

be higher than that of saturated steam at the same pressure. The relation between pressure and specific volume for dry saturated steam is given by the experimental equation (Goodenough) as:

$$pv^{1.6831} = 484.2 \quad (2)$$

where.

p = the pressure in pounds per square inch.

v = the specific volume.

The *total heat* of a dry saturated vapor for any pressure and temperature is the sum of the heat required to raise the temperature of one pound of the liquid from the freezing point to the given temperature and corresponding pressure plus the heat required to entirely vaporize it at this pressure.

Steam which is in contact with the water from which it was generated is called *wet saturated steam* if it contains more or less actual water in the form of mist or priming. The percentage of dry steam in a mixture of steam and water is known as the *quality* (x) of the steam. The total heat of wet vapor at any pressure and temperature is the sum of the heat required to raise the temperature of one pound of the liquid from the freezing point to the given temperature and corresponding pressure plus the heat required to vaporize the part (x) at this pressure.

Chapter 42

HEATING AND VENTILATING STANDARD TERMS

Glossary of Physical and Heating and Ventilating Terms Used in the Text, Standard Abbreviations, Conversion Equations, Drafting Symbols, A.S.H.V.E. Codes.

Absolute Humidity: See *Humidity*.

Absolute Temperature: The temperature of a substance measured above *absolute zero*.

Absolute Zero: The temperature (-459.6 F) at which the molecular motion of a substance theoretically ceases. This is the temperature at which the substance theoretically contains no heat energy.

Acceleration: The rate of change of velocity. In the fps system this is expressed in units of one foot per second per second.

$$a = \frac{V}{t}$$

Acceleration Due to Gravity: The rate of gain in velocity of a freely falling body. In the fps system this is 32.174 feet per second per second.

Air Cleaner: A device designed for the purpose of removing air-borne impurities such as dusts, fumes and smokes. (Air cleaners include air washers and air filters).

Air Conditioning: The simultaneous control of all or at least the first three of those factors affecting both the physical and chemical conditions of the atmosphere within any structure. These factors include temperature, humidity, motion, distribution, dust, bacteria, odors, toxic gases, and ionization, most of which affect in greater or lesser degree human health or comfort.

Air Infiltration: The inleakage of air through cracks and crevices, and through doors, windows and other openings, caused by wind pressure or temperature difference.

Blast: This word was formerly used to denote forced air circulation, particularly in connection with central fan systems using steam or hot water as the heating medium. As applied in this sense, the word *blast* is now obsolete.

Boiler: A closed vessel in which steam is generated or in which water is heated.

Boiler Heating Surface: That portion of the surface of the heat-transfer apparatus in contact with the fluid being heated on one side and the gas or refractory being cooled on the other, in which the fluid being heated forms part of the circulating system; this surface shall be measured