

skeleton makes use of standard sections of tubular scaffolding and is generally most economical for buildings under four or five stories in height. The scaffold is braced against the frame and covered with plywood, tarpaulins or plastic attached to a light frame wired to the outer members of the scaffold.

HEATING EQUIPMENT FOR WINTER WORK

Steam boilers are recognized as an economical source of heat for winter jobs. On the average job, the capacity of a boiler should be from 2 to $2\frac{1}{2}$ boiler horse power per yard of concrete per hour of maximum demand. Steam from the boilers may be used to:

- (1) heat the various buildings used;
- (2) heat the concrete aggregates and mixing water;
- (3) thaw out forms;
- (4) protect the concrete after placement.

For the use of boilers for heating the materials used in making concrete, the following data may be useful:

- (1) One boiler h.p. (33.5 thousand B.t.u.'s per hour) will raise the temperature of 30 gallons of water about 100°F . in one hour;
- (2) One boiler h.p. will raise the temperature of 1 ton of moist unfrozen aggregate about 60 to 65°F . in one hour;
- (3) One boiler h.p. will raise the temperature of about 1 ton of the frozen aggregate about 30 to 40°F . in one hour;
- (4) When steam is used for heating aggregates and water, the required boiler capacity per yard of concrete per hour will range from about 1 h.p. for mild winter weather to about $2\frac{1}{2}$ h.p. for fairly severe winter weather. For boilers of the type and capacity discussed here, about 140 sq. ft. of steam radiation is equal to 1 boiler h.p.

Steam unit heaters, portable warm-air units equipped with blowers, coal-, coke-, and oil-fired salamanders and gas-burning units are all commonly used in present-day cold-weather work.