



Eco-\$mart, Inc.
4411 Bee Ridge Rd. #344
Sarasota, FL 34233
www.eco-smart.com

Thank you for your interest in Eco-\$mart, Inc., a unique type of organization, with a unique approach to business. Operating since 1993, our company is a for profit venture, yet we operate under license from the nonprofit Florida House Institute for Sustainable Development (I4SD). This means that all of our products and programs are screened and approved by the nonprofit I4SD.

Eco-\$mart was created for the sole purpose of making it easy and affordable to include energy efficient, resource efficient, disaster resistant, and health enhancing systems into commercial and residential projects.

Benefits to Developer / Builder

- Faster, less expensive construction
- Lower liability (no mold, fire, step cracking, wind damage)
- Higher performance buildings (lower energy use, maintenance, better indoor air quality)
- Faster sales (better value for buyer, faster construction)
- Qualifies for energy efficient financing (qualifying more buyers)
- Free publicity (green construction generates its own free press)
- Federal and State rebates and incentives (for green and disaster resistant construction)
- Fast track permitting, reduced impact fees (varies by County)

Benefits to Home Buyer / Building Owner

- Lower total monthly cost of ownership (mortgage plus utilities, plus maintenance)
- Increased occupant health, safety and productivity
- Increased resale value
- Reduced insurance costs
- Reduced environmental impact, demand for imported energy

Eco-\$mart Services

- Green construction supply
- Turn key subcontracting and general contracting (via contractor allies)
- Free design consultation
- Free media events and press releases
- Energy efficient financing sourcing
- Building energy ratings / green certification

Example Eco-\$mart Systems

- Advanced wall and roof systems (fire, pest, mold and wind resistant, energy efficient)
- Water cooled and geothermal air conditioning
- Impact resistant and energy efficient windows
- Passive solar water heating
- Greywater systems for toilet flushing (Florida approved)
- Energy efficient lighting (T5, T8 electronic ballast, daylighting, controls)
- Porous paving - recycled rubber and permeable brick paver systems
- Earth friendly flooring (bamboo, cork, fsc teak, coconut palm, recycled plastic carpet)
- Earth friendly cabinet and countertop materials (bamboo, palm, fsc teak, eco-top, etc.)
- Soy based water-blown foam insulation
- 1.6 Gallon flapperless toilets
- Co-generation, backup power, photovoltaics, and more!

For more information, call 888-329-2705, or visit www.eco-smart.com



Eco-\$mart *ELEVATE*

Green Construction and Remodeling Facilitation

Creating quality jobs for local businesses while improving homes, buildings and communities by applying disaster resistant, energy efficient, resource efficient and health enhancing construction and remodeling approaches approved by the nonprofit Florida House Institute for Sustainable Development.



Action Idea Checklist:

- Construction and Remodeling for Durability, Health and Efficiency**
Using advanced building envelope and insulation materials, hurricane resistance, sound resistance, pest resistance, mold resistance, air infiltration, heat gain, safety, energy efficiency and maintenance performance can be greatly improved.
- High Efficiency A/C and Indoor Air Quality Systems**
Advanced A/C systems including our 20+ SEER water-cooled a/c, fresh air automation, dehumidification systems and nontoxic interior paints.
- Energy Efficient and Impact Resistant Windows and Window Treatments**
High performance impact resistant windows and hurricane resistant, energy saving window treatments.
- Solar Water and Pool Heating, Photovoltaic Power Systems**
Passive solar water heating, solar pool heating and solar electric systems.
- Earth-Friendly Flooring Installation and Restoration**
Bamboo, Cork, Coconut Palm, River Recovered Heart Pine and FSC certified wood flooring.
- Earth Friendly Cabinets and Countertops**
Renewable, healthy indoor air quality and durable cabinet materials including bamboo, coconut palm, FSC certified teak, and a variety of "green" countertop options.
- Cisterns and Greywater Recycling Systems**
Cisterns to store rainwater for landscape and Greywater systems that purify shower and laundry water, using the water to flush toilets, saving up to 30% of household water use.
- Energy Efficient Lighting, Daylighting, Sensors and Controls**
Energy costs for lighting can be reduced by 50 to 80 percent while improving light quality.
- Water Purification (Drinking Water and Pools)**
Residential and commercial water purification. 100% Chlorine-free pool sanitation for residential and commercial pools.
- Recycled Plastic Content Decking**
Outdoor decking materials which never require painting, staining or maintenance. Several materials and colors from which to choose carrying warranties from 20 to 50 years.
- Native / Florida Friendly Landscape Design and Installation**
Creating attractive landscapes that use less water, chemicals and maintenance while improving the health of the bays and estuaries of our communities.

Eco-\$mart ELEVATE is another community-enhancing program brought to you by the nonprofit Florida House Institute for Sustainable Development (I4SD), creators of the Florida House Learning Center in Sarasota, FL. A portion of all proceeds is donated to the nonprofit I4SD to support their creation of new civic learning facilities around the state and the globe. Please visit www.I4SD.org or www.eco-smart.com for more information, or call **888-329-2705** to schedule a home or business evaluation.

Florida House A Model For Sustainable Development

By DAVE HODGES
Managing Editor

Just as with any model home, the Florida House is open for visitors to come by and examine the spacious living areas, the builders' craftsmanship and the functional aspects of the layout.

The owners would like to see other dwellings built just like it, yet they'd also consider it a "sale" if visitors grasped some of the concepts displayed in this model and incorporated even a few features into their own homes.

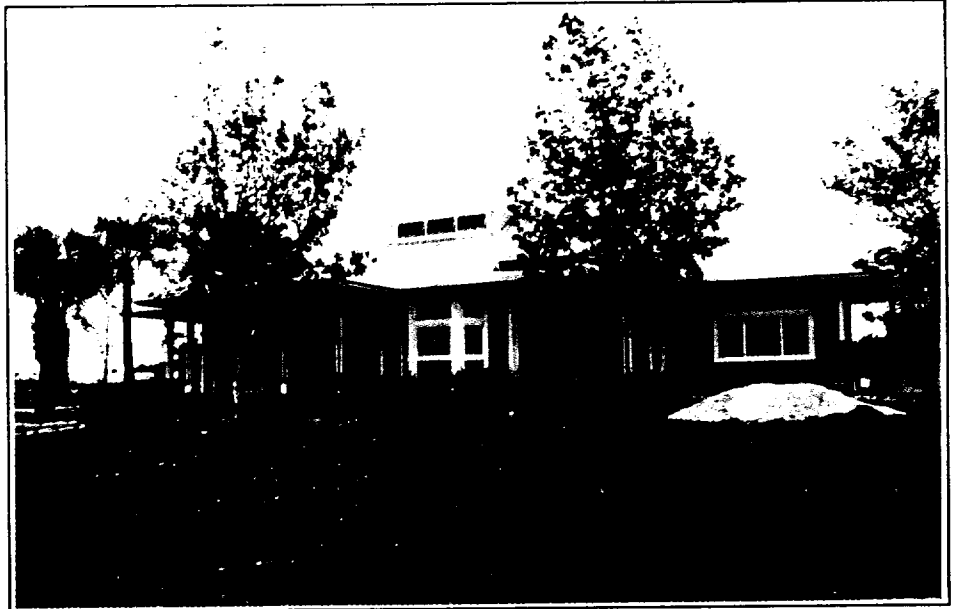
It's the thought that counts.

The Florida House, a cracker-style home typical of oldtime Florida architecture, is a look ahead to a time when houses are made with more recycled components, fewer toxic materials, and with plumbing and electrical systems that use less water and energy, respectively.

The emphasis is on environmentally responsible construction without sacrificing livability, said John Lambie, president of the Florida House Foundation Inc. in Sarasota, which has as project partners the Sarasota County Cooperative Extension Service, Florida Power & Light Co., Sarasota Bay National Estuaries Program, Sarasota County School Board and the Southwest Florida Water Management District.

Land for the traditional house, along with a soon-to-be-built contemporary version, was donated by the Sarasota County Technical Institute at the corner of Beneva and Proctor roads. Students from the institute's construction trades classes are helping build the houses.

"We look at this as an economic development incubator," said Lambie during a December tour prior to the



Florida House is a three-bedroom, two-bath floor plan with screened porches that take full advantage of prevailing breezes. Water-conserving plumbing fixtures were installed wherever possible, and a rooftop photovoltaic panel provides backup electric power that keeps an array of batteries charged.



John Lambie, left, and Michael Holsinger worked to get the project started.

Florida House's official opening. By demonstrating sustainable development practices and availability of locally produced materials and products, the foundation hopes to enhance the

community's economic health without a dire impact on its environmental wellbeing.

The Florida House also will serve as a laboratory in that data from the vari-

Cover Story

Tour EPA Energy Star Tour of Home

'Environmentally-friendly' and comfortable homes ... a compatible reality

Editor's note: This is the last of two parts on sustainable energy building techniques, which will be featured during the EPA Energy Star Tour of Homes starting today and continuing Sunday.

By **LILIANE PARBOT-JOHNSON**
Staff Writer

PORT CHARLOTTE — Whether they already own a home, or they contemplate building a new one, Charlotte County residents can find many energy- and money-saving features in the St. Clair Custom Homes model on State Road 776.

The model is one of 11 entered in the EPA Energy Star Tour of Homes. The tour starts today at 10 a.m. with a seminar at the Florida House Learning Center, 4600 Beneva Road South in Sarasota. There, the participating builders will have information booths and answer questions.

Both today and Sunday, the public is invited to visit the homes having qualified for the Environmental Protection Agency's label.

To earn the EPA Energy Star Label, a residence must be 30-to-35 percent more energy efficient than current building codes require. Also, they must be certified by an Independent State Licensed Energy Rater. A few of the models to be visited have rated as high as 50 to 65 percent, according to Eco-Smart Executive Director Matt Ross.

The tour is sponsored by Eco-Smart Homes & Buildings Program, which operates the Florida House Learning Center and other programs under a license from the Florida Institute for Sustainable Development.

Special events, such as driving the hybrid Toyota Prius, will occur at different times at different model homes.

To reach a high energy-efficiency rating, the builders use solar water heaters, air-conditioning units with 12-SEER efficiency or higher, a sealed duct system eliminating possibilities of leaks, and various other special features, according to Ross.

Builders reaching the highest ratings added such products as advanced insulation material, energy efficient windows and/or lighting. Several wall systems, such as the Autoclave Aerated Concrete Block, YTONG HEBEL, the 3-D panel or others, have been found to be more resistant to hurricane-force winds. They are also more energy efficient than conventional types of construction, according to Ross.

These systems have been around for a long time, but for the past year they have been used increasingly. State contractors and technicians knowledgeable about the installation of each system train local people to develop a qualified work force in this area of the state, Ross said.

At the Florida House, in addition to learning how to save energy and money, visitors also find out ways to protect their

Where to go

The EPA Energy Star model homes within or nearest Charlotte County are:

- **Port Charlotte** — St. Clair Custom Homes, 12307 McCall Road (SR 776 East, Englewood).

- **Venice** — Eco Homes Inc./Fiore Construction, 3748 Shamrock Drive (from U.S. 41, south of Venice, approximately 2 miles on Shamrock Drive.)

- **Nokomis** — Eco Homes Inc./Fiore Construction, 104 and 400 Tortuga Drive, Nokomis, approximately 1/4 mile south of Oscar Scherer State Park. Going north on U.S. 41, turn left on Montana, turn left on Broad Street and right on Tortuga.

- **Osprey** — US Home Corporation, Oxford Model at Woodlands at Rivendell, 812 Shadow Bay Way.

Information about models in Sarasota and Bradenton will be available at the Florida House.

health. For instance, one bathroom wall has the following advice on the wall: "Vinyl wallpapers trap moisture and give off toxins. Paper wallpaper is a safer and healthier alternative."

Safe drinking water can be drawn at the kitchen sink. An old technology using ozone is installed.

A floor plan with cross ventilation, a passive solar water heater, photovoltaic panels for solar electricity, tubular skylights — these are only a few of old and new systems available to enjoy Florida's bounty while protecting it.

Harnessing the generous Florida sun for the home energy needs is not only financially smart, it also decreases dependency on foreign oil.

You can e-mail Liliane Parbot-Johnson at parbotjohnson@sun-herald.com

A FEW OF THE MANY FEATURES SAVING THE ENVIRONMENT AND HOME OWNERS' POCKETBOOK!

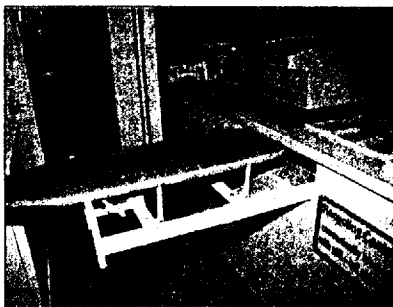


Sun Herald photos by Liliane Parbot-Johnson

Early settlers' cistern returns

The cistern catching rain from the roof and used for household or garden needs is not a new technology. The large tank can be hidden underground or under a porch. At the Florida House, it stands upright and the water is only used for the yard, however, with a little additional treatment cisterns are used in some parts of Charlotte County for household need.

Here, Florida Institute Director John Lambie (right), shows Eco-Smart Executive Director Matt Ross a tadpole, which for its way into the system. Algae never develops in the water because a bladder separates air from the water, Lambie said.



Out of sight when not needed

No bulky ironing board needs to be folded and stored in a closet of the Florida House. Opening a drawer of the utility room is all the effort it takes to get ready for the pressing chore.

Cover Story • Part One of Four

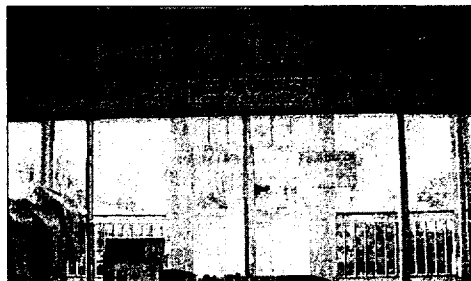
'Eco-\$mart' homes save money each month



Sun Herald photos by Liliane Parbot-Jo

"The Florida House" is a demonstration home showing how to live in harmony with the Southwest Florida environment. Special features in the climate work for the home owners' comfort, replacing in great part the use of electricity. Such a house is referred to as a "Green House" because it also reduces air pollution. The "Green Yard" also plays its part.

The sliding glass doors of the dining room lead to a patio. On the opposite wall, the setup is replicated for the living room to let the breezes flow through. Above the doors are "transom windows, which add to the flow and let the rising hot air escape. Fans are installed throughout "The Florida House."



If you go

The Florida House is on the right side of the campus of Sarasota County Technical Institut 4600 Beneva Road, corner of Proctor Road. From I-75, take Exit 37, go west on Clark Road to Beneva and turn right. From Beneva, make a on Proctor Road.

Visiting hours are from 9 a.m. to noon on Tuesdays, Wednesdays and Thursdays and from 1 p.m. to 4 p.m. on Saturdays.

'Save Money, Save the Planet ... Be Eco-Smart' — this is the slogan of the non-profit Florida House Institute for Sustainable Development

Editor's Note: This is the first in a four-part series on ways to save energy, spare the planet's resources and decrease pollution, while saving money with new "Green" home construction materials, appliances and landscape.

By **LILIANE PARBOT-JOHNSON**
Staff Writer

PORT CHARLOTTE — During the first half of the 20th century, many Florida homes had no need for electric water heaters.

No, Floridians did not heat their bath water in kettles on wood stoves. They had solar water heaters.

A half century after they were abandoned, solar water heaters are coming back — and much more has been developed to save energy and the earth's resources.

These new products and technologies are called "Green," after nature's dominant color.

The early-day water heaters were homemade. They consisted of pipes running back and forth atop a black background and covered by a glass panel. The apparatus was set on the south side of the house with nothing obstructing the sun's rays.

Today, with the high cost of electricity and growing concerns of air pollution and ozone depletion, more and more modernized versions of the old-time Florida water heaters appear on roofs of houses.

The "collector" of a passive solar water heater looks like a dark glass panel of rectangular shape placed on the roof. As the water circulates in the 40-gallon collector, it is heated by the sun's rays. Another 40 gallons are held in the tank of the regular water heater — which serves as a backup in case of several cloudy days in a row. A "passive" model has no moving parts that could break.

Earth-friendly buildings

The number one energy saver in a home is the solar water heater, according to Matt Ross, executive director of the Eco-Smart Homes & Buildings Program.

cent of your electric bill," Ross said. "In the early 1900s, there were many solar water heaters. People built their homes with common sense, back then. Their homes had overhangs and porches.

"Starting in the 1950s, home construction was influenced by people, who moved down here from the North. They wanted their homes to look like the ones they had left up North, and they wanted the same appliances to go in them."

This was swell as long as electricity was cheap and oil resources were thought to be limitless. Today, this is no longer the case.

The Eco-Smart Homes and Buildings Program was created by, and operates under license from the non-profit "Florida House Institute for Sustainable Development." A meeting with Ross was recently held at "The Florida House" to learn about the program and the products they recommend to build a "green house" or retrofit an older home.

The old-style "Florida House" was built five years ago on the campus of Sarasota County Technical Institute at the corner of Beneva and Proctor roads. So far, 60,000 people have visited the demonstration home, which came to be as the result of a partnership between the Florida House Institute for Sustainable Development and the County of Sarasota.

Members of the Sarasota County Cooperative Extension Service staff the home and conduct educational programs, along with related businesses.

Visiting hours are from 9 a.m. to noon on Tuesdays, Wednesdays and Thursdays and from 1 p.m. to 4 p.m. on Saturdays.

The educational sessions are held mostly from 1 p.m. to 2 p.m. on Wednesdays. There is no charge to the public, but registration must be made by calling 941-316-1200.

Sustainable living

The Florida House features saving energy or preserving resources are many — from cross ventilation and transom windows to construction blocks made of recycled material and the bamboo parquet floor.

The goal of the The Eco-Smart Homes and Buildings Program is to educate the public — as well as builders of residential or commercial structures — in ways to preserve our ecosystems, save energy and reduce air pollution.

Ross said there is an added benefit to having a "green" house. It saves money on utility bills, every month, besides reducing air pollution.

Prospective home owners, or those wishing to retrofit their homes, as well as builders wishing to learn more about the program, can contact Ross with the toll-free number, 1-888-329-2705.

Ross said in many cases it is easier to obtain a mortgage for a home where energy savings features and appliances are included. The reason is that lenders know the monthly expenses of the borrower will be lower, due to the amount saved with lower utility bills.

(Next Week: Part 2 — Construction materials)

You can e-mail Liliame Parbot-Johnson.

What are the costs?

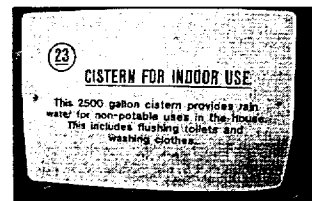
According to the Florida House Institute for Sustainable Development, a home or commercial building built with features found in the Eco-Smart Homes & Buildings Program costs less to own. It is most noticeable when a mortgage is involved, according to Executive Director Matt Ross.

The reason is that the money saved each month with a lower electric bill is from one third to one half greater than the extra mortgage payment reflecting the added constructor cost.

The institute brochure gives the following example:

Industry Standard Home	Eco-Smart Home
Mortgage Payment: \$865	Mortgage Payment: \$895
Utility Payments: \$150	Utility Payments: \$100
Total Expense: \$1,015	Total Expense: \$995

Floridians not longer pay sales tax on solar systems



This sign explains how water bills can be drastically cut by collecting rain water for certain uses. An added benefit is that it reduces run off.

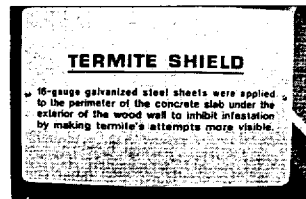
Learning Florida Living

The Florida House Learning Center offers educational programs on conservation and on how to live in harmony with the Florida environment. The courses are free, but preregistration is required by calling 941-316-1200, or in person at the Florida House, corner of Beneva and Proctor roads, Sarasota.

The courses are held from 1 p.m. to 2 p.m. on Wednesdays, unless otherwise noted.

- Feb. 9 — 1 p.m. to 3 p.m., Shopping for your "Green" Florida Home
- Feb. 16 — Landscape pruning
- Feb. 23 — 1 p.m. to 3 p.m. Planning Your Own "Green" Home: New or Remodeling, Part One
- March 1 — 1 p.m. to 3 p.m. Planning Your Own "Green" Home: New or Remodeling, Part Two
- March 8 — Water Conservation in the Home Landscape
- March 15 — What's New in Green Building Materials
- March 22 — Water Gardens in the Landscape
- March 29 — Landscape and Turf Grass Fertilization

Keeping an eye on possible termite infestation is possible. Signs around the Florida House explain to visitors the many features used to make the demonstration home environmentally friendly by cutting down the use of unneeded chemicals, or eliminating them all together



Homes with a lower sales price can actually be more expensive

By LISA LESLIE
of the Hillsborough County
Cooperative Extension Service

When building or buying a home, the sales price is not the only cost to consider. You also need to look at the costs to operate and maintain your home. Another consideration is whether the home can be expected to increase or decrease in market value.

The amount spent on monthly utility bills is a significant part of the maintenance cost. Many home buyers are opting for upgrades in building design that lower utility bills. Energy upgrades such as increasing insulation in the attic from R-19 to R-30, installing an efficient air-conditioning system, placing ductwork in air-conditioned space, using radiant barriers, and making sure the house is tightly sealed can make a house more energy efficient.

These upgrades can increase the sale price of the house and monthly mortgage payments, but there is a monthly net gain for the owner because of the decrease in utility bills.

Another reason homeowners may decrease overall housing expenses is that money paid for a mortgage is tax deductible and energy costs are not. Another factor for consideration is that in a fixed, 30-year mortgage, the interest rate and monthly principal remain the same. Utility costs are subject to possible increases.

An Energy Star designation is one way to identify a house that has been built to save money and energy. A house carrying the Energy Star seal is guaranteed to be 30 percent more energy efficient than a home built to meet the minimum code requirements. The Environmental Protection Agency and the Department of Energy developed the Energy

Star program.

The University of Florida Energy Extension Service recently compared two 2,600-square-foot houses that appeared virtually identical. One house had been built in 1991 using the features thought to be energy efficient for that time period. The other was built to the Energy Star standards in 1998. The Energy Star home averaged \$197 a month in energy savings for the period of the



study, April to December 1998.

"Homes that meet Federal Energy Star standards don't look any different than other homes, but they can save anywhere from \$50 to \$200 per month in utility bills," said Pierce Jones, assistant director of the University of Florida Energy Extension Service.

Locally and nationally some mortgage companies are offering special mortgage options for Energy Star houses. Lenders will stretch the debt-to-income ratio so borrowers can qualify for a higher mortgage amount. They realize that since the homeowner is paying less in utility cost, more of their income is available for monthly mortgage payments. Chase Manhattan Mortgage

offers \$500 dollars in cash off closing costs for homes that are rated Energy Star homes.

A certified energy evaluator will need to verify that the house merits an Energy Star rating. The evaluator calculates the best upgrade options and the payback time. After the house is built, the evaluator conducts a blower door test to determine the air-tightness of the house and duct system.

The Energy Star program currently only applies to new homes. However, energy-efficient mortgages are available for existing houses. These mortgages are available for Federal Housing Administration insured mortgages and also through lenders participating in Fannie Mae's Energy Conservation Home Financing mortgage. The cost of making energy improvements is financed as part of the mortgage.

What about resale value?

A recent study by a consulting firm contracted for the EPA found that energy-efficient homes have a higher market value or resale value regardless of how long you own your home. The researchers also concluded that home value increases \$20 for every \$1 reduction in the average annual utility bill.

The Hillsborough County Cooperative Extension Service offers classes to educate buyers on what to look for in a well-designed house. The program covers construction of a house from start to finish, information on energy-efficient mortgages and landscaping designs that work best in our region. The next class is scheduled for June 19 at the Hillsborough County Cooperative Extension Service. The cost is \$5 per household and seating is limited so preregistration is required.

For more information, call Lisa Leslie, Hillsborough County extension agent, at (813) 744-5519, Ext. 143.

Building or retrofitting your home or business using solar energy and energy efficient technologies can save you money and reduce your direct impact on the local environment. Federal, State and Local incentives are now available to help you achieve your goal of energy independence.

Federal Incentives

The Energy Policy Act of 2005 provides tax credits to offset the costs of purchasing solar hot water or solar electric systems for your home or business through the 2008 tax year.

Specific incentives include:

- A 30% Tax Credit for commercial PV or solar hot water systems with no maximum.
- A 30% Tax Credit for residential PV or solar hot water systems with a \$2,000 maximum.
- Up to a \$500 Tax Credit for qualifying energy efficiency upgrades in existing homes.
- Up to a \$2,000 Tax Credit to builders for each new construction home that achieves a 50% reduction in energy use compared with the national building energy code.
- A \$1.80 per sq. foot Tax Deduction for commercial building efficiency improvements that achieve a 50% improvement.

State Incentives

The 2006 Florida Energy Act provides additional rebates and tax incentives to help reduce the costs of purchasing solar hot water or solar electric systems for your home or business through 2010.

Specific incentives include:

- A \$500 Rebate for installing a residential hot solar hot water.
- A \$100 Rebate for installing a solar pool heater.
- A \$4/Watt Rebate up to \$20,000 for installing a solar electric (PV) system on your home.
- A \$4/Watt Rebate up to \$100,000 for installing a solar electric (PV) system on your business or public facility.
- A Rebate of \$15/BTU/Day up to \$5,000 for installing a solar hot water system on your business.



Combined Incentives

In many cases, multiple tax incentives may be claimed. In the case of a new home for example, the builder may claim credit for the high efficiency home and the homeowner may claim tax credits for solar hot water and photovoltaic and fuel cell systems. Other financial incentives, such as utility or [SunBuilt](#) rebates, further reduce the cost of building or owning a solar and energy efficient home.

Solar Photovoltaic and Hot Water Systems

This provision offers tax credits to individuals for residential solar energy systems.

- For solar hot water systems, the allowable tax credit is 30% of the qualified solar system expenditures up to a maximum tax credit limitation of \$2,000.
- For solar photovoltaic (PV) systems, the allowable tax credit is 30% of the qualified PV system expenditures up to a maximum tax credit limitation of \$2,000.

To be eligible for the solar hot water system tax credit, the system must be certified by the [Solar Rating and Certification Corporation \(SRCC\)](#) and produce 50% or more of the hot water needed by the residence. There is no qualification provided for PV systems. Individuals may claim tax credits for either or both types of solar systems. The incentives apply to equipment placed in service during 2006-2007.

New Homes

This provision offers homebuilders a tax credit of \$2,000 for homes that reduce energy use for heating and cooling only (not hot water) by 50% compared to the national model code — the 2004 IECC Supplement (assuming an SEER-13 air conditioner). Producers of manufactured homes can also choose to qualify for a tax credit of \$1,000 for homes that save 30%. This \$1,000 credit for reaching 30% savings is not available for site built homes, which must reach the 50% savings tier to qualify for the \$2,000 credit.

Eligible homes must demonstrate savings using software that has been approved by DOE and builders must demonstrate compliance by the use of third-party inspectors certified according to DOE rules. While no interim rules have yet been promulgated to meet these requirements, similar standards exist in Florida and elsewhere under the auspices of [Florida's Building Energy Rating System](#) and under the national standards of the national [Residential Energy Services Network \(RESNET\)](#). Additionally, the Florida Solar Energy Center has released a free 60-day trial version of software that makes the calculations that are expected to be used for tax credit qualification. To download this free 60-day trial software [click here](#).

The incentives apply to homes placed in service during 2006-2007, although extenders increasing the eligibility through 2009 are a possibility.

Existing Homes

These provisions offer cost-based incentives of 10% of the amount expended by the taxpayer for "Qualified Energy Efficiency Improvements" and up to \$300 for "Qualified Energy Property" up to a maximum credit limit of \$500.

"Qualified Energy Efficiency Improvements" are specifically defined as:

- Any insulation material or system specifically designed to reduce heat loss or gain
- Exterior windows (including skylights)
- Exterior doors
- Any metal roof having pigmented coatings specifically designed to reduce heat gain which meet Energy Star program requirements.

"Qualified Energy Property" is defined as:

- Electric heat pump water heater with EF of 2.0 or greater
- Electric air source heat pumps with HSPF of 9.0 or greater
- Geothermal heat pumps:
- Closed loop products with EER of 16.2 and COP of 3.3 or greater
- Open loop products with EER of 14.1 and COP of 3.3 or greater
- Direct expansion (DX) products with EER of 15 and COP of 3.5 or greater
- Central air conditioner that receives the highest efficiency tier established by the Consortium of Energy Efficiency as of January 1, 2006
- Natural gas, propane or oil water heater with EF of 0.80 or greater
- Natural gas, propane or oil furnace or hot water boiler with AFUE of 95% or greater
- Advanced main air circulating fan used in natural gas, propane or oil furnace that uses no more than 2% of the total annual energy use of the furnace.

Credit limitations on qualified energy property are as follows:

- \$50 for any advanced main air circulating fan
- \$150 for any qualified natural gas, propane, or oil furnace or hot water boiler
- \$300 for any item of qualified energy property.

The incentives apply to improvements and equipment placed in service during 2006-2007.

equipped home. In addition, builders who commit to building all homes with a solar water heater are eligible for a voucher for a free installed solar water heater on their model or parade home.

