

## SYSTEM OVERVIEW

Extended Plate and Beam (EP&B) is an advanced wall system developed by Home Innovation Research Labs. EP&B provides a high-performing wall at reasonable cost and effort that meets or exceeds the prescriptive insulation requirements of the IECC for all U.S. climate zones.

EP&B is based on tried-and-true lumber construction methodologies, integrating rigid foam sheathing with standard framing practices into a system that preserves many conventional construction features and minimizes builder risk. The Extended Plate and Beam (EP&B) wall system is composed of familiar wall materials but in a different configuration:

- **2x4 studs, with top and bottom plate extensions of 2x6**
- **Continuous insulation exterior to the wall cavity, interior to the WSP**
- **More than 95% of the wall area free of thermal bridging**
- **Common methods and materials for framing, air sealing, insulation, drainage plane and siding attachment**
- **Double rim board (beam) that is also a header**

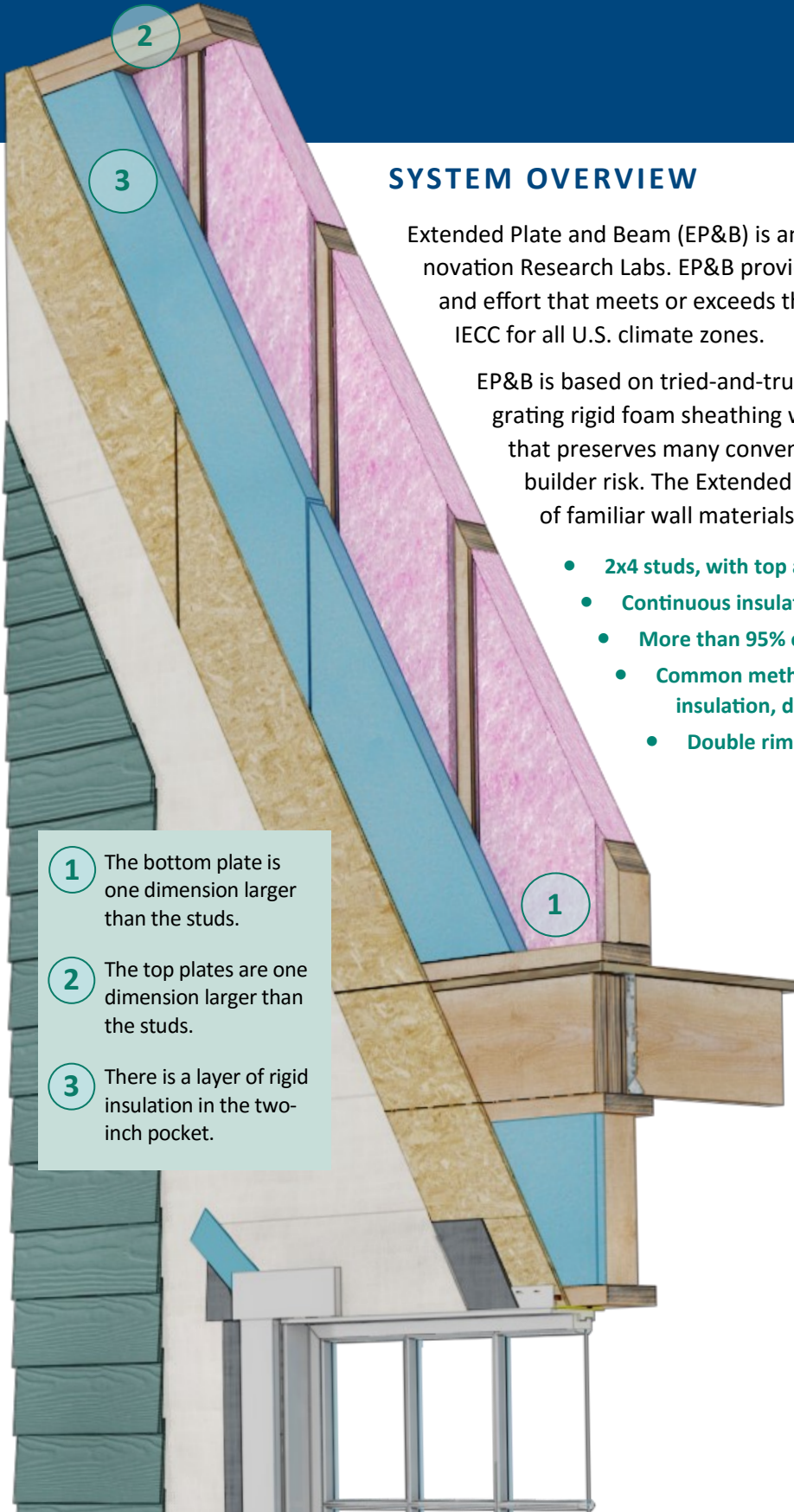
## EP&B ADVANTAGES

The rigid foam layer keeps cavities warmer to improve moisture performance, and keeps wall surfaces warmer to increase comfort

EP&B walls typically cost the same as or **LESS THAN** an IECC R-13+10 c.i. prescriptive wall — that can translate to \$100's per house

