What’s a Safe Height to Stack Materials?

Stacking materials too high can cause the stack to collapse. So what’s the right height for a stack? It all depends. There are 6 things you need to think about in determining the safe height to stack materials:

1. What you’re stacking: Different materials have different characteristics affecting their stability when they’re stacked. Thus, for example, lumber should be stacked no more than 16 feet high, while loose bricks should be stacked no higher than 7 feet.
2. The surface you’re stacking on: The safe height of a stack is affected by whether the stack is resting on the floor, shelving, a truck, a forklift, etc. Example: Forklifts should not be stacked more than 20 feet high.
3. What containers the materials are in: The size, weight and shape of the container directly affects its stability. Example: Stacks of the same height aren’t of the same stability if one stack contains square boxes and the other round barrels.
4. How heavy the stacked item is: The gross weight of the item you’re stacking affects how many of each item you can stack on top of each other without creating gravity issues or overtaxing the surface you’re stacking on.
5. The stacking arrangement: How you stack materials impacts the stability of the stack. Thus:
    - The heaviest materials should be at the bottom of the stack
    - Bags and bundles must be stacked in interlocking rows
    - Boxed materials must be banded in place with cross-ties or shrink plastic fiber
    - Drums, barrels, and kegs must be stacked symmetrically
6. The storage conditions: The stability of stacked materials is affected by environmental conditions like wind,

temperature and humidity. Thus, for example, humidity could deteriorate and weaken wooden pallets and shelving and make them more susceptible to collapse.