Rebate Criterion:

To receive the \$500 solar water heating system rebate, a builder must:

- ✘ Retain a current FHBA membership.
- ✘ Sign a SunBuilt [Silver](#) or [Gold](#) Pledge.
- ✘ Install FSEC certified solar water heating system [manufactured by a FlaSEIA member](#).
- ✘ Use a FlaSEIA member ([licensed solar contractor](#) or plumber) and [FHBA member](#) to install the system.
- ✘ Submit [rebate application](#) with solar contractor invoice along with photos (front of the home and installed system).
- ✘ Allow SunBuilt/DEP/FHBA media coverage of the home.
- ✘ Participate in a new home energy efficiency program (through local utility, Energy Star or via a demonstrable energy efficient home design).

System Voucher Criterion:

To receive a free installed model OR parade solar water heating system (including storage tank), a builder must:

- ✘ Retain a current FHBA membership.
- ✘ Sign a SunBuilt [Gold Builder pledge](#) and submit with system [voucher application](#).
- ✘ Receive approval from SunBuilt.
- ✘ Install solar water heating system [manufactured by a FlaSEIA member](#) on a home designated for entry in the local Parade of Homes OR on a model home in a large-scale development (100 or more homes at build-out). If installed on a model home, the model must be available for public viewing for a minimum of 6 months.
- ✘ Use a FlaSEIA member ([licensed solar contractor](#) or plumber) and [FHBA member](#) to install the system.
- ✘ Allow SunBuilt/DEP/FHBA media coverage of the home.
- ✘ Participate in a new home energy efficiency program (through local utility, Energy Star or via a demonstrable energy efficient home design).

Marketing support from SunBuilt.

To assist SunBuilt Builders with company branding and builder differentiation, FlaSEREF provides:

energy issues in the future.

Effective July 1, 2006, and extending through June 30, 2010, Florida consumers and businesses installing solar equipment, including solar photovoltaic (electricity), solar thermal (water heater) and solar thermal pool heaters, will be eligible for the state's solar rebates program, currently budgeted for \$2.5 million in the first year. Highlights of the Florida Energy Incentives Program are illustrated below:

Solar Energy System Incentives Program	Residential	Commercial
Solar Thermal (Water Heater)	\$500	\$5,000 ¹
Solar Photovoltaic (Electricity)	\$20,000 ²	\$100,000 ²
Solar Thermal Pool Heater	\$100	\$100

¹ \$15 per 1000 BTUs.

² \$ 4 per watt up to a maximum rebate for a residence of \$20,000 and \$100,000 for commercial.

The following are highlights of the bill:



Current Incentives for Green Home Construction

- Builder: **\$2000.00** Federal Tax Credit for 50% Energy Savings (non-water heating)
- Builder: **\$500.00** SunBuilt Program Rebate for Solar Water Heater
- Builder: Fast Track Permitting, **\$1000.00** Fee Reduction (Sarasota County)
- Home Owner: **\$500.00** State of Florida Rebate for Solar Water Heater
- Home Owner: 30% Federal Tax Credit for Solar Water Heating (up to **\$2000.00**)
- Home Owner: \$4.00 per Watt State of Florida Photovoltaic Rebate (up to **\$20,000.00**)

How to Build a Cost Effective "Green" Home

The Six Key Systems Approach

Green Defined: Healthy, efficient, disaster resistant, mold resistant, pest resistant, low maintenance, low environmental impact, built for life.

First, Here's the Math: Mortgage + utilities is LESS in a green home - you put more money in your pocket at the end of the month, after paying your bills. The five to eight percent more on construction costs (financed by the bank) is paid for, plus extra spending money, by the 60 to 75 percent on utility and maintenance costs.

Six Key Systems:

1. Poured Solid Concrete Wall or Structural Insulated Panel: Avoids trapping moisture in walls for mold growth, stronger, better insulation, better sound resistance, better best resistance, more accurate, faster construction.

2. Sealed Attic Construction: Using either Biobased water-blown healthy foam insulation sprayed on the underside of the roof deck, or a structural insulated panel roof (such as HPRS), provides a sealed, conditioned attic space, keeping heat, dust, moisture, pests and wind out. Attic temperatures are reduced from the typical 130 to 140 degrees F to 80 to 85 degrees. Now the attic is dry, cool, usable storage space. This saves on A/C costs, improves indoor air quality, and helps protect the roof in high winds.

3. Efficient, Impact Resistant Windows: Choose windows that are both energy efficient and protect the building envelope against wind forces getting inside to lift off the roof. This completes the "green" shell of your building.

4. High Efficiency Air Conditioning, Dehumidification and Fresh Air: We recommend looking at water-cooled air conditioning, able to keep Summer A/C costs up to 50 percent lower than even the most efficient air-cooled equipment. Houses need more fresh air to flush out toxins. Fan recycler or energy recovery ventilation is recommended, along with a humidistat to keep humidity at 60 percent or lower.

5. Passive Solar Water Heating: The single most powerful energy saver of the 6 Key Systems. Reduces water heating costs by 70 to 95 percent (overall electric bill reduction of more than 20 percent). Has no moving parts, doubles the hot water supply for the house, provides hot water when power is out, and offers a 30% Federal Tax Credit to the home buyer.

6. Brac Greywater System - Self-contained system that cleans and recycles shower and laundry water to use for flushing toilets. Typical savings of 30% of household water and sewer use.

For more information, please contact:

Eco-\$mart, Inc.

888-329-2705

www.ecosmartinc.com



Eco-\$mart, Inc.
 (888) 329-2705
www.eco-smart.com
info@eco-smart.com

Cost - Benefit / Cash Flow Analysis: Eco-\$mart Home



Home Size (square feet under air)	2500		
	<u>Standard Home</u>	<u>Eco-\$mart Home</u>	
<u>Additional Eco-\$mart Features / Add. Costs</u>			
E-Wall Poured Solid Concrete or ACTech SIP Wall*	No	\$6,500	
Biobased Soy Foam, HPRS or ACTech SIP Roof*	No	\$4,875	
Passive Solar Water Heater (after Federal tax credit)	No	\$3,250	
Water-Cooled A/C	No	\$2,600	
Energy Star Low-E and/or Impact Windows	No	\$4,550	
Brac Greywater System	No	\$3,900	
	Sale Price	\$375,000.00	\$400,675.00
	Mortgage (@ 7.0%)	\$2,494.88	\$2,665.70
Utility Bills (60% Lower Electric, 30% Lower Water)	\$416.67	\$166.67	
	Insurance Savings	\$0.00	-\$50.00
Tax Benefit (Mortgage Pmt is Tax Deductible)	\$0.00	-\$51.24	
Non-Combustible	No	Yes	
No Mold and Mildew	No	Yes	
Disaster Resistant - Hurricanes, Fires	No	Yes	
Healthy Indoor Air Quality	No	Yes	
Pest Resistant	No	Yes	
Low Noise Transmission	No	Yes	
Increased Resale Value**	No	Yes	\$62,190
Additional Interior Usable Footage (SF)	No	Yes	46
	<u>Monthly Out-of-Pocket</u>	<u>\$2,911.55</u>	<u>\$2,731.12</u>
Savings, from Day One >>>>>>>>>		\$180.43	per month
MORE HOME FOR LESS MONEY!			

Total Add. Const. Cost
 \$25,675.00
% Additional Cost
 6.85%

*ACTech SIP Wall and Roof can cost the same or less than conventional construction.

** According to the National Association of Appraisers, studies of resale prices of homes over the past 15 years have allowed them to attach an increased value to efficient homes. The value is calculated by taking one year's energy savings (as certified by a state licensed energy rater, part of the national program) and multiplying the savings by \$ 20.73.



The Eco-\$mart Catalog

Building Envelope Systems



Healthy, Efficient, Disaster Resistant Products for Better Living

[My FPL Bill](#)
A Testimonial

« Back **ACTech™ Panels** Next »



SIPs are a universally viable and superior alternative to conventional building materials such as lumber or bricks. **ACTech SIPs** offer more features and benefits along with favorable economic comparisons, to both builders and consumers, than any other building material we know.

- Meet or surpass the most stringent wind, projectile, and uplift codes in the nation: Miami-Dade County, FL.
- Environmentally sound: recycleable, no CFCs
- Reduced Energy consumption at 30 to 50%
- Resistant to fungus, moisture, mildew, and termites
- Quick build times even with unskilled labor.

The **ACTech Panel™** and interlocking building system is practically a stand-alone alternative construction technology. The panel is far more than a mere cladding material; it is a true structural panel capable of being used as the solitary framing material in a given structure. For residential and light commercial construction, it becomes an alternative to post-and-beam framing, not just an accessory.

The biggest advantage, however, is seen with large scale commercial projects. For industrial construction, ACTech Panels™ allow for a substantial reduction in the amount of steel or lumber needed for stanchions, beams and supports.

Item Number: BE-ACT

Price: Quoted

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 - [Classroom Construction](#)
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Insulation	Landscape	Lighting	Paints	Pavers	Roofing	Solar	Storm	Water Heating	Water Purification	Water Saving	Windows	Wood



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Outside US: 941-377-9460

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Hand Crafted At: kwgrubbs.com





The Eco-\$mart Catalog

ACTech Panels™ My FPL Bill



From the homeowner of an affordable (low cost), 1425 sq. ft. home recently built with the ACTech Panel system:

"I'd like to share how energy efficient this home is. Last night I came in and the house registered 75 degrees. As you know we had a coolish night (in the fifties they said) and when I woke up the house was 74 degrees. Talk about tight as a drum! It will be interesting how these stats hold up when it gets much colder."



The House



Interior



Kitchen

My FP&L billing in the past 6 months

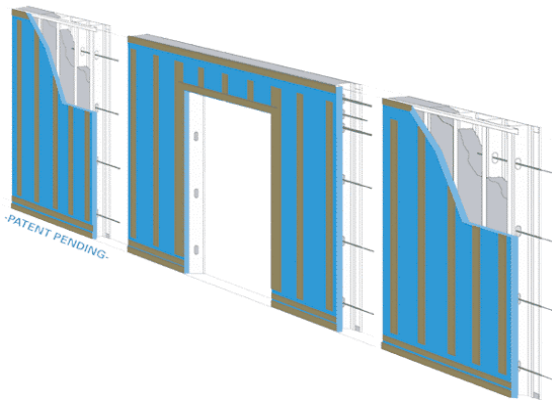
Date	Service Days	KWH Used	Debit Amount	Description of Charges
10/18/2007	29	502	\$54.65	Electric Bill
09/19/2007	30	659	\$70.02	Electric Bill
08/20/2007	31	615	\$65.72	Electric Bill
07/20/2007	30	577	\$62.00	Electric Bill
07/16/2007	.	.	\$1.53	Late Payment
06/20/2007	30	645	\$68.64	Electric Bill
06/18/2007	.	.	\$0.49	Late Payment
05/21/2007	25	136	\$17.89	Electric Bill



E-Wall Stay-in-Place Forms for Poured Solid Concrete Walls

E-Wall is a patented stay-in-place form for building solid concrete walls. The form consists of an exterior fiber/gypsum board held to an interior rigid foam insulation board. Light gauge steel studs hold the interior and exterior boards together. Furring strips are provided on the interior facing side of the insulation board surface. Vertical re-bar (poured in the slab) connects the panels to the foundation, and horizontal re-bar is placed every 2' in height in the form prior to the concrete pour. Once the forms are poured, the walls are ready for conventional electrical placement and drywall installation using the furring strips provided. Conventional exterior finishes such as stucco or siding can be directly applied.

E-Wall construction creates highly insulated, low air infiltration, moisture resistant, extremely strong (250mph wind load / Miami Dade Approved), fast, and affordable (competitive with standard concrete block) construction.



For more information, call Eco-Smart, Inc. at 888-329-2705.

All Eco-Smart products are approved by the nonprofit Florida House Institute for Sustainable Development www.i4sd.org.



Key Systems: Hurricane Proof Roof Systems



300+ mph wind resistance, sealed attic, fire, mold and pest resistant. Can eliminate exterior roof tile (concrete is stamped)



Biobased Water Blown Foam Insulation

Water Blown Foam Insulation Benefits:

- Reduces A/C Costs by 20 to 25 Percent
- Virtually Eliminates Dust, Moisture and Heat in Attic Space
- Improves Indoor Air Quality (Endorsed by American Lung Assn.)
- Reduces Affect of High Winds on Roof System
- Eliminates Pest Access to Attic from the Outside
- Creates Dry, Cool, Usable Attic Space
- Provides a Low Maintenance Location for Air Handler
- No Off-gassing from Spraying or Foam Itself
- Lifetime Warranty for Performance
- No Food Value to Insects
- Reduces chance of Spread of Fire in Home

Product Description: Made from U.S. grown soy bean oil, this open cell, water propelled foam is sprayed directly onto the bottom side of the roof decking, creating a totally sealed attic space. Ridge vents and soffit vents are eliminated. Peak attic temperatures will drop from the standard 130 degrees (or more) to 85 degrees (or less). Air conditioning ducts will now run in cool, dry space, saving 20 to 25 percent on A/C costs. Dust and moisture that typically enters vented attics and makes its way into the living space is eliminated. The building becomes safer in high winds due to the elimination of the ridge and soffit venting, which also eliminates a major access for pests. Can be used in wall cavities as well as roof applications. Creates excellent sound reduction, as well. Suitable for commercial and residential buildings.



For Quotes and Installation Call: Eco-\$mart, Inc. 888-329-2705 www.ecosmartinc.com
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The Eco-\$mart Catalog

Windows, Doors & More

Healthy, Efficient, Disaster Resistant Products for Better Living



Wind-Pact Plus Large Missile Impact Windows



Item Number: WN-WP-*

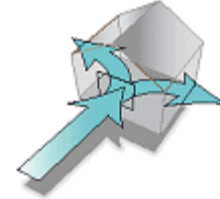
Styles:

Single Hung - *SH
Horizontal Slider - *HS
Casement - *C
Sliding Doors - *SD

Colors: White and Adobe

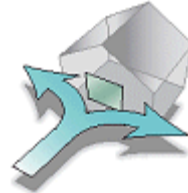
Price: Quoted

*How will the right window
protect my roof?*



Wind enters a broken window, lifting the roof and stressing the walls.

Solid laminated impact window helps preserve building integrity.



WIND-PACT PLUS windows feature specially designed heavy duty extruded vinyl frames with multiple chambers, as well as insulated laminated glass for superior strength and energy efficiency. All windows feature block and tackle balancers for smooth operation, with removable sash and removable screen for ease of cleaning. Windows over 30" wide feature double locks. All Vinyl Frame windows meet or exceed the Florida Codes and feature substantially high design pressures.

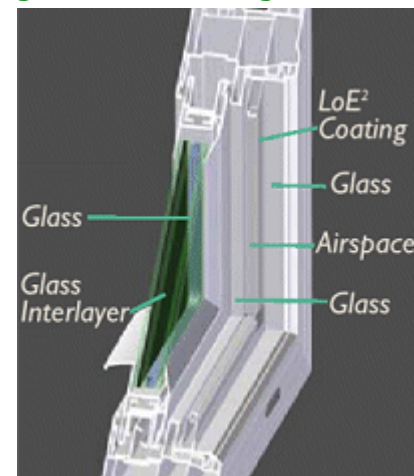
WIND-PACT PLUS vinyl large missile impact windows are manufactured with Cardinal Sea-Storm laminated glass. This glass was designed to pass the stringent Dade County protocol for windows used in high wind-speed coastal areas. It is produced by bonding a combination of plastic vinyl layers and polyester film between two panels of glass into a single sheet. Cardinal Sea-Storm laminated glass looks like ordinary glass, but protects like a shield against accidental impact, forced entry, sun damage and unwanted noise.

PLUS, Cardinal offers their patented LoE² Coatings that are virtually invisible to the eye but provide significant savings on your home energy bill. With a Solar Heat Gain Coefficient (SHGC) of 0.26 and a Winter U-Value: 0.33, glass coated with LoE² Coatings keep heat outside during summer and inside during winter. For beautiful windows that stand up to just about anything AND save energy, choose WIND-PACT PLUS with Cardinal Sea-Storm laminated insulated glass.

WIND-PACT Plus Offers Peace of Mind:

- Against Hurricanes
- Against Intruders
- Against High Energy Bills

Energy Efficient LoE² Coatings reduce solar heat gain in laminated glass.



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The Eco-\$mart Catalog

Air Conditioning and Dehumidification



Healthy, Efficient, Disaster Resistant Products for Better Living

Commercial and Residential Water Cooled Air Conditioning

Superior operating efficiency and long service life make the Thermal Flow water cooled A/C system the system of choice for most large commercial buildings. Homeowners can now enjoy the same benefits businesses have had for years. These water cooled A/C units can be installed at prices competitive with premium single and two speed air cooled units, and at almost one half the cost of a geothermal system. And the decrease of operating costs and energy consumption means these units will pay for themselves while reducing greenhouse gases and dependence on oil.

Item Number: AC-WCAC

Unit of Issue: System

Price: Quoted

Residential Water Cooled Split Systems



Water Cooled refrigerant condenser outside the home, sending refrigerant in to an air handler / evaporator coil inside the home. Straight cool and heat pump models available. Multi-

compressor condensers are available, and are the most cost effective. Compressors and controls are in a separate box beside the refrigerant cooling tower.

Demand Buster Commercial Retrofit System



This patented retrofit technology incorporates a Thermal-Flow closed circuit, evaporative tower in a pre-engineered Thermal-Loop system that converts existing ro of top air conditioners from high kW demand air-cooled condenser systems to low kW demand, Ultra-Efficient

water-cooled evaporative condenser systems.

Commercial & Residential Water Source Heat Pump Systems



Compact cooling towers outside the buildings send cool water to create lower condensing temperatures for small heat pumps inside each living unit. In cooling mode, heat rejected from dwelling into water loop can be run through domestic hot water to save water heating costs. Single cooling towers can serve multiple dwellings, while separately metering indoor heat pump energy use for accurate billing. Cooling tower uses minimal energy and maintenance, appropriate for shared central operations fees.

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The Eco-\$mart Catalog

Air Conditioning and Dehumidification



Healthy, Efficient, Disaster Resistant Products for Better Living

Commercial and Residential Water Cooled Air Conditioning

The Thermal Flow system is a water cooled air conditioning system utilizing a low maintenance cooling tower, high efficiency compressors and high efficiency expansion valve coils to provide optimum in high efficiency air conditioning systems. The Allied system features a foul resistant all copper refrigerant heat exchanger, designed for low back pressure and optimum heat exchange efficiency.

Attractive All-Fiberglass Enclosure

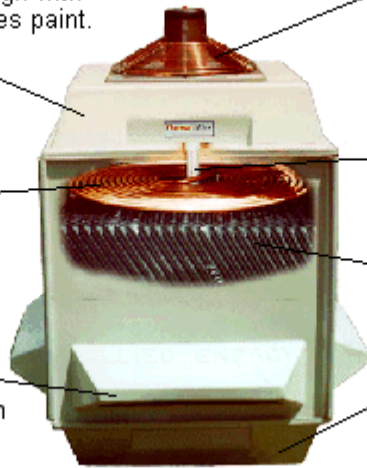
Cannot corrode. Low profile design with smooth gray finish. Never requires paint.

Heat Exchangers

100% Copper tubing. Modular design provides space and cooling capacity for multiple zones in a single enclosure.

Air Inlet Windows

Designed to block sunlight which eliminates algae formation as a maintenance concern.



High Efficiency Fan

Durable aluminum epoxy coated frame. Precision balanced heavy duty plastic blades for quiet, trouble-free service.

Plastic Spray Nozzle

Overlapping spray pattern. Non-corrosive, non-fouling.

High Efficiency Plastic Media

Enhances evaporation. Eliminates corrosion.

Freeze Protection

Fiberglass basin designed to eliminate freeze damage. Pump is protected by low wattage heat strips.

Tower:

All fiberglass, copper, and plastic, can not corrode. Self cleaning requires little maintenance.

Fan:

Variable speed controlled by temperature to save water. Aluminum frame, epoxy coated, plastic blades, fractional hp. (170 watt to 250 watt)

Spray Nozzles:

All plastic, non corrosive, and non fouling.

Pump:

1/6 hp. Sta-Right pump, rated for continuous duty, very efficient.

Compressors:

High efficiency scroll compressors; heat pump rated; scrolls and piston type high efficiency Bristol Inertia compressors.

Compressor / Pump Cabinet

Circulating pump mounted in cabinet with compressors provides freeze protection via low wattage heat tape. The compressor and pump housing is all fiberglass to match cooling tower. Sealed from all weather and moisture. Can not corrode or rust and is sealed against fire ants and dust. All high voltage electrical wiring is installed in a 14 gauge electrical box.

Compressor Protection:

Provides both low and high pressure safety switches with automatic reset feature and short cycle protection time delay. Additional protection provided by the compressor internal thermal protection.



The Eco-\$mart Catalog

Air Conditioning and Dehumidification



Healthy, Efficient, Disaster Resistant Products for Better Living

Commercial and Residential Water Cooled Air Conditioning Residential Water Cooled Split Systems



Three Zone System

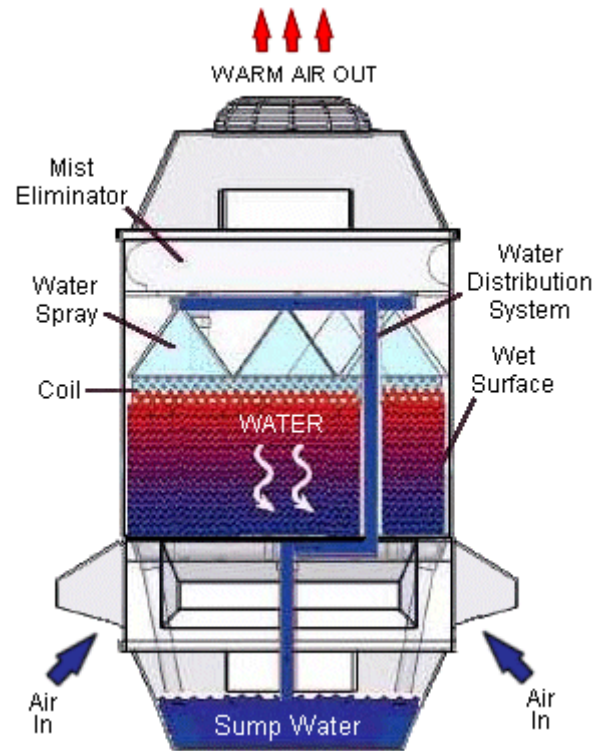
Utilizing technology normally associated with the industrial sector (evaporative condensers). Allied has perfected the ultimate in energy efficient water-cooled air conditioning. The Thermal Flow system combines the superior water-cooled condenser with the newest Scroll compressor technology, the most efficient fans and pumps available. The Thermal Flow system utilizes two refrigerants, and nature's own water is used to cool the Refrigerant up to 60 degrees cooler than what is possible with an air-cooled system. By reducing the heat in the refrigerant circuit, the operating efficiency of a water-cooled unit is dramatically enhanced, providing an unparalleled efficiency advantage over conventional air-cooled units.

[Benefits](#) [Product Data](#) [Specifications](#) PDF [3D View](#)

The Thermal Flow system is designed and built to the highest standards, utilizing durable industrial grade components. The unique design combines function and form in a very attractive and compact unit only 54 inches tall. The system is designed to be compatible with all conventional systems. Systems can be fitted with a variable speed fan controller to conserve water. This also provides a quieter operation and lowers the fan energy required. An auto purge self-cleaning feature is included to handle the hard water in some regions. All of the components are available through the W.W.Granger parts network. Manufacturer warrants the cooling tower for fifteen years, the compressors for ten years, and the cooling tower fan and pump for three years.



Three Zone Compressor Box



Eco-\$mart, Inc. (888) 329-2705 info@ecosmartinc.com



The Eco-\$mart Catalog

Air Conditioning and Dehumidification

Healthy, Efficient, Disaster Resistant Products for Better Living



Commercial and Residential Water Cooled Air Conditioning "Demand-Buster" Thermal-Loop Commercial Retrofit System

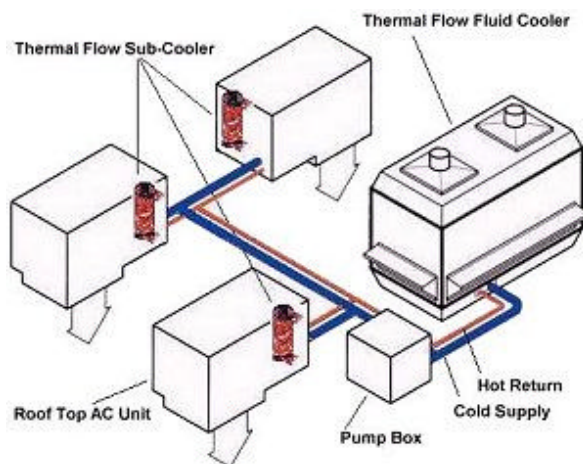
This Energy Efficiency retrofit will yield reductions of peak kW demand from 30% - 60%. The Thermal-Flow Demand-Buster Evaporative Condenser Retrofit system can utilize the existing AC compressor, or a new high efficiency Thermal-Flow compressor module can be installed.

The Thermal-Flow evaporative fluid cooler tower is the only closed circuit tower that is lightweight enough to be installed on a roof with out structural upgrades. The unique design of the Demand-Buster Thermal-Loop system allows one fluid cooler to service a number of roof top HVAC systems. The largest amount of savings occurs during the heat of the day thereby offsetting expensive peak demand charges that many utilities are now charging commercial customers. Many utilities offer rebate or financial incentive programs aimed at commercial users of peak kW demand. A Thermal-Flow Demand-Buster HVAC Retrofit can double the operating efficiency at half the cost of replacing the equipment, and qualify for utility demand reduction program incentives.



Engineered for Commercial Roof-Top Retrofit Applications:

- ◆ Light Weight, Modular, Durable, Low Maintenance requiring no Structural Upgrades
- ◆ 30%-60% Reduction in Peak kW
- ◆ Up to 17 EER Performance
- ◆ Proven Commercial Water Cooled Technology with a Record of Operational Success
- ◆ 15 Year Limited Warranty



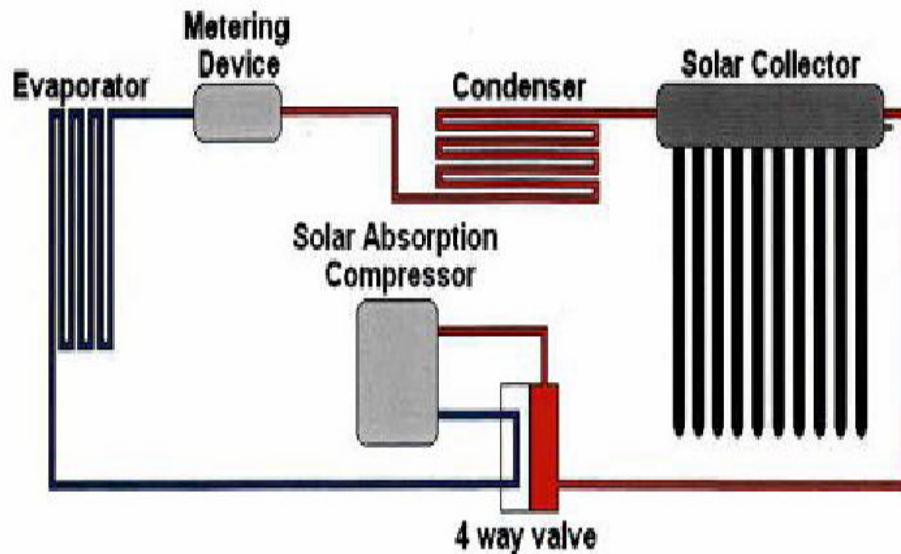
30-ton Demand-Buster System servicing three 10-Ton commercial roof top unitary systems.

Patented Evaporative Fluid Cooler features:

- ◆ **Construction:** All fiberglass cabinet, cannot corrode. High quality materials throughout. High Efficiency evaporative design allows one tower to service multiple HVAC systems in Thermal-Loop.
- ◆ **Water Spray Nozzles:** Durable plastic, non-corrosive and non-fouling.
- ◆ **Fans:** Aluminum, epoxy coated frame, and precision balanced plastic blades for quiet, trouble-free service.
- ◆ **Service:** Easy access for routine maintenance



Solar Air Conditioning



Solar Absorption Diagram

- Energy Savings of 30 to 50 Percent
- Reduces Peak Demand – Performs at Highest Efficiency when Sun is Hottest
- Scalable from Small Office to Large Commercial
- Similar Cost to Standard Equipment
- Uses Latest “Green” Refrigerant R410A



Solar Air Conditioning



U.S.N. Housing, Singapore



NOK Factory, Indonesia



TEGAEL, Portugal



MAH, Singapore

SEONA AIR INSTALLATIONS

Newsdesk, Philippines



Senoko, Singapore



UE Square, Singapore



NUS, Singapore





Thermosiphon Passive Solar Water Heating

Thermosiphon Passive Solar Water Heating Benefits:

- Reduces Water Heating Costs by over 90 Percent
- Can Lower Overall Electric Bills by 20 Percent or More
- Can Act as Stand Alone Water Heater – No Garage Storage Required
- No Moving Parts, Virtually Maintenance Free
- Creates Positive Cash Flow / Tax Free Return on Investment (10 to 20% annual)
- Acts as an Emergency Source of Hot Water
- Reduces Environmental Impact of Utility Power Generation
- Why Buy Oil from Overseas to Heat Water? Solar Water Heating is the Single Largest Step We Can Take Toward Energy Independence

System Description: Two 4' x 5' panels with an 80 gallon storage tank are installed on the roof, typically facing South. The panels contain food grade glycol, which, when heated by the sun, rises up to circulate through the ceramic lined water tank, heating the water. The system can act as a stand alone water heater, as the tank contains its own heating element, or the system can act as a non-electric pre-heater to a standard electric or gas water heater in the home. Savings in water heating cost exceed 90 percent in Florida, saving over 20 percent of the typical electric bill. This system does not freeze, and corrosive water will not damage the collector copper tubes, as only the glycol comes into contact with the copper.



