

# Degree Days -- Heating and Cooling

(Base 65 degrees)

## Heating Degree Days

**Heating Degree-days accumulate for every day that the average ambient temperature is less than 65 deg F.**

For example, on a day where the High temperature is 68 degrees and the low is 40 degrees:

$(68+40)/2 = 54 =$  average temperature

next, subtract 54 from our base of 65 degrees

$(65-54) = 11$  heating degree days accumulated for that day.

In Excel the formula would be:

DATE	Max Temp	Min Temp	Mean	HeatingDD	Cooling DD
Jan 1 2003	68	40	$=(B17+C17)/2$	$=IF(d17<65,65-d17,0)$	$=IF(D17>65,D17-65,0)$
or					
Jan 1 2003	68	40	54	11.0	0.0

Note: If the average temperature is above 65 degrees no heating Degree-Days will accumulate

## Cooling Degree Days

**Cooling Degree-days accumulate for every day that the average ambient temperature is greater than 65 deg F.**

For example, on a day where the High temperature is 85 degrees and the low is 55 degrees:

$(85+55)/2 = 70 =$  average temperature

next, subtract our base of 65 degrees from the average temperature of 70 degrees

$(70-65) = 5$  cooling degree-days accumulated for that day.

In Excel the formula would be:

DATE	Max Temp	Min Temp	Mean	HeatingDD	Cooling DD
July 1 2003	85	55	$=(B17+C17)/2$	$=IF(d17<65,65-d17,0)$	$=IF(D17>65,D17-65,0)$
or					
July 1 2003	85	55	70	0.0	5.0

Note: If the average temperature is below 65 degrees no cooling Degree-Days will accumulate

Degree days are directly proportional to the heat required for a building.

For example, a house in Flagstaff (8,000 heating degree-days per year) requires

almost three times as much heat as a house in Palo Alto (2911 heating degree-days per year).

Finally, 65 degrees is the typical "base" used for degree-days, however, any temperature can be used as the base depending on the need.