

A.S.H.V.E. Research Laboratory²² shows that they may be made reasonably comfortable by blowing relatively small volumes of slightly cooled air over them or through their clothing.

For prematurely born infants, the optimum temperature varies from 100 to 75 F, depending upon the stage of development. The optimum relative humidity for these infants is placed at 65 per cent²⁶. No data are yet available on the optimum air conditions for full term infants and

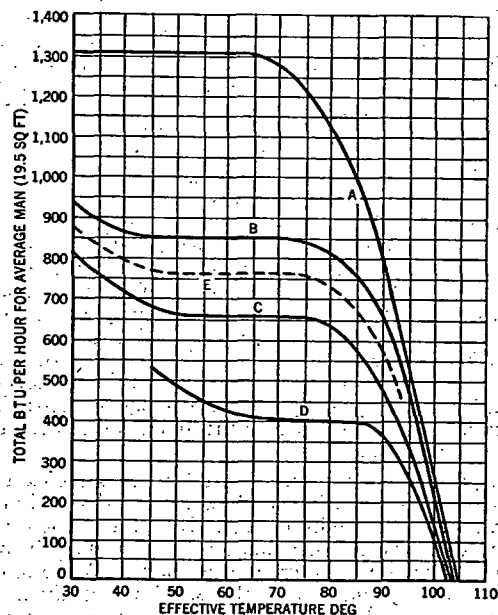


FIG. 9. RELATION BETWEEN TOTAL HEAT LOSS FROM THE HUMAN BODY AND EFFECTIVE TEMPERATURE FOR STILL AIR^a

^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.

young children up to school age. Satisfactory air conditions for these age groups are assumed to vary from 75 to 68F with natural indoor humidities. For children (having high metabolism) at school, in winter clothes, 70 F has been considered correct, while in a gymnasium 55 F has been recommended. A great number of persons seem to be fairly content in summer with a higher plane of indoor temperature, particularly when the matter of first cost and operating cost of a cooling plant is given due consideration. Studies by the University of Illinois²⁷ in cooperation with the A.S.H.V.E. Committee on Research indicate that effective temperatures as high as 74.5 deg are acceptable in the living quarters of a residence, and while this condition is not representative of optimum comfort it

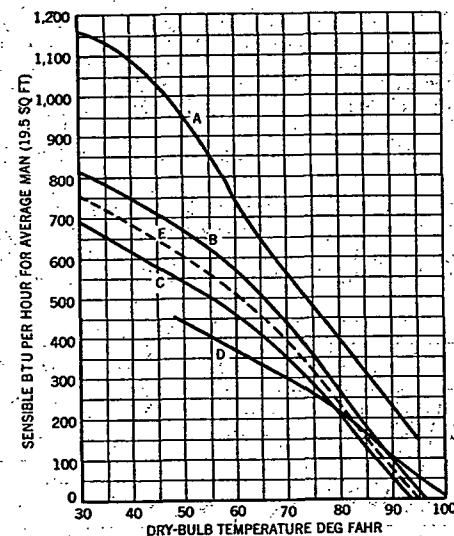


FIG. 10. RELATION BETWEEN SENSIBLE HEAT LOSS FROM THE HUMAN BODY AND DRY-BULB TEMPERATURE FOR STILL AIR^a

^aLoc. Cit. See footnote a, Fig. 9.

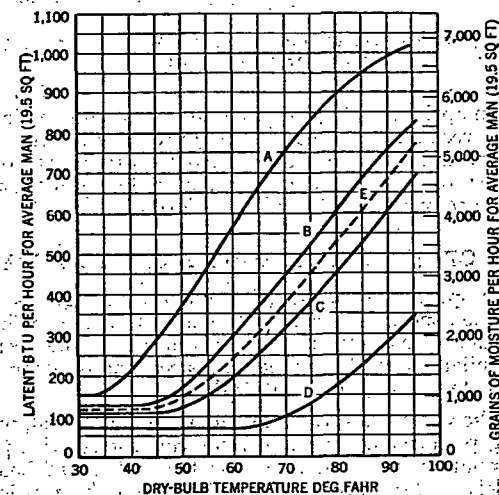


FIG. 11. LATENT HEAT AND MOISTURE LOSS FROM THE HUMAN BODY BY EVAPORATION, IN RELATION TO DRY-BULB TEMPERATURE FOR STILL AIR CONDITIONS^a

^aLoc. Cit. See footnote a, Fig. 9.