Columns

Raise the columns from the storage location using the lift device at the top of the column. Use the rope to guide and stabilize the columns while suspended.



Place the column on the anchor bolts and use the nuts and washers to secure them. Check the columns for plumb in both directions and adjust the leveling nuts to plumb the column. Check the center-to-center spacing of the columns at the bases and the tops to ensure the columns are plumb and adjust as necessary. Do not apply grout underneath column bases until panel installation is complete in case further adjustments are needed.



3.3. Leveling and Torqueing Anchor Bolts

When the column is in its proper location, torque the anchor bolts to 100-150 Ft. Lb. to secure the column.

3.4. Setting Panels

The ABACO Model NGL 75 or McMaster-Carr Model 8804T56 shall be used for handling panels. In addition, 2 slings shall be used for added safety. Read the operation manual and understand all safety precautions before using the panel lifter. The lifter is rated for 2,200 Lbs. maximum lift, and a panel thickness from ¾" to 3". Standard panels are 2 ¼" thick. The clamp works by friction and should not be used when the panels are wet. The panel and jaw surfaces should be clean, free of loose debris, and free of any oil or water on the surface.

The lifter shall be placed on the centerline of the panel to ensure level picking. The clamp jaws automatically open when all lifting pressure is relieved, therefore, once lifted, do not let the panel rest on the ground or an obstruction as the clamp jaws may inadvertently open. To release the clamp, the operator must relieve lifting pressure on the panel, allowing the clamp jaws to open automatically.

For additional safety, use slings when placing panels. The clamps should only be used for the initial picking and final setting of the panel. Do not use the clamp to transport panels. Lift the panel with the panel clamp, place blocks under the panel, and release the clamp. Place slings around the panel at the ends and lift the panel with the slings. Once the panel is in its final location, place blocks under the panel, remove the slings, and use the panel clamp to raise the panel, remove blocks and lower panel into its final location.





The first panel set will have notches at the bottom to clear the column base plates. Set this panel into the column slots and slide it until it engages into the foundation panel slot. The panel must rest on the foundation, not on the column bases. Use a shim to push the first panel against one side of the column keyway. This will assist later with the backer rod installation. Continue setting panels according to the order shown on the plans. There should never be a gap between the panels. Alternate the removal of the panels from the rack to help keep the pallet balanced.

3.5. Grouting of Base Plates

Once the column bolts are torqued down, and the wall panel installation is complete, the space under the steel base plate must be fully grouted. This is a standard grout that the contractor will provide. Please **DO NOT USE** the Refractory Grout sent from the plant beneath the base plate. Use non-shrink 6,000 PSI grout to pack the space under the column with grout. Grout must be mixed per the manufacturer's information and protected from freezing for the first 7 days.

4. Finishing Details

4.1. Setting Column Base Plate Caps

Set the caps in the proper position to cover the column base plates. Slide the caps into place to minimize the gaps around the column.

4.2. Grouting of Base Plate Caps and Panel Slotsts



The Base Plate Caps are designed to thermally protect the steel base plates and anchor bolts of the column. The Caps and Panel Slots must be sealed in place using Refractory Grout (supplied by Oldcastle) to prevent ingress of moisture and oil. Grout should be sloped to shed water away from the columns and panels. Mix only a small amount of grout at one time to ensure you have time before the grout sets. Grout must be mixed per the manufacturer's specification and protected from freezing for the first 7 days.

4.3. Installation of Column Tension Cable (if required)

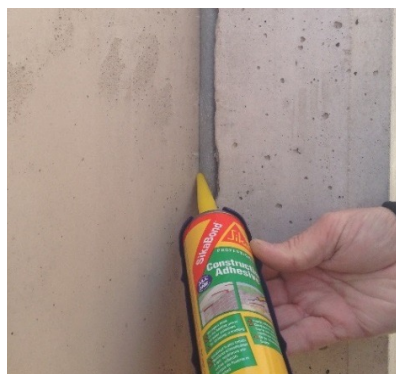
Some projects require (refer to Oldcastle plans) columns to be connected at the top by a wire rope tension cable. The Tension Cable assembly (shipped with wire rope sections, shackles, and turnbuckle) is connected with a shackle to the existing lifter embedded at the top of the end columns. After the assembly is installed, tighten the turnbuckle to give a 4" sag maximum in the system and to secure the tops of the columns.

4.4. Installation of Backer Rod Support

The backer rod is used to stiffen the system from potential vibration of the panels due to wind loading. It is to be installed in all column keyways on one side of the wall. The Plant will only send enough backer rod for installing one side of the wall. Do not install on both sides of the wall. Starting at the top of the wall, insert the supplied backer rod ¼" into the panel slot. Use a wooden shim if needed to create enough space for the backer rod.



A wooden shim can also be used to assist in inserting the backer rod, using caution not to push it too far into the slot. Cut the backer rod near the column baseplate and repeat for each column slot. Next, fill the column slot with the provided construction adhesive. Use a finger to smooth the adhesive bead.



4.5. Site Wrap-up and Pallet Disposal

The pallets, racks, and dunnage used for the transportation of the products will need to be disposed of by the site contractor.



The panel clamp shall remain with the owner to allow disassembly of the TruFireWalls™ in the future.





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