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A new dimension has been added to the operating scope of many wall and ceiling contractors. Load bearing steel stud and joist framing is opening new horizons.

It has become a significant percentage the total business volume for many who would not have considered this a potential part of their package just a year or two ago.

In the past, contractors concentrated on wall and ceiling facing systems. The major share of their work was interior non-bearing, although there had been some penetration into the exterior curtain wall market. Framing was always a part of the business; but it had been a small portion of the total and was not considered an item with growth opportunity.

A number of successful framing contractors today consider load bearing framing to be at the heart of their business. With the addition of this new concept has come increased profit volume in both framing and facing contracts.

Although load bearing steel studs and roll formed floor and roof joists are sometimes considered new, they have been available for many years. One of the first applications was an experimental residential project done in 1941 by the Milcor Steel Company. But when the United States became embroiled in World War II, government restrictions prohibiting the use of steel in residential construction were imposed. After the war, there was a brief but limited effort to promote the concept, but because of changes in marketing objectives, it was decided not to pursue the system further.

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Load Bearing Makes Scattered Comeback

In the 1950’s and early 1960’s there were scattered projects, but no significant volume of load bearing work and very few contractors involved. In the mid-1960’s, one of the first office buildings with bearing steel stud support was constructed. The Global Office Building in Washington, Pennsylvania, has three-story bearing, exterior and four-story bearing interior stud wall framing supporting long span floor and roof bar joists.

Numerous Navy Bachelor Enlisted Quarters projects also were released for construction in the late 1960’s. These two and three story, buildings were erected by a number of contractors who used that contract as the spring-board putting them into the bearing stud business.

Since then, the system’s acceptance has grown slowly but steadily.

Why has it taken so long to gain widespread acceptance? Cost, tradition, and the availability of subcontractors with the desire and ability to perform as framing contractors are all involved in the answer.

Cost — When the cost of wood framing is low, owners and their contractors have no desire to switch. But when lumber costs are high, as they are today, many builders are interested in a change.

Life Cycle Costs More Important

Owners today have become more concerned about life cycle cost extended over two to five years, rather than just front end or initial investment. Fire and comprehensive insurance costs for non-combustible steel framed buildings may provide a substantial annual cost reduction.

The marketability or consumer value a building with rigid, dimensionally stable steel framing provides quality advantages over wood framing which would have to be assigned a dollar value for true comparison.

At the bottom line, with these factors considered, steel framing is usually selected as the all around best value.

Painted concrete block was acceptable for some buildings when we were not concerned about energy cost. Today however, both codes and owners require insulated exterior walls. Painted block is cheap, and a tough competitor, but when insulation and surface finish are needed, a steel framed wall can easily compete.

High interest rates have caused owners to search for a system which can be erected in less time. Many have found that when they include the savings on construction financing in their cost comparison, prefabricated steel framing provides the most economical structure.

Tradition — The traditional building products and
systems, such as wood frame, concrete block, poured concrete and conventional post and beam steel frame, have generally been preferred because they have been proven acceptable. The resistance to change has been tough to beat because it is, at times, an invisible barrier. But now we have seen a breakthrough.

The selection of steel framing over traditional systems has become more common due to code changes adding combustibility restrictions and energy conservation criteria. In addition, owners and designers are demanding more speed and quality for their money.

_Framing Contractors_ — The final reason it has taken so long for steel framing to gain widespread acceptance has been the lack of steel framing contractors.

_Getting Started_ — Load bearing wall framing is really not a mystery. There are only four basic differences when compared to curtain wall framing.

1. It must be prefabricated in a fixture.
2. Fabricated panels must be temporarily braced to hold them upright, because there is no other structure to support the top of the wall.
3. Wind and seismic diagonal strap bracing, properly anchored, and continuous horizontal bridging is an absolute necessity.
4. Each stud must be seated, so the study end bears on the track web. Each stud performs as a column.

What’s needed for your firm to enter this market? It takes only a commitment of time and money resources.

Estimating that first job may be difficult unless you already know your costs for each phase in fabricating and erecting curtain wall framing. It may be possible to obtain estimating guidelines from others with prior experience.

**Learning Period Preplanning Necessary**

As with any new endeavor, there will be a learning period, and preplanning is necessary to minimize the time required. Frame the building on paper before starting with materials. You will solve many problems and avoid errors that would lead to losses in time, labor and material.

Select a material supplier or consultant with a successful track record and known credentials for assistance. This same source may be able to provide complete fabricating and erecting drawings. There will be a charge for these services, but it is money well spent.

_Markets with the most Opportunity_ — There could be considerable discussion about which market holds the most promise for any given contractor. It is our opinion that multi-family residential, motel, institutional and some commercial projects, where non-combustible framing is desired, or required by code, normally provides the most opportunity for a contractor.

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Don’t encourage your people to come to you every time a problem arises. Make them work it out if at all possible. You should have enough problems of your own.

Do resolve problems of adequate lead times to handle orders. Communicate the solutions to all sales and production people.

Don’t reject the concept of “rush jobs” out of hand. There are times when they are bonafide and necessary.

Do work out a system for handling “rush” situations. Make sure sales and production people are well-acquainted with that system.

Don’t permit individual salespeople to have special rights within the job scheduling system to expedite their own jobs.

Do recognize that it is human nature for a salesperson to have his or her job out first. Salespeople are a highly competitive breed, but all salespeople should get an equal chance to have their orders flow smoothly through the system.

There’s no reason in the world to delay a decision when a job starts going sour. The longer you put off

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The load bearing steel stud and joist system is being selected with increasing frequency for structures in the three to six story range. There are numerous examples of completed projects throughout the U.S., including the four-story Casa de los Amigos retirement home in Redondo Beach, California.

The significance of the project is that it is the first four-story structure framed with steel studs and joists to meet Zone 4 seismic requirements. According to Architect Arthur Hugh Kensler, the steel framing system saved more than $150,000 over the originally specified wood frame system on this $3 million dollar complex.

A number of contractors around the U.S. have already added load bearing steel stud and joist framing to their total offering. The opportunity is there for you who are willing to take advantage of it.

Cooperative promotional effort by all of us in the industry will lead to an ever increasing number of specified jobs. And the growing list of successfully completed projects will make it easier to convince designers, specifiers and owners to switch from the old traditional methods.