

Conventionally Reinforced C-Wall Parameters – General Conditions

1. Thermomass Composite walls can be used in all ambient temperature facilities like Office Buildings, Schools, Manufacturing facilities, Retail etc. Uniform joist loads of up to 1000 pounds per foot can be supported (total dead and live load).
2. For supporting girder loads, three options are available: A) Cast a Concrete Pilaster in the wall Panel. B) Cast a steel column in the wall panel. C) Support the girder on a steel column in front of the wall panel. CTC does not recommend girder loads directly on the Composite Walls.
3. Mezzanine floor loads can be applied.
4. Typical connector spacing is 18" x 16" longitudinally. By decreasing the spacing, one can achieve more composite action.
5. If the door or window opening is larger than 60% of the panel width, then remaining sections adjacent to the opening shall be full thickness concrete section.
6. Thermomass Composite walls are designed using C-Wall software developed by CTC, Losch Engineering and Kim Seeber, P.E.
7. Typical 3/2/3 panel can have a clear span of 28 feet for up to 110 MPH wind gust. It may be necessary to have 18" or more solid sections of concrete bands at the top and bottom of the panels for higher wind loading or special situations.
8. Also, with 18" or more solid sections at the top and bottom, the panels can span up to 35 feet.
9. Concrete savings can be up to 35% for a 3/2/3 wall.
10. There will also be a reinforcing steel savings of up to 15%.
11. Typical 4/2/4 wall with out solid sections can span up to 37 feet and with solid sections up to 45 feet for wind gusts up to 110 mph.
12. Concrete savings for a 4/2/4 wall can be up to 40% and reinforcing savings can be up to 12%.