

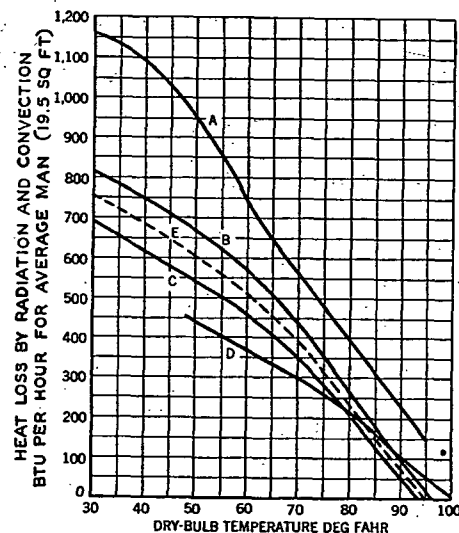


FIG. 6. RELATION BETWEEN RADIATION AND CONVECTION LOSS FROM THE HUMAN BODY AND DRY-BULB TEMPERATURE FOR STILL AIR^{a 10}

^aLoc. Cit. See footnote a, Fig. 5.

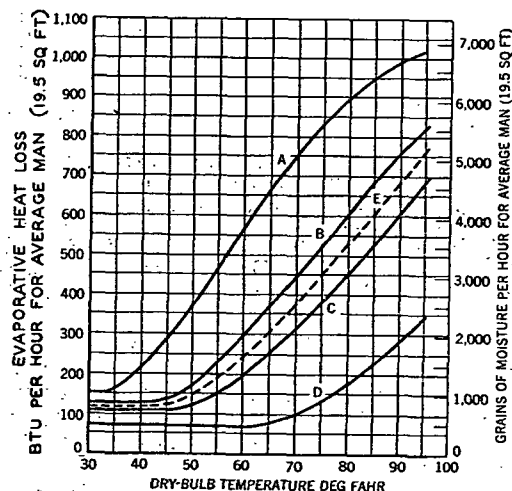


FIG. 7. EVAPORATIVE HEAT AND MOISTURE LOSS FROM THE HUMAN BODY IN RELATION TO DRY-BULB TEMPERATURE FOR STILL AIR CONDITIONS^{a 10}

^aLoc. Cit. See footnote a, Fig. 5.

TABLE 4. METABOLIC RATES OF MEN AT DIFFERENT ACTIVITIES^a

ACTIVITY	AVG TOTAL METABOLIC RATE BTU PER HOUR
Sleeping.....	255
Awake, quiet.....	300
Seated, at rest.....	380
Standing, at ease.....	430
Walking, 2 mph.....	760
Walking, 4 mph.....	1400
Maximum Exertion.....	3000-4800

^aData were compiled from actual tests at the A.S.H.V.E. Research Laboratory and from published reports of other investigators.

equivalent conditions not only indicates the sensation of warmth, but also to a considerable degree determines the physiological effects on the body induced by heat or cold. For this reason, it is called the *effective temperature* scale or index, and it denotes sensory heat level.

Effective temperature is an empirically determined index of the degree of warmth perceived on exposure to different combinations of temperature, humidity, and air movement. It was determined by trained subjects who compared the relative warmth of various air conditions in two adjoining conditioned rooms by passing back and forth from one room to the other.

The numerical value of the index for any given air conditions is fixed by the temperature of slowly moving (15 to 25 fpm air movement) saturated air which induces a like sensation of warmth or cold. Thus, any air condition has an effective temperature of 60 deg, when it induces a sensation of warmth like that experienced in slowly moving air at 60 deg

TABLE 5. COMPARISON OF COMFORT RANGES WITH ZONE OF THERMAL NEUTRALITY

INVESTIGATORS	EFFECTIVE TEMPERATURE		OPERATIVE TEMP	REMARKS
	OPTIMUM LINE	RANGE	RANGE	
Comfort Zone				
Houghten and Yaglou.....	66	63-71		Winter non-basal; at rest, normally clothed. Men and women.
Yaglou and Drinker.....	71	66-75		Summer non-basal; at rest and normally clothed. Men.
Yaglou.....	72.5	66-82		Entire year; non-basal; at rest and stripped to waist. Men.
Keeton et al.....	75	74-76		Entire year; basal, nude. Steady state (9 hr exposure). Men and women.
Zone of Thermal Neutrality				
DuBois and Hardy.....	75 71.8	73.2-76.9 64.8-76.0		Basal; nude; men. Basal; clothed; men.
Winslow, Herrington and Gagge.....			84.0-87.8 74-84	Non-basal; at rest; nude; men. Non-basal; at rest; clothed; men.