Distributed by: Eco-Smart, Inc. 888-329-2705 ~ 941-377-9460 www.ecosmartinc.com

All Eco-Smart systems are approved by the nonprofit Florida House Institute for Sustainable Development

TECHNICAL SPECIFICATIONS

Systems	181	221	302	303	443	
	K	K	K	K	K	
Delivery (solar)	160	200	285	285	400	L
	43	53	76	76	107	USg
Delivery (aux)	135	175	230	230	320	L
	36	47	61	61	85	USg
Weight (full)	295	343	481	524	686	kg
	649	755	1058	1153	1509	lbs
Weight (empty)	111	119	173	213	235	kg
	244	262	381	469	517	lbs
Length	2.48	2.48	2.48	2.48	2.48	m
	97.6	97.6	97.6	97.6	97.6	ins
Height	0.51	0.51	0.51	0.51	0.51	m
	20.1	20.1	20.1	20.1	20.1	ins
Width	1.615	1.965	2.515	3.38	3.485	m
	63.6	77.4	99.0	133.1	137.2	ins
Working Pressure	1000	1000	1000	1000	1000	kPa
	145	145	145	145	145	psi
Test Pressure	2100	2100	2100	2100	2100	kPa
	304	304	304	304	304	psi
Tank type	180J	220J	300J	300J	440J	
Collector type	K	K	K	K	K	
No of collectors	1	1	2	3	3	

Tanks	180	220	300	440	
	K	K	K	K	
Capacity	180	220	300	440	L
	48	59	80	117	USg
Weight (full)	246	292	384	546	kg
	541	642	845	1201	lbs
Weight (empty)	66	72	84	106	kg
	145	158	185	233	lbs
Length	1.494	1.76	2.31	3.285	m
	58.8	69.3	90.9	129.3	ins
Height	0.51	0.51	0.51	0.51	m
	20.1	20.1	20.1	20.1	ins
Width	0.51	0.51	0.51	0.51	m
	20.1	20.1	20.1	20.1	ins
Cylinder material	Steel, 2.5 mm (0.10").				
Cylinder lining	Primaglaze: Ceramic Lining, 2 coats				
Insulation	Polyurethane: Pressure Injected, Zero CFC				
Case	Aluminium: Marine Grade, 0.4mm (0.15").				
End Caps	Polypropylene: Carbon Black, UV Stabilised				
Anode	Magnesium with Steel Core				

US Distribution by: Eco-Smart, Inc. 888-329-2705

Visit our website at
www.solahart.com.au



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Internet: www.solahart.com.au



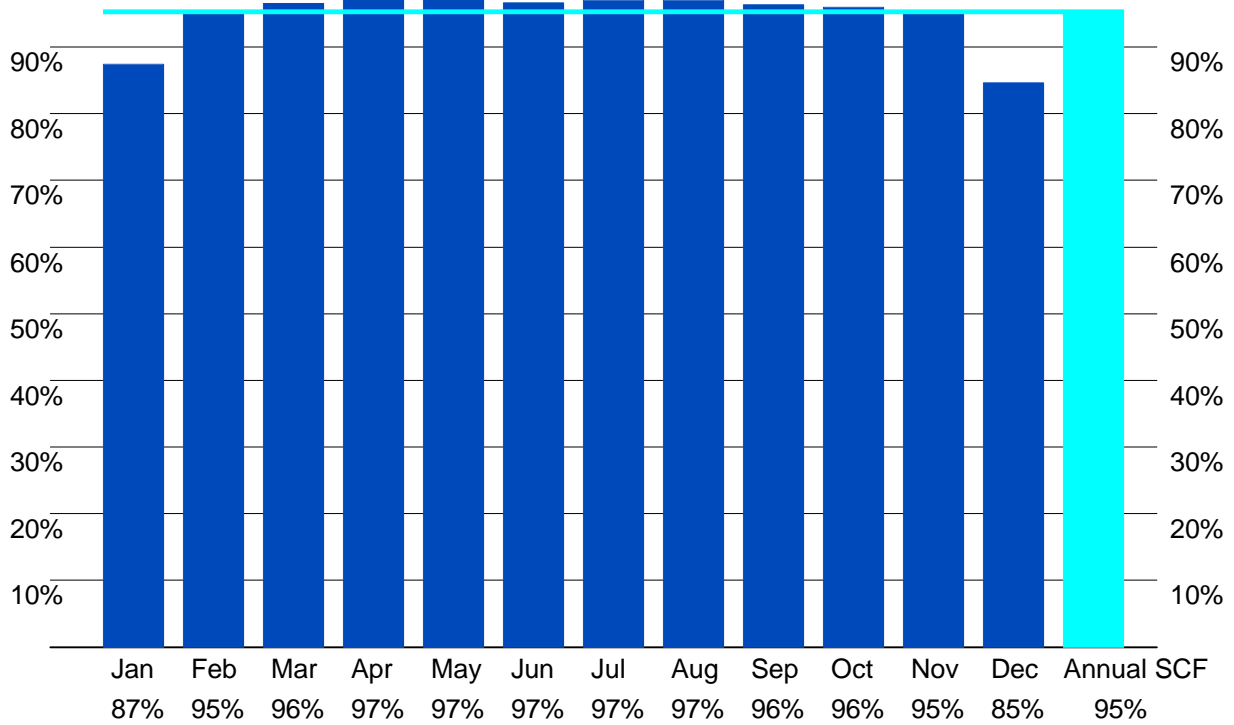
Solahart Industries Pty Ltd
ABN 45 064 945 848

YOUR LOCAL SOLAHART EXPERT IS:



Energy Savings with Solahart 302J

Location.. Miami Latitude.. 28.8° N Inclination.. 20° Orientation .. South



Total energy from the sun.....3248 kWh/year under average conditions.***

Savings relative to a 150 litre electric water heater.**

Average use 71 US Gal./day at 120.2°F (26538.4 Btu/day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Radiation	1110	1332	1649	1902	1902	1775	1839	1775	1554	1395	1173	1046	Btu/sqft.day
Ambient	67.3	68.5	71.8	75.2	78.6	81.3	82.6	82.8	81.9	78.3	73.6	69.1	°F
Cold Water	66.2	68.0	71.6	75.2	77.0	80.6	82.4	82.4	80.6	77.0	73.4	68.0	°F
Solar Input	8.48	9.24	9.26	9.15	9.03	8.89	8.92	8.92	8.86	8.93	9.03	8.21	kWh/day
Boost input	4.41	1.64	1.2	0.92	0.97	1.13	0.99	0.99	1.22	1.34	1.67	5.36	kWh/day
Electric HWS*	12.2	11.7	10.7	9.8	9.3	8.4	7.9	7.9	8.4	9.3	10.2	11.7	kWh/day
Energy saved	11.0	11.2	10.4	9.5	9.0	8.1	7.7	7.7	8.0	8.9	9.8	10.2	kWh/day
	11591	10730	11097	13727	13542	12551	13097	13097	12276	10433	9995	10787	Btu/day

Total Annual Savings on Energy Use vs. an Electric water heater.....3386 kWh/year

* 150 litre electric water heater container loss of 1.98 kWh/day.

** Estimated savings are calculated with hot water use distributed throughout the day.

2/1/2003

Solahart Industries Pty Ltd

A Southcorp Company.

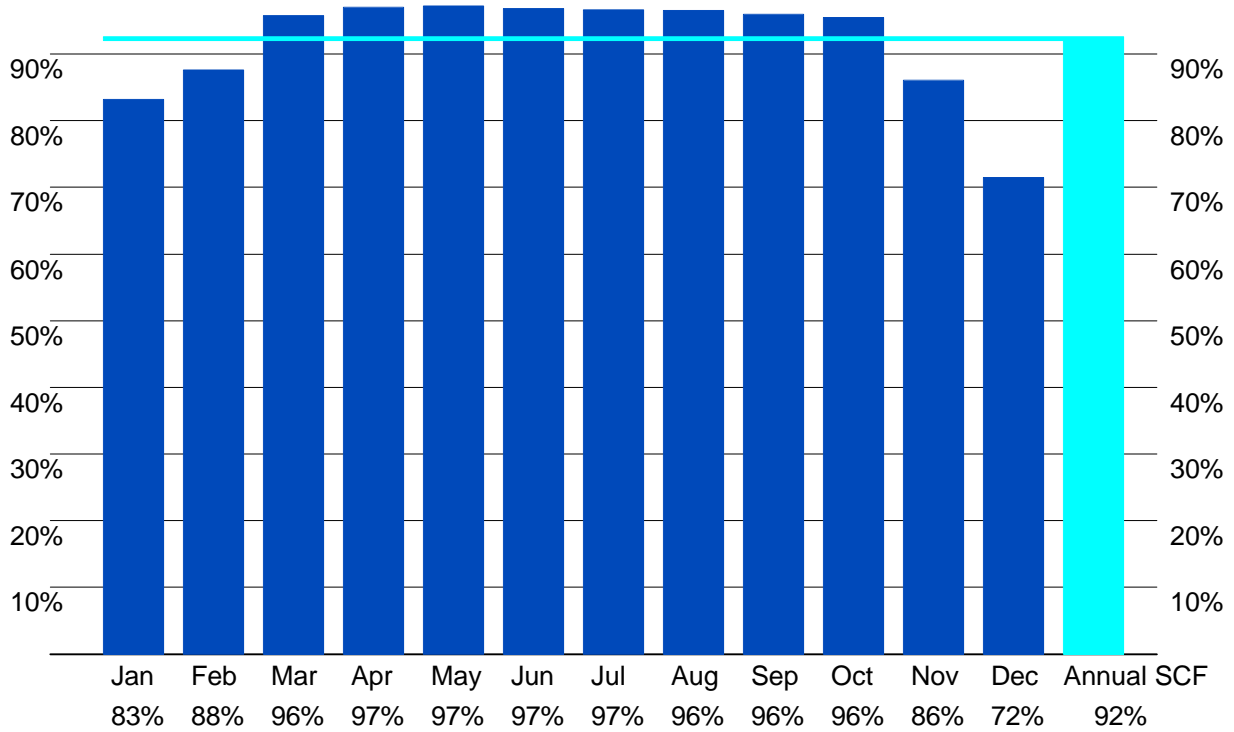
Corporate Headquarters: 112 Pilbara Street, Welshpool, Western Australia 6106. Postal Address: P.O. Box 95, Welshpool, Western Australia 6986.



ACN 064 945 848

Energy Savings with Solahart 302J

Location.. Tampa Latitude.. 30.38° N Inclination.. 20° Orientation .. South



Total energy from the sun.....3353 kWh/year under average conditions.***

Savings relative to a 150 litre electric water heater.**

Average use 72 US Gal./day at 120.2°F (28434 Btu/day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Radiation	1015	1268	1617	1966	2029	1934	1839	1744	1554	1395	1141	983	Btu/sqft.day
Ambient	78.1	61.5	66.4	71.2	77.2	81.0	82.0	82.0	81.0	74.8	67.6	62.2	°F
Cold Water	77.0	60.8	66.2	69.8	77.0	80.6	80.6	80.6	80.6	73.4	66.2	60.8	°F
Solar Input	8.24	9.2	9.87	9.8	9.62	9.49	9.37	9.36	9.41	9.55	8.87	7.51	kWh/day
Boost input	5.98	4.68	1.56	1.09	1.0	1.13	1.19	1.23	1.41	1.62	5.14	10.74	kWh/day
Electric HWS*	9.2	13.6	12.1	11.1	9.2	8.3	8.3	8.3	8.3	10.2	12.1	13.6	kWh/day
Energy saved	7.6	12.3	11.6	10.8	9.0	8.0	8.0	8.0	8.0	9.7	10.6	10.6	kWh/day
	80165	711704	562301	781050	254793	382208	384755	384652	381407	210268	408887	311179	Btu/day

Total Annual Savings on Energy Use vs. an Electric water heater.....3470 kWh/year

* 150 litre electric water heater container loss of 1.98 kWh/day.

** Estimated savings are calculated with hot water use distributed throughout the day.

2/1/2003

Solahart Industries Pty Ltd

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ACN 064 945 848



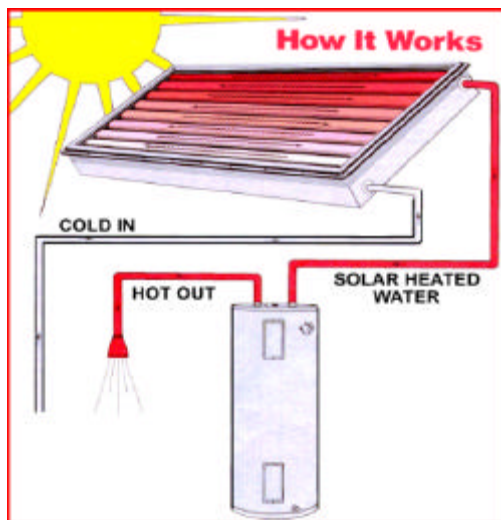
Passive Solar Water Heating



Passive Solar Water Heating Benefits:

- Reduces Water Heating Costs by 70 to 90 Percent
- Can Lower Overall Electric Bills by 20 Percent or More
- Doubles Hot Water Supply
- No Moving Parts, Maintenance Free, 10 Year Warranty, Made in Florida
- Creates Positive Cash Flow / Tax Free Return on Investment (5 to 20% annual)
- Acts as an Emergency Source of Hot Water
- Reduces Environmental Impact of Utility Power Generation
- Why Buy Oil from Overseas to Heat Water? Solar Water Heating is the Single Largest Step We Can Take Toward Energy Independence

System Description: A 4' x 8' collector holding 40 gallons of water is installed on the roof, typically facing South. Domestic water is plumbed directly into the collector where it is heated by the sun. The roof-mounted collector is piped to feed a standard gas or electric water heater inside the home, which acts as a backup heater. When hot water is used in the house, the solar heated water comes from the collector into the standard water tank, reducing or eliminating the need for the standard element to operate. One 40 gallon Passive Solar Water Heater will typically reduce water heating costs by 70 to 90 percent for a family of four in Southwest Florida, saving 20 percent or more on overall electric bills.



For information on the SunBuilt Program (free solar for builder models) call: 1-800-59-SOLAR

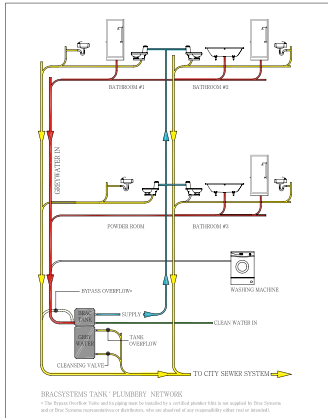
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BRAC SYSTEMS

Greywater Recycling System

Save 30% On Water Usage

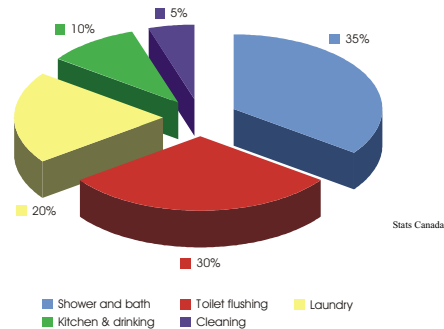


The Brac Systems Greywater Recycling Tank is designed into the plumbing system of new construction and existing residential homes.

Drains from showers, bathtubs and optionally the laundry, are routed directly to the Brac System. The grey water entering the tank is filtered through a quality-controlled ISO 9001 Registered 100 Micron filter bag. In the tank is a tri-chlorine tablet of the type used in swimming pools that keeps the grey water free of any bacteria and odours. The disinfected water is then pumped on demand by a jet pump and pressure tank system, through dedicated supply lines to supply grey water to household toilet tanks for flushing.

Where Does Your Water Go?

On average, a family of four uses 63,408 gallons of water per year. Well over half of our water is being used shower, bathe and do the laundry, while nearly a third is being used to flush the toilet. A mere 10% of our home water supply is used in the kitchen and as drinking water.



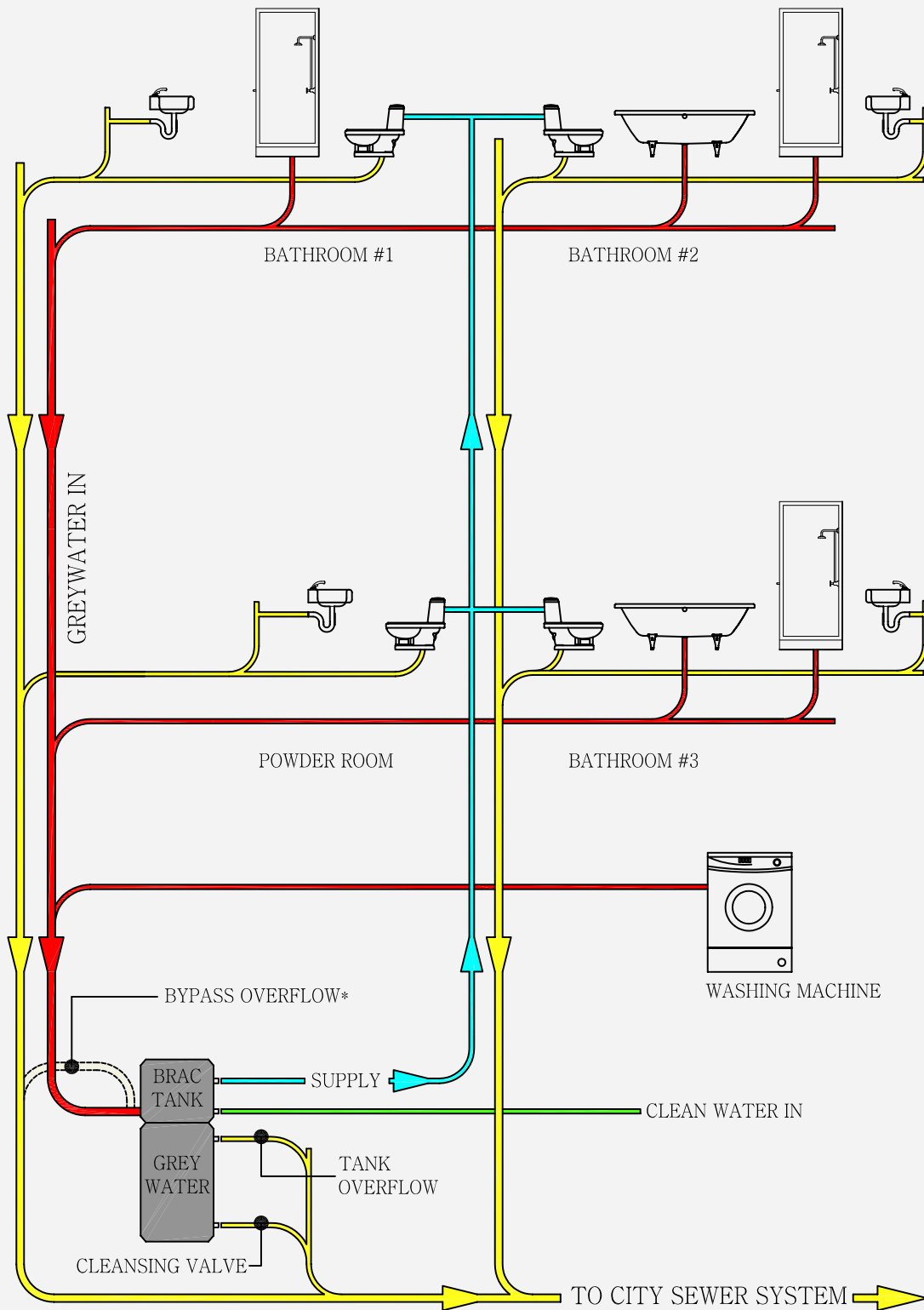
For more information, call:

Eco-\$mart, Inc.

888-329-2705

www.eco-smart.com





1

BRACSYSTEMS TANK ' PLUMBERY NETWORK

* The Bypass Overflow Valve and its piping must be installed by a certified plumber (this is not supplied by Brac Systems and or Brac Systems representatives or distributors, who are absolved of any responsibility either real or intended).



Brac Graywater System

Commercial Grade Graywater Systems



- BRAC Systems**
- WS-Brac-CGW-3400
 - WS-Brac-CGW-4200
 - WS-Brac-CGW-5000
 - WS-Brac-CGW-6600
 - WS-Brac-CGW-13200
 - WS-Brac-CGW-19800
- Documentation**
- ◆ [CGW Product Sheets PDF](#)
 - ◆ [Installation Diagram PDF](#)
 - ◆ [Site Preparation PDF](#)
 - ◆ [Routine Maintenance PDF](#)
 - ◆ [Power Consumption PDF](#)

The **CGW Series** is our commercial system designed for large residential buildings, hotels, detention complexes, shelter homes, etc. This is the perfect solution for facilities with up to 180 people who want to save money on their water bill, while helping the environment.

Features of the BRAC System

The CGW Series comes complete with an in ground holding tank, in ground primary and secondary filters, a managed chlorination system with a dedicated pump, a variable frequency, constant pressure grey water pumping system, primary and secondary filter alarms, water counters for both fresh water and grey water to help demonstrate water savings.

Technical Specifications

	3400	4200	5000	6600	13200	19800
Capacity (Gal / L)	898 / 3400	1110 / 4200	1320 / 5000	1745 / 6600	3484 / 13200	5226 / 19800
Width (in / cm)	52 / 130	49-1/4 / 125	49-1/4 / 125	52-3/8 / 133	52-3/8 / 133	52-3/8 / 133
Height (in / cm)	121.5 / 308	52-3/8 / 132	68-1/8 / 173	67-3/4 / 172	67-3/4 / 172	67-3/4 / 172
Filter Length	32" / 81.28 cm					
Weight (lbs / kg)	550 / 250	720 / 322	750 / 340	795 / 360	1590 / 724	2385 / 1084
Details (PDF)	SPECS	SPECS	SPECS	SPECS	SPECS	SPECS
Pump	Variable frequency pump for constant pressure with a 5 HP motor delivering 12 cubic meters of water per hour with 57 psi of constant pressure.					



Constant Pressure Inverter Control System

Application Specific Configurations.

- ◆ Apartment Buildings ◆ Houses ◆ Villa Water Supply ◆ Factories
- ◆ Water Supply Systems ◆ Drinking Water Systems ◆ Supermarkets
- ◆ Motels ◆ Spas

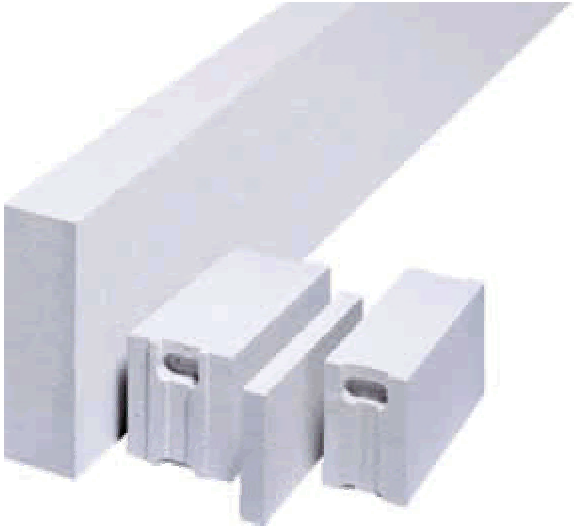
[IC Series Products & Specifications PDF](#)

Other Brac Systems: [Brac RGW-150](#) [Brac RGW-250](#) [Brac RGW-350](#) [Brac RGW-450](#) [Sump Kit](#)



Autoclaved Aerated Concrete (AAC) Walls, Floors, Roofs

For nearly 70 years, Autoclaved Aerated Concrete (AAC) has proved its superior quality in all areas of building construction and in virtually all climatic conditions throughout the world. AAC buildings are inherently fire resistant (2 to 4 hour rating), pest resistant, moisture resistant and energy efficient. The raw materials - quartzite sand, lime and water - can be found in almost unlimited quantities throughout the world. These raw materials are then processed to provide a building material with a large number of air pores - aerated concrete. And it is precisely these pores in addition to the solid structure of calcium silicate hydrates which give AAC its exceptional product properties: high compressive strength, excellent thermal insulation, low material weight, ease of workability and handling, universal application, non-allergenic, and efficient construction. Available in block or panel formats. Can be used for walls, roof and floors.



For more information, call Eco-Smart, Inc. at 888-329-2705.

All Eco-Smart products are approved by the nonprofit Florida House Institute for Sustainable Development www.i4sd.org.



The Eco-Smart Catalog

Earth Friendly Flooring



Healthy, Efficient, Disaster Resistant Products for Better Living

Underfloor Heating System



Item Number:

FL-UFHS-

Unit of Issue:

Square Foot

Price: Quoted

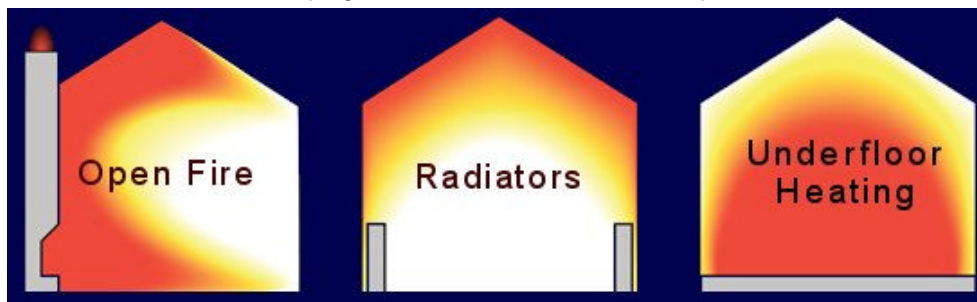
Installed beneath flooring



Experience wrap around warmth and save money in the Bathroom, Kitchen, Den, Basement, or Bedroom. Underfloor heating radiates comfortable, constant warmth with healthy, clean, and quiet heat to the occupants and surfaces of the room, with no blasts of hot air from noisy fans or blowers to stir up dirt and dust. Based on a unique, superior ultra-thin (1/1000th inch) heating ribbon technology, this Underfloor Heating is more energy efficient, more cost effective and cleaner than other types of heating systems radiators, fireplaces or forced air.

Benefits:

- Hidden system provides interior design flexibility and a safer environment.
- Suitable for all locations; commercial and residential, new or retrofit.
- Saves energy and money; Programmable thermostat warms on schedule.
- Installs under all types of floors; ceramic tile, wood, laminate or parquet flooring.
- Low working temperatures do not harm flooring color or material.
- Amorphous Metal Heating Ribbons are more durable, with higher electrical and corrosion resistance.
- Lowers the cost of keeping the room comfortable with wrap around heat.



www.ecosmartinc.com

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Toll-free Phone: (888) 329-2705

Outside US: 941-377-9460



- THE BEST PRODUCTS
- THE HIGHEST QUALITY
- THE ULTIMATE PERFORMANCE
- ONLY SUPERIOR SERVICE & WARRANTY



For Large Area dehumidification the Ultra-Pro Series provides comprehensive features and the ability to connect with an existing forced air system without a duct kit. *[Standard duct fitting and round duct required]*

The **ULTRA-PRO** (air purifying dehumidifier) offers unsurpassed excellence in indoor air quality. It is a single unit that can provide:

- ✓ Fresh air ventilation
- ✓ Air filtration,
- ✓ Large Area dehumidification. *[100 Pints per day UP100 & 150 Pints per day UP150]*
- ✓ Stand alone or interface with HVAC System
- ✓ Automatic Defrost



The Nature's Aire Systems **ULTRA-PRO-100** is available in a vertical configuration for structures up to 2,500 square feet. In larger structures use our **ULTRA-PRO-150** capable of conditioning up to 4500 square feet *[Horizontal Configuration]*. Both Systems do not require emptying.

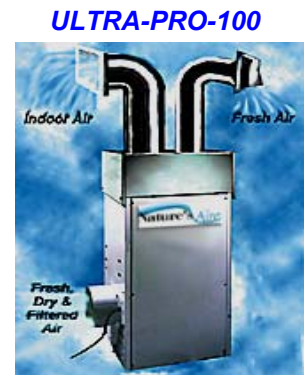
Normally installed adjacent to the air handler, the **ULTRA-PRO** series is designed to utilize existing ductwork to distribute the fresh, filtered and dehumidified air throughout the structure. This series can be ducted as a stand alone unit as well. The **ULTRA-PRO** series also provides the benefits of pressurizing the home with dry air when the fresh air ventilation feature is installed.

The **ULTRA-PRO** offers a variety of air filtration and ventilation control options. A local HVAC contractor or your building maintenance can easily install this system. If desired Nature's Aire Systems can provide the installation as well.

