LETTER SYMBOLS USED IN CHAPTER 13

α = fraction of incident solar radiation absorbed, dimensionless; subscripts D, d, and t refer to direct, diffuse and total, respectively.
β = solar altitude, degrees.
γ = wall solar azimuth, degrees.
ϵ = emissivity, dimensionless.
θ = incident angle, degrees.
λ = amplitude decrement factor, dimensionless.
τ = fraction of incident solar radiation transmitted, dimensionless. Subscripts D, d and t refer to direct, diffuse and total, respectively.
ϕ = solar azimuth, degrees.
ψ = wall azimuth, degrees.
A = area across which heat is being transferred, square feet.
b = fraction of air passing through coil which does not contact surfaces, coil by-pass factor.
f = unit surface conductance, Btu per (hour) (square foot) (Fahrenheit degree). Subscripts c, r, o, and i refer to convection, radiation, outdoor, and indoor, respectively.
G_f = fraction of total window area receiving direct solar radiation when shaded by window reveal, dimensionless.
h = enthalpy of air per pound of dry air, Btu per pound. Subscripts i, o, and s refer to indoor, outdoor, and supply air, respectively.
I = incident solar radiation, Btu per (hour) (square foot). Subscripts D, d, Dn, and t refer to direct, diffuse, direct normal and total solar radiation, respectively.
K = cosine of angle of incidence for direct solar radiation striking a surface, dimensionless.
k = thermal conductivity of building material, Btu per (square foot) (hour) (Fahrenheit degree per inch).
l = height of window, feet.
M = the permeance of the specimen in *perms* or grains per (square foot) (hour) (inch of mercury vapor pressure difference).
Q = rate of entry of outdoor air, cubic feet per minute.
Q_{ra} = required air quantity through conditioning equipment, cubic feet per minute.
q = instantaneous rate of heat transfer, Btu per hour.
q_c = instantaneous latent heat load, Btu per hour.
q_{ei} = instantaneous space latent ventilation load, Btu per hour.
q_{ex} = instantaneous latent ventilation load which does not become a part of space load, Btuh.
q_m = latent heat load due to moisture transmission through materials, Btu per (hour)(square foot).
q_s = instantaneous sensible heat load, Btu per hour.
q_{si} = instantaneous space sensible ventilation load, Btu per hour.
q_{sx} = instantaneous sensible ventilation load which does not become a part of space load, Btu per hour.
q_t = $q_c + q_s$, also $q_{si} + q_{sx} + q_{ei} + q_{cx}$, Btu per hour.
R_a = low temperature radiant energy received from outdoor surroundings (does not include solar radiation), Btu per (hour) (square foot of receiving surface).
R = radiant energy emitted by a black body, Btu per (hour) (square foot). Subscripts go and L refer to outdoor surfaces of glass and building, respectively.
S = rate of heat storage within a glass section, Btu per (hour) (square foot).
t_e = sol-air temperature, Fahrenheit.

t_e' = sol-air temperature at a time earlier than the time for which heat gain is being found by an amount that is equal to the time lag of the wall or roof, Fahrenheit.
t_{gi} = temperature of indoor glass surface, Fahrenheit.
t_{go} = temperature of outdoor glass surface, Fahrenheit.
t_i = indoor air temperature, Fahrenheit.
t_m = 24-hr cyclic average sol-air temperature, Fahrenheit.
t_o = outdoor air temperature, Fahrenheit.
t_s = room supply air dry-bulb temperature, Fahrenheit.
U = overall coefficient of heat transfer of a structural section, Btu per (square foot) (hour) (Fahrenheit degree).
v_o = volume of outdoor air per pound of dry air, cubic feet.
w = width of window, feet.
W = humidity ratio, pounds moisture per pound of dry air. Subscripts i, o, and s refer to indoor, outdoor, and supply air, respectively.

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