

HOW TO Add Value Through Energy Efficiency

Why R-Values Can Make a Difference to Your Client

By DENISE BRITTI

Last summer it was shockingly high energy prices. This summer it's the continuing uneasiness regarding the economy. Those two issues, combined with the mainstreaming of environmental awareness, have presented all of us residential designers with the opportunity to help our clients understand the value of window coverings in a more "pocketbook aware" manner. While this discussion has always been part of a commercial designers brief, very few of us have addressed the idea of window coverings as energy-savers with our clients, focusing instead solely on elements of decoration, light control and privacy. But in these value-conscious times, demonstrating to homeowners how window treatments can effectively and attractively reduce utility expenses should be a key point in your proposals.

UNDERSTANDING R-VALUES: To help your clients understand how window treatments, both hard and soft, can contribute to a home's energy efficiency, explain the concept of R-values. Manufacturers refer to the R-value of a building material to describe its resistance to transferring heat between two environments of differing temperature: the higher the R-value, the better the insulation material. Fiberglass, for example, has R-values as high as 40, a rating which takes into consideration the material itself and its air pockets. Windows, on the other hand, have the lowest R-values—on average between .9 and 3.0. Even if a window is rated as en-

ergy efficient and is tightly installed, a significant amount of energy that transfers between a home and the outside occurs through its panes. While double-paned glass and specialized glazings can certainly elevate insulation value, window coverings can improve thermal performance significantly more.

SOFT TREATMENT R-VALUES:

One of the first things to present to your clients when dressing windows in fabric for thermal protection is the **lining**. A three-pass blackout fabric for the backside and a heavy flannel interlining are crucial. These layers—blackout lining, interlining and face fabric—each have an R-value, as do the pockets of air between them, and together provide a substantial thermal barrier. Some estimates indicate that this combination of lining and interlining improves a window's R-value by as much as 300 percent.¹



Face Fabric

Heavy Flannel Interlining

Blackout Lining

The number of **layers** used in the overall design of the soft treatment plays a significant role in slowing thermal transfer and helps seal the window. At a minimum, the window should have floor-length draperies lined as described above, mounted

on a heavy-duty rod. They must draw closed in the center and overlap edges by three inches. Tacking the return to the wall prevents air from escaping the sides. Then a second layer installed over the drapes, such as a cornice or board-mounted valance, will prevent the chimney effect of convection currents.

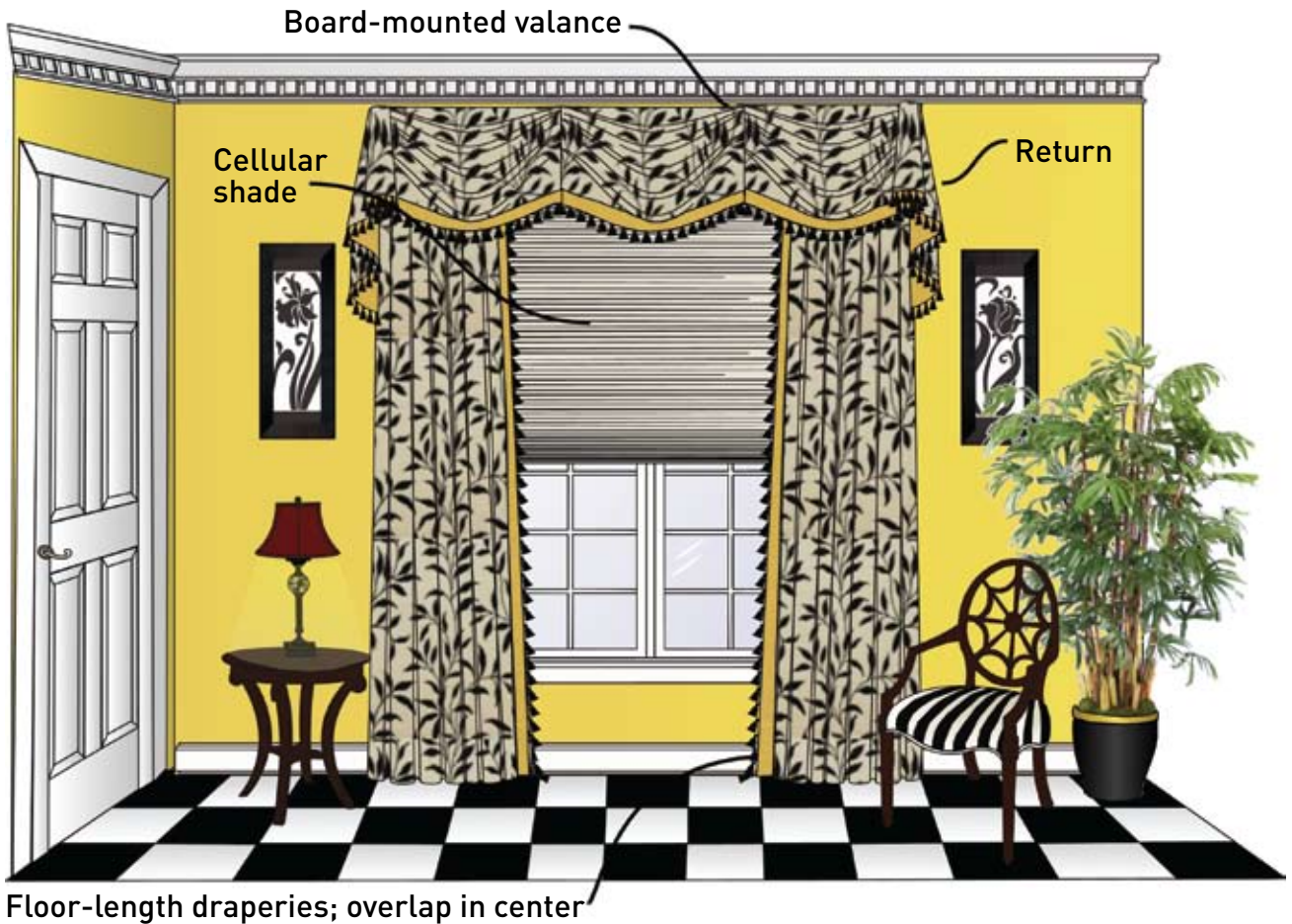
HARD TREATMENT R-VALUES:

