

Feature	Reinforced Concrete	Mass Timber
Scope and Performance		
Description	Cast-in-place slab and beams. Concrete shear walls at perimeter. Concrete core walls at stair and elevator.	175mm CLT Panels on glulam or steel beams w glulam columns. Steel or timber bracing at perimeter with locations flexible. Concrete core walls at stair and elevator.
Design Flexibility	Grid Pattern Required	Grid Pattern Preferred
Spans	Approximately 7.5m for assembly shown, but can be greater.	Approximately 6m max for efficient panel usage.
Height Limitations	30 Stories +	30 Stories +
Weight	2400 kg per m3	450 kg per m3
Acoustics	Reflects and transfers sound	Absorbs sound
Fire Performance	Fire Proof	Fire Resistant
Thermal Resistance	R 0.20 per inch	R 1.25 per inch
Seismic	Brittle	Ductile
Thickness	Thick	1/3 Thinner than Concrete
Air Tightness	Air Tight	Air Tight
Durability	Excellent	Excellent
Timeline and Resources		
Precision	Contractor Dependent (poured onsite)	Highly Accurate Computer Fabricated in a Controlled Environment via CNC Machine
Install Time	Up to 500 m3 per day	Up to 1400 m3 per day
Logistics	Shipping distance limited by cure time	Easily Shipped Long Distances
Cure Times	Cure Times Required	N/A
Spoilage	Must be installed within 2 hours +/- of batching	N/A
Labour	Large Installation Crew Required (25-30)	Small Installation Crew Required (8-10)
Transportation Burden	600% More Trucks Traffic to Site	Less Truck Traffic to Site (1/6 of concrete)
Install Noise Level	High	Low
Costs and Environmental		
Low Rise Cost	\$35-40 psf	\$30-35 psf
Mid/High Rise Cost	\$35-40 psf	\$35-40 psf
Construction Waste	Increased material and waste	Waste reduction, including other structural components as a result of decreased weight
Future Use	Partially Recyclable	Fully Recyclable
Carbon Footprint	300 kg CO2 emitted per cubic metre +/- depending on location	824 kg of CO2 sequestered per cubic metre
Aesthetic	Concrete feel, cold and hard.	Natural materials have measurable positive effects on cognitive performance, stress reduction, and mood.