

arranged so that all circuits composing the system or composing a major subdivision of the system are practically of equal length.

Roof Ventilator: A device placed on the roof of a building to permit egress of air.

Sensible Heat: See *heat*.

Smokeless Arch: An inverted baffle placed in an up-draft furnace toward the rear to aid in mixing the gases of combustion and thereby to reduce the smoke produced.

Specific Heat: In the foot-pound-second system, the amount of heat (Btu) required to raise one pound of a substance one degree Fahrenheit. In the centimeter-gram-second system, the amount of heat (cal) required to raise one gram of a substance one degree centigrade. (The specific heats of gases and vapors usually are higher for constant pressure than for constant temperature.)

Split System: A system in which the heating is accomplished by radiators or convectors and ventilation by separate apparatus.

Square Foot of Heating Surface (equivalent): Equivalent direct radiation (EDR). By definition, that amount of heating surface which will give off 240 Btu per hour when filled with the heating medium at 215 F and surrounded with air at 70 F. (The *equivalent* square foot of heating surface may have no direct relation to the actual surface area.)

Static Head or Pressure: The radial pressure with an enclosure, that is, the pressure tending to burst the enclosure. (This is also termed frictional or resistance pressure or maintained resistance.)

Steam: Water vapor which exists in the vaporous state due to the fact that sufficient heat has been added to the water, from which the steam has been formed, to supply the latent heat of evaporation, and thereby to change the liquid into a vapor. Steam in contact with the water from which it has been generated may be *dry-saturated* steam or *wet-saturated* steam. The latter contains more or less actual water in the form of mist. If steam is heated, and the pressure maintained the same as when it was vaporized, its temperature will increase and it will become *superheated*.

Steam Heating System: A heating system in which heat is transferred from the boiler or other source of steam, to the heating units by means of steam at, above or below atmospheric pressure.

Steam Trap: A device for allowing the passage of condensate and for preventing the passage of steam, or for allowing the passage of air as well as condensate.

Superheated Steam: See *steam*.

Supply Mains (Steam): The pipes through which the steam flows from the boiler or source of supply to the run-outs and risers leading to the heating units.

Surface Conductance: The amount of heat (Btu) transmitted by radiation, conduction and convection *from a surface to the air or liquid surrounding it*, or vice versa, in one hour per square foot of the surface for a difference in temperature of one degree between the surface and the surrounding air or liquid.

Synthetic Air Chart: A chart for evaluating the air conditions maintained in a room.

Thermostat: An instrument which responds to changes in temperature and which directly or indirectly controls the source of heat supply.

Tube (or Tubular) Radiator: A cast-iron heating unit used as a radiator and having small vertical tubes (pipes).

Two-Pipe Supply Riser (Steam or water): A vertical pipe which supplies the heating medium to the heating unit but does not carry the heating medium from the heating unit, the heating medium returning through a separate return pipe or riser.

Two-Pipe System (Steam or water): A heating system in which one pipe is used for the supply of the heating medium to the heating unit and another for the return of the heating medium to the source of heat supply. (The essential feature of a two-pipe system is that each heating unit receives a direct supply of the heating medium which medium cannot have served a preceding heating unit.)

Underfeed Distribution System (Hot water): A hot water heating system in which the main flow pipe is below the heating units.

Underfeed Stoker: A stoker which feeds the coal underneath the fuel bed.

Unit Air Conditioner: A self-contained air conditioning plant which provides for humidification or dehumidification, air washing, heating or cooling, and includes spray nozzles, air re-heater, fan, pump, automatic control, all within a common enclosure. (As a rule the outlets are designed to accomplish air distribution without ducts.)

Unit Cooler: A combination of a cooling coil and fan or blower, erected as a unit and having a common enclosure. (As a rule the outlets are designed to accomplish air distribution without ducts.)

Unit Heater: Any combination of a heating unit, and a fan or blower having a common enclosure, and placed within or adjacent to the space to be heated; generally no ducts are attached to the inlets or outlets. (Unit heaters are designed primarily for industrial use.)

Unit Ventilator: A unit heater designed to use all or part out-door air with or without alternate provision for handling recirculated air. (Unit ventilators are intended primarily for school and office ventilation.)

Up-Feed System (Steam): A steam heating system in which the supply mains are below the level of the heating units which they serve.

Vacuum Heating System: A two-pipe steam heating system equipped with the necessary accessory apparatus which will permit operating the system below atmospheric pressure when desired.

Vapor: Any substance in the gaseous state.

Vapor Heating System: A steam heating system having separate supply and return pipes, which operates under pressures at or near atmospheric and which returns the condensation to the boiler or receiver by gravity. (Vapor systems have thermostatic traps or other means of resistance on the return ends of the heating units for preventing steam from entering the return mains; they also have a pressure-equalizing and air-eliminating device at the end of the dry return, which device is of a proprietary nature.) **Direct Vent Vapor System:** A vapor heating system with air valves which do not permit re-entry of air.