



Radiant Barrier Buyers Guide

Radiant barriers have been used commercially for over 30 years, but with the ever increasing cost of utilities, they are becoming more mainstream and, in certain states, even required in new construction. Radiant barriers can reduce utility consumption when installed properly and therefore, lessen the demand on utility power plants.

Many potential consumers are introduced to radiant barriers via dinner parties, home shows, door-to-door marketers, and even radio and television advertisements. With such mass marketing, consumers are sometimes exposed to a fair amount of misinformation about the radiant barrier technology. Such misinformation leads to confusion about the different radiant barrier products and providers in the marketplace.

Our corporate mission has always been to provide the the most informative, non-biased information available about radiant barriers so consumers can educate themselves on radiant barriers and reflective insulation so that they can make the most educated purchase decision from the variety of radiant barriers available.

The most commonly referenced radiant barrier key concepts are present below to serve as guidelines when looking to purchase a radiant barrier.

For more detailed information on radiant barriers, please see [Radiant Barriers 101](#).

Radiant Barrier Key Concepts	
ASTM C1313	<p>This is the American Society for Testing and Materials (ASTM) test method used to independently test a radiant barrier product for the purposes of providing verified and uniform specifications of a radiant barrier.</p> <p>C1313 testing performed results in the following specifications which are important when comparing radiant barriers:</p> <ul style="list-style-type: none">• surface emissivity (and conversely reflectivity)• water vapor transmission• surface burning characteristics (ie. flame spread & smoke development resulting in fire rating [see below]).• corrosivity• tear resistance• adhesive performance• fungal resistance <p>A radiant barrier that has been tested under the C1313 testing methods results in verified and comparable specifications that can be used to compare against other</p>



	<p>radiant barriers in the market. These specifications help the consumer know what they are comparing and/or purchasing.</p> <p>All RadiantGUARD® radiant barriers have been tested under ASTM C1313 and each product's specifications are listed on our website.</p>
<p>Reflectivity (emissivity)</p>	<p>Per the Department of Energy (DOE), for a product to be officially classified as a "radiant barrier" it MUST have a reflectivity rating of 90% or higher and conversely, an emissivity rating of 10% or lower.</p> <p>Reflectivity defines the amount of radiant heat is reflected away from the surface of the barrier facing a heat source. Emissivity defines the amount of radiant heat that radiates from the surface of the barrier and it typically measured on the surface of the barrier facing away from the heat source.</p> <p>Higher reflectivity ratings result in more radiant heat being reflected.</p> <p>RadiantGUARD® radiant barriers have a reflectivity of 97% (and an emissivity of 3%).</p>
<p>Double-sided vs. Single-sided</p>	<p>Single-sided radiant barriers have only one reflective surface adhered to a non-reflective substrate (for example, kraft paper). Single-sided radiant barriers reflect radiant heat only from the reflective side facing a radiant heat source.</p> <p>Double-sided radiant barriers have two reflective surfaces, one on each side of the radiant barrier, allowing the radiant barrier to reflect radiant heat from both sides independently.</p> <p>All RadiantGUARD® radiant barriers are double-sided.</p>
<p>Scrim & Durability</p>	<p>In order for a radiant barrier to have durability and strength, a middle "scrim" layer is present in the center of the product.</p> <p>Based on how you plan to install a radiant barrier, we offer three different durability grades of radiant barrier; Standard, Premium and Ultra enabling you to only pay for the durability your project / application requires.</p> <p>The main differences in the three durability grades come down to the strength and tear resistance properties.</p> <ul style="list-style-type: none"> • Our Standard and Premium radiant barrier products have a scrim layer of woven polyethylene fibers. The scrim of the Premium is a tighter weave resulting in a more durable tear resistant radiant barrier than the Standard. If your installation application does not require stapling, then our Standard or Premium radiant barrier is sufficient (the Premium is more tear resistant than the Standard). • Our Ultima radiant barrier product is comprised of an almost solid scrim