NOTE: Nature's Aire Systems offers NO CHARGE installation support.



ULTRA-PRO-150



21" w x 42" h x 17" d

Call: (888) 329-2705

OR LOG ONTO: WWW.ECOSMARTINC.COM

ULTRA-PRO 100 = 110V 60 Hz 6.8 AMPS 120 LBS 240 CFM
 ULTRA-PRO 150 = 110V 60 Hz 12 AMPS 135 LBS 400 CFM
 MADE IN USA

By keeping the relative humidity below 50%, mold & mildew will not have the moist conditions required for them to grow.

Dust Mites will also be eliminated because they need a relative humidity of 50% or higher to survive. Dust Mites, which live in carpets, upholstered furniture & mattresses are the most common allergy-producing organisms found indoors.

- THE BEST PRODUCTS
- THE HIGHEST QUALITY
- THE ULTIMATE PERFORMANCE
- ONLY SUPERIOR SERVICE & WARRANTY

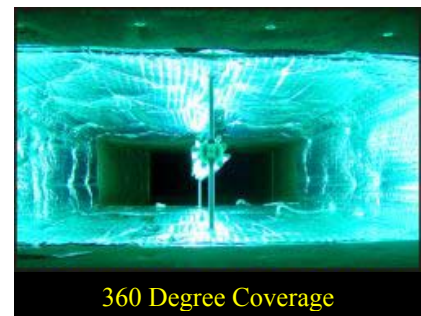
BIO-TOTAL Ultraviolet Air Purifier



DRAMATICALLY IMPROVES INDOOR AIR QUALITY

The Nature's Aire Systems BIO-TOTAL/C [commercial] & the BIO-Total/R [residential] Air Purification Units provide unparalleled results in air purification. Over 99% of all biological contaminants are destroyed or rendered harmless during only one pass through the system. Easy to install and maintain the BIO-TOTAL family of air purifiers is the ultimate in fetterless air purification. The **ONLY** 360 degree UV coverage available.

- ✓ Patented Design
- ✓ Remote Ballast Box
- ✓ Patented Lamp System
- ✓ 5 Year System Warranty
- ✓ 12,000 hr Lamp Warranty
[Replace every 17,000 hrs]
- ✓ Fully Automatic Operation
- ✓ Destroys Biological Contaminants
- ✓ Optional Oxidizing Lamps [adds odor & chemical removal]
- ✓ Proven Results by Independent Test Studies
- ✓ Kills Allergy & Asthma Causing Contaminants
- ✓ In-Duct for Filterless Whole Building Purification
- ✓ Commercial & Residential Models available



Call ECOSMART @: (888) 329-2705
OR LOG ONTO: [WWW.ECOSMARTINC.COM](http://www.ecosmartinc.com)



Thermco Block Fill Insulation



- Adds R-10 Insulation to block
- Adds 4 hour fire rating
- Improves IAQ - fills air space in block wall

- Improves sound resistance
- Eliminates the need for rigid insulation on block wall



Building Integrated Solar Water Heating

Building Integrated Solar Water Heating Benefits:

- Can Provide Domestic Hot Water, Pool and Space Heating
- Is Invisible from Outside the Building
- No Storage Tanks Required Inside the Building
- Is Not Susceptible to Wind Damage
- Integrates with Most Metal Roof Systems
- 25 Year Collector Warranty
- Certified by Florida Solar Energy Center
- Available as Open Loop or Closed Loop System
- Reduces Environmental Impact of Utility Power Generation

System Description: Installed under a metal roof during new construction or a re-roofing process, the system collects the sun's energy as heat, which is then conducted by the metal roof into a proprietary collection system. Depending upon location and application design, an open or closed loop system can be created as fluids are pumped through the system and cycled through conventional heat transfer and distribution systems.



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The Eco-Smart Catalog

Windows, Doors & More

Healthy, Efficient, Disaster Resistant Products for Better Living



Eco-Flector Window Retrofit



Regardless of your present heating and cooling system **Eco-Flector Window Retrofit** can save up to 40% of energy costs and make your home or building a more comfortable place. Did you know that windows are one of the biggest energy thieves in a building? Glass is highly conductive, allowing energy losses with both heating in the winter and cooling in the summer. Glass also has a high solar radiation factor, creating uneven temperatures and unnecessary loads on HVAC systems.

Eco-Flector Window Retrofit is a see through Insulating Panel mounted to the inside of windows, doors or skylights. The panel is manufactured of a metalized, coated, polyethylene sheet laminated to a sheet of carbon graphite PVC that is then perforated and laminated to a sheet of clear polyester.

The insulating panel is reversible, so the reflective surface can face outward during the seasons when solar gain is a problem, and the carbon PVC surface can face outward during cold seasons to reflect heat back into the building and collect convective sunlight for conversion to radiant heat. The panel is held in place with magnets which form a virtually air tight seal and inhibits infiltration, conduction and convection while providing additional dead air space for insulation.

Item Number:

WIN-Efect

Price: Quoted



Reversible to work in
Summer and Winter

Summer

- Keeps heat out and cool air in.
- Reflects sunlight and radiant heat
- Reduces solar gain by 50%
- Insulates against conduction loss.

Winter

- Absorbs sunlight and radiates into interior.
- Reduces night time thermal loss by 40%.
- Reduces condensation.
- Inhibits cold air infiltration.

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Toll-free Phone: (888) 329-2705

Outside US: 941-377-9460



Fabric-Shield Storm Panels

"Fabric-Shield™ Protects Against The Storm."

Fabric -Shield™ Storm Panels are a highly-effective alternative to steel or aluminum hurricane panels. These PVC coated woven fabric panels are tested to block wind, rain and storm-driven projectiles. Yet Fabric -Shield™ panels are easy to handle and translucent, allowing light to enter.



Instead of heavy, bulky, rigid storm panels, Fabric-Shield removable storm panels are lightweight, easy to put up and take down, and can be rolled up or folded for convenient storage. And Fabric Shield storm panels are typically lower cost than rigid panels!

Benefits of Fabric-Shield

- Standard and custom sizes available
- Lightweight, easy to handle and store
- Quick to deploy and remove
- Translucent, allowing diffused light to enter
- Exceeds Miami-Dade Hurricane Impact Standards
- Lower Cost

For more information, and to purchase Fabric Shield Storm Panels, contact:

Eco-\$mart, Inc. 888-329-2705 / www.ecosmartinc.com / info@ecosmartinc.com

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The Eco-\$mart Catalog



Windows

Healthy, Efficient, Disaster Resistant Products for Better Living

«Back [Storm Catcher](#) Next»



Item Number:

WIN-StormCatcher

Price: Quoted

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- ✂ [Measurement](#) PDF
- ✂ [SmartTrax Screen Endcap Roll-down Form](#) PDF
- ✂ [Installation & Care](#) PDF
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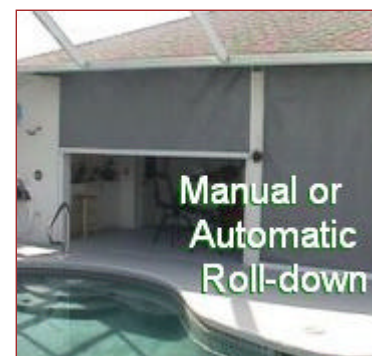
The Storm Catcher is a lightweight, geo-synthetic fabric used to protect buildings from hurricane force winds and flying debris. It is ideal for protecting large openings such as lanais, store fronts, windows and entranceways. Storm Catcher is also an ideal way to cover garage doors as an alternative to the cost of replacing with a hurricane door.

The Storm Catcher is approved by the Florida Building Code engineered to be a low-cost alternative to shutters and other storm protection systems. It is made of a material similar to Kevlar, which is used to make bullet-proof vests. The Storm Catcher is the first new development in hurricane protection in over 10 years.

Due to its light weight, the screen can be installed by anyone. Most applications require no special tools or heavy lifting. When combined with the Smart Trax mounting system, it provides a simple and attractive means of installing hurricane protection on your home without changing your home or building's appearance.



[Click Here!](#)





The Eco-\$mart Catalog

Roofing



Healthy, Efficient, Disaster Resistant Products for Better Living

« Eco-Shakes »



Item Number:
RF-Ecoshakes

Price: Quoted

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The eco-shake is an innovative roofing material comprised of 100% recycled materials, reinforced vinyl and cellulose fiber. The eco -shake shingle is designed to resemble and replace wood shake shingles.

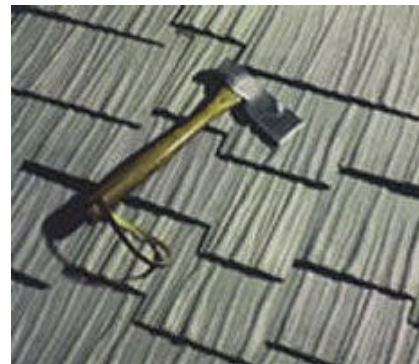
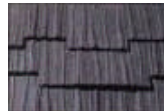
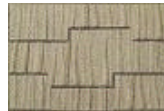
The eco-shake has a Class A fire rating and a Class 4 impact rating, the highest ratings achievable from Underwriters Laboratories (UL ®). The eco-shake is lightweight and has been installed in over 45 states, Canada and the Caribbean. The eco -shake performs admirably even in extreme weather conditions with no cracking, fading or curling. In fact, an eco -shake roof requires no maintenance and is so durable it is backed by a 50 year transferable warranty.

The eco-shake is an excellent roofing product for all climates and is ideally suited for both residential and commercial use.

Eco-shakes are available in three desirable colors to better replicate a weathered wood shake roof. Custom colors are available. Eco -shakes are pre-packaged in random widths of 5, 7 and 12 inches, and are 22 inches in length.



Three Colors:



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The Eco-Smart Catalog



Roofing

Healthy, Efficient, Disaster Resistant Products for Better Living

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Metal Roofing is perfect for green homes and buildings.
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RF-ATAS-

Price: Quoted

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PANEL

[Click the Pictures below for details.](#)

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Dutch Seam™ is a continuous standing seam panel with an integral seam. It can be installed over open framing or on a solid substrate. Dutch Seam is available in smooth and stucco embossed textures. Stiffening ribs are optional. Panel can be tapered. Typical applications include roof planes with a minimum roof pitch 2:12, mansards, fascias, and equipment screens.



Granutle is a simulated modular low tile panel. The panel is coated with crushed stone chips with an acrylic over-glaze for a unique granular surface. Panels are light-weight for easy handling and allow installation over an existing roof. For re-roofing or new construction. Typical applications are commercial and residential roofs, 3:12 minimum pitch and mansards.



ScanRoof® is a modern, lightweight, easy to handle metal roof panel installed horizontally, from eave to ridge, on an open frame system or solid deck. For installation over an existing roof or new construction. ScanRoof has a smooth texture with a quality finish that simulates a tile roof. Typical applications are commercial and residential roofs, 3:12 minimum pitch and mansards.



TechnoTile is a metal panel with a deep configuration in the form of an "S" or Spanish tile. The panel is installed vertically up the slope of the roof, with exposed fasteners on either an open frame substrate or solid underlayment. For installation over existing roof and new construction. Techo Tile is available in either glazed or traditional, depending on material. Typical applications are commercial and residential roofs, 3:12 minimum pitch and mansards.

Catalog Home	AC / IAQ	Buildings	Controls	Day Lighting	Decking	Flooring	Appliances	Home Safety	Insulation		
Landscape	Lighting	Paints	Pavers	Roofing	Solar	H2O Heating	H2O Purification	H2O Saving	Storm	Windows	Wood



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PANEL >>



Advanta Shingle is a simulated dimensional shingle installed from eave to ridge with concealed fasteners. The shingle has prepunched direct fastening points, with a four way interlock for weathertightness. It is lightweight, allowing installation over an existing roof without the need for tear-off and disposal. Typical applications for Advanta are roofs, commercial or residential, with a minimum pitch of 3:12, walls, and mansards.



The CastleTop Shingle is a diamond shaped flat metal tile for a unique roof appearance. Easy to install from eave to ridge with concealed fasteners. In some cases the shingles may be applied directly over the existing roof, eliminating the need for tear-off and disposal. Different colors may be combined to create interesting patterns. CastleTop may be used for commercial or residential roof applications with a recommended slope of 3:12; also suitable for walls, and mansards.

Catalog Home	AC / IAQ	Buildings	Controls	Day Lighting	Decking	Flooring	Appliances	Home Safety	Insulation		
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Is That House Too Air-Tight?

Of Course It Is, But What Are the Alternatives?

In my opinion, all new houses and houses that have been remodeled to include new windows, siding and/or doors are Too Tight. I'll define "too tight" in a minute.

Obviously, I have a strong opinion about this subject, of which I am well familiar since I attended my first seminar in super-insulated house construction in the early '80s. This is not an article about super-high insulation levels, which I strongly believe in. It is an article aimed at dispelling all the rumors, mis-information and mis-guided beliefs about "too tight" houses. I hate it when I hear, "If you seal it up too tight, you're going to have problems, you know." Forget it, it is already too tight.

So, here's the big pitch—do you want to build houses, or live in a house that provides oxygen for life support through whatever cracks remain around doors or windows? Think about that for a minute. Where does the air come from that you, your family, your clients breathe inside your houses and jobs? You may laugh and say that there is plenty of air in a house, why be concerned? So where does all this air come from and is it good air to breathe? Is it left over from the summer when the windows were open (assuming central air is not installed)? Did it come in with you the last time you opened and closed the door?

What Is Too Tight?

My simple definition of "too tight" is as follows. If you build houses using modern windows and doors, if you use a house wrap, if you caulk the cracks in the exterior, then it is too tight. If you use windows and doors that rattle in the wind, have no weather stripping, don't use a house wrap

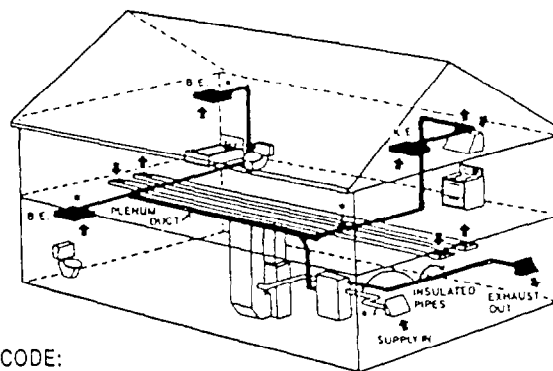
and you don't caulk cracks, then it is probably not too tight.

If you build this latter way, there is more for you to worry about than whether the house is too tight. You had better look over your shoulder for the building inspector. Most codes require air infiltration measures such as sill sealers, outlet gaskets, continuous vapor barriers that also block air infiltration, caulking etc. All of these measures make homes "too tight." Any house built to present day standards is too tight and it can no longer rely on the infiltration and exfiltration through windows, doors and cracks for ventilation, it needs a ventilation system. All houses need a ventilation system. Period.

If any of you are familiar with commercial HVAC systems that provide heated and cooled air to commercial buildings, you will know that these systems have an outside air intake duct. This duct allows fresh, outside air to be drawn into the building. If the indoor air quality is monitored, more or less outside air is taken into and exhausted from the building to provide a constant safe air level in the building. If commercial buildings have been using these systems for decades, why not residential units?

What happens if these systems don't work, or if there are too many pollutants in

HOW AN AIR/AIR HEAT EXCHANGER WORKS IN YOUR HOME APPLICATION FOR DUCTED FORCED AIR SYSTEM



CODE:
 B.E. Bathroom Exhaust
 K.E. Kitchen Exhaust
 Shaded pipe is exhaust air
 *Backdraft Damper
 X Filter

Diagrams for electric and baseboard hot water systems available

Diagram courtesy of BossAire air-to-air heat exchangers, Minneapolis, MN.

the building? In Boston, the new State Registry of Motor Vehicles building on Tremont Street, is being completely evacuated. That is a new nine story building. The people have headaches. They are nauseous. They complain of dizziness. (No, these are not requirements for working for the State of Massachusetts, as far as I know.) The problem is serious.

Realistically speaking, there is probably enough oxygen in most houses most of the time. The problem is the high concentration of pollutants that can build up and be inhaled with the oxygen. Pollutants like the carbon dioxide that we exhale, carbon monoxide and nitrogen dioxide from combustion appliances and cooking, formaldehyde gas from carpets and cabinets, radon gas from mother earth and a variety of volatile compounds from paints, varnishes, deodorants and numerous other sources.

continued on page 60

BY THOMAS M. LESKO

Too Air-Tight?

continued from page 58

More than 250 different compounds have been found in U.S. homes. These pollutants can exist as gasses or particles and also can enter the body by direct contact with the skin. A home ventilation system prevents the build-up of these dangerous pollutants by exhausting interior air and taking in fresh outside air. So you see the question of whether a house is too tight or not really is a moot point.

What Are Home Ventilation Systems?

Home ventilation systems are quite simple really. They are available in many configurations, as stand alone units, units added to existing furnace ducting or units integral with home heating/cooling systems. Basically, they are a box with fans that draw inside air out and outside air in. The outgoing air bypasses the incoming air but is separated by a thin membrane so the new air will not be contaminated. As the outgoing air bypasses the incoming air, it either warms it up, as in the winter cycle or cools it down, as in the summer cycle. Hence the often used name "Air-to-air heat exchangers" also called "heat recovery ventilators."

The devices are about 80 percent efficient so little heating or cooling is actually lost in the process. In addition, humidity control is part of the system. A humidistat is a thermostat like device that gauges relative humidity. Normally installed in conjunction with the ventilation system, it will over-ride the unit and keep the fans on longer if it senses that there is too much humidity in the house. In the summer, the cycle reverses and the humidity of the incoming air can be lowered in the unit by various means.

The units are installed near the furnace or in a semi-remote location and require two ducts to the outside, one for outgoing, one for incoming. They must be separated by 20' or so. This prevents the exhausted air from being pulled back into the house. The incoming air duct should be in a loca-

tion where good, fresh air is available, not near other exhausts, driveways or garages where car exhaust is a possibility or where furnaces exhaust. The in-house ducts hook up to the existing ductwork or are installed centrally in an open plan house. There are some retro-fit units available that install through the wall. These are limited in application. For larger houses, several of these may be needed.

The units do not run constantly and can be set for as many cycles per day as the occupants require. More people in the house require more air ventilation due to carbon dioxide production, more cooking, more showers, etc. Each home, even with the same number of occupants, has different requirements. So the time the unit runs varies per household.

Legalities, Liabilities And Other Unmentionables

I am unaware of standards or regulations governing the sources for indoor air pollution, but I believe we are likely to see disputes in the courts in the near future regarding such. Legal responsibility for indoor air pollution may be shared among all building professionals, including builders, architects, engineers, realtors and manufacturers. All of us may be subject to civil liability for breach of contract or warranty, negligence, product liability and misrepresentation.

Home builders and manufacturers can be held liable under implied warranties. The law implies that our products (buildings) be warranted fit and safe for the intended purposes: human habitation. If formaldehyde emitting carpets and cabinetry are installed by a builder, it may be that the home is judged uninhabitable. The builder may be held responsible. Legal precedent has already been established.

Hopefully all of this scares you enough to install ventilation systems in your buildings, or at least propose them as necessary and let the clients decide to put them in, or not, as is usually the case for me. Most people will cut the system from the project, saving about a thousand dollars more or

less over the cost of a several hundred thousand dollar home. In any case, I normally propose the ventilation system, put it on the drawings and hope that I can convince people to install it.

Realistically, the product that we offer is a much better one if it is safer for the user. Installing ventilation systems gives the user control of the indoor air quality and ultimately means a higher level product. You have no doubt heard of the electronically controlled house. I envision a control system that can be dropped into our houses, that will control everything, lights, heat, A.C., music and the indoor air quality.

When I hear about people having unexplained headaches, slight dizziness or their child having a bit of asthma, or getting sick more often I wonder if the problem isn't in the air they breathe. Is the house too tight? Yes, and houses should be extremely tight to keep the elements out and the heat and A.C. in, and they should be ventilated.

The best source of information is a local HVAC company, one that deals with residential air systems, they will have information about the brand units that they install. Other sources are under the "heat exchangers" listing in your local yellow pages. ♦

This information is presented in good faith, however, the author does not warrant and assumes no liability for it's accuracy, completeness and applicability. It is the responsibility of the constructor to obtain professional architectural, engineering and building code advice. If you have any thoughts about this or future articles, please drop a note to me in care of Building & Remodeling News.

Thomas M. Lesko is a registered architect practicing in Hingham, Massachusetts. He is also a professor at Wentworth Institute of Technology in Boston and teaches architecture, construction methods and architectural engineering courses there.



Introduce clean fresh air into your home for a healthier indoor lifestyle.

Reduce effects of harmful contaminants like:

- Molds and Fungi
- Pollen
- Dust
- Household Chemical Odors
- Tobacco Smoke
- Carbon Dioxide
- Radon
- Pet Dander
- Cooking Odors
- Dust Mites



Why ConsERV™ Energy Recovery Ventilator (ERV) ?

www.ConsERV.com

ConsERV™ improves the quality of the air inside your home by providing more outside to inside air exchanges, while cooling and drying the incoming air.

Benefits to Homeowner

The need for whole-house ventilation is necessary now more than ever to the homeowner.

The ConsERV™ benefits are:

- Moisture control
- Manage moisture to control mold and mildew
- Reduction of odors from bathrooms, kitchens, pets and tobacco smoke
- Removal of harmful indoor pollutants
- Convenience

ConsERV™ customers:

- Enjoy fresher air - better air quality
- Experience a healthier indoor air environment economically
- Control indoor air humidity problems
- Benefit from low maintenance

ConsERV™ units:

- Exhaust pollutants and surplus moisture to the outside of the home
- Cool and dehumidify incoming air during hot, muggy weather
- Efficiently recover heat from the exhaust stream during cold weather
- Are quiet and compact
- May be installed in a garage, basement (or crawlspace), mechanical closet or attic



Summer example above - the opposite occurs in winter

- A = Cool stale air from house
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- D = Stale warm air to outdoors

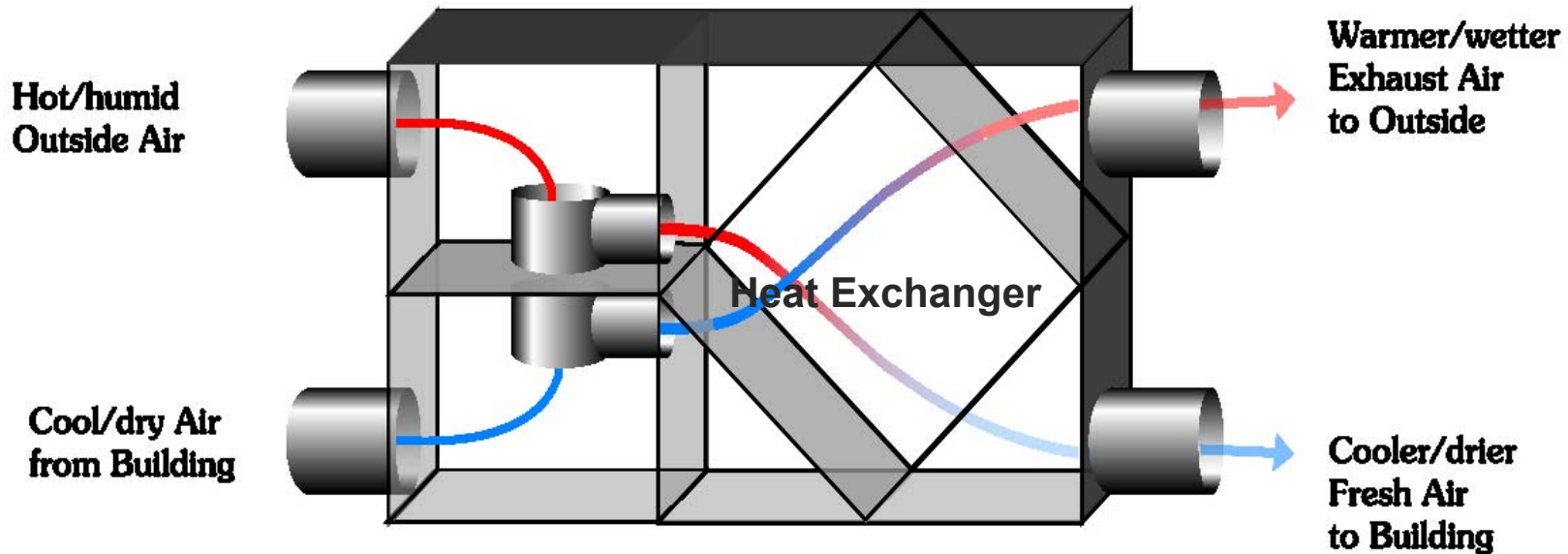
Pre-Conditioned Effect of ConsERV™

Effectiveness	Other Fixed Plate	ConsERV™
Temperature (summer)	70%	70%
Humidity or Moisture (summer)	25%	70%
Temperature (winter)	75%	75%
Humidity or Moisture (winter)	28%	75%

Contact

Please contact the representative listed below for more information.

Heat Exchanger: Used to Precondition Outside Air

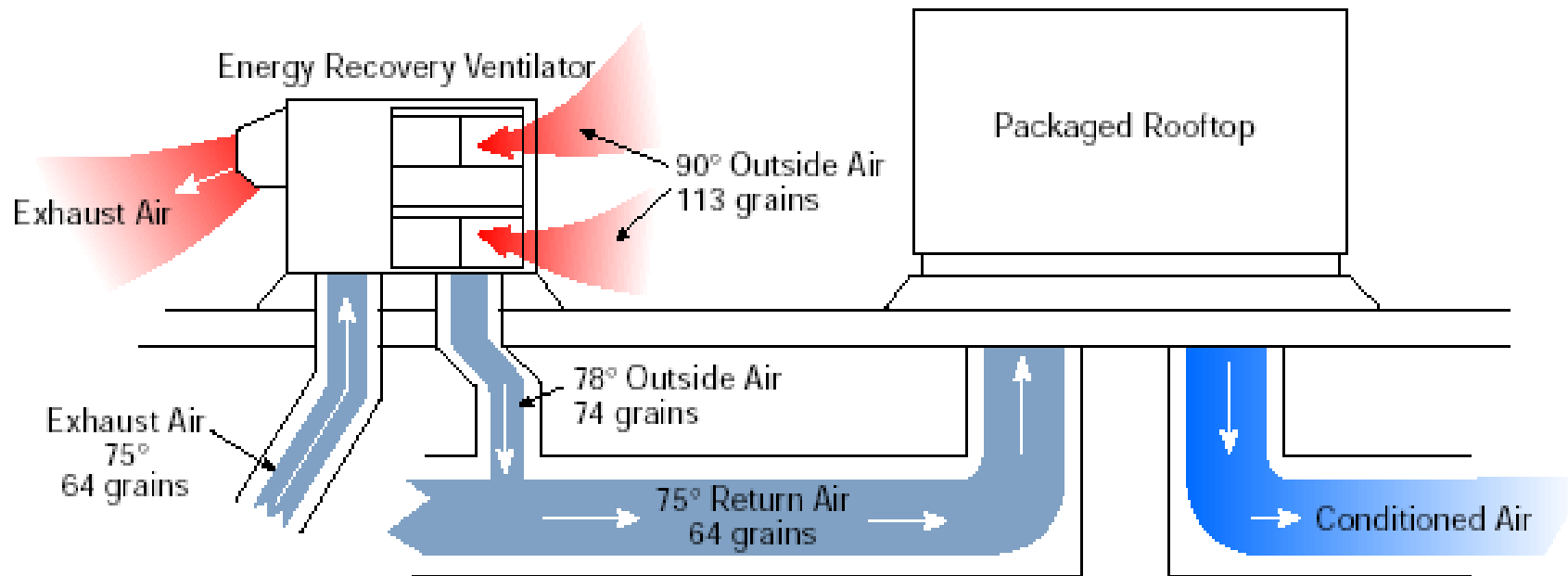


Dais Analytic Membrane Core

The heart of the system.
The membrane energy recovery core has both sensible and latent transfer.

- Pre-Cools air during the summer
- Pre-Heats air during the winter

Typical Installations





Energy conservation and health issues related to the home environment

Gary D. Cook*

Public concern about healthy buildings has evolved over the years, starting perhaps with the Legionnaire's Disease in Philadelphia. Concern built after the New York Love Canal experience and recent problems with ureaformaldehyde insulation, asbestos, formaldehyde emission, and radon. Several factors may promote the so-called "sick house" syndrome. Two main ones are: (1) the physics and characteristics of the house construction and design and (2) the lifestyle of the occupants. The geological location of the building may also have an influence, especially regarding radon gas and ground-borne pollution.

Sick house syndrome is a serious air quality problem in homes and work places. An area can be described as "sick" mainly because people develop symptoms of illness such as headaches, watery eyes, nausea, skin disorders and fatigue when spending considerable time where there is a buildup of air pollutants from household products, building materials, formaldehyde and/or respirable particles. Signs of a sick house include a musty, stuffy smell and other lingering odors. Moisture buildup plays a large part since high humidity increases the emissions of odors and chemicals such as formaldehyde, and it promotes the spread of mildew which can aggravate or cause allergies.

