PRE-FABRICATED COLD FORMED METAL STEEL HOUSING

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A local Austin, Texas developer and Greek immigrant is using his experience with European residential construction to counteract rising Central Texas residential construction costs. Miltos G Developments (MGD) of Austin, LLC is currently constructing two duplexes in East Austin with a pre-fabricated metal building superstructure manufactured in Europe (EU) and shipped to the U.S. The use of pre-fabricated and imported metal framing has lowered construction cost and schedule for four new custom housing units near downtown Austin.

Hollingsworth Pack served as the structural engineer of record, and worked closely with the EU manufacturer to design and modify the pre-fabricated system to meet local code requirements. Engineering challenges included the oversight of structural analysis and design, the use of custom cold formed metal framing sections, and review of foreign material specifications. A double-wall stud system was chosen, with two layers of 3.5" thick wall panels used around the building exterior. Unlike typical wood construction, the wall panels are able to resist gravity and lateral loads without the need of supplemental plywood sheathing, hence sheathing cost can be saved. Diagonal members within the wall panels provide rigidity and in plane lateral strength.

After engineering approval of the fabrication drawings, the pre-fabricated metal system was shipped in containers, with wall panels, floor trusses and roof trusses ready for assembly. All screw connections and concrete anchors were specified within assembly details and provided to match the unique metal profiles. The site assembly was performed by a local sub-contractor and reminded the design team of assembly of a life-size lego set.

Cold Formed Metal Framing construction has become a more common building system in the U.S in recent years for multi-family projects such as apartment complexes, due to its cost-effectiveness, durability, sustainability and stability.

MGD of Austin
DESIGN • INNOVATION • NEW IDEAS • DEPENDABILITY • COST EFFECTIVE

"The panels come pre-assembled. We built it just like a big puzzle! The framing phase was faster and saved 20% of the labor cost compared to conventional wood stick frame. MGD organizes all the process from material import to on-site construction. The overall project is about 10-20% cheaper than today's wood houses."

– Christos Bardas
MGD Austin

COST-EFFECTIVENESS

Similar to pre-engineered metal buildings used extensively in the United States, pre-fabricated systems reduce the construction schedule to allow faster project completion and occupancy.

DURABILITY

Cold formed steel is non-combustible, and not susceptible to termites, pests, mold, rot, and mildew which are a common cause of structural damage associated with conventional wood framing. It is galvanized to provide long-term durability.

SUSTAINABILITY

Containing 25-70% of recycled steel, cold formed steel is recognized as a green building material that can earn credits for all major green building rating programs.

STABILITY

Cold formed steel is dimensionally stable and not subject to shrinking, warping or creep which eliminates cracks, warps and defects in both internal and external finishes.