	<p>which makes it a much stronger product which allows it to hold staples and nails and not tear or pull through. If your installation application requires stapling (ie. to attic rafters or wall studs), the Ultima radiant barrier is the recommended version as it is designed to hold up under staples due to the design of its scrim layer.</p> <p>All RadiantGUARD® radiant barriers, regardless of durability, have a reflectivity of 97% .</p>
<p># of Layers</p>	<p>Many consumers have been misled to believe that a radiant barrier with more layers is more effective than one with less layers. It is not the number of layers that makes one radiant barrier better than the other. Based on your criteria, the results of the C1313 testing should be used to evaluate what makes one radiant barrier better than another.</p> <p>In many cases, additional layers of raw material (fiberglass) makes the product more expensive. In addition, this added thickness makes it bulky and heavier which makes it more expensive to ship. It also makes it more difficult to work with.</p> <p>For example, our radiant barrier products are comprised on two outer reflective layers with a middle scrim layer which adds strength and durability. We consider this a three layer product; however some similar products are marketed as five layers because they count the adhesive bonding on both sides of the scrim as an independent layer. We don't count glue as separate layers.</p>
<p>Fire Ratings</p>	<p>Radiant barriers, like most building materials, must be tested and meet specific fire ratings. The fire rating of a radiant barrier is determined by the flame spread and smoke development results of the surface burning characteristics test performed as part of the ASTM C1313 qualification tests.</p> <p>There are two organizations that provide fire ratings for building materials based on a products flame spread and smoke development results: The National Fire Protection Organization (NFPO) and The Uniform Building Code (UBC). NFPO's highest fire rating classification is "Class A." UBC's highest fire rating classification is "Class 1."</p> <p>RadiantGUARD® radiant barriers products each have the Class A & Class 1 fire ratings.</p>
<p>Weights</p>	<p>Many consumers have been misled to believe that the heavier a radiant barrier is, the more effective it is. When comparing radiant barriers, the weight of the product is not typically indicative of the effectiveness of the product.</p> <p>When reviewing radiant barriers for effectiveness, the consumer should compare the following C1313 properties (reflectivity, tensile strength, fire rating, water vapor transmission, etc).</p>



	<p>If weight comparisons are important to you, make sure you are comparing apples-to-apples. Our radiant barrier product specifications list the weight based on the radiant barrier alone (not including the weight of the cardboard roll core or shipping box). For example, our Ultima 1,000 sf lists a weight of 24.6 lbs. However, the shipping weight, which includes the cardboard roll core and shipping box, is 28 lbs.</p>
Perforated vs. Solid Vapor Barrier	<p>Radiant barriers come either perforated or non-perforated (solid vapor barrier).</p> <p>A perforated radiant barrier has small holes throughout the product that allow moisture vapor to pass through (click to view example).</p> <p>A non-perforated (solid) radiant barrier has no holes and serves as a vapor barrier.</p> <p>A general rule of thumb for deciding on a perforated or non-perforated radiant barrier:</p> <ul style="list-style-type: none">• If the radiant barrier is to be installed in a closed wall cavity nearest the living space (such as a side wall or cathedral ceiling), a solid radiant barrier should be used.• If the radiant barrier is to be installed in an attic, we recommend a perforated radiant barrier. <p>For more information, please see perforated vs. solid and our installation instructions for specific installation methods.</p> <p>RadiantGUARD® Ultima 1,000 sf roll is available in both perforated and solid version. All other RadiantGUARD® radiant barriers are offered in perforated only.</p>
NASA Certified	<p>Some companies claim their radiant barriers are "NASA certified." Although NASA was the first to embrace and use the radiant barrier and reflective insulation technology, NASA does NOT certify any radiant barrier product or manufacturer.</p>
Made in the USA	<p>We are proud to say that our products are Made in the USA. This not only helps our economy, but also allows us to have a quick supply chain to provide consistent availability of our products for customers. Please contact us if you need to see our Certificate of Origin.</p>