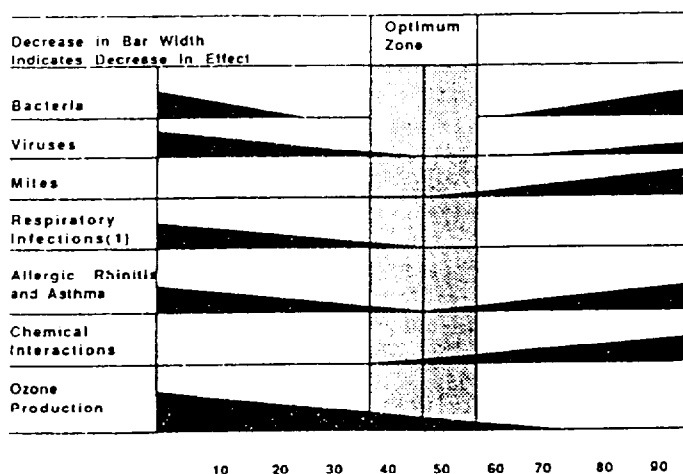
The oil crises in 1973-74 and 1980-81 spawned the development of super-tight houses in an effort to make homes more energy efficient. There have been outcries from consumer advocates who believe super-tight homes do not provide adequate outside ventilation, and therefore allow molds and airborne pollutants to accumulate in the home. Research sponsored by the Florida Department of Community Affairs suggests there is no correlation between tight houses and health problems; occupants of tight homes are no more likely to have health problems than those in leaky homes.



*Energy extension service specialist and assistant professor, School of Building Construction, (IFAS), University of Florida, Gainesville, FL 32611. Printed 11/90.

Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, John T. Woeste, dean.

Even so, some tightly built, well-insulated and vapor-sealed houses can develop signs of a sick house during winter months in moderate and cold climates. The cure is ventilation, because cool air holds less moisture and replaces air with moisture and contaminants. In warm, humid climates sick house problems can occur during summer months when outside air is very moist. Infiltration and ventilation, which bring in humid outside air, may increase mildew and other moisture related problems when air conditioning does not provide sufficient dehumidification. Figure 1 shows the effects of humidity on selected human health parameters. In most cases, the ideal relative humidity range is between 37 and 55 percent.



(1) INSUFFICIENT DATA ABOVE 50% R.H.
SOURCE: Sterling (1984) ASHRAE Transactions V.90, Part 2

Figure 1. Effect of room humidity on selected human health parameters.

Infiltration is the unintentional entry of outside air through construction defects around electrical wiring, piping, sole plates, wall outlets, windows, and duct systems. Studies done by Texas Power and Light Company in 1977 found that for a typical 1730 square-foot home, most air leakage occurs around the sole plate (usually a 2x4 board inside the wall connected to the floor), with wall outlets a close second, followed by duct systems and exterior window leakages (see Figure 2).



Introduce clean fresh air into your home for a healthier indoor lifestyle.

Reduce effects of harmful contaminants like:

- Molds and Fungi
- Pollen
- Dust
- Household Chemical Odors
- Tobacco Smoke
- Carbon Dioxide
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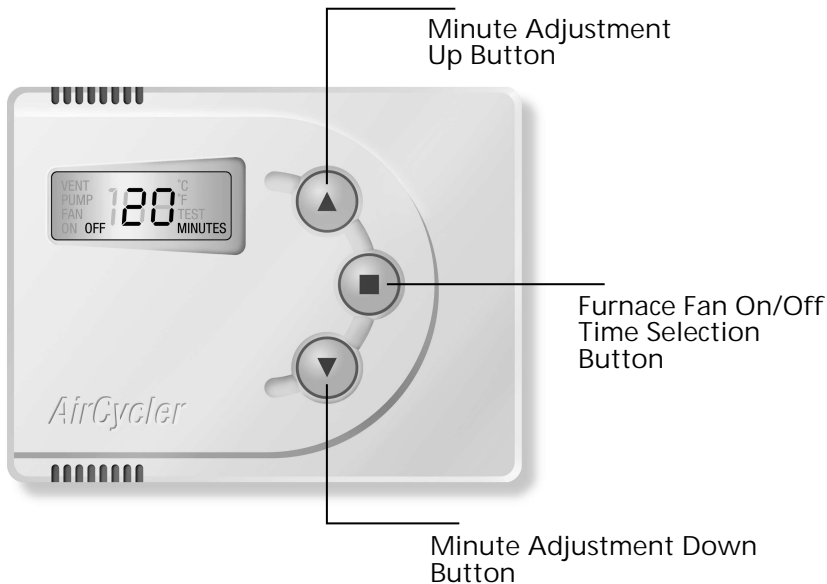
Please contact the representative listed below for more information.

Advanced Controls

AirCycler Model FR

The AirCycler Model "FR"

A low cost device attached to the air handler cabinet and connected to the low-voltage thermostat wiring block inside the air handler. By periodically operating the central heating and cooling system fan, *AirCycler™* improves the effectiveness of the temperature control, humidity and filtration system in a house. Doing so "averages" the air temperature conditions throughout the house, helping to eliminate stagnant and uncomfortable air that a thermostat can't detect. What's "smart" about *AirCycler™* is that it turns the house fan on only after a selected period of time during which the central system fan has not operated.



The AirCycler Model "FR" control will operate the air handler unit fan for a selectable Fan ON time if the fan has been inactive for a selectable Fan OFF time.

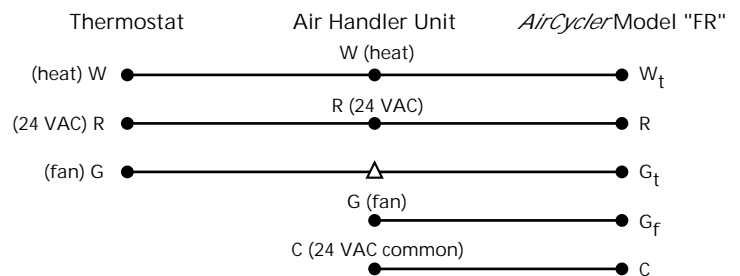


AirCycler Applications:

- ▶ Ventilation Systems
- ▶ Enhanced Temperature Control
- ▶ Enhanced Humidity Control
- ▶ Air Cleaning Systems

S P E C I F I C A T I O N S	
Operating Voltage:	24 VAC (up to 30 Vac max)
Current draw:	0.07 Amps
<i>FAN ON</i> and <i>OFF</i> delay settings "FR" Model: 1 to 199 minutes in 1 minute increments, plus an Unlimited setting for both ON and OFF.	
Notes: The AirCycler <i>ON/OFF</i> function enables or disables the fan recycling function, but all thermostat control signals operate normally regardless of the switch position.	
All outputs protected by a 3A self-resetting fuse. Impossible to damage with wiring errors.	

Figure 1 Model "FR"
Wiring Diagram (Basic Use)



Notes:

- Wire nut connection
- Δ Screw terminal

AirCycler STAT & combo STAT

NEW!

The indoor air quality thermostat.



Ventilation control— simply smart.

Applications:

- Improves comfort by eliminating stagnant air
- Improves temperature and humidity control
- Distributes and mixes air
- Improves filtration system effectiveness
- Improves ventilation efficiency with air damper control

Advanced Features

Ventilation and whole-house mixing

The AirCycler improves indoor air quality and comfort by operating a central fan during periods of thermostat inactivity. Should an outside duct be connected to the air handler return duct, the AirCycler allows a selectable minimum amount of ventilation. With a motorized outside air damper, the air flow can be limited to a programmable maximum.

Thermostat

A single-stage-heat-pump-compatible thermostat controls normal heating, cooling, and fan operation.

Data logger

Especially useful for energy guarantee programs, the AirCycler records diagnostic data to constantly evaluate system performance and usage patterns.

Pump Cycling for domestic hot water-based heating systems

During the non-heating season, the circulating pump operates automatically to avoid any potential microbial contamination of the system.

Combo STAT's system controller

For combination space and domestic hot water heating systems, an external digital temperature sensor gives priority to domestic hot water use during periods of high demand.

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See the extensive application of this system in the
U.S. Department of Energy's Building America Program.

www.eren.doe.gov/buildings/building_america/

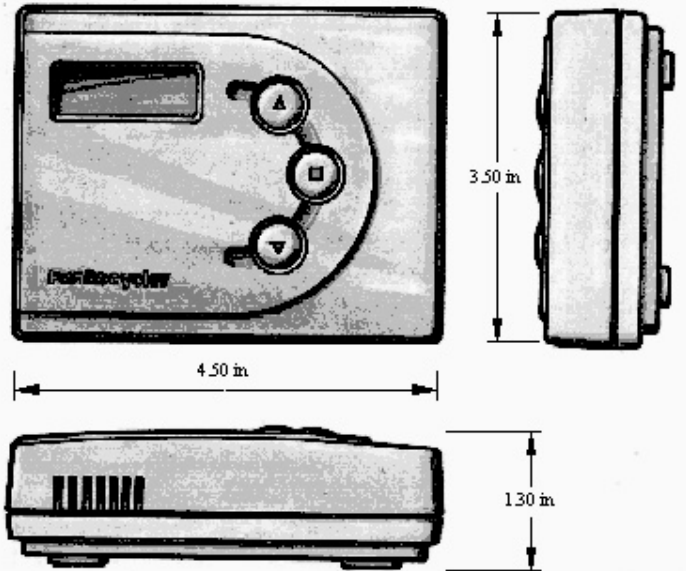
*AirCyclers are protected by one or more of the following Patents and Patents pending: #5,547,017 & #5,881,806
AirCycler is a registered trademark of Lipidex Corporation.*



Build it tight,
ventilate it right!

Specifications:

Input Voltage.....	20 to 30 VAC
Current Draw.....	0.07 A
Operating Temperature Range.....	0°C to 50°C
Accuracy.....	±0.5°C
Dead band.....	±0.5°C
Range, heating.....	12°C (55°F) to 24°C (75°F)
Range, cooling.....	18°C (65°F) to 30°C (85°F)
Heat pump.....	Single stage
Material.....	ABS high impact plastic, UL 94V
Color.....	White



Principles of Operation

Fan recycling

The patented fan recycling control method improves indoor air quality by introducing and distributing ventilation air when the central heating or cooling system is inactive for long periods. Air is drawn through an outside air duct and distributed through the central system. Even without an outside air duct, the AirCycler can reduce stuffiness and temperature variations by mixing air throughout the house. If the thermostat has not activated the fan for a programmed period of time, the controller turns the fan on for a programmable period.

Outside air damper recycling

A motorized outside air damper, which is normally closed, can be installed in the outside air duct to limit infiltration when the central fan is off. The damper also limits the intake of ventilation air when the fan is on. The damper opens when the central system fan is energized, but closes if the fan stays on longer than the selected time period. It automatically closes when the fan is de-energized.

Pump cycling for combination space and domestic hot water heating systems

The AirCycler eliminates stagnation in the water loop by energizing the pump for one minute for every 24 inactive hours.

Combo STAT's domestic hot water priority

The combo STAT features an external digital temperature sensor for combination space and domestic hot water heating systems, giving priority to the hot water system while it recovers from high demand. If the hot water supply falls below a programmable temperature when the thermostat calls for heat, the circulating pump is inhibited to allow for reheating. The sensor then remeasures the temperature, restarting the pump if the water has risen above the programmable higher temperature. Otherwise, the system will repeat the process until the water rises above the specified temperature, or until the pump has been inhibited for one hour.



Models available:

AirCycler STAT	Fan recycling and pump cycling thermostat with outside air damper control.
AirCycler combo STAT	Thermostat with external temperature sensor for combo systems.
AirCycler FR	Add fan recycling to an existing thermostat.
AirCycler FR-V	Fan recycling and outside air damper control for existing thermostats.

Designed and manufactured in the USA.



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Pure Performance Interior Latex is the premium paint that combines excellent durability, hiding and touch-up with zero VOC, minimal odor, and mildew resistance on the paint film.

In Primer/Sealer, Flat, Eggshell, and Semi-Gloss finishes.



PURE PERFORMANCE™

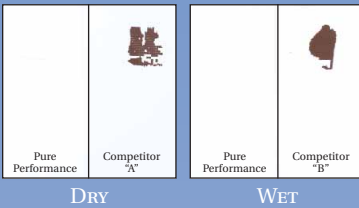
PURE PERFORMANCE COMPARED TO LEADING COMPETITORS:

HIDING TEST FLAT FINISH



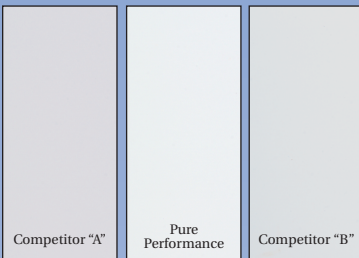
Applied Hiding Test Method: Each paint was brush applied to a Leneta Form 12H - Zebra Chart according to the natural spreading rate of each.

ADHESION TEST EGGSHELL FINISH



Adhesion Test Method: The adhesion of each coating was evaluated and rated according to ASTM D 3359-93, Method B.

BRIGHTNESS TEST SEMI-GLOSS FINISH



Brightness Test Method: The reflectance (i.e. brightness) of each coating was evaluated according to ASTM D 2805-88.

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Pure Performance is the only paint to receive the Green Seal Class A Certification.

This is important to architects and specifiers following environmental specifications such as LEED Certification when designing "green buildings." It lets them know that Pure Performance meets strict environmental requirements.



GAINING NATIONAL ATTENTION.

Fallingwater®, ranked as the most significant architectural achievement of the 20th Century*, is undergoing renovation and quite naturally they're using Pure Performance paint.

*AIA, American Institute of Architects, 2000

Photograph by Harold Corsini used with the permission of the Western Pennsylvania Conservancy.

Product Name	Code	Available Sizes
Pure Performance Primer	9-2 Line	Gallons/3.78 L, Fives/18.9 L
Pure Performance Flat	9-45 Line	Quarts/946 ML, Gallons/3.78 L, Fives/18.9 L
Pure Performance Eggshell	9-445 Line	Quarts/946 ML, Gallons/3.78 L, Fives/18.9 L
Pure Performance Semi-Gloss	9-545 Line	Quarts/946 ML, Gallons/3.78 L, Fives/18.9 L





Earth Friendly Bamboo Flooring

Technically a grass, bamboo flooring is very earth-friendly because of how fast it grows. Five years of bamboo growth equals 40 years of hardwood growth, preserving hardwood forests. Bamboo is more dent and moisture resistant than most hardwoods, as well. To make bamboo flooring, bamboo strips are hot glued and pressed into a solid, single “ply”, providing for multiple sand and finishes. Eco-\$mart offers two types of bamboo flooring, **narrow plank** and **wide plank**:

Narrow Plank Bamboo Flooring

Once the bamboo strips are glued and pressed into a single “ply”, multiple “plys” are then glued and pressed together into planks. The planks are typically 3 ½” wide, 5/8” thick and 3’ to 6’ long. This solid bamboo flooring is installed just as other solid wood flooring, nailed down to a wood sub floor, or glued to cement slab. The manufacturer of the solid bamboo that Eco-\$mart has selected offers more accurate construction than other products by using higher quality milling and finishing equipment to create an excellent fit and finish to the boards. Solid bamboo flooring is available in four pre-finished color and style options: Natural (blonde) and Carbonized (medium brown color), Horizontal (wider bamboo knots) and Vertical (narrower bamboo knots). The flooring carries a lifetime structural warranty and a twenty five year finish warranty.



Wide Plank Bamboo Flooring

Now bamboo flooring is available as a wide plank floor, typically 6” to 7 ½” wide by 6’ long. The wider, more stable boards allow them to be installed as a “floating floor” with no glue between the bamboo and sub floor. The wide plank bamboo can be “floated” over virtually any sub floor, including tile, concrete or wood, or nailed or glued down. This floating installation means that there are no toxic emissions given off by glues used for solid flooring installation over concrete. Eco-\$mart’s bamboo contains a very low VOC content, meeting European emission standards, so we can recommend the product for even the chemically sensitive customer. Wide Plank bamboo flooring is available in Natural, Carbonized, Vertical and Horizontal. The flooring carries a lifetime structural warranty and a twenty five year finish warranty on its special UV cured aluminum oxide finish.



All products are approved by the nonprofit Florida House Institute for Sustainable Development

Materials and Installation Available

CALL 888-329-2705 / 941-377-9460 for free estimates

Or visit us on the web at www.ecosmartinc.com



Cork Flooring and Earth-Friendly Carpeting

Cork Flooring

Cork flooring is harvested from the bark of the cork tree which grows back completely in 9 to 14 years, making it a completely renewable flooring resource. Available as a “floating” floor system, which can be installed over wood, tile, concrete, vinyl.

Insulation: Because 90% of the tissue consists of gaseous matter, the density of cork is extremely low giving the material wonderful insulating properties; thermal, as well as acoustical.

Resiliency and elasticity: When cork is subjected to pressure, the gas is compressed and volume decreases considerably. When released from pressure, cork recovers very rapidly to its original shape, giving cork flooring a wonderful cushion underfoot feel.

Durability: Cork is remarkably resistant to wear, as it is less affected by impact and friction than other hard surfaces due to its cellular composition.

Impermeability: The presence of Suberin, a natural waxy substance, renders cork impervious to both liquids and gases. As a result, it does not rot and therefore may be considered the best seal available.

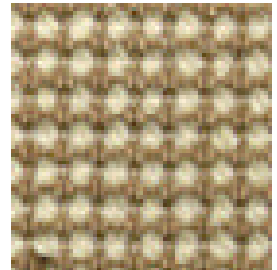
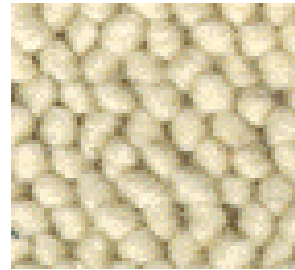
Hypoallergenic: Cork does not absorb dust and consequently does not cause allergies.

Fire Retardant: A natural fire retardant, cork does not spread flames and does not release toxic gases during combustion.



Earth-Friendly Carpet and Floor Coverings - Wool, Seagrass, Sisal, Coir, Recycled Plastic Carpet

Eco-Smart handles a full line of wool carpets in a variety of styles, as well as carpets and area rugs made from renewable materials such as Seagrass, Sisal and Coir. Custom area rugs can be created in unlimited styles or with patterns of your choice including logos, photos, artwork or abstracts. Recycled plastic carpeting is made from 100% recycled plastic soda bottles. It is priced competitively with nylon carpet, but is much more durable and stain resistant.



ECO-SMART IS YOUR EARTH-FRIENDLY FLOORING SOURCE!

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Or visit us on the web at www.ecosmartinc.com



The Eco-\$mart Catalog

Earth Friendly Flooring



Healthy, Efficient, Disaster Resistant Products for Better Living

Floating Cork Flooring



Item Number:

FLCork-Float

Unit of Issue:

Square Foot
(21 sq.ft. per case)

Price: Quoted

Glueless Installation

30 Styles!

See Cork Flooring Styles.

12" x 36" tongue-in-groove floating floor. Cork flooring is harvested from the bark of the cork tree which grows back completely in 9 to 14 years, making it a completely renewable flooring resource. Cork has natural fire resistance, won't rot, is dent resistant (recovers quickly from depressions), provides a cushion for standing and falls, and comes in a variety of colors and styles.

Insulation: Because 90% of the tissue consists of gaseous matter, the density of cork is extremely low giving the material wonderful insulating properties; thermal, as well as acoustical.

Resiliency and elasticity: When cork is subjected to pressure, the gas is compressed and volume decreases considerably. When released from pressure, cork recovers very rapidly to its original shape, giving cork flooring a wonderful cushion underfoot feel.

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Fire Retardant: A natural fire retardant, cork does not spread flames and does not release toxic gases during combustion.



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Earth Friendly Flooring



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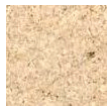
Floating Cork Flooring

Item Number: FLCork-Float- Unit of issue: Square Feet (21 sq.ft. per case)

Group 1



Apollo Brown



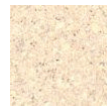
Apollo Creme



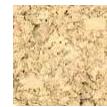
Apollo Natural



Athene Natural



Apollo White



Athene Creme

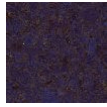


Mars Natural

Group 3



Athene Grey



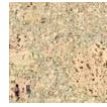
Athene
Blue-Black



Athene
Linden-Green



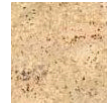
Mars Rose



Mars Green



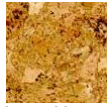
Mars Polar



Mars Creme



Odysseus
Natural



Herse Natural

Group 4



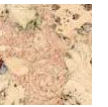
Aphrodite
Brown



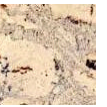
Hera



Odysseus
Brown



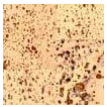
Odysseus Rose



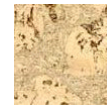
Odysseus Polar



Odysseus White



Aphrodite Creme



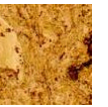
Odysseus Creme



Herse Creme



Jupiter Natural



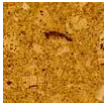
Cronus Natural



Titan Natural



Aphrodite Natural



Bacchus Natural

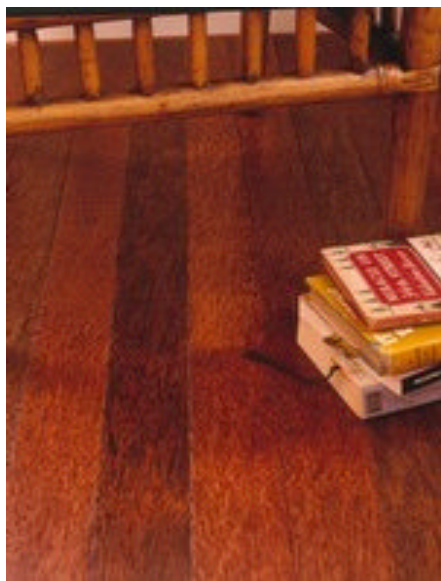
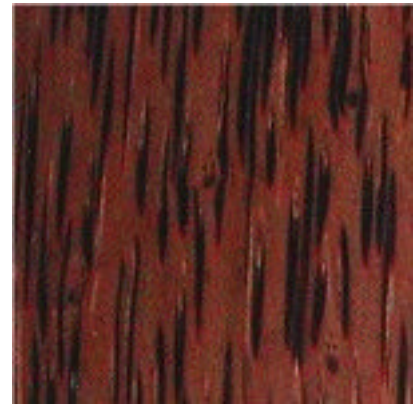
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Coconut Palm Flooring

Coconut Palm flooring comes from plantation grown coconut palms, which grow in abundance throughout much of the world. Palms produce nuts for up to 80 years, and then non-production palms are removed and replaced. Coconut palm lumber can vary greatly in color and density. Eco-\$mart Coconut Palm flooring is made only from the hard, dark palm. It has a beautiful, rich color and unique texture.



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The Eco-\$mart Catalog

Earth Friendly Flooring



Healthy, Efficient, Disaster Resistant Products for Better Living

«Back **FSC Certified Teak Flooring** Next»



Item Number: FLTeak-

Unit of Issue: Square Foot

Price: Quoted

- [More Info & Pics](#)
- [Teak Wood Stairs](#)
- [Documentation\(.pdf\)](#)
- [Installation \(.pdf\)](#)
- [Specifications](#)
- [Find a Dealer](#)
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Superior hardness, over 1000 on the Janka hardness scale, low moisture retention and unmatched stability make teak the ideal material for wood flooring. Its rich grain and lasting beauty has made teak a highly sought after material for ship-building, furniture, and decorative trim. Until recently, the expense of this wood and the environmental impact of harvesting old teakwood forests has made the use of teak undesirable for many.

FSC Certified Teak Flooring is now available. Low impact environmentally, high impact when it comes to beauty, durability, and lasting value.

Teak Almendro Flooring is a Teak base with a hard Mahogany "Curmaro" on top engineered to last a lifetime. At 3600 on the Janka hardness scale, it is virtually the hardest wood available and the best choice for residential and commercial wood floors.

FSC Teak Display Stand with Samples

[Click Here](#)



What does it mean to be Certified by FSC?

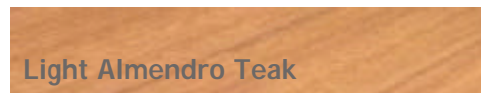
[Click Here](#)

Finishes and Colors

Colors may vary with screen configuration. See [your dealer](#) for samples.



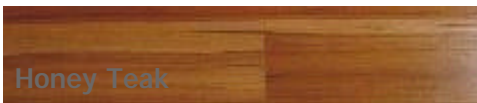
Natural Teak



Light Almendro Teak



Brown Teak



Honey Teak



Red Teak

Catalog Home	AC / IAQ	Buildings	Controls	Day Lighting	Decking	Flooring	Appliances	Home Safety	Insulation
Landscape	Lighting	Paints	Paving	Roofing	Solar	H2O Heating	H2O Purification	H2O Saving	Windows



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Hand Crafted At: kwgrubbs.com



The Eco-\$mart Catalog

Eco\$mart Carpentry Wood



Healthy, Efficient, Disaster Resistant Products for Better Living

River Recovered Heart Pine and Cypress



Item Number:

CW-HPC

Price: Quoted

Solid plank flooring and paneling, cants, timbers, beams, moulding and stair treads. Custom orders are welcome.

Cypress

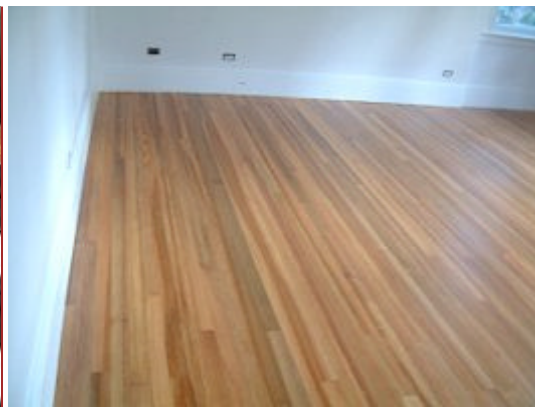
Heart Pine



Lumber and planks from the old growth forests of the Southeastern United States are highly sought after for their density, versatility and rarity. Until recently, the only source of this wood was salvage from old buildings. Thanks to new technology, dense old growth Heart Pine and Cypress logs can now be recovered from river bottoms in the Southeastern United States.

Own a piece of history!

Back when the old growth forests of Georgia and Florida were being logged, the loggers would float their logs down river to the mill. Many of these logs sank to the depths of these rivers before reaching their destination. These logs are now being recovered, offering many advantages over wood salvaged from old buildings. They have not suffered the wear and tear of time or the abuses of nails and bolts. The lack of light and oxygen under the cool waters has prevented normal rot and deterioration. And because the entire log is recovered, wood can be milled according to customer specifications.



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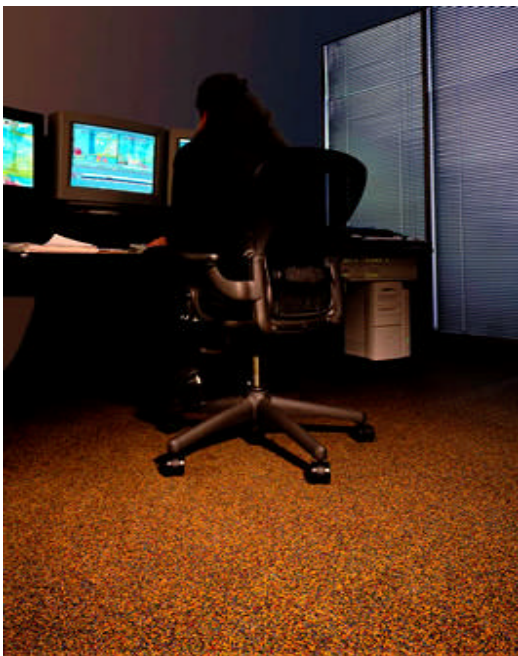
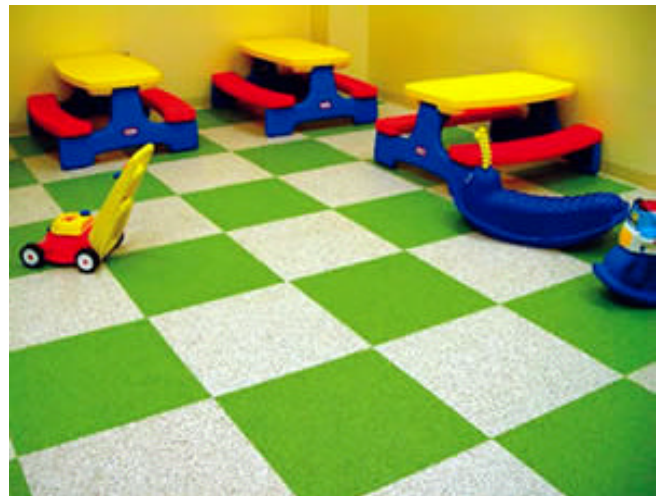
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Recycled Rubber Flooring

ECOsurfaces Commercial Flooring combines the highest quality recycled SBR tire rubber and colorful reprocessed EPDM flecks to create an extensive array of 49 standard color combinations for interior design applications in commercial environments.

Available in rolls and tiles, ECOsurfaces Commercial Flooring can be cut, shaped and customized to any length needed for easy installation. And for a personalized design, choose from a palette of 29 different custom color options.



