

HEATING VENTILATING AIR CONDITIONING GUIDE 1944

Centimeter-gram-second (system)	cgs
Change in specific volume during vaporization	v_g
Cubic	cu
Cubic foot	cu ft
Cubic feet per minute	cfm
Cubic feet per second	cfs
Decibel	db
Degree ¹	deg or °
Degree centigrade	C
Degree Fahrenheit	F
Degree Kelvin	K
Degree Réaumur	R
Density, Weight per unit volume, Specific weight	d or ρ (rho)
$d = \frac{1}{v}$	
Diameter	D or diam
Direct-current (as adjective)	d-c
Distance, linear	s
Dry saturated vapor, Dry saturated gas at saturation pressure and temperature, vapor in contact with liquid	Subscript g
Entropy. (The capital should be used for any weight, and the small letter for unit weight)	S or s
Feet per minute	fpm
Feet per second	fps
Foot	ft
Foot-pound	ft-lb
Foot-pound-second (system)	fps
Force, total load	F
Freezing point	fp
Gallon	gal
Gallons per minute	gpm
Gallons per second	gps
Gram	g
Gram-calorie	g-cal
Head	H or h
Heat content, Total heat, Enthalpy. (The capital should be used for any weight and the small letter for unit weight)	H or h
Heat content of saturated liquid, Total heat of saturated liquid, Enthalpy of saturated liquid, sometimes called heat of the liquid	h_f
Heat content of dry saturated vapor, Total heat of dry saturated vapor, Enthalpy of dry saturated vapor	h_g
Heat of vaporization at constant pressure	L or h_{fg}
Horsepower	hp
Horsepower-hour	hp-hr
Hour	hr
Inch	in.
Inch-pound	in.-lb
Indicated horsepower	ihp
Indicated horsepower-hour	ihp-hr
Internal energy, Intrinsic energy. (The capital should be used for any weight and the small letter for unit weight)	U or u
Kilogram	kg
Kilowatt	kw
Kilowatthour	kwhr
Length of path of heat flow, thickness	L
Load, total	W
Mass	mass
Mechanical efficiency	e_m
Mechanical equivalent of heat	J
Melting point	mp
Meter	m

¹It is recommended that the abbreviation for the temperature scale, F, C, K, be included in expressions for numerical temperatures but, wherever feasible, the abbreviations for degree be omitted; as 68 F.

CHAPTER 48. ABBREVIATIONS, SYMBOLS, STANDARDS

Micron	μ (mu)
Miles per hour	mph
Millimeter	mm
Minute	min
Molecular weight	mol. wt
Mol	mol
Ounce	oz
Pound	lb
Power, Horsepower, Work per unit time	P
Pressure, Absolute pressure, Gage pressure, Force per unit area	p
Quantity (total) of fluid, water, gas, heat; Quantity by volume; Total quantity of heat transferred	Q
Quality of steam, Pounds of dry steam per pound of mixture	x
Revolutions per minute	rpm
Saturated liquid at saturation pressure and temperature, Liquid in contact with vapor	Subscript t
Second	sec
Specific gravity	sp gr
Specific heat	sp ht or c
Specific heat at constant pressure	c_p
Specific heat at constant volume	c_v
Specific volume, Volume per unit weight, Volume per unit mass	v
Square foot	sq ft
Square inch	sq in.
Temperature (ordinary) F or C. (Theta is used preferably only when t is used for time in the same discussion)	t or θ (theta)
Temperature (absolute) F abs or K. (Capital theta is used preferably only when small theta is used for ordinary temperature)	T or Θ (capital theta)
Thermal conductance ¹ (heat transferred per unit time per degree)	C

$$C = \frac{1}{R} = \frac{kA}{L} = \frac{q}{t_1 - t_2}$$

Thermal conductance per unit area, Unit conductance (heat transferred per unit time per unit area per degree) C_a

$$C_a = \frac{C}{A} = \frac{1}{RA} = \frac{q}{A(t_1 - t_2)} = \frac{k}{L}$$

Thermal conductivity (heat transferred per unit time per unit area, and per degree per unit length) k

$$k = \frac{q}{\frac{A}{L}(t_1 - t_2)}$$

Surface coefficient of heat transfer, Film coefficient of heat transfer, Individual coefficient of heat transfer (heat transferred per unit time per unit area per degree) f

$$f = \frac{q}{A(t_1 - t_2)}$$

(In general f is not equal to k/L , where L is the actual thickness of the fluid film.)

Over-all coefficient of heat transfer, Thermal transmittance per unit area (heat transferred per unit time per unit area per degree over-all) U

$$U = \frac{q}{A(t_1 - t_2)}$$

¹Terms ending *ivity* designate properties independent of size or shape, sometimes called *specific properties*. Examples: conductivity, resistivity. Terms ending *ance* designate quantities depending not only on the material, but also upon size and shape, sometimes called *total quantities*. Examples: conductance, transmittance. Terms ending *ion* designate rate of heat transfer. Examples: conduction, transmission.