

Therefore, there is no absolute optimum of air temperature or other environmental conditions, which will meet all cases. With moderate relative humidity and minimum air movement, an air temperature of 80 F has been found ideal for the lightly clothed subject at rest in a semi-reclining position. In factories where light work is performed in summer time, the ideal has been found to be about 76 F. For children

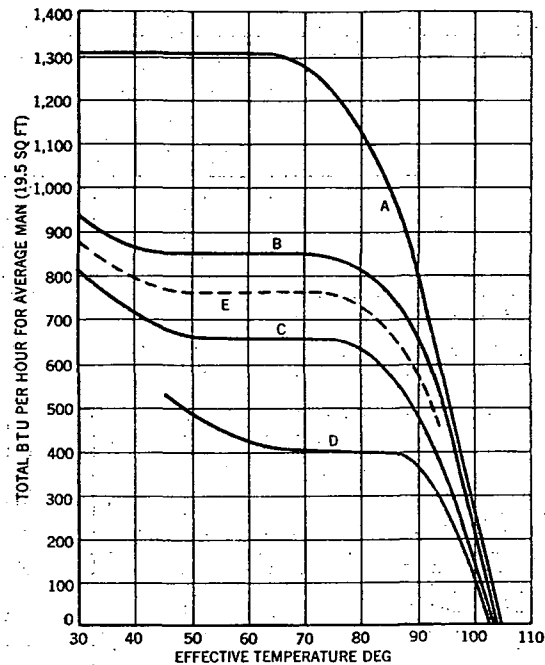


FIG. 3. RELATION BETWEEN TOTAL HEAT LOSS FROM THE HUMAN BODY AND EFFECTIVE TEMPERATURE FOR STILL AIR^a

^aCurve A—Persons working so as to have a metabolic rate of 1310 Btu per hour. Curve B—Persons working so as to have a metabolic rate of 850 Btu per hour. Curve C—Persons working so as to have a metabolic rate of 660 Btu per hour. Curve D—Persons seated at rest, or with a metabolic rate of 400 Btu per hour. Curves B and D based on test data covering a wide temperature range. Curves A and C based on test data at an Effective Temperature of 70 deg and extrapolation of Curves B and D. All curves are averages of values for high and low relative humidities which apply with satisfactory accuracy for most considerations. For special problems requiring a higher degree of accuracy see more detailed A.S.H.V.E. Research Laboratory reports.

(who have a high metabolism) at school, in winter clothing, 70 F has been considered correct; while in a gymnasium, 55 F is a desirable temperature.

The wide variations in metabolic activities with which the engineer must be prepared to cope and the influence of such variations in metabolism on the heat load contributed by the human body to the environment are given in Table 4 and in Figs. 3, 4 and 5. The curves in the figures are based on certain averages of test results with different humidities, and

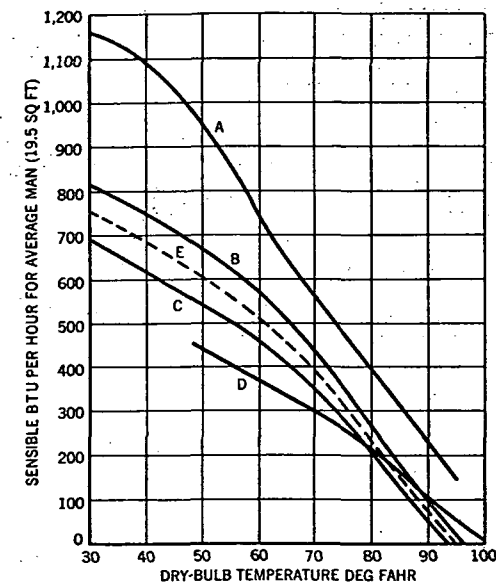


FIG. 4. RELATION BETWEEN SENSIBLE HEAT LOSS FROM THE HUMAN BODY AND DRY-BULB TEMPERATURE FOR STILL AIR^a

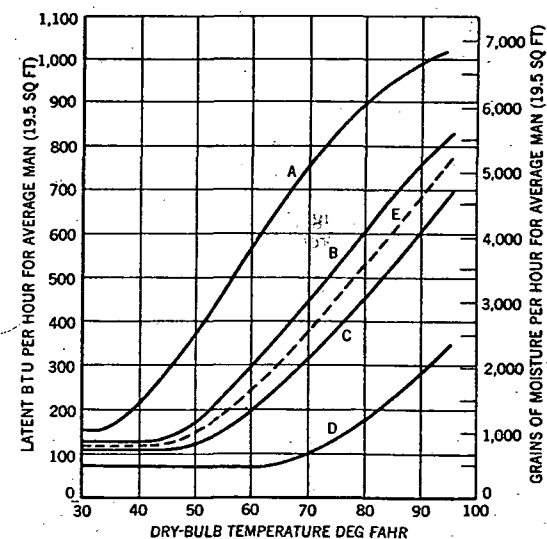


FIG. 5. LATENT HEAT AND MOISTURE LOSS FROM THE HUMAN BODY BY EVAPORATION, IN RELATION TO DRY-BULB TEMPERATURE FOR STILL AIR CONDITIONS^a

^aLoc. Cit. See footnote a, Fig. 3.