For more information, pricing and installation, call:

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The Eco-\$mart Catalog

Eco\$mart Eco-Rubber



Healthy, Efficient, Disaster Resistant Products for Better Living

eco-rubber

Eco-Rubber is a water permeable, slip-resistant and impact absorbing surface for indoor or outdoor flooring and paving applications. Made from recycled rubber, Eco-Rubber is ecologically sound reducing the pollution of incineration and the waste of landfill commonly seen with discarded tires and other rubber products. It's economically smart because we use only the finest recycled rubber and the most brilliant color granules to create a tough, colorful, low maintenance surface that will last and last. Eco-Rubber's interlocking system provides an efficient, accurate and secure installation that saves time as well.

Eco-Rubber Paver



Low Impact Pavers are an attractive addition to any establishment. The flexible porous surface makes Eco-Rubber the solution for new construction or renewal of existing surfaces.

Eco-Rubber Mat



Resilient Eco-Rubber Mat is suitable for any application requiring slip resistance, longevity, noise reduction, safety, low maintenance and an attractive appearance.

Eco-Rubber Tile



Indoor / Outdoor Tiles are water permeable, slip resistant, and low impact providing a dry, safe and comfortable surface for decks, porches, and playgrounds.

With Eco-Rubber's Flexible Surface and Flexible Application there is no surface we haven't got covered.

- | | | |
|---------------------|--------------------|---------------|
| ◆ Sports Facilities | ◆ Gyms | ◆ Playgrounds |
| ◆ Golf Courses | ◆ Spas | ◆ Pool Decks |
| ◆ Parks | ◆ Locker Rooms | ◆ Porches |
| ◆ Community Centers | ◆ Fitness Centers | ◆ Dog Runs |
| ◆ Side Walks | ◆ Skating Rinks | ◆ Barns |
| ◆ Garden Walks | ◆ Day Care Centers | ◆ Stalls |

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The Eco-\$mart Catalog

Earth Friendly Flooring



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«Back [Marmoleum Click](#) Next»



Item Number:

FLMarmol-Click-

Unit of Issue: Square Foot

- ⌘ [Documentation](#)
- ⌘ [Overview \(.pdf\)](#)
- ⌘ [Installation & Care \(.pdf\)](#)
- ⌘ [18 Colors](#)
- ⌘ [Design Ideas](#)
- ⌘ [Interactive Design Board](#)
- ⌘ [Dealer List](#)
- ⌘ [Finish & Cleaner](#)
- ⌘ [Display with Samples](#)
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Sold only through
local flooring dealers.

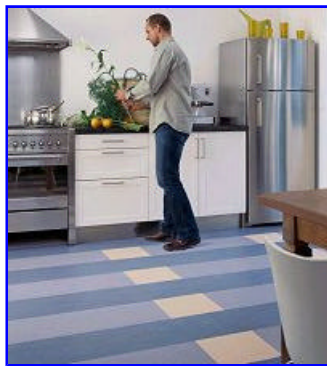
[Find a Dealer](#)

Marmoleum Click is the perfect floor for those who want the durability and cleanliness of Marmoleum, but who wish for a unique design for their floor. It comes in 12" x 36" panels or 12" x 12" squares. Its unique construction with the patented click system, combined with a broad colour palette, give you a natural floor with maximum design freedom.

Marmoleum Click is a high-quality product and the ideal flooring for most rooms in the house, from the hallway, kitchen and children's rooms, where traffic is likely to be heaviest, to the living room, study or bedroom. The only places it's not suitable for are 'wet' rooms like the bathroom or sauna.

Marmoleum Click floor is easily installed. A simple tongue-and-groove system allows you to simply 'click' the panels into place. Marmoleum click panels are nice and wide, so a good smooth floor is quickly finished. And no glue is required, so the floor can be walked on immediately after installation.

Looking for a new floor?



Marmoleum is the Natural Choice

- Ecologically produced from natural raw materials.
- Extremely hygienic, clean and bacteriostatic.
- Very comfortable, with sound reduction.
- Creative; Design your own floor. Combine Colors, Tiles and Panels
- Easy to install with a simple In & Out system. No messy glue.
- Practical and very durable; dent resistant, stain resistant, fade resistant, antistatic.

Indoor Air Quality

A dust-free house is healthier for asthma patients suffering from dust mite allergy. The floor is an important factor, because lots of dust can build up there. Marmoleum is therefore a solution because it is easy to keep dust-free. Laboratory studies have also shown Marmoleum to be both anti-static and bacteriostatic: micro-organisms do not thrive easily on it, which makes the floor naturally hygienic.





The Eco-\$mart Catalog



Marmoleum Click

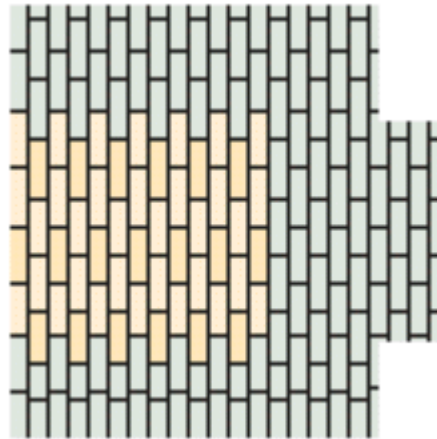
Design Examples & Ideas

Once you have decided on colour and atmosphere, you can unleash your creativity to design your own floor. Don't forget to make a sketch based on the actual size of your room, and remember to take the width of the material into account, too.

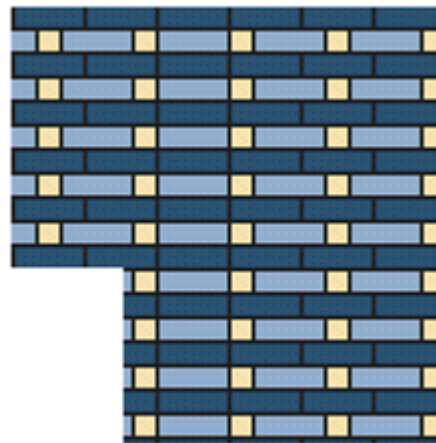
Examples of Patterns Used



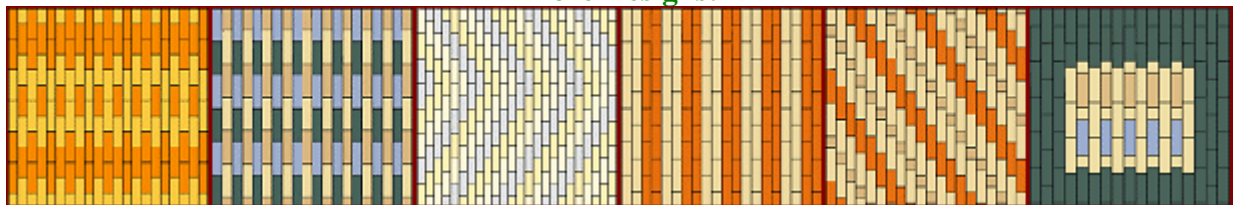
Living Room floor created using this pattern.



Kitchen floor created using this pattern.



More Designs:



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[Eco\\$mart Carpentry Wood](#)

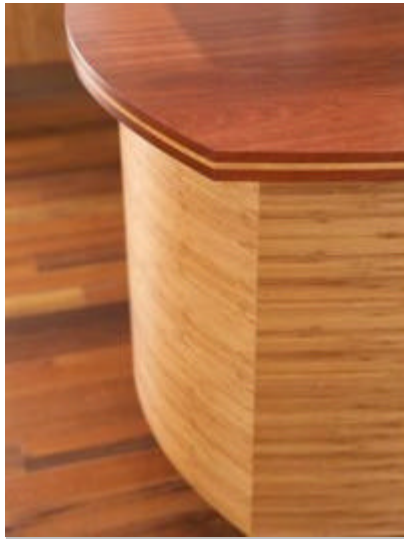


Healthy, Efficient, Disaster Resistant Products for Better Living

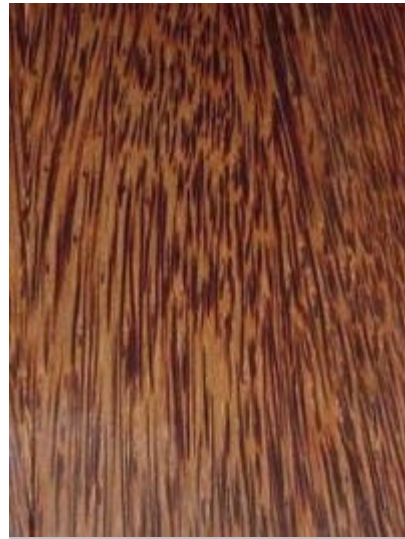
«Back [Eco-\\$mart Carpentry Wood](#) Next»

High impact toughness and rich natural grains. **Low impact** on the environment and your home. All **Eco-\$mart Carpentry Woods** come from renewable sources and managed forests. Plywoods are adhered with materials that are low VOC and environmentally safe in manufacturing and in your home.

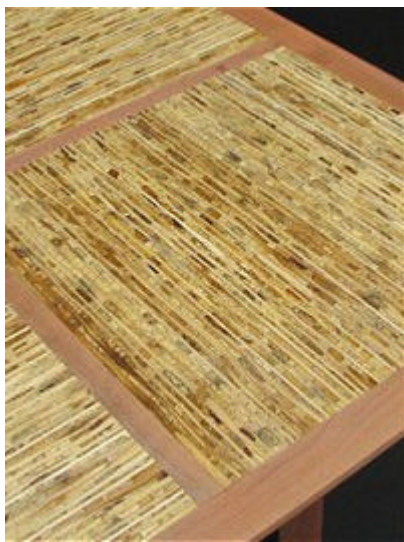
Click on the pictures below to see details and the full selection we have to offer.



[Plyboo Bamboo Plywood](#)
Quoted



[Coconut Palm Plywood](#)
Quoted



[Kirei Organic Board](#)
Quoted



[Teak Wood](#)
Quoted

See [Eco-\\$mart's Earth-friendly Flooring](#) for more information about these economically smart, and ecologically sound hardwoods.



The Eco-\$mart Catalog

Carpentry Wood

Healthy, Efficient, Disaster Resistant Products for Better Living



Bamboo Plywood



Bamboo Plywood is made from 100 percent rapidly renewable bamboo, using adhesives that are both strong and emissions free. Bamboo Plywood can be cut and sanded using conventional woodworking equipment. It can also be glued or mechanically fastened using the same materials and fasteners commonly used with wood. Bamboo is a low resin, open grained material that takes stains and finishes exceptionally well.

Bamboo Plywood comes in both an amber and natural light tone and is laminated to produce two different surface grains, edge and flat. The edge grain appears as 1/4" strips and the flat grain appears as 3/4" strips on the surface of the Bamboo Plywood. It is then finish-sanded to a smooth 180 grit. Whether you are planning a small remodel or a national retail expansion, we have the bamboo material to do the job.

Item Number:

CW-Bamb

Price: Quoted

See Next Page
"Pre-cut Sizes".

Custom sizes
available up to 13'
in length.

Eco-\$mart offers a Full Line of Quality Bamboo Plywood

- All Bamboo Plywood is 100% bamboo material
- All Bamboo Plywood is unfinished upon manufacture
- Bamboo Plywood is compatible with Industrial finishes
- Can be fire-treated to meet Class 1 requirements
- Bamboo Plywood is a stock item and always available



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The Eco-\$mart Catalog

Carpentry Wood

Healthy, Efficient, Disaster Resistant Products for Better Living



Coconut Palm Carpentry Plywood



Item Number:

CW-Palm

Price: Quoted

**See Eco-\$mart's
Palmwood Flooring
for more information.**

Our Coconut Palm Carpentry Wood comes from plantation grown coconut palms, which are in abundance throughout much of the world. Palms produce nuts for up to 80 years, then non-producing palms are removed and replaced. Coconut palm lumber can vary greatly in color and density. We use only the hard, dark palm for a luxurious and durable surface.

As the rainforest continues to be tapped for timber needs, coconut palms have been an overlooked and under-utilized resource. We hope that through our work, palmwood will one day be recognized as a valuable building resource and help reduce rainforest harvesting.

- Unfinished Plywood:
~ 3/4" x 30" x 72"
- Janka Ball Hardness Tested to 1400psi.
(red oak 1290 psi, hard maple 1450 psi)
- Palmwood is more stable than oak or maple.
- Low VOC Adhesives used in manufacture.
- Coconut Palm Plywood is perfect for cabinetry, and is comparable to other hardwoods in workability and finishing.



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Carpentry Wood

Healthy, Efficient, Disaster Resistant Products for Better Living



Kirei Board



Kirei Board is manufactured from reclaimed agricultural fiber from the sorghum plant grown around the world for food. The stalks of this plant are usually burned or thrown into landfills after harvest. By using them in the production of Kirei Board this material is removed from the waste stream, reducing landfill need and air pollution, while giving rural farmers a new source of revenue from a previously unused waste material. Minimal amounts of wood are used as bonding strips, greatly reducing the need for newly harvested wood for building.

Item Number:

CW-Kirei

Price: Quoted



Organo Natural Tables
made from Kirei Board



Kirei Board Flooring

Kirei Board is a composite panel board manufactured from reclaimed stalks of the sorghum plant, poplar wood bonding layers and KR Bond, an adhesive that emits no formaldehyde. Strong, lightweight and environmentally friendly, Kirei Board has been in use for wall covering, cabinetry, furniture, flooring and other decorative and finished products since 1995.

Kirei Board is used for all interior architectural millwork applications, including:

- Wall Covering
- Ceilings
- Cabinetry
- Cabinet doors
- Furniture
- Retail Displays
- Flooring



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KIREI BOARD



natural design innovation

Kirei Board Materials Safety Data Sheet

SECTION 1 - PRODUCT IDENTIFICATION

Trade Name as labeled: Kirei Board
Synonyms: Koryo Board
Supplier/Manufacturer Name: Kirei USA
Address: 640 10th Ave.
San Diego, CA
92101
Business Phone: 619-236-9924
Emergency Phone:
Date of Preparation: 4/27/03
Date of Revision: 4/27/03

SECTION 2 - COMPOSITION

Ingredients: Sorghum Straw
KR Bond adhesive

SECTION 3 - PHYSICAL DATA

Physical State: Solid
Density Range: .5
Odor and appearance: Pale golden color,
no distinctive odor
Odor threshold: Not applicable
pH: Not applicable
Vapor pressure (mm Hg): Not applicable
Vapor density (air = 1): Not applicable
Evaporation rate (water = 1): Not applicable
% volatile by volume: Not applicable
Solubility in water: Not soluble-moisture resistant
Boiling point (OC): Not applicable
Freezing point (OC): Not applicable
Coefficient of oil/water distribution: Not applicable

SECTION 4 - FIRE AND EXPLOSION DATA

Autoignition temperature: Auto Ignition point for Kirei Board
exceeds 200 degrees Fahrenheit
Flammability classification: Class "C"
Conditions of flammability: Open flame
Special fire fighting procedures: Cool boards in vicinity of fire with
water spray. Fire fighters should be
equipped with full protective gear,
including self-contained breathing
apparatus.
Means of extinction: Water, foam, carbon dioxide,
dry chemical.
Sensitivity to mechanical impact: Not applicable
Sensitivity to static discharge: Not applicable

SECTION 5 - REACTIVITY DATA

Is the product stable? Stable
Conditions of reactivity: Hazardous polymerization will not occur
Incompatible substances: None known

SECTION 6 - TOXICOLOGICAL PROPERTIES

WHMIS CLASSIFICATION: Not a controlled product.
Primary routes of exposure: Sawing or sanding may produce sawdust
particles which may irritate skin and eyes
on contact and if inhaled.
Acute effects of exposure: Saw dust may cause mild irritation and
redness to eyes.
Inhalation: Saw dust may cause mild irritation of
the respiratory tract.
Chronic effects: None anticipated
Sensitizer: None anticipated

SECTION 7 - PREVENTION MEASURES

Gloves: May be used to protect the hands
in material handling situations.
Respirator: Particulate mask recommended where
necessary to protect against breathing sawdust.
Eye protection: Safety glasses should be used when
sawing or sanding.
Footwear: No special requirements.
Clothing: To prevent skin contact.
Engineering controls: Avoid generating sawdust where possible.
Leak and spill procedures: Sawdust should be gathered up without
generating dust clouds and contained
for disposal.
Waste disposal: Incinerate or landfill in accordance to municipal,
provincial, state, and federal regulations.
Handling and storage: No special storage requirements.
Special shipping information: Not controlled under T.D.G.

SECTION 8 - FIRST AID MEASURES

Skin contact: If sawdust irritates the skin, wash thoroughly
with soap and water. Remove clothing and
laundry before re-use.
Eye contact: Flush eyes and under eyelids with plenty of
cool water until dust particles are flushed
away. Consult physician if irritation persists.
Inhalation: Move to fresh air.

SECTION 9 - PREPARATION DATA

THE INFORMATION HEREIN IS BASED ON THE VENDOR'S MSDS, CCOSH, AND CCIN-
FO WITH ADDITIONS AS NECESSARY TO COMPLY WITH CURRENT REGULATIONS.
THE INFORMATION IS BELIEVED TO BE ACCURATE AT THE TIME OF PREPARATION.
HOWEVER, KIREIUSA. MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED CON-
CERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION.



The Eco-\$mart Catalog

Carpentry Wood

Healthy, Efficient, Disaster Resistant Products for Better Living



Teak Carpentry Wood



Item Number:

CW-Teak

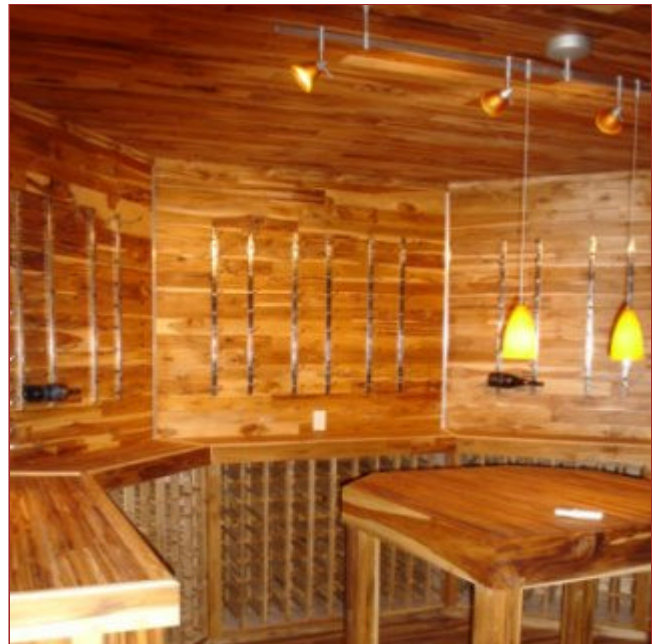
Price: Quoted

FSC Certified Teak Wood is now available. Low impact environmentally, high impact when it comes to beauty, durability, and lasting value.

Superior hardness, over 1000 on the Janka hardness scale, low moisture retention and unmatched stability make teak the ideal material for wood flooring. Its rich grain and lasting beauty has made teak a highly sought after material for ship-building, furniture, and decorative trim. Until recently, the expense of this wood and the environmental impact of harvesting old teakwood forests has made the use of teak undesirable for many.



Teak Wood Stairs



Teak Wine Cellar

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EcoTop™



- EcoTop™ is the newest product from award winning eco product innovator Joel Klippert. It is the most durable & eco friendly surface product in the world.
- EcoTop™ is made with the best raw materials on the market. The proprietary fiber used is a **FSC Certified** 50/50 blend of post consumer recycled demolition wood fiber and rapidly renewable bamboo fiber. The bamboo fiber is much longer and stronger than traditional wood fiber. The longer fiber gives the product much better dimensional stability than traditional wood fiber & recycled paper products.
- The resin system used is a proprietary product that is water based, petroleum free & when catalyzed has no VOC's, and E0 emissions.
- EcoTop™ products apply toward six L.E.E.D. points and meets California emission standards for today and tomorrow.
- EcoTop™ also uses an industry first two stage color system where the fiber and the resin are colored separately. This system gives much improved color consistency and color stability over other paper based products. The initial product offering with have 6 colors, Jet Black, Charcoal, Walnut, Safari, Khaki & Sand.
- EcoTop is also the most durable surface product available with a compressive strength of 50,000 psi & water absorption of less than 1%.

For more information, contact: Eco-Smart, Inc. (888) 329-2705
www.eco-smart.com

squak mountain stone

NATURAL BEAUTY, REDEFINED



Counter Culture

Extraordinary things can come from ordinary circumstances. A graduate school essay that proposed taking mixed waste paper from a local non-profit recycling center and turning it into a beautiful product has resonated with people around the world. But it's not the story that makes Squak Mountain Stone such a unique material: it's the stone itself. It's rustic. It's varied. It doesn't follow any of the "rules" established by modern countertop companies: you don't "fix" it, you don't dress it up, it won't look seamless and it most certainly will not look like it came from a cookie-cutter factory. Squak is the "rebel" in the surface world.

The Squak slab, originally conceptualized and designed for use in kitchens and baths, has been used in so many other ways since it was introduced that it's almost narrow-minded to call it just a countertop anymore. Squak Mountain Stone products are benches, tabletops, hearths, stairways, signs, as well as countertops in a variety of commercial and residential applications. Squak has been used in turn-of-the-century restorations and cutting-edge modern designs. It can be found in small, modest powder rooms and multi-million dollar office buildings. The only common denominator in Squak customers is that they might be a bit "counter culture" themselves.

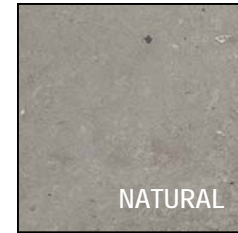
The appeal is in the hand-made nature, its pastoral, honest aesthetic and the sculptural variability that makes each slab and tile distinct. The fact that the product provides all of this with an affordable price and genuine environmental and social benefits is simply icing on the cake.

Squak Mountain Stone is different. It's unique. It's like you.

Contact:

Eco-\$mart, Inc.

(888) 329-2705 info@eco-smart.com www.eco-smart.com



NATURAL



LATTÉ



OTTER



THUNDER



QUINAULT

Slabs

All slabs are 1-1/2" thick

25.5"x72"

22"x37"

22" x 49"

30"x48"

36"x36"

Tiles

All tiles are 1/2" thick

3.5"x12"

12"x12"

16"x16"

Trinity

GLASS PRODUCTS

Tiger Mountain Innovations is launching its second product line, Trinity Glass Products, composite surfaces made from 75 percent recycled glass. Like with Squak Mountain Stone, Trinity surfaces are individually handcrafted using locally-sourced, post-consumer and post-industrial recycled material. Trinity offers the look of polished granite with earthy colors and small particulates, yet without the negative environmental consequences that result from mining natural stone.

"I draw my inspiration from nature, and try to match colors and materials that you might actually find in nature," said Quiriconi. "My intention with Trinity, as it is with Squak Mountain Stone, is to offer the look of natural stone, using recycled material and low-carbon cement."

Trinity's more natural look, as well as its versatility, are what set it apart from other recycled glass surfaces. In addition to slabs for countertops and tabletops, Trinity is available in tiles for wall applications and can be molded into sinks (Available late 2007). It can be machined to have a smooth edge and, because of its high glass content, is highly scratch-resistant. As with granite, with proper sealing, Trinity will also resist stains long-term.

Trinity is offered in ten nature-inspired colors (with a few "designer" colors mixed in), and in sizes that are do-it-yourself and contractor friendly.

Contact: Eco-\$mart, Inc.

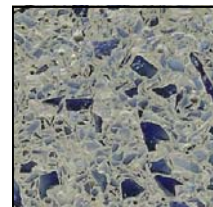
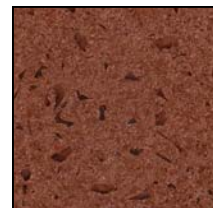
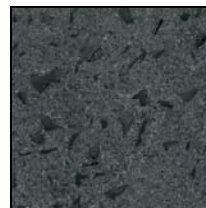
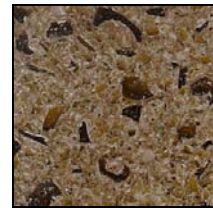
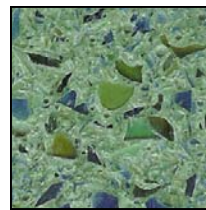
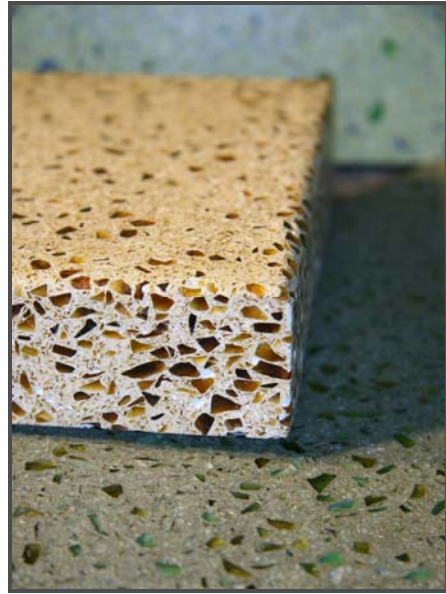
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www.eco-smart.com

Slabs

All slabs are 1-1/2" thick
25.5"x72"
22"x37"
22" x 49"
30"x48"
36"x36"

Tiles

All tiles are 1/2" thick
3.5"x12"
12"x12"
16"x16"





The Eco-Smart Catalog

Counter Tops

Healthy, Efficient, Disaster Resistant Products for Better Living



Conch Counter-tops, Sinks, and Hard Surfaces



Item Number:
CT-CNCH-
Price: Quoted



*Ecologically harvested, recycled
Conch Shell from the Carribean.*

From the Turks and Caicos Islands, the largest producers of Conch in the world, comes an exciting new material that is as beautiful as it is versatile. Conch shell is gathered, recycled and processed by local workers on the Islands to create a natural, ecologically friendly product.

No wild conch is harvested. The bonding agent is a combination of liquid materials both synthetic and natural making the products produced 85% to 90% natural. Waste products are disposed to assure that there is and never will be damage to the island and the waters around the plant. Low VOC emissions make it the perfect addition to a healthy home.

Although this Conch Shell surface is usually used for counter tops and sinks, it can be formed and custom colored to customer specifications.



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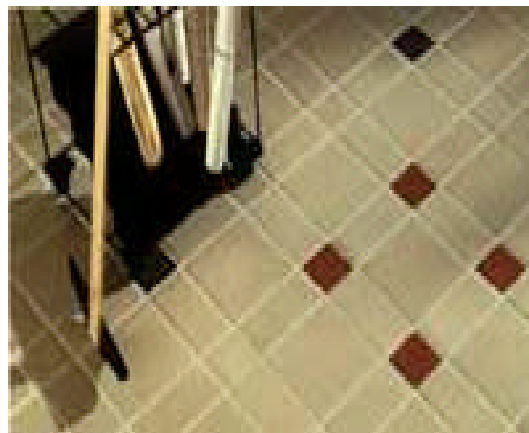




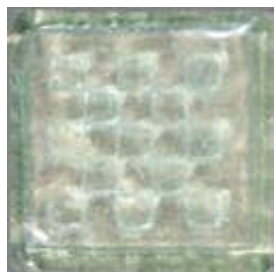
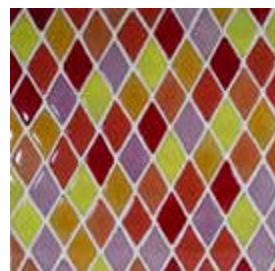




Recycled Glass Tile (Flooring and Decorative)



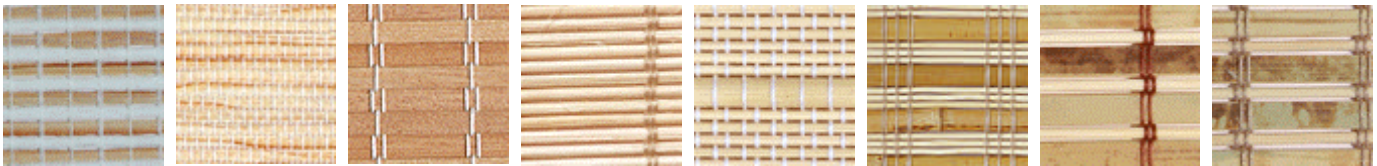
- Flooring Tile is 55% Recycled Auto Glass
- Decorative Tile is 100% Recycled Glass (takes 1/4 less energy to mfr.)



