

Technical Bulletin

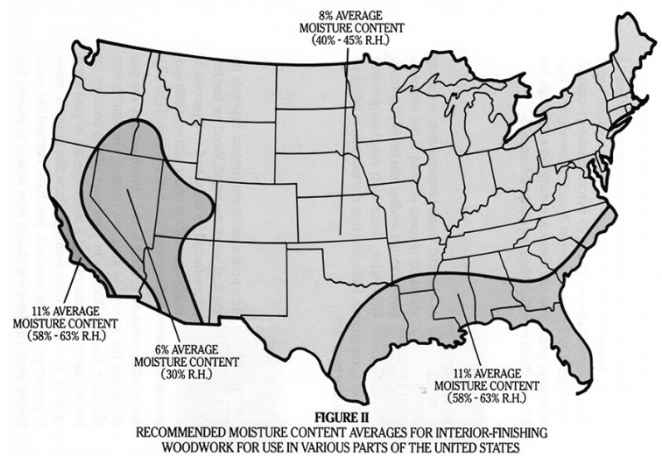
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Topic: Wood Framing Considerations

Wood framing is one of the more popular forms of building construction. It is modular, somewhat insulated, easy to cut and highly customizable. The market is roughly 21 billion dollars in size and is growing at almost 2.6% this year. It is a time-proven support system for Master Wall® Systems.

Not all wood is the same, but all wood can change dimensions depending upon the environment. Wood is considered “dry” anywhere from 6% in arid environments to 11% in the Southeast and this can vary by season. Some other considerations for wood moisture content from experience:



- Dry framing number may not be that dry. This depends upon the supplier and their drying procedures.
- Large pieces of wood, such as your floor framing 2x members can shrink as much as 3/4” in the first year.
- Treated lumber, either with decay or fire treatments can be very wet after treatment. It needs to be dried after treatment or needs to dry out in place, especially if you are coating it with our air and water barrier.
- Engineered framing or panels (plywood/Oriented Strand Board) because of their manufacturing process are often delivered dryer than the average moisture content. This means they have the potential to swell as they condition on the jobsite.
- Sloppy framing techniques cause significant and unpredictable movement.

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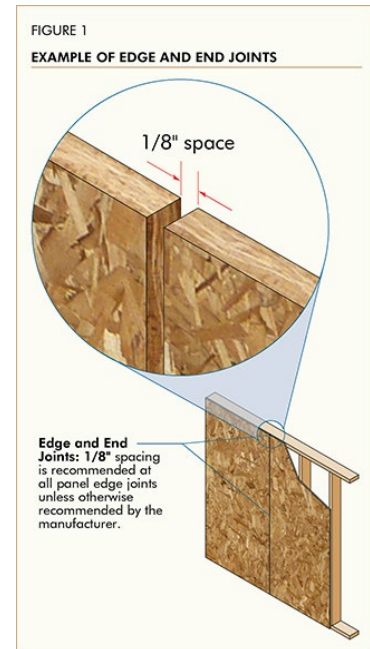
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Tips for Success

A good framing job makes the Master Wall® application easier and will make any wall cladding last longer. Here are some common areas to make your framing better:

- Check your lumber to make sure it is dry enough.
- If using 2x framing members (2x10, 2x12) you need to plan for their potential to shrink during the first year of service. This means you should provide at least 3/4" gap in the sheathing for shrinkage and an expansion joint is needed in the system. Please reference typical details for your system to avoid bulges or cracks in the system.
- Make sure treated lumber is dry to equilibrium before continuing with the application.
- Gap engineered wood panels such as plywood and OSB to allow for expansion. Butted panels are considered the #1 cause of stucco cracking.
- If floors are framed with engineered lumber (joists or webs), these generally are not going to have cross-grain shrinkage. Verify with the manufacturer, but in most Master Wall® applications an expansion joint is not needed at the floor line.
- Sloppy framing will yield movement. This will be unpredictable.
- Good framing may also yield some movement, but it can often be predictable. Framing members will compress to a degree. Plan for this with proper job sequencing making sure the walls are built, the roof trusses and roof are complete and preferably the building has been initially loaded with drywall prior to the Master Wall® application. The weight will help framing members settle in.



Panel Gap
Recommendations
Source: American Plywood
Association



Floor line bulge due to cross-grain shrinkage. This can cause Master Wall® Systems to bulge or crack as well.

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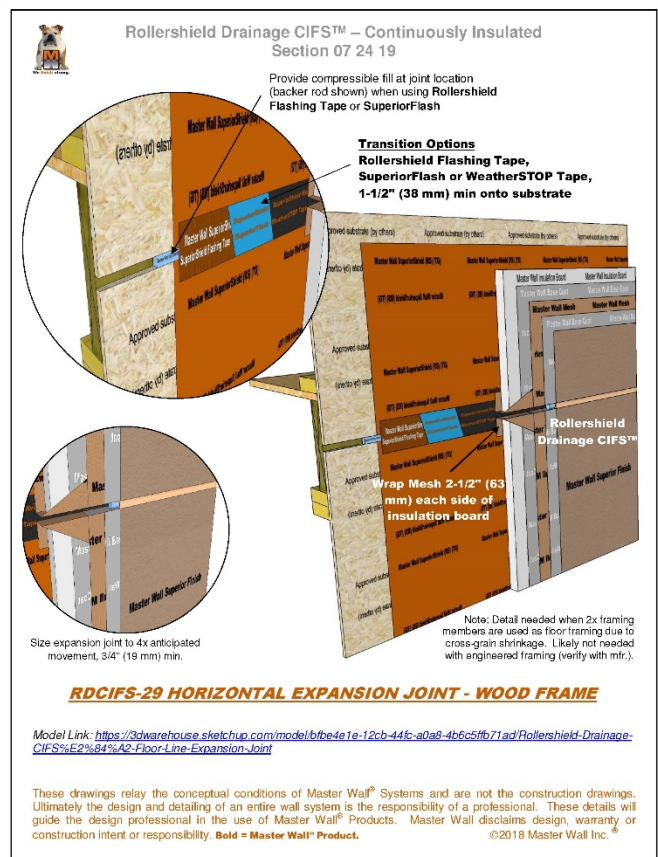
What Anticipating Floor Movement Looks Like

The external appearance can vary slightly depending upon the system and water barrier selection, but in general the system will have an expansion joint on the exterior wall surface. If there is movement the sealant joint can bulge, which is easy enough to replace.

The exact location of the expansion joint on the framing member seems to be of less importance, just make sure it is located somewhere along the floor line. This weak spot is where the movement will occur.

Final Thoughts

In summary, wood framing continues to be one of the most common substrates for Master Wall® Systems and the market seems to be growing. All these techniques will be helpful for any cladding material and awareness regarding movement is something that needs to be anticipated in construction projects. As you have questions on your particular project, please feel free to reach out to us at 700-755-0825 or email at tech@masterwall.com.



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