

## Why is the Energy Cinch so effective ?

Two important factors give the Energy Cinch it's effectiveness:

1. The patented fabric used to make it.
2. The patent-pending method used to install it.

The four layer patented fabric used to make the Energy Cinch was tested to establish an R-value. Below are the test results.

### United States Patent 4,397,346

A properly constructed and installed Roman shade was tested by Architectural Testing, Inc., of York, Pa., in accordance with standards in ASTM G236. During the test conditions, the interior temperature of the room was approximately 68.degree. F. (20.degree. C.). The exterior temperature was approximately 18.degree. F. (-8.degree. C.). The outside wind velocity was approximately fifteen miles per hour. The Roman shade was installed over a wood frame, doublehung sash window having single glazing. A three-inch (7.62 cm) air space was provided between the glazing and the shade. The insulating factor (R), that is, the resistance to heat flow, was measured to be about 7.69 for this window shade. Thus, a simple and inexpensive means is available to increase greatly the insulative capacity of a window. Up to about an eighty-three percent improvement can be made in window heat loss. Although the insulating factor of 7.69 will not be achievable in all conditions, it is obvious that a substantial improvement is available with the simple shade of this invention. An insulating factor (R) of at least about 7.00 or 7.50 should be easily obtainable.

The fabric is able to stop three of the four reasons windows lose and gain so much heat:

1. **Conduction** is reduced by trapped air spaces between the fibers and layers of the insulated fabric.
2. **Air Leakage** is reduced by the impervious polyethylene.
3. **Radiation** is reduced by the reflective Mylar which reflects radiant heat back into a home in the winter and also reflects away solar gain in the summer.
4. **Convection** is the fourth reason windows lose and gain heat.

Warm air always moves to cool air. During the winter, heated air is drawn towards the cold window glass. Once the air hits the glass it is immediately cooled and drops to the floor. This cool air now needs to be reheated only to rise and be attracted back to the cold window glass. This cycle is called a "convective loop" that costs homeowners hundreds of dollars each year.

Curtains, drapes, shades and blinds do not stop the convective loop. heated air is still able to reach the window glass around the sides, and pulled in through the top or bottom of the window treatment.

The patent-pending installation method of the Energy Cinch seals both the top and the bottom of the window casing and can be tautly adjusted to keep the sides in place touching either side of the window casing. The "convective loop" is stopped.

