

RESNET Conference
February 25, 2003



*Profiting from
Home Performance
with ENERGY STAR*

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ENERGY STAR's Home Improvement Approach



- ? Providing unbiased information to home owners on their energy use.
- ? Extending ENERGY STAR to in-home services such as duct sealing, air sealing and HVAC installation and maintenance.
- ? Promoting a whole-house approach, where the service infrastructure exists or can be developed, to improve the overall performance of the homes.

ENERGY STAR Home Sealing

National Consumer Message



Improve your comfort while lowering energy bills with ENERGY STAR Home Sealing:

- ? **Add insulation** to stay comfortable during periods of extreme temperatures.
- ? **Seal air leaks** to stop drafts and get full performance out of your existing insulation.
- ? **Look for ENERGY STAR labeled windows** when replacing windows in your home for improved energy efficiency.

ENERGY STAR Home Sealing Video –Hosted by Steve Thomas



Does making your home more comfortable get your attention?
What about saving 20% on your heating and cooling bills?

You can have both, *PLUS* help protect the environment, with **ENERGY STAR® Home Sealing**. This video demonstrates the process of creating a cozier, more energy-efficient home. If just one in ten homes in the US were to improve with **ENERGY STAR Home Sealing**, it would reduce as much pollution from our atmosphere as planting 3 million acres of trees every year.



air sealing

insulation

windows

Brought to you by the US Environmental Protection Agency.
For more information from EPA:
1-888-STAR-YES
www.energystar.gov

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Place your business card here.

EPA's ENERGY STAR® Home Sealing



EPA's ENERGY STAR® Home Sealing

When you seal your home,
the whole world
feels the difference.

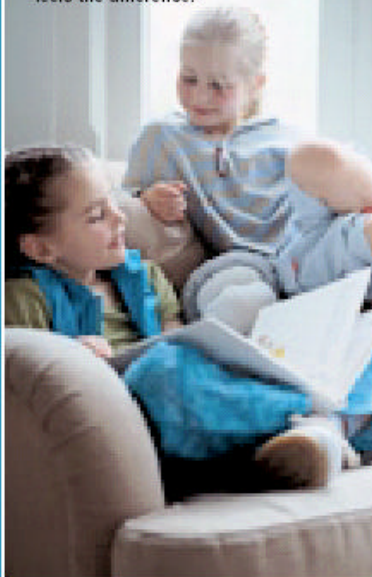


Featuring Steve Thomas, the
Host of America's Favorite
Home Improvement Program

ENERGY STAR Home Sealing Brochure



When you seal your home, the whole world feels the difference.



home sealing



US Environmental Protection Agency and US Department of Energy
EPA-430F-02-002 June 2002

WHAT IS ENERGY STAR®?

ENERGY STAR provides consumers with energy-efficient solutions, giving individuals the power to help protect our planet for future generations.

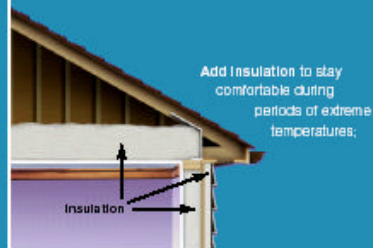
ENERGY STAR is the government-backed symbol for energy efficiency. It identifies new homes, buildings, and over 30 types of products that are energy efficient and do not sacrifice the features, quality, and personal comfort that today's consumers expect. Products that can earn the ENERGY STAR include appliances, lighting, home office equipment, consumer

electronics, and heating and cooling equipment.

ENERGY STAR also provides important recommendations for product installation and home improvement so you get the most comfort and energy savings from the products and services you purchase. Saving energy also saves you money and helps protect the environment. To get started, visit the Home Energy Yardstick at www.energystar.gov/yardstick and find out how efficiently you use energy at home.

IMPROVE YOUR COMFORT WHILE LOWERING ENERGY BILLS WITH ENERGY STAR HOME SEALING

Home Sealing is a process recommended by ENERGY STAR to help increase the comfort and energy efficiency of your home by improving the "envelope" — the outer walls, ceiling, windows, and floors. To improve the envelope of your home:



Add insulation to stay comfortable during periods of extreme temperatures;

For detailed guidance on ENERGY STAR Home Sealing and energy-saving solutions for your home, visit www.energystar.gov/homeimprovement and click on "Home Sealing."



