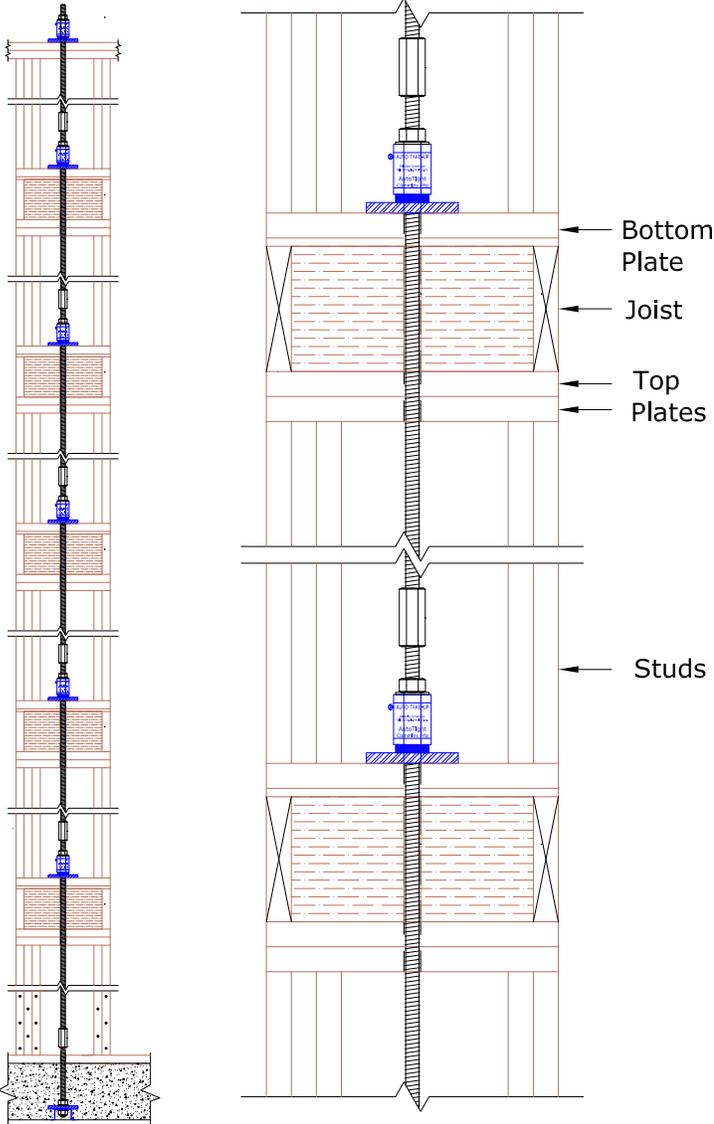




Shrinkage/Settling



Wood Movement: Estimated Cumulative Shrinkage

Floor	Location	Components & Size	Nominal Size	Cumulative		
				Mfg Wood	S-Dry	S-Green
6 th	Top Plates	2 ea 2X	3"	0.504	1.627	2.797
	Studs	Varies				
5 th	Bottom Plate	1 ea 2X	1.5"	0.450	1.573	2.743
	Joist	Varies				
	Top Plates	2 ea 2X	3"			
4 th	Studs	Varies		0.369	1.262	2.198
	Bottom Plate	1 ea 2X	1.5"			
	Joist	Varies				
	Top Plates	2 ea 2X	3"			
3 rd	Studs	Varies		0.288	0.951	1.653
	Top Plates	2 ea 2X	3"			
	Joist	Varies				
	Bottom Plate	1 ea 2X	1.5"			
2 nd	Studs	Varies		0.207	0.640	1.108
	Top Plates	2 ea 2X	3"			
	Joist	Varies				
	Bottom Plate	1 ea 2X	1.5"			
1st	Studs	Varies		0.126	0.329	0.563
	Top Plates	2 ea 2X	3"			
	Joist	Varies				
	Bottom Plate	1 ea 2X	1.5"			
	Mudsill	1 ea 3X	2.5"			

Wood Shrinkage Notes:

Wood plates and mudsills are assumed to be S. Dry MC at 19% or less

Manufactured wood joists are dry with no shrinkage.

Joists are 2 X 12 nominal S-Dry or S-Green Wood. Smaller heights will shrink less.

The designer may manually change to S-Dry or S-Green shrinkage and the actual joist size as required.

Table based on the WWPA Tech Notes Report No. 10. It is offered as an estimate of shrinkage and settling. The EOR is the final judge of the appropriate factors.

Shrinkage/Settling

Shrinkage and Settling calculations involve 100's of interconnected variables. Shrinkage is cumulative. The table on this page selects the shrinkage for each floor and adds it to the floor below. The AutoTight Auto Designer Software allows shrinkage selection based on project specific requirements. The table illustrates shrinkage commonly seen on wood frame buildings. Use it as a guide and adjust as needed for your project.

Example

The AutoTight Designer selects the appropriate Shrinkage Compensator (TUD) based on: Rod Diameter, Required Load and Expected cumulative shrinkage for that level.

Shrinkage is cumulative. Therefore select a TUD that has the required expansion. For example the selected TUD for the fourth floor would have at least 1/2 inch of expansion if the joist material is Manufactured Wood, 1-1/2 inch of expansion if the joists are 2 X 12 joists S-DRY (Surfaced Dry) and 2-1/2" shrinkage if the 2 X 12 joists are S-Green.