

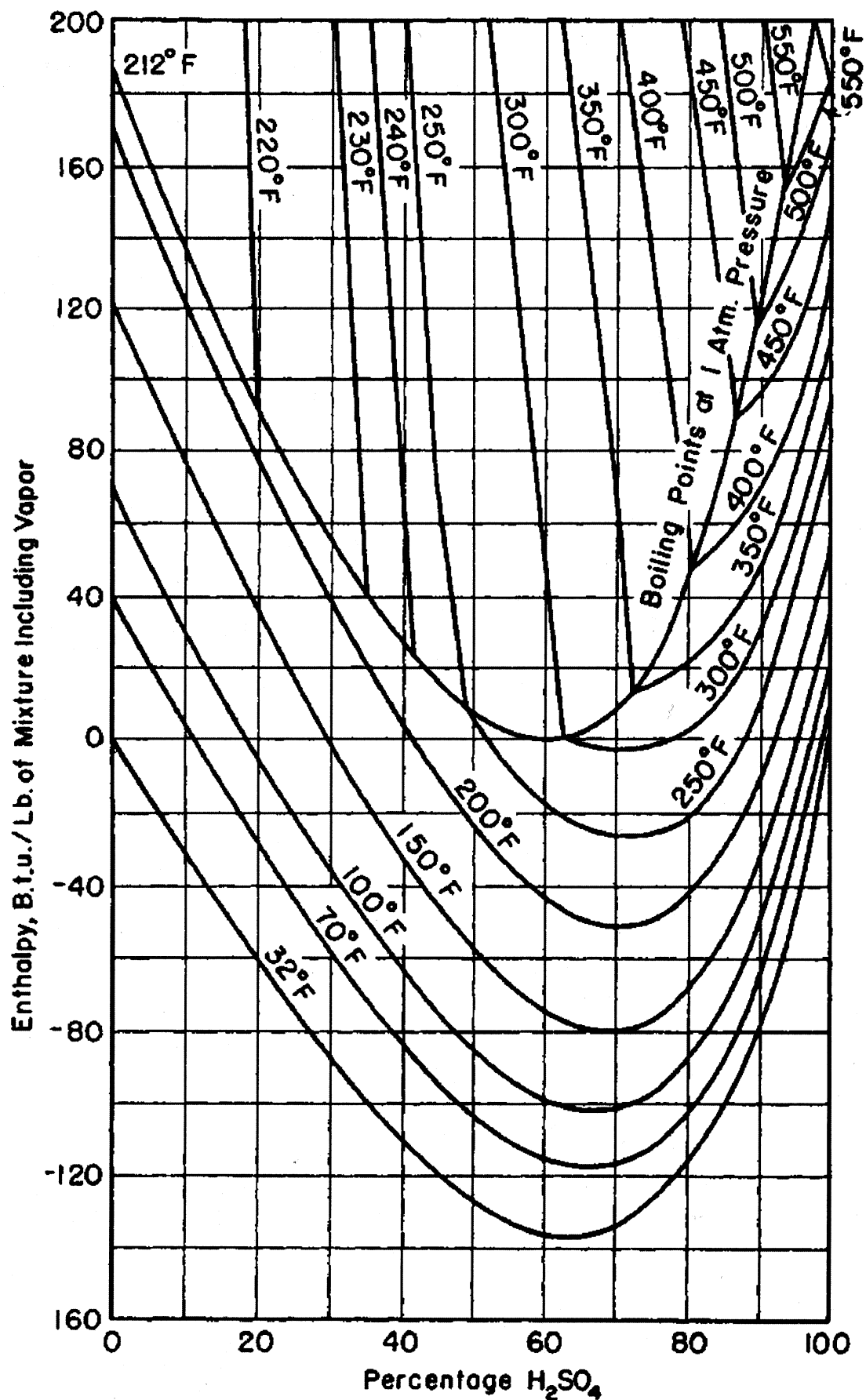


FIG. 2-30 Enthalpy-concentration diagram for aqueous sulfuric acid at 1 atm. Reference states: enthalpies of pure-liquid components at 32°F and vapor pressures are zero. NOTE: It should be observed that the weight basis includes the vapor, which is particularly important in the two-phase region. The upper ends of the tie lines in this region are assumed to be pure water. (*Hougen and Watson, Chemical Process Principles, part I, Wiley, New York, 1943.*)

