Virtual Learning

Residential Wall Systems

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Lesson: May 5, 2020

Objective/Learning Target:

Students will learn about the structure and construction of residential wall systems

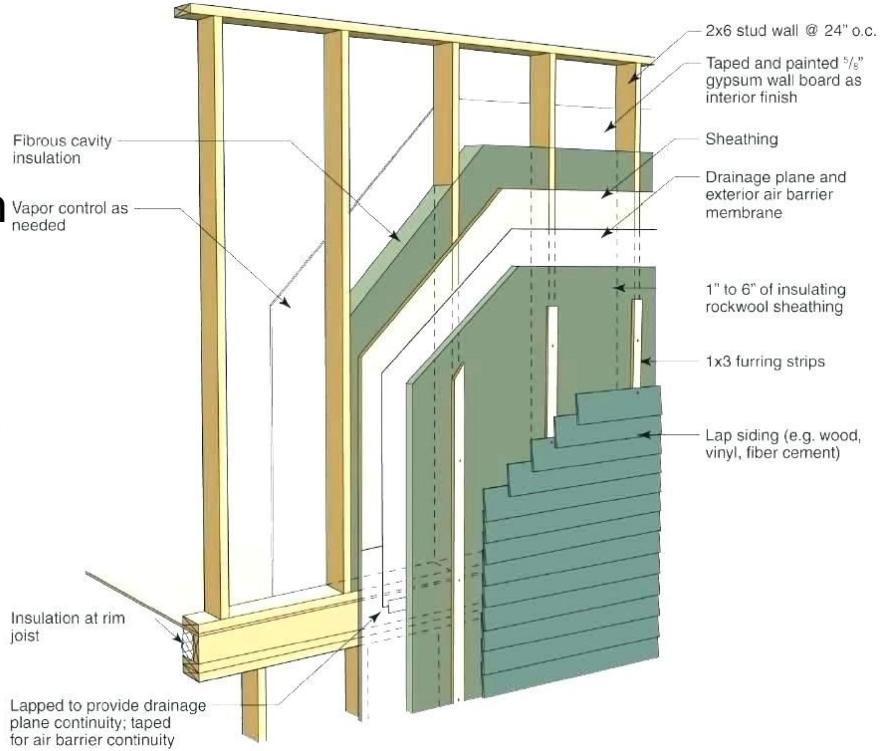
Bell Ringer:

Take 3 minutes and compose a 5 sentence paragraph that answers the following question:

What is a wall?

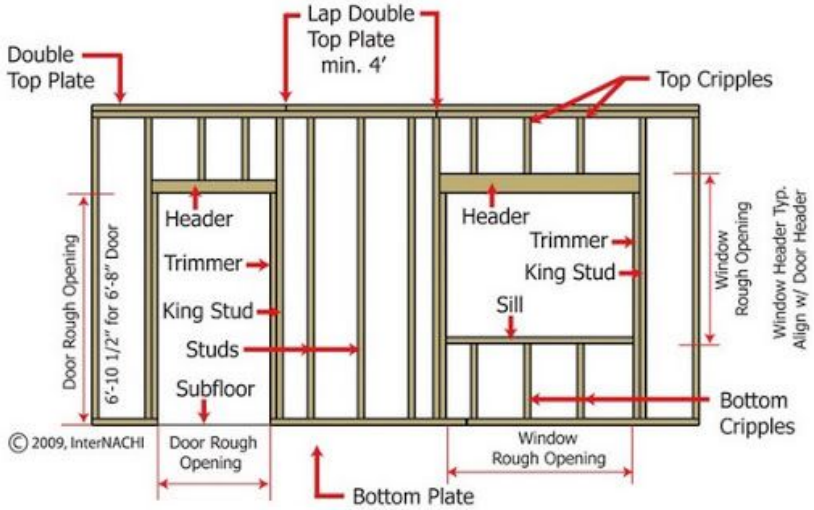
Let's get started:

Residential walls serve many different purposes such as protecting the inhabitants from wind and rain, separate internal uses of buildings, and support of the roof system and related live loads. Typically, residential walls are made of wooden structural members (studs and sheathing), insulation, and exterior cladding or interior finish material. Walls are typically assembled flat on the deck and then tilted up into place. Adjacent walls are connected with overlapping double top plate.



Let's get started:

Since walls are structural members, they support the load of the upper floors and roof, special framing needs to happen when adding windows and doors to the wall. Headers and additional framing members need to be added to transfer the loads horizontally around the window and door openings.



Practice:

Using the internet, research the appropriate residential wall construction method for a typical home in your neighborhood. Find an exterior and an interior wall section and list the different layers that are involved in each. Information to list for each layer should include:

- ❑ Type of material
- ❑ Material thickness
- ❑ Purpose of material

You should list and discuss the different wall structure layers in a logical order (interior to exterior for example).

Additional Resources:

https://www.buildingscience.com/documents/insights/bsi-001-the-perfect-wall

2x6 Residential Wall Construction Diagram

Here's an interesting take on a non-traditional residential wall construction.