Custom-fit shutters, shades and blinds are additional layers that further contribute to a home's efficiency. Properly fitted, they create an isolating barrier right at the glass to reduce thermal exchange.

Blinds: Because air leaks through the slats and the cord holes, blinds are better at controlling heat gain in the summer rather than heat loss in the winter.² Hardwood blinds are better insulators than metal ones, with R-values between 2.77 and 3.17.³

Shutters: Like blinds, shutters are more effective at controlling heat gain than heat loss and have a similar range of R-values.

Shades: Shades are year-round insulators and most materials are available in either roller or Roman-style of operation. The energy effectiveness of the shade will obviously vary greatly depending on the fabric or material, the fabrication technique and the installation methods used, but R-values can range



Floor-length draperies; overlap in center

from 2.6 to 5.0 or even higher.⁴ Following is a brief overview of the main residential shade categories.

Honeycomb or cellular shades are specifically designed to trap air, with R-values between 3 and 4.8 or higher depending on the number and size of cells.³

“Natural” is the general category description for woven shades made from natural fibers such as bamboo, wood, rattan and grasses. The more open weaves are not very good insulators; however, with a tighter weave, some manufacturers report R-values of 4.0 to 4.5.⁵

Solar screens are synthetic mesh shades, long used in commercial spaces such as office buildings, but recently crossing over into more contemporary residential interiors. These shades are usually much better at controlling heat gain than regulating heat loss and have reported R-values of 3.88 to 4.25 depending on the tightness of the weave.⁶

The R-values of fabric shades can vary widely; there will be a notable difference between a sheer lace roller shade and a blackout-lined velvet shade, because as with draperies, the number of layers helps increase efficiency.³ In fact, the heavily insulated Window Quilt, which includes layers of batting, fabric and moisture barriers and is sealed on all sides, can produce R-values closer to 7.0.⁷

As design professionals, we should be prepared with as much information as is available regarding the products we specify. Discussing R-values with your clients can help to illustrate your deep familiarity with all the benefits of custom window treatments. **V**

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Editor's Note:

R-values of fabrics, linings and hard treatments vary. Consult individual manufacturers for specific R-value ratings.

References:

- ¹ homefashionsu.com/uploads/Temp_Assure_Drapery_Linings.pdf
- ² energysavers.gov
- ³ smartenergyliving.org
- ⁴ shadesshuttersblinds.com/Roller-Shades-Comfortex-Envision-Group-2.asp
- ⁵ blindsaver.com/designdoctor/wovenwoods.jsp
- ⁶ ruffell-brown.com/trends.html
- ⁷ conservationconcepts.com/Window_Quilts.htm

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