Seal air leaks to stop drafts and get full performance from your insulation; and

Choose ENERGY STAR labeled windows when replacing old windows.

For more information visit www.energystar.gov. Or call 1-888-STAR-YES (1-888-782-7937).



HOME SEALING BENEFITS

Sealing air leaks and properly installing insulation improves the comfort in every room of your home by reducing cold or hot outer walls and eliminating drafts from cracks and gaps. Air sealing and insulating can also reduce the amount of noise that enters the home from the outdoors.

Nearly half of the average homeowner's energy use goes toward heating and cooling. Effective air sealing, combined with the right amount of insulation, can cut heating and cooling costs by up to 20 percent.

Sealing and insulating your home while allowing proper ventilation can make your home a healthier place in which to live. A well-sealed home can help prevent pollutants such as pollen, chemical vapors from the garage, and car exhaust from entering the home. Decreasing the amount of moist air that leaks through the house and adding insulation can also reduce mold and mildew growth on or inside walls and ceilings.

HELP PROTECT THE ENVIRONMENT

Did you know that your house can be a greater source of pollution than your car? In fact, 15 percent of all greenhouse gases are generated from the energy used in houses nationwide.

Energy used in our homes often comes from the burning of fossil fuels at power plants. This contributes to a host of air pollution problems, including smog, acid rain, and global warming. Simply put, the less energy we use in our homes, the less air pollution we generate.



IMPROVING YOUR HOME ENVELOPE

The exterior of your home is also called the envelope or shell. (See the orange line showing the envelope in the diagram below.) The insulation, outer walls, ceiling, windows, and floors all work together to reduce airflow and prevent moisture from entering your home. A high-performance envelope helps maintain consistent temperatures even under extremely hot or cold conditions.



Home envelope

INSULATION

Adding insulation can reduce the amount of energy it takes to heat and cool your home and can help provide consistent comfort in every part of your home, all year long. The most common types of insulation are cellulose, fiberglass, rigid foam, rock wool, and spray foam.

HIDDEN AIR LEAKS

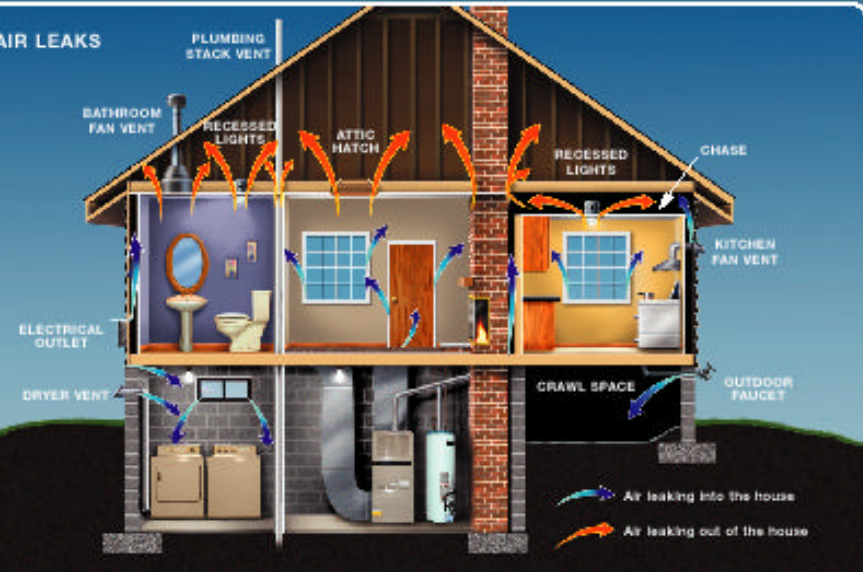
Air leaks can make your home uncomfortable. Drafty windows and doors, cold walls or ceilings, and ice build-up or ice dams on the roof are all symptoms of air leaks or poor insulation. Fixing them will help save energy and improve the durability and comfort of your home. Look for these common air leaks in your house:

- Holes that lead down into the house from the attic or up from the basement
- Gaps around pipes, wires, and electrical outlets in the wall
- Gaps around the dryer vent
- Air leaks around the bathroom or kitchen fan vents
- Air leaks around recessed lights
- Air leaks around the attic door or hatch
- Gaps around the chimney or furnace flue

The sum of these small openings can equal as much airflow as an open window—and, more importantly, a higher energy bill.

