Advanced Wall Framing - Advantages and Disadvantages of Framing Methods

2 X 6 wall, studs 16” on center

Advantages

- Everybody is used to doing things this way.
- More stable backing for sheetrock and sheathing

Disadvantages

- More wood framing conducts more cold and heat into the house.
- More materials are used than with 24” on center framing.
- There is more labor than with 24” on center framing.

2 X 6 wall, studs 24” on center

Advantages

- There is less wood to conduct heat and cold through the wall.
- Less materials and labor

Disadvantages

- The sheetrock and exterior sheathing do not get as much support.

2 X 6 wall, staggered 2 X 4 studs

Advantages

- Insulation blocks the conduction of cold and heat through the wood.
- Holes do not have to be drilled through the studs for wiring.

Disadvantages

- More materials are used.
- There is more labor.

2 X 8 wall, staggered 2 X 4 studs

Advantages

- There is more insulation in front of the wood to block the conduction of heat and cold.
- A 2 X 8 wall can hold more insulation in between studs.
- Holes do not have to be drilled through the studs for wiring.

Disadvantages

- More materials are used.
- There is more labor.

2 X 6 wall, studs 24” on center, with exterior foam

Advantages

- Foam insulation blocks the transfer of cold and heat through the wood framing.
- It blocks cold and heat between the studs, making the insulation very efficient.
- The wall sheathing is protected from condensation.

Disadvantages

- Additional materials and labor
- Foam causes health problems in some people.
- Although foam is recyclable, it is not biodegradable.

2 X 6 wall, metal studs 16” on center

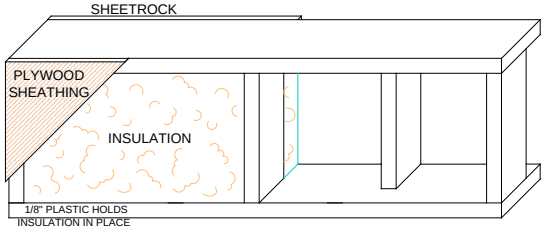
Advantages

- Hollow metal studs are lighter than wood and easier to handle.
- Metal is recyclable.

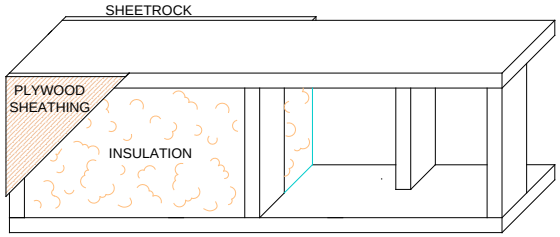
Disadvantages

- Metal conducts more heat and cols into the house than wood.
- Metal framing is usually not as sturdy as wood.
- Recycling metal generates pollution.

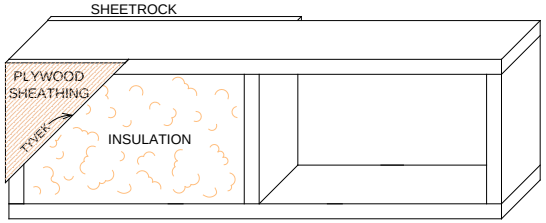
SIX WAYS TO FRAME AN EXTERIOR WALL



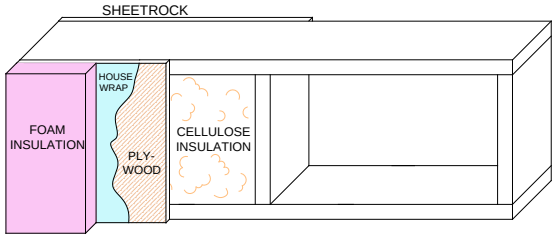
2 X 6 WALL, STAGGERED 2 x 4 STUDS



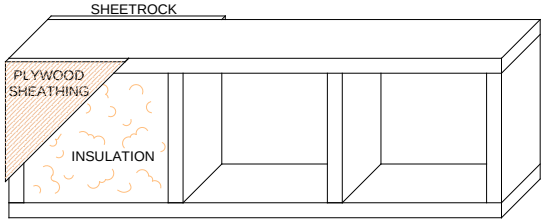
2 X 8 WALL, STAGGERED 2 x 4 STUDS



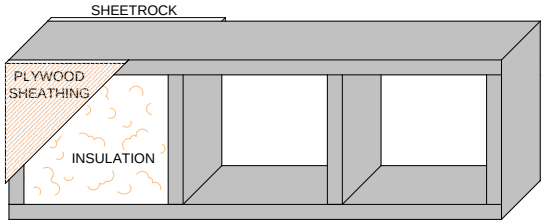
2 X 6 WALL, STUDS 24" ON CENTER



2 X 6 WALL, STUDS 24" ON CENTER, WITH EXTERIOR FOAM



2 X 6 WALL, STUDS 16" ON CENTER



2 X 6 WALL, METAL STUDS 16" ON CENTER

The above drawings are models that students would make. A display would be made of the different models.