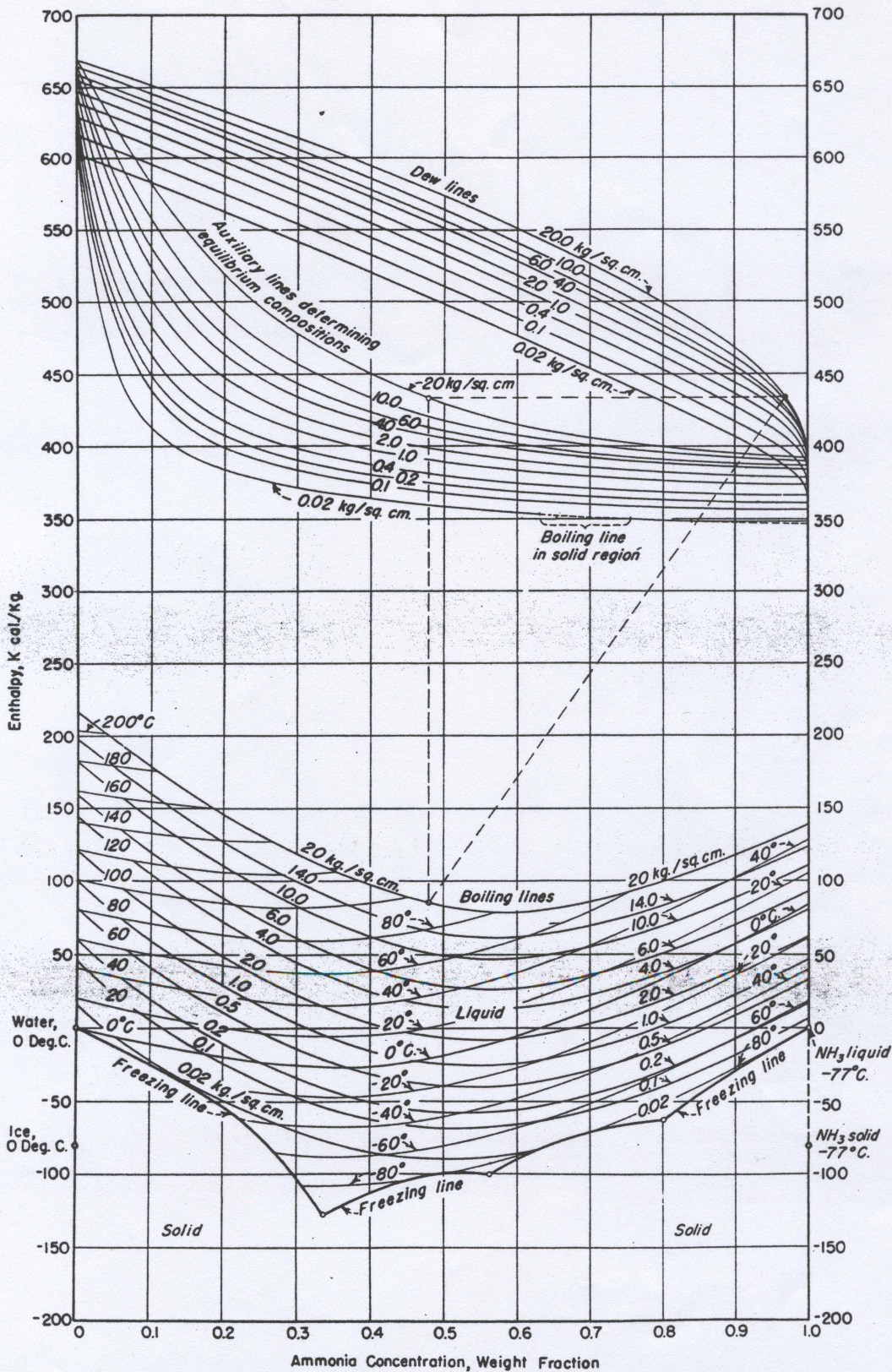


FIG. 3-18 Enthalpy-concentration diagram for aqueous ammonia. Reference states: enthalpies of liquid water at 0°C and liquid ammonia at -77°C are zero. NOTE: In order to determine equilibrium compositions, a vertical may be erected from any liquid composition on any boiling line and its intersection with the appropriate auxiliary line determined. A horizontal from this intersection will establish the equilibrium vapor composition on the appropriate dew line. An example at 48 percent ammonia and 20 kg/cm^2 is indicated (*Bosnjakovic, Technische Thermodynamik, T. Steinkopff, Leipzig, 1935*). A slightly improved diagram with melting curves added appears as Tafel IV of the second edition of this work, published by T. Steinkopff, Dresden and Leipzig, 1961.

