

FLORIDA SOLAR



ENERGY CENTER®

# Consumer Facts about Radiant Barriers

## Author

FSEC Public Information Office

## Publication Number

FSEC-FS-37-88

## Copyright

Copyright © Florida Solar Energy Center/University of Central Florida  
1679 Clearlake Road, Cocoa, Florida 32922, USA  
(321) 638-1000  
All rights reserved.

## Disclaimer

The Florida Solar Energy Center/University of Central Florida nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the Florida Solar Energy Center/University of Central Florida or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the Florida Solar Energy Center/University of Central Florida or any agency thereof.



## Fact Sheet

# FLORIDA SOLAR ENERGY CENTER

Public Information Office

## Consumer Facts about Radiant Barriers

FSEC-FS-37-88

*Radiant barriers are becoming popular for use in Florida attics. Some marketing companies are now selling them with inflated claims of energy savings and questionable installation recommendations. Understandably confused consumers have called the FSEC Public Information Office for answers to the following questions:*

### **Can an attic radiant barrier really save as much as 40% on my utility bill?**

No. FSEC research shows that an attic radiant barrier can save 10% to 15% on the heating and cooling portion of electricity costs in a typical Florida home. That equates to about 3% to 6% savings on the entire annual electricity bill. Because attics account for only about 15% to 25% of the total heat gain into a Florida home, it's impossible for any attic energy conservation measure to save 40% on the total bill. Remember, you use electricity for more than just air conditioning, and a radiant barrier does nothing to affect those costs.

### **What's a reasonable cost for radiant barrier material?**

Surveys by the FSEC Public Information Office show that radiant barrier material costs vary widely. If you shop around, you'll see material costs that range from \$0.10/square foot to \$0.65/square foot. Radiant barriers are a new technology, so the market price has not yet found its own level.

### **What should I pay for installation of a radiant barrier?**

Installing an attic radiant barrier is easier during new construction than as a "retrofit," so it generally costs less - contractors report a range of \$0.05-\$0.20/- square foot. Retrofit installers report charging \$0.15- \$0.35/square foot, depending on several factors, principally, the amount of room to maneuver in the attic.

### **What kind of energy-saving- payback--will a radiant barrier give me?**

In the simplest calculation, an attic radiant barrier that costs \$0.30 to \$0.35/square foot (installed) will offer a typical payback period of about 10 years in Florida. If the installed cost is half as much, you'll see a payback in five years; if it's twice as much, simple payback will take 20 years.

### **Can I install the material by laying it directly on top of the insulation?**

We don't recommend it. Attics are dusty. In time, a radiant barrier with the foil side facing up will become coated with dust, and its effectiveness will be seriously degraded. Rather, you should have the material attached to the top truss members with the foil side facing down.

### **How can the foil side work if it faces downward?**

Radiant barriers block radiant energy transfer, not just because the aluminum foil side reflects infrared energy, but also because it does not emit (give off) radiant heat. For all practical purposes, aluminum foil simply will not radiate heat. It may seem counter-intuitive, but a radiant barrier works just with the foil facing either toward or away from the heat-source.

### **Is a material with two foil sides better than one with a single foil side?**

Not really. In an attic airspace, one foil side blocks up to 95% of the radiant heat transfer. A second foil surface can block only a portion of the remaining 5%. Therefore, a second foil surface is usually not cost-effective.

### **Should a radiant barrier material be perforated?**

That depends on the method of installation. If the radiant barrier is installed in the vented airspace, it will not act as a moisture barrier; consequently, it need not be perforated. However, if the radiant barrier is in direct contact with the roof decking or the insulation, it's safer to use a perforated product, which allows moisture to pass through.

### **Will a warranty protect my investment in a radiant barrier?**

Read it carefully. If the warranty requires certain actions on your part for it to be effective, make sure you can take those actions. For instance, if the warranty requires that you provide utility company statements of your air conditioning and heating energy use prior to and after installation of a radiant barrier, you should question it. Can your electric company break down your personal bills to show energy consumption specifically for heating and cooling? Most can't. Laws exist to protect consumers from unreasonable warranty requirements; contact the State Department of Consumer Services if you have warranty concerns.