Because the OSB and framing protect the foam layer, EP&B is a good candidate for wall panelization

EP&B walls meet or exceed the 2015 IECC prescriptive energy requirements of every U.S. Climate Zone



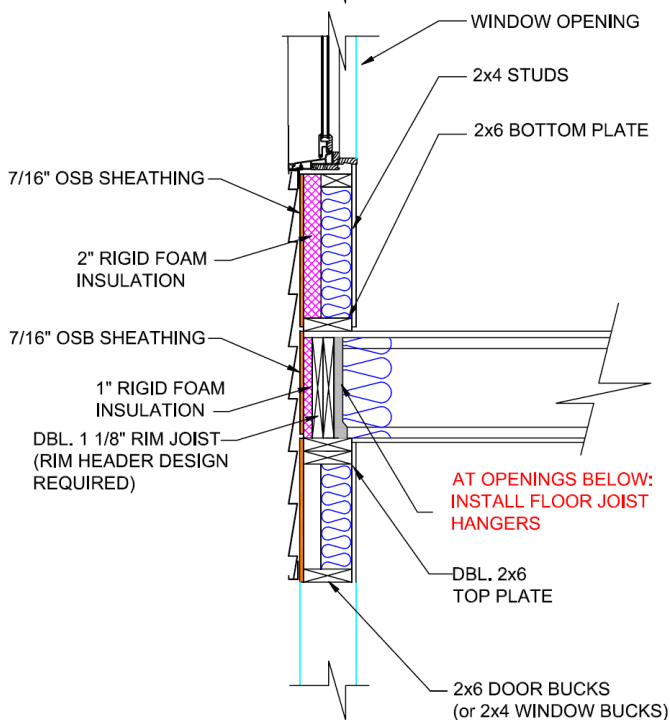
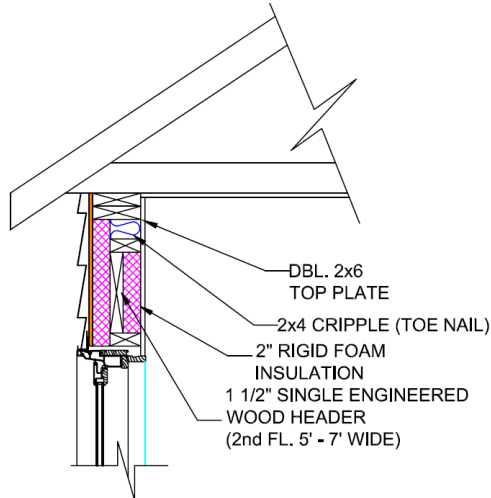
**1** The bottom plate is one dimension larger than the studs.

**2** The top plates are one dimension larger than the studs.

**3** There is a layer of rigid insulation in the two-inch pocket.

# EP&B CONSTRUCTION SUMMARY

EP&B walls cost the same or less than IECC code compliant R-13+10 walls



- |                              |                       |
|------------------------------|-----------------------|
| 1. Siding                    | 4. Rigid foam         |
| 2. Weather Resistant Barrier | 5. Framing/insulation |
| 3. Wood sheathing            | 6. Drywall            |

- Extended plates make room for a 2-in. layer of rigid foam insulation between framing and sheathing
- Windows are framed with 2x4's; a 1x6 sill can be added for additional support if desired
- Doors are framed with either 2x4's (typical) or 2x6's (sliders or heavy-duty)
- Structural wood sheathing is attached directly to the extended plates, for shear resistance
- Double rim provides load transfer between floors
- Double rim can act as a header for the openings below (joist hangers required)

For complete installation recommendations download a PDF of the EP&B Construction Guide at [www.HomeInnovation.com/EPBBuildersGuide](http://www.HomeInnovation.com/EPBBuildersGuide)

*EP&B is an innovative, performance-tested, non-proprietary wall system that can be supplied by*

*Prescriptive requirements for the EP&B wall system will be submitted for inclusion into building codes soon. The use of the EP&B wall system in a specific project must be approved by the design professional for that project. The specifications for the EP&B wall system provided in this Guide are intended for use consistent with the scope of the International Residential Code (IRC), and are not approved for high-seismic or high-wind areas.*

## EP&B 2-Story Wall Detail (First Floor Bottom Plate Detail Not Shown)

**EP&B Connection Schedule** (Use IRC Table R602.3(1) for all other)  
 Note: Staples are Not an Acceptable Substitute for Nails

Connection	Nails	Schedule
Perimeter (edge) of Wood Sheathing	3.5 in. x 0.131 in.	3 in. o.c.
Field of Wood Sheathing	3.5 in. x 0.131 in.	6 in. o.c.
Corner studs in contact with each other	3 in. x 0.131 in.	12 in. o.c.
Corners: WSP from both intersecting walls to a common 2x framing member	2.5 in. x 0.131 in.	6 in. o.c.
Corner studs separated by up to 2 in. of rigid foam, 2 options	5 in. x 0.135 in.	6 in. o.c.
	6 in. x 0.190 in. SIP screws	12 in. o.c.