

## STEEL VS. CONCRETE COMPARISON

CONSIDERATION	STEEL CONSTRUCTION	CONCRETE CONSTRUCTION
Basic Construction	Welded/bolted mild steel base and floor with 18 GA minimum 10 GA maximum interlocking panel walls and roof of painted G90 galvanized material	6" thick ribbed base (varies with foundation type and loading) with 4" thick walls and roof. Exterior architectural finishes available and roof has membrane coating.
Weight	Approximately 50 to 60 pounds/square foot of floor space	Approximately 180 pounds/square foot of floor space
Foundation Costs	Less overall weight reduces vertical gravity dead load and seismic load, but uplift from high wind loading is higher to the foundation	Additional weight adds to vertical gravity dead load and seismic load (minimal cost impact), but mitigates uplift from high wind loading to the foundation
Stacked Configurations	Possible with a superstructure and integral beam framing in the walls.	Possible with basic structural design. Module to module connections may vary upon seismic and wind requirements.
Structural Assembly Time	Approximately 3 weeks for base, walls, and paint sequences	2 days
Wind Resistance	Approximately 90 MPH with 18 GA standard interlocking panels/ Higher speeds require modifications	150 MPH/ Higher speeds requires basic modifications
Wind Driven Debris Resistance	Not very effective with 18 GA interlocking panels	Excellent. Miami Dade rating achievable with basic construction.
Abrasion Resistance	Penetration through the coating will result in deterioration of the coating system around the abrasion if not repaired. Penetration through the galvanized layer will result in deterioration of the metal substrate if not repaired	Excellent
Ballistic Resistance	Poor with even 12 GA interlocking panels without additional protection	Excellent — can provide UL 752, Level 4 Bullet Resistance Certification
Corrosion Resistance	Requires thicker, severe duty coating system in highly corrosive areas, and is dependent on proper preparation of the substrate	Excellent

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Fire Resistance	2 hour rating requires built up inserts of special gypsum board and batt or rock wool insulation adding to the wall thickness and weight	Can achieve 2 hour rating by installing 4" solid concrete walls. To reduce weight, we can build up inserts of special gypsum board and insulation similar to steel construction method
Thermal Resistance	Requires added batt, board, foam or other insulation barrier	Requires added batt, board, foam or other insulation barrier. Floor insulation not typical in concrete construction
Electrical Resistance	Conductive material on wall — NEC Aisle Clearance Condition 2	Non-conductive material on wall — NEC Aisle Clearance Condition 1
Leak Resistance	Standard warranty is one year	Warranty with standard elastomeric membrane roofing is 10 years
Aesthetic Modification	Primarily veneers and fascia modifications/multi-color schemes	Exposed aggregate, flat painted concrete and stained concrete available simulating brick, stone, rock and other finishes
Post-Construction Modifications	Feasible within limits	Feasible within limits
Multi-Piece Site Assembly	Readily available with Fibrebond Field Services personnel or site contractor	Readily available with Fibrebond Field Services personnel or site contractor
Hybrid Designs	Mixing steel and concrete components for the base, walls and roof is very effective for certain specific applications, particularly when the weight is critical	Mixing steel and concrete components for the base, walls and roof is very effective for certain specific applications, particularly when the weight is critical