There are many ways to fix air leaks, such as caulking, using spray foam, and weather stripping for closing smaller cracks

AIR LEAKS



Blue arrow: Air leaking into the house
Orange arrow: Air leaking out of the house

and gaps. Plywood, drywall, and rigid foam insulation may be used for plugging larger holes. Sheet metal and high-temperature caulking can be used to close gaps around chimneys and furnace flues.

ENERGY STAR LABELED WINDOWS

Windows are an important part of the home envelope. If you are remodeling or building an addition, consider replacing old windows with ENERGY STAR labeled models. They increase comfort, eliminate drafts, reduce UV damage to interior fabrics, and can cut home heating and cooling costs.

HOW TO GET STARTED

For the best results, ENERGY STAR recommends working with a home energy professional and/or insulation contractor in your area. These professionals offer a range of services — everything

from testing your home and identifying areas for improvement to actually making the energy-saving upgrades. Visit www.energystar.gov/homeimprovement and click on "Home Sealing" to find professionals in your area who can help you make energy-efficient improvements.

After air sealing, be sure to have a professional check your home's ventilation and test combustion appliances to be sure they are properly venting.

For "handy" homeowners, there are do-it-yourself measures that you can take to improve your home's envelope. Sealing air leaks around windows and doors, covering attic hatches, and adding insulation to the attic are good ways to improve the comfort and energy efficiency of your home yourself.



Indianapolis Home Show with Steve Thomas



Money Isn't All You're Saving

Home Performance with ENERGY STAR

ENERGY STAR Label for Homes



- ? ENERGY STAR label for all homes
 - Both new and existing homes
 - HERS 86
- ? No new label for existing homes
 - 2nd label would add confusion
 - As soon as someone moves into a new home, it becomes an existing home
- ? Focus is on inserting energy-efficiency into an array of transactions
 - From product replacement to system upgrades to whole house improvements

Home Performance with ENERGY STAR?



- ? Extends ENERGY STAR brand into whole-house improvements.
- ? Links the building performance contracting service to ENERGY STAR
- ? Marketing message is about more than energy!
Includes emphasis on:
 - comfort and durability
 - health and safety
 - and professional problem-solving...
...along with energy-efficiency

Essential Components



- ? Bona fide whole-house approach
- ? Home energy inspection and evaluation, with the **emphasis on delivering improvements**
- ? Diagnostic testing and “best practice” installation
- ? Quality Assurance

Home Performance Evaluation



? Home Energy Inspection with an energy specialist, including:

- Whole-house, fuel-neutral analysis and recommendations
- Diagnostic testing
- Combustion safety
- Electric baseload analysis

? But also emphasis on implementing recommended improvements

Quality Assurance



- ? Essential to protect the ENERGY STAR brand
- ? Currently two models
 - Inspection
 - Certification/Accreditation
- ? Some potential implementers are looking at a hybrid of Inspection and Certification



Home Performance Implementation



- ? Targeted to states or areas with the necessary interest, support, and expertise
- ? Initial Pilots
 - NYSERDA began Spring 2001
 - Wisconsin began October 2001
- ? Getting Underway
 - Metropolitan Energy Center in Kansas City
 - California Building Performance Contractors Association (CBPCA) in Fresno and San Jose
 - National Grid, NStar and Berkshire Gas in Massachusetts
 - National Grid in Rhode Island

Implementation: NYSERDA



- ? Began Spring 2001; rapid roll-out in upstate media markets
- ? Using BPI certification/accreditation
- ? **Focus on one-stop shopping**
- ? Aggressive marketing campaign featuring Steve Thomas
- ? Contractor Training Assistance (75% reimbursement)
- ? Contractor Equipment Package Assistance

Implementation: NYSERDA Results



- ? 10,000 calls from consumers
- ? 1,500 jobs completed
- ? Average job size more than \$7,000!
- ? 100 contractors accredited; 200+ technicians certified