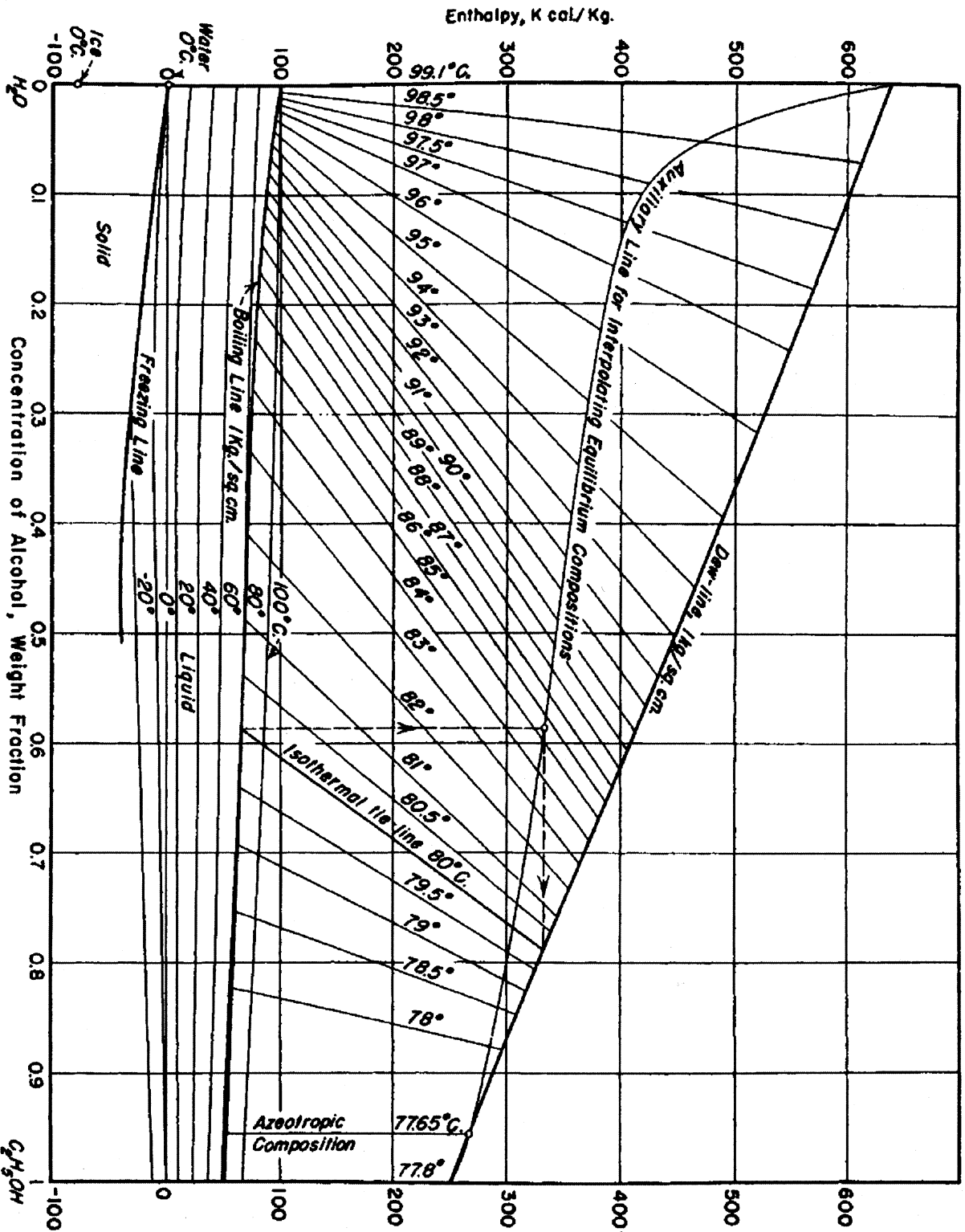


FIG. 2-10 Enthalpy-concentration diagram for aqueous ethyl alcohol. Reference states: Enthalpies of liquid water and ethyl alcohol at 0°C are zero. NOTE: In order to interpolate equilibrium compositions, a vertical may be erected from any liquid composition on the boiling line and its intersection with the auxiliary line determined. A horizontal from this intersection will establish the equilibrium vapor composition on the dew line. (Bosnjakovic, Technische Thermodynamik, T. Steinkopff, Leipzig, 1935.)