

For details and data on fireproofing and fireproofing materials, see Freitag's "Fire Prevention and Fire Protection," and Kidd's "Architects and Builders Pocket Book."

**LOADS.**—The loads coming on office buildings may be grouped under the following headings: (1) dead loads; (2) live loads; (3) wind loads; (4) snow loads; (5) miscellaneous loads.

**Dead Load.**—The "dead load" includes the weight of the structure, and other permanent fixtures and machines. A formula for the weight of roof trusses is given in Chapter I. The weights of materials are given in Table I. The actual weights of all dead loads should be calculated. The minimum weight of a fireproof floor should be taken at not less than 75 lb. per sq. ft. of floor surface. In office buildings a minimum of 10 lb. per sq. ft. should be added for movable partitions.

**WEIGHT OF STEEL IN TALL BUILDINGS.**—The weight of the steel framework for tall steel buildings varies with the height, the column spacing, the floor loads and other conditions. The weights of steel per cubic foot for several tall steel buildings are given in Table II. In calculating the weight per cubic foot only the part of the building above the curb was considered.

TABLE II.

WEIGHT OF STEEL IN TALL BUILDINGS, POUNDS PER CUBIC FOOT.

Building.	Plan Sq. Ft.	Height, Stories.	Weight of Steel, Lb. per Cu. Ft.	Reference.
Park Row Building, New York.	15,000	26	3.6	Eng. News, Oct. 8, 1896
Hotel Astor (addition), New York.	21,306	9	2.6	Eng. Record, Oct. 14, 1911
Banker's Trust Building, New York.	9,018	39	5.43	Eng. Record, Feb. 11, 1911
Underwood Building, New York.	13,231	18	2.6	Eng. Record, April 1, 1911
Hotel Rector, New York.	3,952	2.6	2.3	Eng. Record, May 27, 1911
Woolworth Building, New York.	31,000	55	7.75	Eng. Record, May 27, 1911
Municipal Building, New York.	42,686	580	3.6	Eng. News, July 27, 1911
Poole Bros. Printing, Chicago.	5,000	7	2.1	Eng. News, July 25, 1912
Merchants & Mfgs. Exchange, New York.	55,000	12	2.8	Eng. Record, May 11, 1912
Hotel McAlpin, New York.	39,500	25	3.09	Eng. Record, Mar. 30, 1912
Curtis Building, Philadelphia.	94,000	10	1.76	Eng. Record, July 9, 1910
Office Building, Denver.	7,500	12	1.45	Designed by the author

**Live Loads.**—The live loads on floors are commonly given in pounds per square foot. The minimum live loads in pounds per square foot as required by the buildings laws of several cities are given in Table III.

Mr. C. C. Schneider, M. Am. Soc. C. E., in his "General Specifications for Structural Work of Buildings" gives the following requirements for live loads on floors.

"Table IV gives the 'live' load on floors, to be assumed for different classes of buildings. These loads consist of: (a) A uniform load per square foot of floor area; (b) A concentrated load which shall be applied to any point of the floor; (c) A uniform load per linear foot for girders. The maximum result is to be used in calculations. The specified concentrated loads shall also apply to the floor construction between the beams for a length of 5 ft."

TABLE III.  
FLOORS AND ROOFS.  
MINIMUM LIVE LOADS, POUNDS PER SQUARE FOOT.  
By Building Laws of Various Cities.  
American Bridge Company.

Kind of Building.	* Area greater than 500 square feet.																												† First Floors 200.	‡ Slopes less than 20 degrees.	§ Dead and live, except for one story steel frame buildings, corrugated iron roofs, 35 pounds.	High Buildings, built up districts, 35 pounds; 14 stories or over, 25 pounds at tenth story, 2½ pounds less each story below.	Figures for manufacturing establishments do not include machinery.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Apartment.	Public Rooms* and Halls.	Assembly Halls.	Fixed Seat Auditoriums.	Movable Seat Auditoriums.	Churches.	Dance Halls.	Drill Rooms.	Riding Schools.	Theaters.	Dwellings.	Public Rooms*.	Hotels.	First Floors.	Corridors.	Office Floors.	Manufacturing.	Light Factories.	Mercantile.	Heavy Storehouses.	Retail Stores.	Warehouses.	Offices.	First Floor.	Corridors.	Schools (Class Rooms).	Assembly Rooms—Halls.	Sidewalks.	Stables—Carriage Houses.	Area less than 500 sq. ft.	Stairways and Landings.	Fire Escapes.	Roofs—Flat.	Horizontal Projection Steep Roofs.	Superficial Surface.	Wind Pressure.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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