Lightweight steel framing or structural steel framing, as it is sometimes called, is finally coming into its own.

After years of being the “silent Messiah” for the drywall/lathing/carpentry trades, it is now a serious contender in the construction industry. Problems arising out of union jurisdictional disputes, municipal codes, and the usual skepticism found in our industry for new products, have now been resolved.

Why Now?

Lightweight steel framing’s primary advantage is its high speed and low cost, increasingly advantageous relative to masonry and wood framing. Masonry is no longer cheap and it never was particularly fast.

Bank interest rates for construction loans are at an all time high! The use of lightweight steel framing eliminates one trade on the job site thereby achieving better coordination.

Wood framing is being inhibited nationally by tougher municipal fire codes, in addition to lumber’s highly volatile pricing patterns. Steel framing can be used in fire rated systems and steel prices are traditionally more stable than wood prices. Availability and general promotion to architects have played major roles in winning the acceptance of the products.

Major manufacturers have now made major commitments to the promotion and sale of the entire system.

U.S. Steel, through its Super “C” Joist and Stud program, has spent over $11 million on research, testing, and advertising. These factors plus the dwindling number of “wood framers” and “willing masons,” put lightweight framing in the forefront of new construction systems.

Two Systems Involve Steel

There are two distinct areas to be considered when looking at steel framing.

First is the “Curtain wall” system, wherein steel framing is used to replace the masonry liner under a masonry veneer, or as a supportive substrate for a variety of surface materials, including stucco, cement asbestos board and epoxy, and various panel systems. This is relatively simple to engineer and erect that the wall created is subjected only to wind load and shear factors.

Architects and engineers usually will supply complete details on the plans, and with the exception of unusual shear loads created by some of the panel systems. Great labor savings are achieved by the use of “on site” or “off site” panelization systems. Assistance can be lent to the subcontractor by an experienced steel framing supplier, who can give guidance in the areas of panelization techniques as well as a willingness to supply special products and precut lengths.

It is a practical system in its approach, and a carryover of basic drywall/metal lath framing systems.

The second area of lightweight steel framing “Structural Framing” is the more difficult and requires the

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experience, time, and moral fortitude to develop both the product and the market.

Initially, many of these jobs are conversions from masonry or wood, so that in conjunction with your staff engineer (or one available through your supplier) you must design, sell, and “hand feed” the concept to a sometimes reluctant owner/builder.

This approach means responsibility for live loads/dead loads/wind loads/racking/uplift/etc, etc, etc. It means you must have the work performed by an engineer licensed by the state in which the project will be built.

Development is expensive and time consuming. “Hand holding” is always part of the deal. If you do not have a staff engineer, you must acquire one, or pay a fee to your supplier to provide one. You are now supplying a total concept of construction rather than a segment.

Steel Competence Is the Key

Competence is the key word in design, estimating, supply, and supervision. “Gloss-over estimates” are out the window—you must take off each section on the plan, piece by piece. Working with 18-16-14-12 gauge steel is slower and more tedious than lighter gauge steels, so that calculating labor is more critical. Provision must be made to purchase cutting and welding equipment and specialty screws. On a substantial job, it may be advisable to set up a shop to do panelization or partial fabrication. Handling the physical product is more costly.

The construction industry makes its living and its fortunes in providing service and cost-saving methods to project owners and developers. Lightweight steel framing and joist systems are THE BETTER WAY... the better way to Serve our industry while improving our own economic position.