+ high conversion rate of bids to jobs

= **Market driven opportunity!**

Implementation: Wisconsin



- ? Began October 2001
- ? Oversight through inspection protocol; mentoring
- ? Initial emphasis on establishing contractor capacity with **focus on rater as third-party "consultant"**
- ? Very low key marketing

Implementation: Kansas City



- ? Currently beginning pilot
- ? No direct state or utility "sponsorship"; coordination by KC Energy Center
- ? However, Attracting local utility attention.
- ? QA provided primarily through BPI using the KBSI as a local affiliate.
- ? Pilot may represent a model which can be more widely propagated around the country.
- ? Status:
 - 10 contractors received refresher training and completed written test; field test next 3 weeks
 - Marketing and work began Jan/Feb 2003

Implementation: California



- ? California Building Performance Contractors Association (CBPCA) received \$1.6M education and information grant from CPUC
- ? Project beginning San Jose and Fresno
- ? Quality assurance provided by initial training following by an inspection/mentoring protocol
 - Possibility of using BPI or other certification down the road
- ? Training and marketing underway. Work in homes to begin shortly.

Implementation: Massachusetts and Rhode Island



- ? Discussion statewide (with MA DOER, utilities, and vendors) about integrating into legislated RCS program.
 - ? National Grid, NStar, and Berkshire Gas to jointly offer Home Performance with **ENERGY STAR** in their service territories.
 - ? Complicated by mandate to offer free audit
 - ? Print and radio marketing beginning
-
- ? Rhode Island: National Grid will offer program to its residential customers

Marketing Home Performance with ENERGY STAR?



- ? NY and WI developed their own marketing materials
- ? Smaller pilots, without large advertising budgets, looking for support
 - Consumer brochure
 - Newspaper ad templates
 - Bill stuffers
 - (Not likely everywhere) home show support

Home Performance Brochure



ENERGY STAR®?

- If you are purchasing new appliances, lighting, home electronics, or office equipment, look for products that have earned the government-backed ENERGY STAR label.
- If you are looking for new heating and cooling equipment, EPA through its ENERGY STAR Program provides information you need to make the best decision.
- If you would like to improve the comfort of your home and lower your heating and cooling bills, EPA, in partnership with others, offers Home Performance with ENERGY STAR.

HOW ENERGY STAR IMPROVES HOMEOWNERS ENERGY BILLS

- Making sure your heating and cooling system is efficient, and installed and operating correctly to deliver comfort throughout your home.
- Upgrading high-use lighting and appliances to more efficient models.



Selecting a qualified home performance contractor—one who understands how all the parts of your home work together and how to apply the home improvement industry's best practices—will ensure that you get the most benefit for your buck. Look for a contractor promoting Home Performance with ENERGY STAR.

For more information about ENERGY STAR, visit www.energystar.gov. Or call 1-888-STAR-YES (1-888-782-7937).



The Metropolitan Energy Center is pleased to bring Home Performance with ENERGY STAR to the Kansas City area. This service is offered with support from the:

- U.S. Environmental Protection Agency
- Heartland Utilities for Energy Efficiency
- Building Performance Institute
- Missouri Department of Natural Resources's Energy Center
- Kansas Corporation Commission

For more information on how Home Performance with ENERGY STAR can help you improve your home, and for a list of participating certified contractors, please contact the Metropolitan Energy Center at www.kceenergy.org or (816) 931-0528.



Greater Kansas City Home Show Edition
March 20-23, 2008



When your home performs well, the whole world feels the difference.

HOME PERFORMANCE



WHAT IS ENERGY STAR?

Did you know that the typical home causes more greenhouse gas emissions than a typical car? Your home uses energy produced by power plants that emit these pollutants. The less energy you use, the less pollution emitted. It's as simple as that. You have the opportunity and the power to make a change for the better, and your home is the perfect place to start.

ENERGY STAR is a voluntary government program that gives people the power to reduce air pollution and greenhouse gases through energy efficiency—without sacrificing comfort or quality. Products earn the ENERGY STAR by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.

HOME PERFORMANCE WITH ENERGY STAR OFFERS COMFORT AND LOW ENERGY BILLS

Home Performance with ENERGY STAR begins with a qualified contractor providing a comprehensive evaluation of your home's energy efficiency to determine which improvements will give you the most benefit for your dollar. This contractor will examine your whole house—from the outer walls and ceiling, to the heating and cooling systems, and even the lighting. After helping you choose which combination of improvements makes the most sense for your home and your budget, the home performance contractor then makes sure the work is done correctly.



