

Steel frame usually refers to a building technique with a "skeleton frame" of vertical steel columns and horizontal I-beams, constructed in a rectangular grid to support the floors, roof and walls of a building which are all attached to the frame. The development of this technique made the construction of the skyscraper possible.

Steel framing provides excellent design flexibility due to the inherent strength of steel, which allows it to span over a longer distance than wood, and also resist wind and earthquake loads.

### **Light Gauge Steel**

Thin sheets of galvanized steel can be formed into steel studs used as a building material for rough-framing in commercial or residential construction, and many other applications. The dimension of the room is established with horizontal track that is anchored to the floor and ceiling to outline each room. The vertical studs are arranged in the tracks, usually spaced 16" apart, and fastened at the top and bottom.

The primary shapes used in residential are the C-shape stud and the U-shaped track, and a variety of other shapes. Framing members are generally produced in a thickness of 12 to 25 gauge. The wall finish is anchored to the two flange sides of the stud, which varies from 1-1/4" to 3" thick, and the width of web ranges from 1-5/8" to 14". Rectangular sections are removed from the web to provide access for electrical wiring. Steel mills produce galvanized sheet steel, the base material for light-gauge steel. Sheet steel is then formed into the final profiles used for framing. The sheets are zinc coated (galvanized) to prevent oxidation and corrosion.