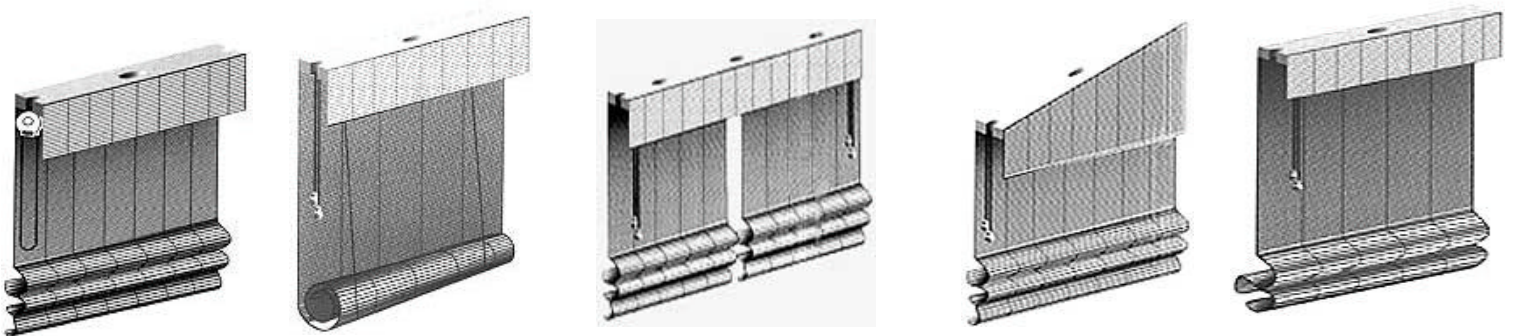


EarthShade - Earth and Human Friendly Window Treatments

These truly natural window shades are made of non-toxic, environmentally sustainable, natural reeds, bamboos, grasses, and other natural plant fibers. Once gathered, these materials are woven into delightful patterns without the use of chemicals, dyes, or other harsh processing. The fabrics are then custom crafted into shades according to your window specifications. All of this is accomplished by a family operated vendor with locations in Mexico and the United States, now with its third generation proudly crafting these exquisite, artisan quality window treatments.



An exotic collection of hand-woven window shades custom crafted in 10 versatile operating styles.



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Great Grabz Sustainable, Decorative Safety Bars

All Great Grabz products are manufactured from recycled aluminum materials. The dual function accessories also provide safety while increasing the adaptability and convenience of the home or business environment. The key to this design is in the mounting bracket design to withstand 250 pounds. The bars are configured for towel bars, toilet paper holders, or towel hooks.



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*Healthy, Efficient, Disaster Resistant
Products for Better Living.*

Renewable Teakwood Decking



Superior hardness

Unmatched Stability

Low Moisture Retention

*The wood preferred by ship builders worldwide for
ship decks and trim is now available for your deck!*

Until recently, the high price of teakwood and the environmental impact of harvesting old teakwood forests limited its use. Now Eco-\$mart offers teakwood from a renewable source! Lower costs and a positive impact on the environment result in the expansion of uses for this tough, resilient, beautifully grained hardwood.



All Eco-\$mart Teak Products carry the FSC Logo which identifies products grown in well managed forests certified by the Forest Stewardship Council. The FSC promotes environmentally appropriate, socially beneficial, and economically viable management of world forests.

Economically Smart. Ecologically Sound.

FSC Certified Renewable Teakwood Decking is the perfect wood for your deck.

100% Heartwood Teak Decking

Available in Random Lengths
48", 64", 80", and 96"

Available in Thickness of
5/8", 3/4", and 7/8"



The Eco-\$mart Catalog

Decking

Healthy, Efficient, Disaster Resistant Products for Better Living



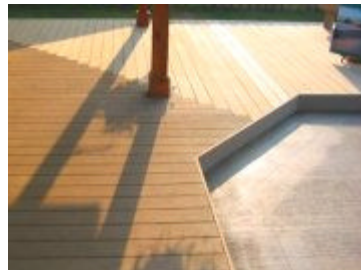
MoistureShield® Composite Decking



MoistureShield® Composite Decking is the modern solution to building or replacing your deck. Unlike traditional wooden decking, it does not need staining, painting or sealing to maintain its natural beauty. The deep wood grain texture has the appearance and texture of real wood. Most importantly, MoistureShield® Composite Decking is created to endure the most severe environmental conditions with a 50-Year Limited Warranty against rot, decay and insect damage.

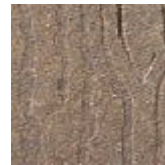
MoistureShield® Composite Wood Trim and trim board is manufactured under a patented process utilizing a combination of recycled wood fiber and polyethylene plastic. MoistureShield® for Exterior Trim works great with vinyl siding and combines the positive features of both wood and polyethylene to produce a material that will not rot, crack, split, check or absorb moisture, and is not subject to termites.

Environmentally Responsible Product manufactured using re covered wood fiber and recycled polyethylene plastic. A.E.R.T. was the 1999 recipient of the EPA's Region 6 Partnership for Environmental Excellence Award



Item Number:
DECK-MSHield
Price: Quoted

**Available in
4 Woodgrain Colors**



Cape Cod Grey



Earthtone



Mahogany



Rustic Cedar

**Matching SS Composite
Deck & Trim Screws
Available**

**Easy Installation using
Standard Power Tools!**



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FLAPPERLESS

1.6 GPF TOILET

Best Performing two-piece Toilet

Round Front



Tired of leaking flappers?
Go Flapperless and be maintenance free!

Features

- Tamperproof 1.6 Gallon
- No Flapper to Replace
- No Double Flushing
- No Leaks
- No Maintenance
- Fluidmaster Fill Valve

Easy Installation

- One Toilet Fits both
10" and 12" Rough-ins
- Huge Footprint 10" x 20"
Covers all Flooring

Benefits

- Uses 54% Less Water than a
Common 3.5 GPF Toilet
- Reduces Water Bills
- Powerful yet Efficient
- Elegant Style
- Flapperless System
- Eliminates all Refill Noise

NIAGARA
CONSERVATION

45 Horsehill Road
Cedar Knolls, NJ 07927
(800) 831-8383
Fax: (973) 829-0800
www.niagaraconservation.com

The Revolutionary 1.6 Gallon Niagara Flapperless™ Toilet

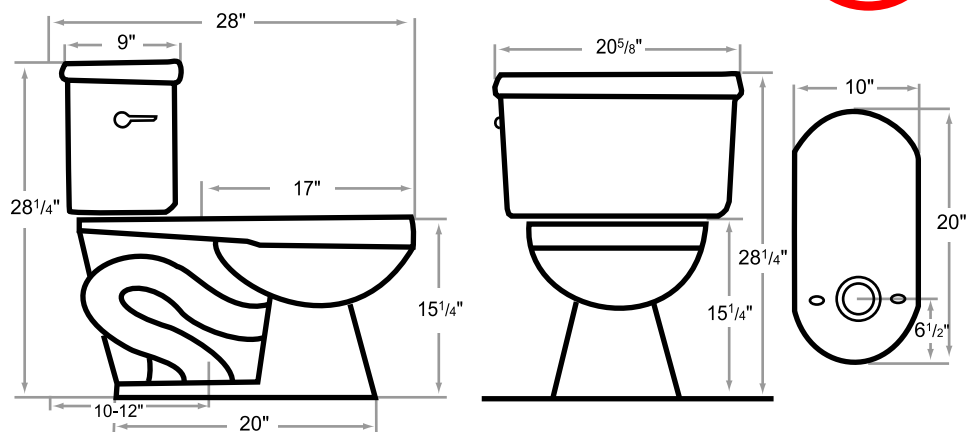
The Niagara Flapperless revolutionizes toilet design by thoroughly eliminating flappers or any other type of flexible seal in your toilet. 1.6 GPF cannot be increased. Uses 54% less water than a common 3.5 gallon toilet.

Features and Benefits:

- **Rated #1, 2-piece toilet by NAHBRC**
- Best flushing toilet ever.
- No flappers to leak or be replaced
- Tamperproof flush cannot exceed 1.6 GPF/6.0 LPF.
- Patented Flapperless design with positive flush activated by a touch on the lever.
- Unique tank coupling provides toilet application for both 10" and 12" rough-ins.
- Huge 10" x 20" footprint avoids costly flooring repairs.
- Large water surface for clean bowl.
- Ultra-low flush vitreous china water closet with round front.
- Fluidmaster Fill Valve.
- Meets local building codes and rebate requirements.
- Meets or exceeds all ANSI/ASME/CSA low-consumption water conservation requirements.
- Certified and listed by IAPMO.
- Approved by the City of Los Angeles.
- 5-year guarantee on parts.
- Lifetime guarantee on porcelain.



Round Bowl



NIAGARA
CONSERVATION

45 Horsehill Road
Cedar Knolls, NJ 07927
(800) 831-8383
Fax: (973) 829-1400
www.niagaraconservation.com

Product	Part#	Pkg	Wt(lbs)	Packaging Dimensions (in)	Cube
Bowl	N2216 (piece 1 of 2)	Indiv.	52.6	26.5" x 16" x 16"	4.12
Tank	N2216 (piece 2 of 2)	Indiv.	44.7	21.5" x 10.5" x 15.5"	1.77



Ultimate Household Water Purification Systems

These *Ultimate* systems provide the best approaches to handle and purify household water from the point of entry to the home, either from municipal or well water, all the way through every appliance and tap in the home. These systems produce the best possible water quality, and minimizes water waste, unlike other water purification systems, reducing utility costs and protecting the environment.



Under sink Ozone / 4-Stage Filtration

Ozone kills bacteria and viruses on contact. The 4-stage filtration takes chlorine, off tastes and smells, heavy metals, silt and particulates out of the water. Unlike Reverse Osmosis systems, the Ozone / Filtration system requires no storage tank under the sink, wastes no water in back flushing, and can be operated to produce purified water at a high flow rate, continuously (filling a large cooking pot, e.g.). Great tasting, healthy water for your family whenever you want it.



Whole House Ultraviolet Purification / Filtration System / Softening

Using Ultraviolet (shown at left) to kill bacteria and viruses (cloriforms), then filtering the water with a self-cleaning multi-media filter (shown at right), safe, clean water is provided to the whole house. Provides pure, drinking quality water at every tap in the house! No changes of filters are required. Optional water softening tanks can be provided where desired - this is a metered softener that only backwashes the tank as required, saving water.



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The Eco-Smart Catalog

Water Saving



Healthy, Efficient, Disaster Resistant Products for Better Living

Liquid-Air



Liquid-Air extracts Pure, High-Quality Drinking Water from the moisture in the air we breathe.

Liquid-Air is a revolutionary product using the latest in technology to make pure water from air.

Liquid-Air creates a new standard of drinking water quality.

Features:

- ◆ **Electrostatic Air Filter** - Removes harmful dust and particles from the air.
- ◆ **Double-Pass Ultra-Violet Sanitizer** - Eliminates all harmful bacteria, viruses and micro-organisms.
- ◆ **Activated Carbon Filter** - Removes harmful chemicals and odors to assure great tasting water.
- ◆ **Monitored Recycling** - Guarantees your water reserve is always fresh and pure.

Micro-computer monitored for quality assurance.

Item Number: WS-LA
Unit of Issue: System
Price: Quoted

Biological, chemical, industrial and physical waste has polluted our Earth's ground water making the search for healthy drinking water a serious issue. Bottled water is not the solution.

A four year review of the Natural Resources Defense Council (NRDC) found that 25% or more of all bottled water is really just Tap Water in a Bottle.

	Typical Tap Water	Typical Bottled Water	Liquid-Air Water
Total Dissolved Solids (ppm)	200-500	75-150	0-20
Sediment Free	No	Maybe	Yes
Chlorine	Present	Possible	None
Fluoride	Many	Some	None
Metals	Present	Some	None
Organic Chemicals	Present	Possible	None
Bacteria Free	Sometimes	Possible	Yes
Healthy	Low	Moderate	High
Fresh Taste	No	Some	Yes

Of the plastic used to package the 6 billion gallons of bottled water sold in the United States each year, more than 80% of it ends up clogging landfills and littering the landscape and shoreline, spreading toxins into ground water and the ocean.

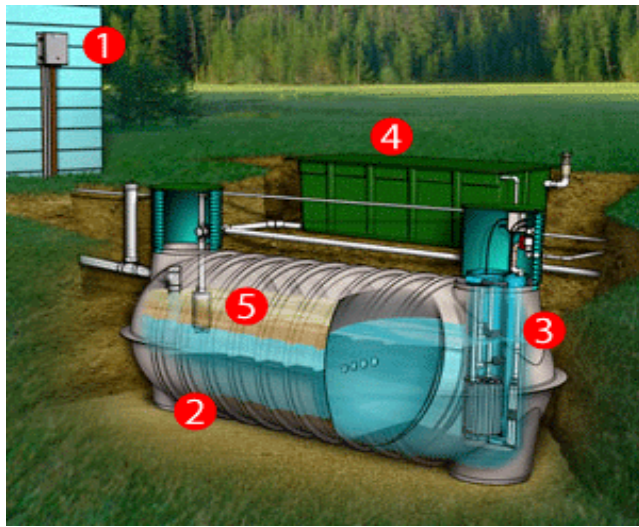
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On Site Wastewater Treatment

Orenco Systems® offers onsite (decentralized) treatment solutions for all sorts of properties: residential and commercial, small flows and large flows, household-strength waste and high-strength waste, poor soils and high groundwater. Orenco's onsite technologies produce clear, clean, odorless effluent that is 97–99% cleaner, providing "Advanced Wastewater Treatment." The company provides package solutions that are so well engineered they've been described in countless publications. With a proven track record and more than 20 years of research, design, and engineering experience, Orenco Systems is a recognized leader in decentralized wastewater treatment.



Key customer benefits of Orenco On-Site Wastewater Treatment:

1. Lower life cycle costs.
2. No lift stations required.
3. Reduce or eliminate burden on municipal central wastewater plant.
4. Remote, web based monitoring capability.
5. No odor.
6. Lower maintenance versus standard wastewater systems.
7. Reduced environmental impact.

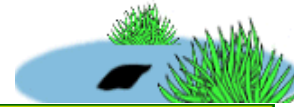
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The Eco-\$mart Catalog

Water Saving



Healthy, Efficient, Disaster Resistant Products for Better Living

«Back **Lawn Logic™** Next»

Sprinkler System Override Control



Item Number:
WatSav-LawnLogic

Unit of Issue: Set

List Price: \$449.64

Eco-\$mart Price:
\$374.70

Shipping Added at Check-out.

QTY: [Add to Cart](#)

[View Cart](#)

- [Print This Page](#)
- [Add to My Catalog](#)
- [Help](#)

The **LawnLogic™ Soil Moisture System** is one of the most advanced, yet easy to use devices of its kind in the international market. It combines state of the art soil moisture sensing with embedded control technology. The LawnLogic™ Soil Moisture System is a high -tech, high-performance, high-quality instrument that will provide years of dependable service.

- Controller and sensors install quickly.
- Proprietary software custom tailors a water -conserving program for each zone.
- Watering is allowed only when soil moisture falls below the level established by the homeowner.
- Nine levels of soil moisture are available for each zone.
- The system is an affordable way to protect your landscape investment.

Residential - Beautiful, well-maintained lawns are a part of our culture, often reflecting status and well being. Homeowners are investing more in the appearance of their property, improving their environment, conserving water, and protecting the landscape investment.

Commercial - Office complexes, hospitals, schools, libraries, and other commercial properties must project an image of success and stature in the community. No matter how attractive the landscaping is, an inefficient irrigation system will result in water loss and increased operating expense.

Municipal - Conserving landscape irrigation water on boulevards, sports fields and other public areas is an excellent way to improve the quality of the urban environment.



Complete System with Controller and 4 Probes.

Catalog Home	Indoor Air	Buildings	Controls	Day Lighting	Decking	Flooring	Appliances	Home Safety	Insulation
Landscape	Lighting	Paints	Paving	Roofing	Solar	H2O Heating	H2O Purification	H2O Saving	Windows



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The Eco-\$mart Catalog

Water Saving



Healthy, Efficient, Disaster Resistant Products for Better Living

Cyber-Rain Wireless Programmable Sprinkler Controller



Item Number: WS-CybRain

Unit of Issue: System

Many parts of the US and the world are facing a severe shortage of fresh water. This may be the next resource crisis for many communities.

Current Cyber-Rain owners save an average of 36% of their water use. Those with large yards have saved up to 70%!

Cyber-Rain is a ground-breaking, yet remarkably simple system, that uses the power of the internet and your PC to wirelessly control your lawn and garden sprinkler system. It conserves water by adjusting the watering schedule automatically based on real-time weather and seasonal conditions.

Pays for itself in water savings in a few months.

It stops your sprinkler system when it is raining. The watering schedule is decreased automatically on cold and humid days and increased for hot and dry days. You never have to worry about your sprinkler schedule. It also divides your water runs into cycle & soak segments to eliminate water run-off.

Program your lawn sprinkler system from your PC

Setting up your system and programming your controller takes just a few keystrokes. Zone names are text based and are displayed as text on the controller. After the initial setting, you can forget about your sprinkler system. However, behind the scenes, your system works day and night, adjusting the settings based on weather conditions, seasons, etc.



The Cyber-Rain system connects to the internet for real time weather data and adjusts the watering schedule you set up in an easy-to-use interface.

Zone Names	1
	5:00 AM
1 Front Grass	10
2 Front Planters	10
3 Bed of Roses	5
4 Side Hedges	5
5 Pool Plants	3



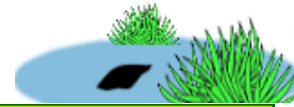
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The Eco-\$mart Catalog

Water Saving



Healthy, Efficient, Disaster Resistant Products for Better Living

«Back **Faucet Genie** Next»



Item Number:

WatSav-FauGen

Unit of Issue: Each

List Price: \$68.00

Eco-\$mart Price:
\$56.67

Shipping Added at Check-out.

QTY: [Add to Cart](#)

[View Cart](#)

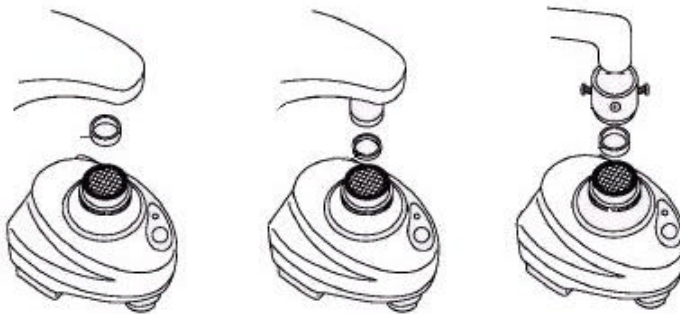
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Faucet Genie is a Do-It-Yourself, Hands Free automatic water faucet attachment that turns on and off by simply placing your hands under the faucet. Just like the high-tech fixtures in commercial restrooms, our motion-sensing device automatically turns your tap on and off to effortlessly save significant amounts of water and make it simpler and faster to wash everything from hands to dishes. Movement directly underneath the faucet triggers the water flow only as long as you need it.

Faucet Genie quickly installs on any standard faucet in the bathroom, kitchen, and laundry room or anywhere you have a faucet. No tools are necessary and no electrical wiring is required. Just preset the water temperature to a safe, comfortable level, and let the conservation and convenience begin. Faucet Genie uses 4 AAA batteries.



Installs on Any Standard Faucet

Catalog Home | Indoor Air | Buildings | Controls | Day Lighting | Decking | Flooring | Appliances | Home Safety | Insulation | Landscape | Lighting | Paints | Paving | Roofing | Solar | H2O Heating | H2O Purification | H2O Saving | Windows



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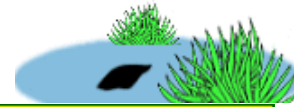
Graphic Art by d.a.gordon dart

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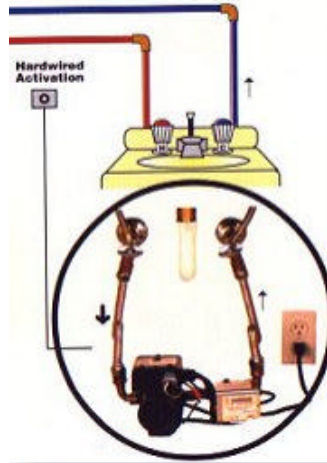
The Eco-\$mart Catalog

Water Saving



Healthy, Efficient, Disaster Resistant Products for Better Living

«Back **Recirculation System for Residential** Next»



Item Number:
WatSavRecirc-Res

Unit of Issue: Each

List Price: \$570.00

Eco-\$mart Price:
\$475.00

Shipping Added at Check-out.

QTY: [Add to Cart](#)

[View Cart](#)

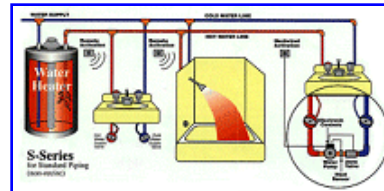
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No more wasting water while waiting for the shower to get hot. With the push of a button, the cool water is run out of the hot water line back to the water heater using your existing piping. Installs under your master bath sink. Home owner can install in one hour. Kit includes an additional remote button for kitchen or other bath.



Installs in an hour or less!

[Click on the Pictures for a Larger View](#)



- | | | | | | | | | | |
|--------------|----------|-----------|----------|--------------|---------|-------------|------------------|-------------|------------|
| Catalog Home | AC / IAQ | Buildings | Controls | Day Lighting | Decking | Flooring | Appliances | Home Safety | Insulation |
| Landscape | Lighting | Paints | Paving | Roofing | Solar | H2O Heating | H2O Purification | H2O Saving | Windows |



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ElectroBrom 100% Chlorine-Free Pool / Cooling Tower System

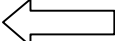
EPA Certified for Commercial and Residential Pools and Cooling Towers

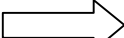
System Description: Continuously regenerates bromine in a closed loop to disinfect and shock pools, spas, fountains and cooling towers with no chlorine, ever. Better disinfection at a wider PH range than chlorine. Does not burn eyes, dry skin, destroy pool surfaces or pumps. Bromine is a liquid, avoiding breathing toxic chlorine fumes. Kills algae on contact to reduce maintenance time and costs. Used by Holiday Inn, Sea World, YMCA's - carries the Environmental Protection Agency's highest certification for biocides.

Electro-Brom Process:

1. Sodium Bromide (bromine salt) is added to the pool at setup.



2. This canister, housing long-lasting graphite plates, is installed
 in line with the pool pumps.

3. Electric current from this control box runs through the graphite plates, activating the bromine.


4. The active bromine kills bacteria, viruses, swimmer wastes and algae, then goes into an inactive state, to be reactivated again.



PH Dependence Comparison:

	<u>Bromine</u>	<u>PH</u>	<u>Chlorine</u>
(Percent Active Disinfection)	100%	6.5	90%
	100%	7.0	74%
	94%	7.5	47%
	83%	8.0	24%
	60%	8.5	9%

Savings Analysis vs Chlorine:

Gallons: 20,000

<u>Costs per Month:</u>	<u>Factor</u>		<u>Chlorine</u>	<u>x %</u>	<u>ElectroBrom</u>
Chemicals/Equip. Maint. (.007C or .004R) x gal.	0.004	=	\$80.00	40%	\$32.00
Pool Maint. Labor (.003C or .002R) x gal.	0.002	=	\$40.00	50%	\$20.00
Pool Surface refinishing (.10) x gallons/84 mo.	0.10	=	<u>\$23.81</u>	0%	<u>\$0.00</u>
		Totals	\$143.81		\$52.00
			Monthly Savings:		\$91.81

Electro-Brom Benefits:

- * Continually kills bacteria, viruses
- * Continually kills algae
- * No toxic gas emission
- * No storage of toxic chemicals
- * No drying of skin
- * No burning of eyes
- * No chlorine smell
- * Reduces chlorine production demand (and air pollution)
- * No corrosion of pool pump systems
- * No staining or degrading of pool surfaces
- * Indefinite shelf life for sodium bromide

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Energy Efficient Lighting: Electronic Ballast Compact Fluorescent Lamps

One of the most common and readily available forms of energy efficient lighting, the electronic ballast compact fluorescent lamp provides high quality light (typically 85 CRI*) and long life (typically 10,000 hours of operation) at 75 to 80 percent less power usage than incandescent lamps. Electronic ballast compact fluorescent lamps also operate at a higher frequency than standard, magnetic ballast fluorescents, avoiding the hum and flicker associated with fluorescent lighting in the past. Utility Company and EPA savings estimates suggest that a 15W compact fluorescent will save over \$70.00 in lighting electrical, air conditioning and replacement costs versus a 75W incandescent over its five-year expected life in residential use.



This electronic ballast compact fluorescent uses only 15W to produce the light output of a 75W incandescent lamp. The shape and size is referred to as an R-30 lamp, made for recessed cans and track lighting. The rated life of this lamp is 10,000 hours, versus 750 to 1000 hours for the incandescent equivalent. Also available in a 23W R-40 version, providing the equivalent light output of a 100W incandescent R-40 lamp.



Electronic ballast “spiral” compact fluorescents have become very popular due to their symmetrical light output pattern, and the fact that the spiral dissipates heat better than earlier compact fluorescent tube shapes, extending lamp life. This type of lamp is available in a variety of light outputs and wattages, from a 7W spiral equaling a 30W to 35W incandescent, up to a 32W spiral, equaling the light output of a 150W incandescent. Rated life is 10,000 hours.



Electronic ballast compact fluorescent lamps are now available in a variety of shapes and styles, designed to look like standard incandescent lamps. These styles include the A-lamp (standard incandescent bulb shape), Torpedo (looks like a candelabra lamp), G-lamp (globe shaped) and others. These energy saving lamps will fit into the same sockets as their incandescent counterparts.

***CRI** – **C**olor **R**endering **I**ndex, the ability of a light source to illuminate an object so that the viewer sees the object in its true colors. Sunlight is the standard with a CRI of 100, standard (magnetic ballast / older tube type fluorescents) have a CRI of 60 to 65.

For more information, and to purchase energy efficient lighting contact:

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Will Emergency Personnel be able to find your house?

When every second counts...Emergency personnel are trained to respond quickly to save lives. Unfortunately, most house numbers are virtually impossible to see at night. This puts you and your loved ones in danger. The law requires clear identification of all homes. Many lives are lost each day simply because those laws are not enforced and people fail to do their part...



ON YOUR FENCE



ON YOUR MAILBOX



AT YOUR ENTRANCE

EZ VIEW

**Charges
All Day ...
Glow
All Night.**

SOLAR POWERED ILLUMINATED HOUSE NUMBERS

- SOLAR POWERED
- NEVER EXPERIENCE A PARTIALLY ILLUMINATED ADDRESS
- ENVIRONMENTALLY FRIENDLY
- TURNS ON AND OFF AUTOMATICALLY
- VISIBLE FROM OVER 100 FT.
- 1,000 HRS. RESERVE POWER
- WEATHERPROOF
- MAINTENANCE FREE
- EASY INSTALLATION
- UNITS SNAP TOGETHER
- CONTEMPORARY DESIGN
- CAN BE ATTACHED TO ANY SURFACE
- 2-YEAR WARRANTY

As featured
in the
NY Times!



Charges all day. Glows all night.



Units snap together!

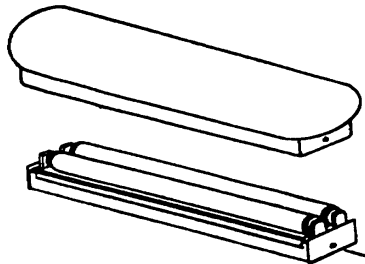
For more information,
please contact:
1-888-329-2705
www.ecosmartinc.com



Energy Efficient Lighting: Electronic Ballast Fluorescent Fixtures



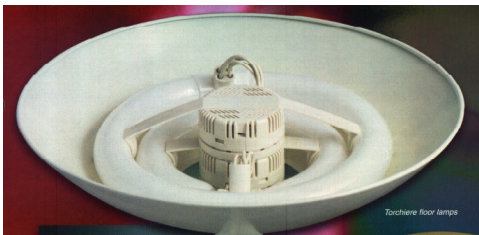
Electronic ballast fluorescent fixtures use 30 to 50 percent less energy than standard (magnetic ballast) fluorescents, have higher color rendition (75 to 85 CRI*), have higher lumen maintenance (90% of light original light level is maintained, vs. 50% for magnetic ballast), and operate without the hum and flicker typically associated with fluorescent fixtures. The key to these advantages is the electronic ballast which operates at a much higher frequency than magnetic ballasts, and the T8 lamps (8 eighths of an inch in diameter versus a standard T12 lamp at 12 eighths of an inch diameter) which are coated with special tri-phosphors to provide the higher color rendering light and are rated to last 20,000 hours. Electronic ballasts for are rated to last 100,000 hours.



This “Cloud” fixture can be wall or ceiling mounted, with a typical use as a bathroom over-vanity fixture. A 4’ fixture using two T8 lamps and an electronic ballast uses 62W of electricity to produce the light of a 95W magnetic ballast / T12 fluorescent or replaces the “Hollywood” vanity fixture with six or eight 60W incandescent globe bulbs using 360W to 480W. The core of this fixture is a fluorescent strip fixture which can be used independently of the “Cloud” lens to provide indirect lighting over kitchen cabinets or alcoves.



Ceiling mounted fixtures using electronic ballast circular fluorescent lamps come in a variety of styles and shapes. The typical ceiling dome fixture uses only 22W of electricity to provide the light output of over 100W of incandescent light. Light is evenly diffused and much cooler than incandescent fixtures, saving additional air conditioning expenses. These circular lamps typically have a CRI of 85, high lumen maintenance and a rated life of 20,000 hours for the replaceable lamps and 50,000 hours for the ballast.



This “Torchiere” Floor Lamp uses two concentric circular electronic ballast fluorescent lamps to provide a 3-way operation of 55W-32W-23W equaling 250W-150W-100W incandescent light output. This cool-operating fixture avoids the fire hazards and air conditioning heat load of the standard halogen floor lamp.

*CRI – Color Rendering Index, the ability of a light source to illuminate an object so that the viewer sees the object in its true colors. Sunlight is the standard with a CRI of 100, standard (magnetic ballast / older tube type fluorescents) have a CRI of 60 to 65.

