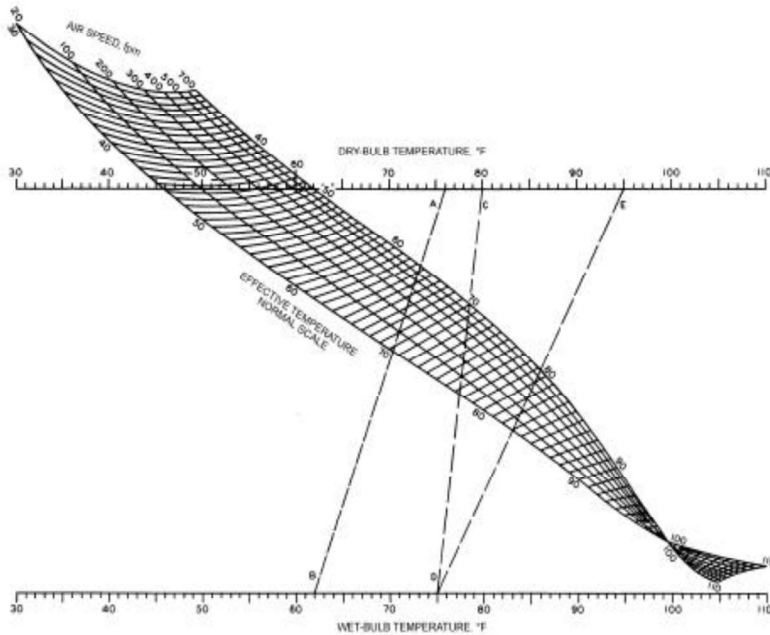


Effective Cooling Temperatures



Effective Temperature Chart from ASHRAE 2003 HVAC Applications Handbook

*Much like when you were a kid running through the sprinkler, the evaporation effect makes you cool but when the wind starts to blow it can get down right **COLD!***

The effective cooling temperature that a person feels is based on air flow velocity, the supplied air temperature and humidity as outlined in the chart below.

Here's an Example:

A design day in Phoenix, AZ is 108°Fdb (dry bulb) and 70°Fwb (wet bulb) (13% relative humidity).

Many evaporative coolers will supply air at about 81°Fdb and 70°Fwb.

If a person is subject to an air flow of 700 fpm the effective temperature the person feels is 69°F.

At 500 fpm the temperature feels like 70.5°F at 200 fpm: 73°F.

Even with an air velocity of only 20 fpm on the person, the 81°F supply air will feel like it is actually 75.5°F!

ASHRAE 1% Cooling Design Conditions			Direct EC	EFFECTIVE TEMPERATURES			
Location	DryBulb lb °F	WetBulb b °F	Supply Air °F	AT SPECIFIC AIR VELOCITIES			
				700 fpm	500 fpm	200 fpm	20 fpm
Albuquerque	93	60	69.2	57.0	58.5	62.5	66.0
Boise, ID	94	63	71.7	60.0	61.0	65.0	68.5
Denver, CO	93	59	68.5	56.5	58.0	61.5	65.0
Detroit, MI	87	72	76.2	66.0	68.0	71.5	74.5
El Paso, TX	98	64	73.5	62.0	63.0	66.5	70.0
Las Vegas	106	66	77.2	65.5	67.0	70.0	72.5
Los Angeles	81	64	68.8	58.0	59.0	63.5	67.0
Oklahoma City	96	74	80.2	70.0	71.0	74.5	77.0
Phoenix, AZ	108	70	80.6	69.0	70.5	73.0	75.5
Pittsburg, PN	86	70	74.5	64.0	65.5	69.0	72.5
Sacramento	97	69	76.8	65.5	67.0	70.5	73.5
Salt Lake City	94	62	71.0	59.0	60.5	64.5	68.0
San Antonio	97	74	80.4	70.0	71.5	75.0	77.5
Temperatures do not include fan/motor heat gain							

Master Industrial/Commercial HVAC Distributor:



For More Expert Information:
 Visit: www.HaveACoolDay.com
 Email: office@haveacoolday.com
303-816-7075

Distributed by: