Free saturation line for water steam report sample

Health & Medicine, Stress

A better understanding of thermodynamics may be achieved by understanding the general molecular structure of matter as it exists in water and steam. Molecules are the smallest amount of the compound material that has complete chemical traits of that element, which can exist. Molecules consist of smaller particles that define basic elements called atoms. Most minerals constituents can exist in solid, liquid and vapor states called phases. The three phases of a substance can only coexist in equilibrium at a given temperature and pressure. In the liquid state, the molecules can move, but they are still one molecular diameter apart to mutual attraction, and their collision occurs frequently. More heat energy increases molecular collision and agitation raising the energy of the liquid up to boiling temperature. The temperature levels at which water undergoes from liquid to the vapor phase is relative to the pressure. For instance, liquid water boils at a lower temperature at low pressure areas such as mountains. That relationship between the temperature and pressure at which the liquid phase changes to the vapor phase can be plotted on a graph at different variables. The resulting line is the saturation line which can be obtained from any liquid. When plotted on a graph of absolute pressure against temperature the effect is an even curve that does not have a simple telling equation, but over a limited range of stress it is possible to obtain a good fit. This equation only describes the behavior of a particular material and is not from the underlying physical laws. Each range of pressures has different coefficient values. For a range of pressures, there are particular values of the coefficients that minimize the curve given by the equation and the measured points.

Bibliography

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