

3.5 EverBrace® Wall Restoration System

3.5.1 Summary Description

The EverBrace system has been proven to laterally support failed, deteriorated, bowed or cracked foundation walls when other methods, such as anchors and steel beams, would not be sufficient. If needed, the system can also support vertical gravity loads.

Steel corrugated panels span between steel I-beams to strengthen the existing structure. A low-rise polyurethane foam is then injected behind the steel panels, filling the irregular voids against the existing wall and transferring load from the failing wall to the new EverBrace system (*Figure 3.56*).

3.5.1.1 Advantages

- Less time, more convenient, and less expensive compared to total foundation replacement
- Components are coated to resist corrosion
- Panels are field trimmed to fit around windows, doors, and other obstacles
- A waterproofing system can be integrated into the system
- Can be easily concealed by drywall or other finishes
- Low-rise polyurethane foam provides insulative properties

3.5.2 Installation Steps

The installation steps on the following pages provide a general overview for a typical EverBrace installation. EverBrace beams are most often installed at a spacing of 4', although modified spacing may be considered at the discretion of the design professional depending on the demands of the project. It is critical that adequate blocking be installed along and between floor joists supporting the first floor, so loads are adequately and effectively transferred into the floor system without damage. Intermediate steps, unusual framing conditions, and custom details are not addressed. Optional base and footing options, along with other top connection details to the existing floor framing may also be considered.

Step 1

Install wood blocking (Figure 3.47).



Figure 3.47

Step 2

Place vapor barrier against wall (Figure 3.48).



Figure 3.48

Step 3

Secure steel top track to the floor framing system and new wood blocking above (Figure 3.49).

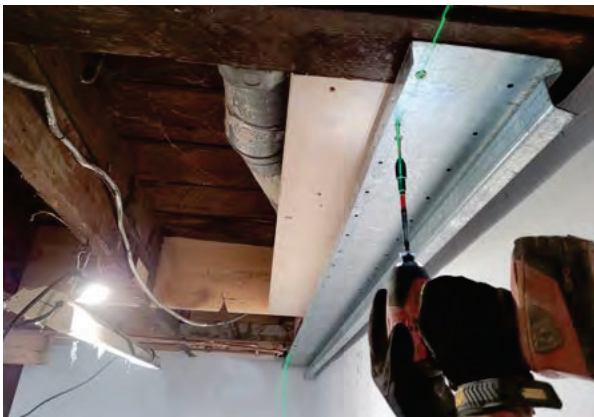


Figure 3.49

Step 4

Hang corrugated steel wall panels from top track (Figure 3.50).



Figure 3.50

Step 5

Remove concrete and excavate soil for the required size of footing (Figure 3.51).



Figure 3.51

Step 5 - Alternate

Secure steel bottom bracket to floor with concrete anchors – See Note page 254 (Figure 3.52).



Figure 3.52

Step 6

Cut steel support beams and secure to top track (Figure 3.53).



Figure 3.53

Step 9

Fill void between wall panels and supported wall with specified polyurethane foam (Figure 3.56).



Figure 3.56

Step 7

Place concrete footings (Figure 3.54).



Figure 3.54

Step 10

Install trim pieces at wall corners and around window and door openings (Figure 3.57).



Figure 3.57

Step 8

Install flat trim pieces at the bottoms of the wall panels (Figure 3.55).



Figure 3.55

Note:

A popular system variation involves replacing the cast-in-place concrete footings with a steel bracket that is fastened to the concrete floor slab. This option is available for installations intended exclusively to resist inward pressure from the foundation wall and must have a structurally competent concrete slab with a minimum thickness of 3.50". This variation is not available for systems intended to provide supplementary support for vertical gravity loads or any other types of forces (Figure 3.52).