

Contractors and the Advantages of Lightweight Steel Framing

With Money at a Premium, Steel Offers Many Selling Advantages

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Why should contractors take a hard look at lightweight steel framing? Basically, because it is the quality system being increasingly specified for commercial, industrial, institutional, and residential buildings, and for good reason too. Lightweight steel framing offers contractors, designers and owners many advantages over alternative systems.

The expanded popularity and usage of steel framing offers the drywall, lathing, residential and existing steel framing subcontractors the opportunity to increase their market participation. Furthermore, to enhance their product knowledge and market potential, these contractors are not only interested in the aspects of the system that have a direct relationship on their cost, but also the other advantages that say, developers or owners can appreciate.

It should be noted that lightweight steel framing is not the same product commonly used for interior drywall studs. A lighter gage metal stud is used for these drywall non-load bearing partitions. Nor should lightweight steel framing be confused with the heavier hot-rolled structural steel members commonly used in beam, girder and column design.

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Not only is the technology within the grasp of nearly every wall and ceiling contractor, but steel framing will provide a quality installation.

Lightweight steel framing is a unique building product that can be used advantageously in load bearing walls . . . both interior and exterior, curtainwalls, floor framing joists, ceiling and roof joists.

The steel framing components are designed with versatility in mind. Steel framing systems are readily adaptable to buildings of most any shape and size. Load bearing walls are capable of economically supporting 4 and 5 story buildings, and steel

stud curtainwall systems are common in high-rise construction.

The studs and joists provide ample bearing and attachment surfaces for collateral facings and finishes. A variety of finishes would include cementitious, brick or stone veneer, wood siding, metal siding, architectural facing materials . . . and the list is almost endless.

Lightweight steel framing offers one of the highest strength to weight ratios of any of the current building products on the market. A significant cost savings can be realized in beams, floor slabs, and foundations when the designer utilizes the weight advantage of a typical finished metal stud/lath/stucco wall assembly. This assembly is nearly three times lighter than a pre-cast concrete wall, and about five times lighter than a block and brick wall.

Also, steel's inherent strength characteristics allow for greater load capacities and spans for both wall and floor assemblies when compared with wood framing. In most cases, this difference enables the steel studs and joist to be placed at 24" on center instead of 16". In addition, steel framing members are readily available in long lengths, therefore, permitting one piece multi-span applications. As a result, fewer linear feet of material and fewer pieces to be handled insure a savings in time and cost to the contractor.

Factory pre-punched openings, while further reducing the weight of

the steel members, also reduce the installation cost of the electrical and plumbing utilities. The time consuming field cutting required for utility passage in wood studs and masonry construction is eliminated.

Energy Efficient . . .

Lightweight steel framing systems are energy efficient. Typical steel stud walls offer superior insulation values when compared to pre-cast concrete or block and brick construction. Fiberglass insulation can easily be installed in the wall cavities or rigid insulation can be attached to the stud flanges. This energy savings advantage leads back to a reduced initial cost due to the reduction in heating and air conditioning equipment cost, plus a savings in operating cost.

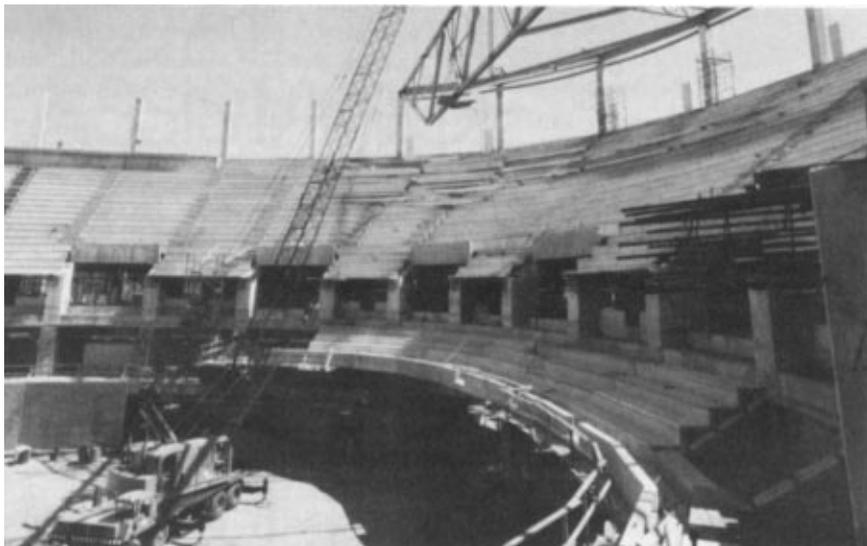


Numerous steel framed assemblies have been rated for fire endurance, airborne sound transmission and impact noise insulation. Fire and sound ratings are dependent upon the collateral material attached to the framing. With the proper selection of composite materials, the fire rating requirements set forth by code requirements can usually be met. The possibility of lower fire insurance rates are also a plus. In addition to the weight and non-combustibility advantages of steel framed assemblies, recent research verifies that their acoustical characteristics are equal to those of wood assemblies having the same collateral materials.

The predictable cost of steel versus unstable lumber prices assures the contractor of a reliable figure for material cost—a very important consideration for bid purposes. Then, since the steel framing members are delivered pre-cut to length, waste is essentially eliminated. Not only is this a money saver by itself, but also a real time saver in on-the-job clean-up. And since steel will not shrink, split, warp or rot, call-back and maintenance costs are virtually eliminated.

Cost Advantages . . .

However, the cost advantages of steel framing to wood framing do not stop here. In September, 1980 a cost comparison study of galvanized



Speed and versatility is offered by steel framing as evidenced by these long spans at University of Tennessee's new sports arena/physical education complex.

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steel versus wood framing systems used in the construction of single family dwellings was conducted by Steven Winter Associates for the Zinc Institute. This in-depth study clearly showed that the steel framing members provided a cost savings over conventional wood framing in four out of six cities studied. Yet, even those cities where wood framing costs were lower, there was a substantial savings in the erection cost of steel members in comparison with wood.

It is probably the flexibility and speed of erection of lightweight steel framing that provides the basics for its most impressive cost savings potential. To maximize this advantage many contractors choose to prefabricate the steel assemblies. This simply means pre-assembling panels, on or off-site, so that a wall or floor unit can be quickly erected in place. These panels are easily handled by the workmen or light equipment.

At the job-site, prefabrication results in the handling of just one piece versus many when building with unit components. For example, to get the equivalent of an average 8



Light gage steel is useful for interior partitioning, but load bearing steel is just as important and not a great deal more difficult to install.

ft. x 12 ft. panel, you need over 100 pieces of block and 280 pieces of brick.

Advanced fabrication, depending on the job conditions, can take place at the job site in a temporary shelter or at the contractor's shop. The panels can be erected in freezing weather, thus, delays due to poor weather conditions are greatly reduced.

To the contractor, prefabrication means speed in construction, fewer workmen, excellent quality and cost

control, and less cost to the owner.

Lastly, but of importance, reliable steel framing manufacturers and their sales forces are available nationwide. Not only can the contractor expect the manufacturer to provide superior building products, but he can also depend on their staff for technical assistance. These manufacturers have the people and technical material to provide the contractor with a real economic advantage, plus confidence in, and a total understanding of Lightweight Steel Framing.