These improvements may include such measures as:

- Adding insulation and sealing air-leaks

A whole-house retrofit can reduce your total energy costs by 30 percent or more.

Home Performance Brochure



HELP PROTECT THE ENVIRONMENT	A HOUSE IS A SYSTEM		PROBLEMS AND SOLUTIONS
<p>Our homes produce more greenhouse gas emissions than our cars, making the home a great place to take steps to reduce air pollution and help the environment. In fact, 19 percent of all greenhouse gas emissions in the United States are caused by the energy used in homes. Simply put, the less energy we use in our homes, the less air pollution we generate. Help protect the environment with ENERGY STAR.</p>	<p>Your house is a system. Evaluating and improving all the components of this system is a better solution than just focusing on one or two. It's true that you can usually save energy by adding insulation, or by installing a more efficient piece of heating or cooling equipment. However, when you look at all the options together, you can find even greater improvements in comfort and savings.</p> <p>For example, by adding insulation, sealing air-leaks in your home and in your ducts, and putting in the right equipment, you not only keep rooms more comfortable, but also use less energy to heat and cool your entire home. You may also be able to reduce the size of the equipment, which can lead to additional savings at replacement time. A home performance contractor is trained to look at all the options and make cost-effective recommendations to you.</p>	 <p>HOME ENVELOPE</p> <p>SEALING YOUR HOME The exterior of your home is also called the envelope or shell. (See the orange line showing the envelope in the diagram.) Insulation and air-sealing work together to help maintain consistent temperatures even under extremely hot or cold conditions. Experts recommend adding insulation and sealing air leakage—especially in places like the attic—to reduce energy costs, improve comfort, and address a range of problems from ice dams to hot rooms.</p>	<p>PROBLEM: Air-conditioner won't keep the house cool enough</p> <p>COMMON APPROACH Replace old air conditioner with new equipment</p> <p>RESULTING PROBLEMS</p> <ul style="list-style-type: none"> Leaky ducts don't deliver cool air and money is wasted Overized system does not run long enough to put humidity out Air leaks and poor insulation continue to waste money and reduce comfort
<p>HOME PERFORMANCE BENEFITS</p>	<p>DIAGNOSING THE PROBLEM</p>	<p>YOUR HEATING AND COOLING SYSTEMS</p>	<p>SOLUTION: HOME PERFORMANCE WITH ENERGY STAR</p>
<p>Many homeowners are not getting the comfort they are paying for. Their homes suffer from rooms that are too hot or too cold, drafts, moisture problems, and mold and mildew. Skilled contractors, under Home Performance with ENERGY STAR, can:</p> <ul style="list-style-type: none"> Eliminate drafts Fix rooms that are too hot or too cold Correct conditions that lead to mold or mildew Ensure your combustion appliances are venting properly Prevent ice dams Solve underlying problems that lead to rot or peeling paint Keep outdoor pollutants from entering the home Save energy and lower your monthly utility bills 	<p>Using diagnostic test equipment such as a blower door, contractors can pinpoint problems in your home and their solutions. A blower door test is used to measure air leakage and trace air flow. This information guides the contractor when air-sealing to ensure the best results.</p> 	<p>If your furnace or air-conditioner is 10 years old, replacing it with a unit that has earned the ENERGY STAR will increase efficiency by 15 percent. Also, when it comes to heating and cooling equipment, bigger is not better! Properly sized equipment turns on and off less frequently, providing consistent temperatures and greater comfort. A qualified home performance contractor will not only recommend the right size equipment for your home, but also make sure it is installed properly. If you have a forced-air system, the contractor can also make sure that your duct work is well-sealed, insulated, and balanced.</p> 	<p>BETTER APPROACH</p> <ul style="list-style-type: none"> Seal and balance ducts to deliver the cool air you're paying for Properly size and install heating and cooling equipment Seal air leaks Add insulation where needed <p>BENEFITS</p> <ul style="list-style-type: none"> Ducts deliver more comfort Lower humidity and a healthier and more durable home Lower energy bills Cleaner environment
<p>These improvements make your home more comfortable, healthier, and more durable.</p>	<p>Contractors can also test your combustion equipment, such as a hot water heater and furnace, to ensure they are operating and venting properly.</p>	<p>LIGHTING AND APPLIANCES</p> <p>Inefficient lighting and appliances waste energy and cost you more in the long run. With the waste heat they throw into your home, they can also have unplanned effects on your comfort, especially during the cooling season. A home performance contractor can consider the lighting and appliances in your home when recommending improvements. When shopping, you can choose lighting, refrigerators, room air-conditioners, dishwashers, and consumer electronics that carry the ENERGY STAR. All ENERGY STAR labeled products meet strict energy efficiency criteria without sacrificing performance or design.</p>	<p>PROBLEM: Cold drafty house and high energy bills</p> <p>COMMON APPROACH Add insulation in the attic</p> <p>RESULTING PROBLEMS</p> <ul style="list-style-type: none"> Air leaks still not reach of your heated (or cooled) air Attic condensation can lead to mold and rot Leaky ducts waste money Heating and cooling systems aren't working efficiently <p>SOLUTION: HOME PERFORMANCE WITH ENERGY STAR</p> <p>BETTER APPROACH</p> <ul style="list-style-type: none"> Seal air leaks into attic and around home Add insulation as appropriate Seal and insulate ducts Make sure your heating and cooling systems are well-tuned Check that all combustion equipment is venting properly <p>BENEFITS</p> <ul style="list-style-type: none"> Greater comfort with reduced drafts Lower energy bills Healthier and more durable home Cleaner environment

