

Select a state

Arizona 

Select a city

Phoenix Click to see [Data for All 235 Locations](#)R-Value of coated roof [ $\text{h}\cdot\text{ft}^2\cdot^\circ\text{F}/\text{Btu}$ ]18.5

Solar reflectance [%]

80

Infrared emittance [%]

90

Average summertime cost of electricity [\$/KWh]

.081

Air conditioner COP [fraction &gt;1]

3.5

Energy source for heating

 Electricity  Fuel

Average wintertime cost of electricity [\$/KWh]

.081

OR Fuel cost [\$/Therm]

Heating system efficiency [fraction]

3.5**Do Calculation for Coated Roof**

Heating degree days for city chosen

1153.5

Cooling degree days for city chosen

3814.5Average solar load for city chosen [ $\text{Btu}/\text{ft}^2$  per day]1838.6Cooling load for uncoated roof [ $\text{Btu}/\text{ft}^2$  per yr]9716Heating load for uncoated roof [ $\text{Btu}/\text{ft}^2$  per yr]2434Cooling load for coated roof [ $\text{Btu}/\text{ft}^2$  per yr]2709Heating load for coated roof [ $\text{Btu}/\text{ft}^2$  per yr]2824Cooling savings for coated roof [\$/ $\text{ft}^2$  per yr]0.0475Heating savings for coated roof [\$/ $\text{ft}^2$  per yr]-0.0027Net savings for coated roof [\$/ $\text{ft}^2$  per yr]0.0449Assumes R-value of uncoated roof [ $\text{h}\cdot\text{ft}^2\cdot^\circ\text{F}/\text{Btu}$ ]18.5

Alternately, for same net savings with conventional insulation

**Do Calculation for More Insulation in Uncoated Roof**R-value of uncoated roof [ $\text{h}\cdot\text{ft}^2\cdot^\circ\text{F}/\text{Btu}$ ] for same net savings34.35[Back to Radiation Control](#)