

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 [%]

95

Average summertime cost of electricity [\$/KWh]

.081

Air conditioner COP [fraction >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 [Btu/ft^2 per day]1838.6Cooling load for uncoated roof [Btu/ft^2 per yr]9716Heating load for uncoated roof [Btu/ft^2 per yr]2434Cooling load for coated roof [Btu/ft^2 per yr]2483Heating load for coated roof [Btu/ft^2 per yr]2874Cooling savings for coated roof [\$/ ft^2 per yr]0.0491Heating savings for coated roof [\$/ ft^2 per yr]-0.003Net savings for coated roof [\$/ ft^2 per yr]0.0461Assumes 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 RoofR-value of uncoated roof [$\text{h}\cdot\text{ft}^2\cdot^\circ\text{F}/\text{Btu}$] for same net savings34.5[Back to Radiation Control](#)