Print Ads

Metropolitan Energy Center
(816) 931-0528
www.kcenergy.org



YOUR DAUGHTER'S NOT THINKING ABOUT HOW MAKING YOUR HOME MORE ENERGY EFFICIENT WILL IMPROVE THE ENVIRONMENT FOR HER FUTURE.

WHAT MATTERS IS THAT YOU ARE.

Home Performance with ENERGY STAR® can make your home more comfortable and durable. You'll save energy, money, and the environment. To learn more, and receive a list of local participating contractors, call or visit us on the web.



CHANGE FOR THE
BETTER WITH
ENERGY STAR

Meet Steve Thomas
from the TV show *This Old House*.
Steve will be giving presentations at the
Kansas City Home Show at 11am, 1:30pm and 3:30pm on
Saturday, March 22nd and greeting visitors at the
ENERGY STAR Booth, #1183 across from the Weekend Workshop Stage.



YOUR DAUGHTER'S NOT THINKING ABOUT HOW MAKING YOUR HOME MORE ENERGY EFFICIENT WILL IMPROVE THE ENVIRONMENT FOR HER FUTURE.

WHAT MATTERS IS THAT YOU ARE.

Home Performance with ENERGY STAR® can make your home more comfortable and durable. You'll save energy, money, and the environment. Learn more. Visit www.energystar.gov/homeimprovement.

Kansas City area residents can call the Metropolitan Energy Center at (816) 531-7283 or visit www.kcenergy.org



CHANGE FOR THE
BETTER WITH
ENERGY STAR

If you're thinking about...



- ? A bona fide whole-house approach,
- ? Using home energy inspection and evaluation, with the emphasis on delivering improvements,
- ? Including diagnostic testing and "best practice" installation,
- ? with attention to Quality Assurance

...ask about Home Performance with ENERGY STAR



Money Isn't All You're Saving

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Home Performance Questions



"Are there alternatives to BPI certification?"

Yes. Although BPI represents an exciting opportunity, ENERGY STAR does consider other options, including inspection protocols. The bottom line is providing quality assurance

Home Performance Questions



“At the end, does the house get a Home Performance with ENERGY STAR label?”

No. Home Performance with ENERGY STAR is linked to the service provided, not the house. The house can receive a label if it gets an 86 HERS score.

Home Performance Questions



“Can we do this without generating a HERS score for every home?”

*Yes. Although there is a good deal of overlap between some portions of the audit and the work for a HERS rating, the rating is not required. Of course, the rating may be used for a variety of reasons. **The important thing is moving beyond the rating to actually implementing the improvements.***



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