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The Eco-\$mart Catalog

Lighting

Healthy, Efficient, Disaster Resistant Products for Better Living



LED Replacement Lamps

LED is the most efficient light source available. LED lamps last 3 to 5 times longer than fluorescent and 20 to 30 times longer than incandescent bulbs. LED costs less to maintain, reduces energy costs and reduces the need for higher rated cable, transformers and ballasts. Virtually waterproof, LED lamps are durable, shock and vibration proof. LED lamps are much safer as well, producing little heat, no UV rays and no harmful gases.

Item Number: LTL-
Unit of Issue: Each
Price: [Price List](#) PDF

LED Fluorescent Tube Retrofit

Strip Light (T5)



Sized to replace T5 fixtures, strip lights are available in lengths 12 to 58" & custom. All

aluminum body with snap-in installation. Spring steel mounting clips, power cord and jumpers.

T8 Lamp Retrofit



Fully encapsulated, 110 or 277 Volt, T8 medium bi-pin mounting

integrates energy saving LED technology into a standard T8 fluorescent format.

Tube Light



Designed for commercial coolers, tube lights are water tight and produce little to no heat. Mounted with two snap-in steel clips.

LED Incandescent & CFL Standard Bulb Retrofit

A19 Series



Fully encapsulated, 120 Volt, 3 Watt, A19 medium base mount retrofit LED

bulb. Also available with frosted acrylic envelope.

E50 & E60 Series



Fully encapsulated, 120 Volt, 7 Watt, E26 or E27 medium base mounting integrates energy saving High

Power LED technology into a standard incandescent format.

CFL Hi Lumen Series



Fully encapsulated, 120 Volt, 6 Watt or 10 Watt, medium base

mounting integrates energy saving LED technology into a standard A19 or CFL format.

LED Incandescent Candelabra & Small Base Globe Retrofit

Candelabra Medium Base



Fully encapsulated, 120 Volt, 2 Watt, E26 base mounting integrates energy saving LEDs into

a clear poly envelope in standard 'candle' format.

Candelabra Small Base



Fully encapsulated, 120 Volt, 2 Watt, candelabra E12 base mounting integrates

energy saving LED technology into a clear poly envelope in standard 'candle' format.

G16 Globe Small Base



Fully encapsulated, 120 Volt, 2 Watt, E12 candle base mounting

integrates energy saving LED technology into a standard G16 format.

LED Flood Lamp, Site Roadway, and Rope Light Page 2

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LED Flood Lamp Retrofit - GU Series

GU10 Flood (MR16)



Fully encapsulated, 120 Volt, 3 Watt, GU10 mounting integrates energy saving LED

technology into a MR16 format.

GU10 Hi Power (MR16)



Fully encapsulated, 120 Volt, 3 Watt, GU10 mounting integrates energy saving Hi Power LED

technology into a MR16 format.

GU10 Mount (PAR20)



Fully encapsulated, 120

Volt, 6 Watt, GU10 base integrates energy saving Hi Power LED technology into a standard PAR20 format.

LED Flood Lamp Retrofit - JDR Series

JDR Flood (MR20)



Fully encapsulated, 120 Volt, 3 Watt or 6 Watt, JDR E26 med. base mounting that integrates energy saving Hi Power LED technology into a JDR or MR20 format.

JDR Decorative Flood (PAR20)



Fully encapsulated, 120 Volt, 9 Watt, JDR / E26 med. mounting that integrates energy saving High Power LED technology into an unusual and decorative format.

LED Flood Lamp Retrofit - MR Series

MR11 Flood



Fully encapsulated, 12 Volt, 3 Watt, G4 bi-pin mounting that integrates energy saving LED technology into a MR11 format.

MR16 Flood



Fully encapsulated, 12 Volt, 2 or 3 Watt, GX5.3 bi-pin mounting or 120 Volt, 3 Watt JDR Mounting, integrate energy saving LED technology into a lensed MR16 format.

MR16 Flood Hi Lumen



Fully encapsulated, 12 Volt, 3 Watt, bi-pin mounting or 120 Volt JDR mounting both integrating energy saving High Power LED technology into a standard MR16 format.

MR20 Flood



Fully encapsulated, 120 Volt, 6 Watt, bi-pin base mounting that integrates energy saving hi power LED technology into a standard MR20 format.

LED Flood Lamp Retrofit - PAR Series

LED PAR Series



♦ [PAR20](#) ♦ [PAR30](#) ♦ [PAR38](#)
Fully encapsulated, 120 Volt, 3 Watt, screw-in medium base mounting integrates energy saving LED technology into a standard PAR format.

LED PAR Mount Series



Fully encapsulated, 120 Volt, 7 Watt, screw in medium base mounting that integrates energy saving Hi Power LED technology into a standard PAR format.

LED Road and Site Lighting

Site Roadway / Wall Pack Lamp



Mogul base Hi Power 38W LED Site Roadway or Wall Pack Lamp that produces the equivalent of 200W HPS light output in an energy saving, 50,000 hr. alternative to Metal Halide, HPS, Fluorescent, or Incandescent lighting.

LED Rope Light

Rope Light



Flexible transparent 1/2" diameter rope houses horizontally arranged LED diodes to create a unique linear glow for architectural illumination, accent lighting, and colorful linear light displays without heat, flicker and utilizing extremely low energy levels.

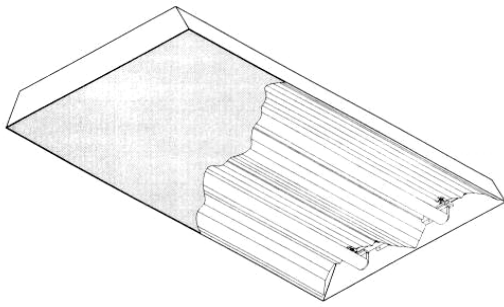
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Energy Efficient Lighting: Electronic Ballast Fluorescent Fixtures – Commercial



Electronic ballast fluorescent fixtures with reflectors use 40 to 70 percent less energy than standard (magnetic ballast) fluorescents, have higher color rendition (75 to 85 CRI*), have higher lumen maintenance (90 to 95% of light original light level is maintained, vs. 50% for magnetic ballast), and operate without the hum and flicker typically associated with fluorescent fixtures. The key to these advantages is the electronic ballast which operates at a much higher frequency than magnetic ballasts, and the T8 or T5 lamps (8 or 5 eighths of an inch in diameter versus a standard T12 lamp at 12 eighths of an inch diameter) which are coated with special tri-phosphors to provide the higher color rendering light and are rated to last 20,000 hours. Electronic ballasts for are rated to last 100,000 hours.

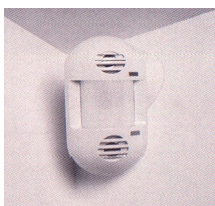


This 2' x 4' lay-in fixture uses an electronic ballast, two T8 lamps and a reflector, using only 62W of electricity to provide the light output of a 4-lamp magnetic ballast fixture using 190W. The reflector positions the lamps symmetrically in the fixture and drives more light out of the fixture than a standard flat, white top of a fixture cavity. This reflector, electronic ballast and T8 lamp setup can also be retrofitted into existing lay-in fixtures for big energy savings.



20,000 hour lamp life).

T-5 Electronic Ballast High Output Fixture – This fixture replaces high-bay HID fixtures in retail, manufacturing and warehouses. The 16" x 4' fixture with four T-5 lamps and a specular reflector uses only 234W to provide the light output of a 450W metal halide fixture (typical in Home Depot, Gymnasiums, Manufacturing). Other advantages over HID include instant re-strike, high color rendition (84 CRI vs. 60 CRI) and 95% lumen maintenance (only 5% light loss over



Occupancy and Light Level Sensors are often an excellent compliment to energy efficient lighting. With instant re-strike fixtures, light fixtures can be turned fully or partially off, only to be brought to full brightness when the room is occupied, or when daylight levels are not sufficient for the task. These strategies can add an additional 25 to 50 percent energy savings to a commercial lighting project.

***CRI** – **C**olor **R**endering **I**ndex, the ability of a light source to illuminate an object so that the viewer sees the object in its true colors. Sunlight is the standard with a CRI of 100, standard (magnetic ballast / older tube type fluorescents) have a CRI of 60 to 65.

For more information, and to purchase energy efficient lighting contact:

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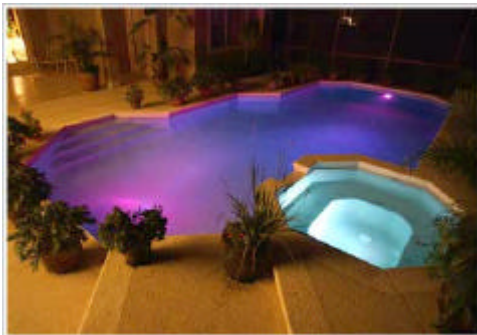


Energy Efficient Lighting: Fiber Optic and LED Lighting

Fiber Optic lighting offers remote light source, energy efficient lighting with no heat or UV output at the light fixture. White light can be changed to a myriad of colors with a controllable color wheel. Applications include residential and commercial pools, landscape lighting, sign lighting, cove lighting, lighting artwork - the only limit is your imagination.



LED lights use one tenth the energy of incandescent lights, last 100,000 hours, have virtually no heat output, and come in a variety of colors. LED lighting can be used to replace sign back lighting, cove lighting and even standard light bulbs in sockets.



For more information, and to purchase Fiber Optic and LED lighting contact:
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Eco-Smart, Inc.

Solar Lights Solar Powered Lighting



Eco-Smart offers a wide selection of Outdoor Lights that use Solar Energy to produce Bright Light all night. From a one-and-a-half foot Path Light to a 23' high Road Light. This selection includes a full range of power from 1 Watt to 24 Watts of Hi Bright LED Light to serve every Outdoor Lighting need. No external wiring is necessary and all units are provided with high quality batteries that include fire protection. All Electrical Enclosures are dust and water proof (safety rated at IP65). These high Solar Powered Lights are built to last and will pay for themselves over time as well as enhance their surroundings with beautiful design and pollution free renewable source light.

- **Garden and Yard Lights** Page 2
- **Artistic Lights** Page 3
- **Road Lights** Page 3
- **Street Lights** Page 4 - 5

Example LTSSL-14

Height: 4.0M (approx. 13')
Light Source: High bright LED
Battery: High Quality, Fire Protection
Working Time: 8~10 Hours per Day

Power: 7W * 2
Material: Spray Painted Zinc
PV Panel: Mono / Multi-crystalline
Safety Level: IP65
Cloudy / Rainy: Consecutive 7 days

Garden Lights



Artistic Lights



Road Lights



Street Lights



Eco-\$mart Solar Lights **Street Lights with Solar Power**



LTSSL-09
Power: 5W
Height: 3.0m (approx. 10')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days



LTSSL-10
Power: 5W
Height: 3.0m (approx. 10')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days



LTSSL-11
Power: 5W * 2
Height: 3.5m (approx. 11-1/2')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days



LTSSL-12
Power: 18W
Height: 4.0m (approx. 13')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days



LTSSL-13
Power: 5W * 2
Height: 3.5M (approx. 11-1/2')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days

(LTSSL-14 Shown on Page 1)



LTSSL-15
Power: 12W
Height: 4.0M (approx. 13')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days



LTSSL-16
Power: 12W
Height: 4.0M (approx. 13')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days



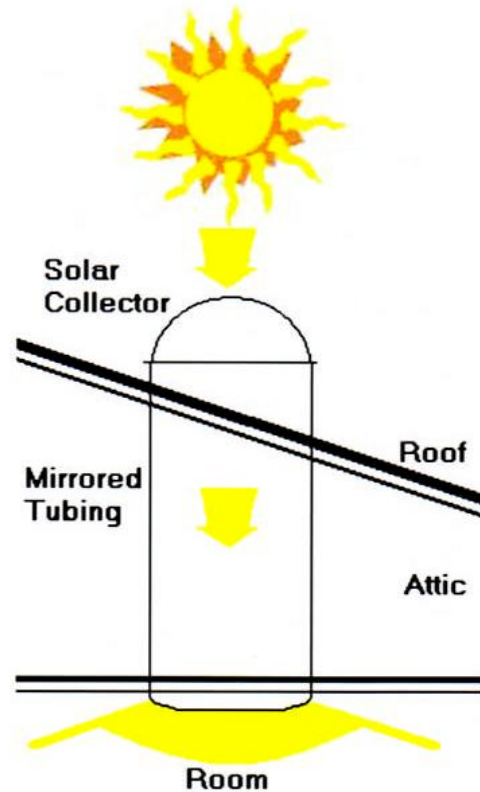
LTSSL-17
Power: 5W
Height: 3.0m (approx. 10')
Material: Spray Painted Zinc
Light Source: High bright LED
PV Panel: Mono / Multi-crystalline
Battery: High Quality, Fire Protection
Safety Level: IP65
Working Time: 8~10 Hours per Day
Cloudy / Rainy: Consecutive 7 days

Why You Should Choose Sun-Domes

- Successfully withstood 4 Hurricanes with NO leaks!
- High impact polycarbonate dome is virtually unbreakable (withstands Hail).
- 10 Year Warranty provided.
- Sturdy 0.040 Aluminum Flashings won't rust or leak!
- Units are easy to install.
- No structural modifications are necessary.
- Adjustable tubes (standard with each 10" & 13" kit) make it easy to bypass attic obstacles.
- Convex Diffuser evenly brightens any area.
- 4 Flashings are available to match any roof slope.
- Custom Flashings are available for metal roofs upon request.
- No heat gain or loss, or fading associated with Sun-Dome® units.
- Highly reflective light transfer tubes.
- Reduce A/C loads.
- All Natural Light!

"All skylights are not created equal."

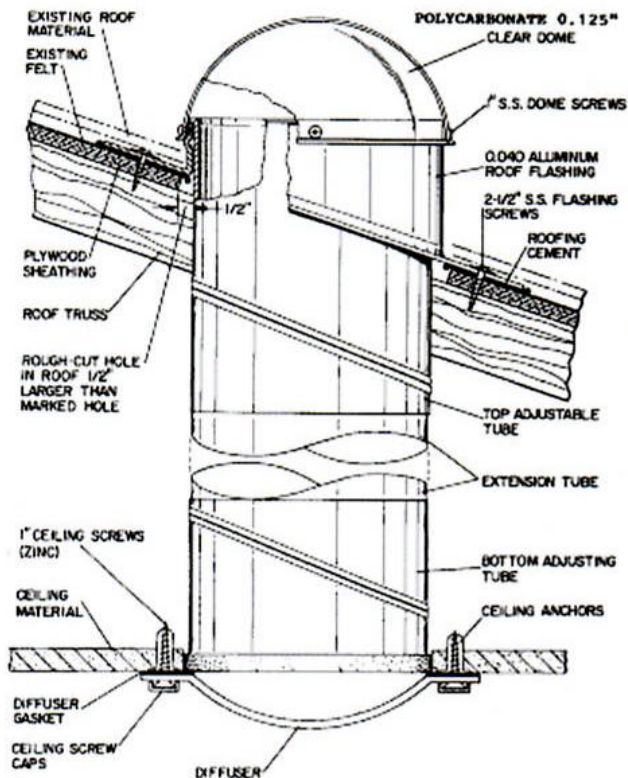
¡PLUG INTO THE SUN!



**Dade County Hurricane Impact tested:01-1011.02
FBC-1628. All units meet code.**

Available in 3 sizes: 10", 13", 21"

**10" Lights 100 sq. Ft.
13" Lights 250 sq. Ft.
21" Lights 600 sq. Ft.**



Money isn't all you're saving

ECO-SMART, Inc. 1-888-329-2705

www.ecosmartinc.com

Natural Lighting

FEATURES

- Can eliminate up to 90% of electrical lighting needs during daylight hours saving significant money on electrical energy cost.
- Best Visible light light transmission of 89% without loss of color 100 CRI full spectrum.
- Unbeatable radiation barrier can produce up to R-48 insulation value.
- Easy drop down system to ensure simple leak proof installations.
- Side extraction available to produce up light.
- Minimal roof penetration needed for uniform light distribution, skylight to floor ratio approx. 2%

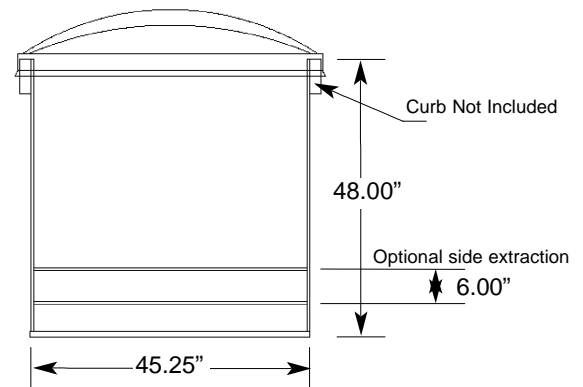


SPECIFICATIONS

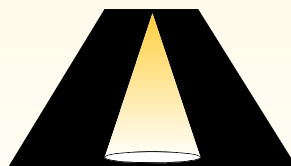
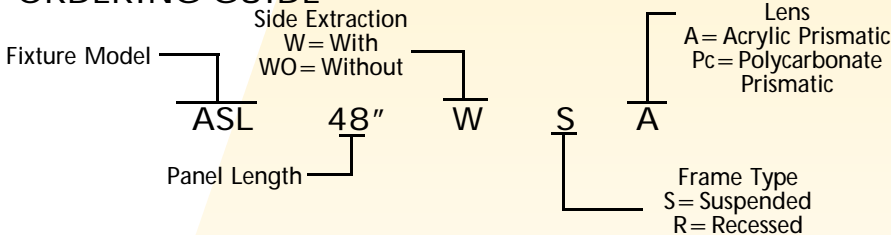
- PANELS: .50" foam board with white plastic laminate on outside of panel and .020 95% specular material on inside of panel.
- BOTTOM LENS: .1875 prismatic acrylic or polycarbonate
- TOP DOME: High impact clear acrylic double dome with extruded aluminum frame.

CROSS SECTION

Cross section shown is standard 4X4 Suspended Frame. Size of opening may vary with different installations. Length is standard 48" custom lengths may be specified.



ORDERING GUIDE



Distributed by: Eco-\$mart, Inc.

4411 Bee Ridge Rd. #344, Sarasota, FL 34233

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PLC MULTIPOINT, INC.

LCM-WH Series

Warehouse Photo Lighting Controller

DESCRIPTION

The **LCM-WH** photo sensor lighting control systems automatically switches lights in response to changes in natural daylight. The **LCM-WH** consists of a microprocessor controller, Hand/Off/Auto switches, terminal blocks with 4 and 8 pole 20A lighting contactors all housed in a surface mount enclosure. The **LCM-WH** also comes with an skylight photodiode sensor.

The standard **LCM-WH** has one skylight control channel capable of switching groups of fixtures in response to natural lighting provided by skylights. Motion sensors are available to work through the **LCM-WH** for combination daylight harvesting and occupancy monitoring. By allowing the lights to come on (or to the high level for HID bi-level) only when there is both inadequate natural light to operate and someone is in the zone, energy savings are maximized.

ADJUSTABILITY/OPERATION

The **LCM-WH** is easily configured for the appropriate lighting level to optimize energy savings. The LCD Screen prompts you to enter photo sensor setpoint limits and lets you override the controller.

Lights turn ON at the Low setpoint and Off at the High setpoint with digital precision. The deadband keeps the lights stable during changing conditions. Bi-level ballasts are powered on to full level for a short warm up period. All products are factory tested and pre-calibrated to assure maximum reliability.

CONSTRUCTION

The **LCM-WH** controller has been designed with safety in mind. The processor is located in the low voltage compartment, ensuring safety during adjustment. The low voltage sensor housing meets flame retardant requirements of UL standard 94V-0. All products are factory tested and pre-calibrated to assure maximum reliability.

The entire assembly is mounted in a surface mount NEMA/EEMAC TYPE 1 enclosure with the high and low voltage components separated by a barrier. The **LCM-WH** is constructed to ANSI/UL 508 and CAN/CSAC22.2-14M91 standards and each unit carries an Electrical Testing Laboratories label.

APPLICATION

The **LCM-WH** is an ideal system for multiple circuit warehouse lighting control where operating cost reductions are required. The system can be configured for the different control requirements for high or low racked inventory, kit assembly areas, and shipping/receiving. For more information these applications, contact **PLC-Multipoint**. Mixed lighting loads (HID, fluorescent and incandescent) can be all accommodated in a single unit.

COMMUNICATION

The **LCM-WH** communicates with a PC either through a modem, directly, or any of the other communication options. The software allows remote monitoring of the system and the ability to make remote changes from a remote location.



FEATURES

The advantages of using the **LCM-WH** lighting control system are found in stability, versatility, quality and accuracy.

The **LCM-WH** offers a complete installation package. Once mounted, the sensor, power, and lighting loads need only to be wired, and the **LCM-WH** is ready to operate.

Other advantages are:

- **Easy adjustment of On and Off set points using front buttons or optional PC software.**
- **Accumulated Run Time Hours are logged.**
- **4 Modes of Operation : OnOverride, Off Override, Setup (No timers) and Auto (Full program).**
- **Standard 32 circuits, are expandable in groups of 4.**
- **Base system uses single skylight linear photodiode sensor calibrated to 10,000 FC. Additional indoor or outdoor photo diode sensors can be calibrated as specified.**
- **Footcandle readings shown on LCD.**
- **Optional timeclock available.**
- **Input time delay prevents intermittent or false switching.**
- **1/2 Hour Hold On timer prevents High Intensity Discharge lighting from short cycling. Bi-level ballast warm up period.**
- **Program saved in nonvolatile EEPROM. Operating data protected by non-battery 20 day power back up.**
- **A 2 Year Warranty assures the user of the highest standards of manufacture as well as customer service and satisfaction.**

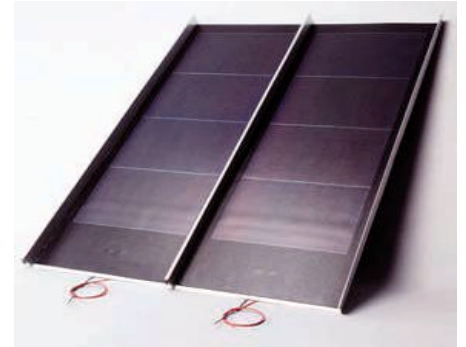


Photovoltaic Power Systems

Photovoltaic (PV) power systems convert sunlight directly into electricity. There are two primary types of PV cells: crystalline silicon and amorphous silicon. Crystalline cells require a glass enclosure to protect them, while amorphous cells can be exposed directly to the weather, are flexible, durable and maintain their performance level better in high temperatures, although they also take more space and are typically more expensive. The amorphous PV panels are also available in what is known as Building Integrated Photovoltaics or BIPV.



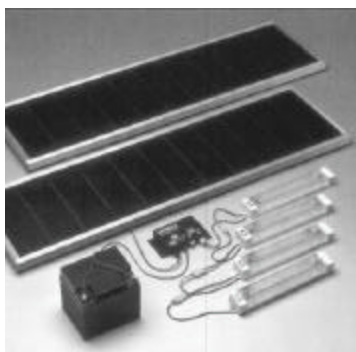
BIPV systems include shingle roofing and metal roofing with PV cells incorporated into them. These roofing systems generate electricity and provide long-lasting roofing at the same time. The amorphous silicon PV cells that are part of the roofing are guaranteed to perform to at least 80 percent of the rated power output after 20 years of use.



PV systems electrical directly, or electricity in later, at night emergencies backup systems have both commercial reliable, power desired.



can power equipment be used to store batteries for use and/or during requiring power. PV applications in residential and buildings where earth-friendly generation is



PV power can be small applications. be accomplished systems sized to number of nighttime lighting required. systems can also be primary power to manufacturing



used in large and Remote lighting can with simple, packaged accomplish the hours and quantity of Large commercial designed to provide retail and facilities.



FLEXI-PAVE™

Porous Recycled Rubber Paving Systems

Benefits:

- Reduces storm water runoff
- Reduces landfill waste
- Flexible, durable, low maintenance surface
- Suitable for parking lots, private roadways, sidewalks, recreational paths
- Can reduce retention requirements
- Eliminates pot holes
- Available in many colors
- Slip resistant
- Resistant to UV degradation

Description: Flexi-Pave™, manufactured by K.B. Industries, Inc., is a pour-in-place, pervious, recycled rubber paving and pathway surface. Made from recycled rubber tires with an optional aggregate (for heavy duty applications), Flexi-Pave™ can reduce or eliminate retention requirements for storm water runoff. The recycled rubber and binding agents are both resistant to UV light degradation. The flexible surface does not crack, and will not develop potholes, as with conventional paving surfaces. Flexi-Pave™ has been used for sidewalks, recreational paths, parking lots and roadways, and is available in a multitude of colors.

Eco-\$mart, Inc. is an affiliate of:



K.B. Industries, Inc.

“The Innovative Force Behind Tire Re-Cycling”



For more information, contact:

Eco-\$mart, Inc. at 888-329-2705 or www.ecosmartinc.com

All Eco-\$mart products are approved by the nonprofit Florida House Institute for Sustainable Development www.i4sd.org.



Ecological Permeable Paver System

Proprietary Shapes

Two exclusive shapes in permeable pavers for use in Ecological Paver Systems for heavy duty traffic in streets, parking lots, and driveways.

Aqua-Loc™
Nominal Dimensions
4-1/2" x 9" x 3-1/8"



Eco-Brick™
Nominal Dimensions
4-1/2" x 9" x 3-1/8"



Two Aqua-Bric styles in permeable pavers for use in Ecological Paver Systems for light duty traffic in sidewalks, foot paths, and entry ways.

Aqua-Bric™
Nominal Dimensions
5" x 10" x 2-3/8"



Aqua-Bric™
Nominal Dimensions
5" x 10" x 2-3/8"

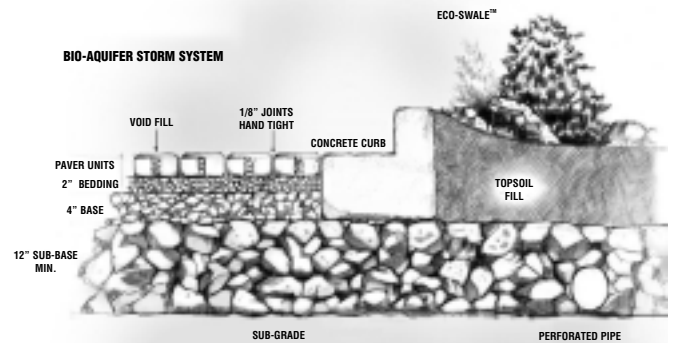


[Ecological Paver Systems >>](#)

When used as part of APT's exclusive BASS™ method, these pavers allow for natural stormwater drainage and groundwater recharge, making the paved surface ecologically sound and economically smart. In fact, the BASS™ method is an acceptable post-structural Best Management Practice (BMP) used to meet the federal stormwater management requirements. Roads and parking lots created using BASS™ with these porous pavers offer vast benefits:

- Meeting EPA stormwater requirements with a superior solution
- Achieving significant savings through enhanced land planning
- Outperforming other systems in harsh climates with freeze/thaw cycles
- Delivering maximum strength to handle heavy vehicular traffic
- Producing remarkable curb appeal and convenient maintenance access
- Providing outstanding results on a 30-year life-cycle cost analysis

Aqua-Loc and Eco-Brick are proprietary shapes, available only from APT. The pavers are manufactured according to ASTM 936 specifications. They can be produced in a variety of custom colors and installed using manual or mechanical methods. The new paver shapes can also be combined during installation to achieve a number of attractive patterns in a permeable system



Ecologically sound. Economically smart. And exclusively from APT.

For more information about the BASS™ program, please contact APT toll-free at (888) 329-2705



Represented by: Eco-\$mart, Inc.
4411 Bee Ridge Rd. #344, Sarasota, FL 34233
Toll-free (888) 329-2705 Fax (941) 377-9460
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Florida Friendly Landscaping - Reduce water, fertilizers, pesticides and labor.





ENERGY STAR®

SEARCH

A NEW ENERGY STAR® QUALIFIED HOME IMPROVES OUR ENVIRONMENT

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A new ENERGY STAR qualified newhome performs better for the homeowner and the environment thanks to a variety of energy-efficient features.

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ENERGY STAR qualified new homes are certified to meet strict energy-efficiency guidelines set forth by EPA.

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ENERGY STAR qualified new homes use tried and true technologies and construction practices.

Benefits of ENERGY STAR Qualified New Homes

ENERGY STAR qualified new homes are high quality, comfortable homes that cost less and are good for the environment.

New Homes Partner Locator

Find local partners that build, market, and promote ENERGY STAR.

Just one ENERGY STAR qualified new home can keep 10,000 pounds of greenhouse gases out of our atmosphere each year.

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Florida Green Building Coalition

Welcome to the Florida Green Building Coalition (FGBC)



FGBC is a nonprofit Florida Corporation dedicated to improving the built environment. Its **mission** is "to provide a statewide Green Building program with environmental and economic benefits."



Certified green homes earn their designation through energy and water efficiency, site planning, healthy materials, durability and other green practices. Home: Pruet Builders, Sarasota

Verandah is certified as Florida's first green development in Ft. Myers

Over 25 multi-ton live oak trees were moved and preserved in Verandah

Verandah™

Has Earned the Designation of
GREEN DEVELOPMENT
APRIL 2003



Florida Green Building Coalition, Inc.

