



***Epoch Homes Green
Building System
2007***

Introduction

This manual is the start of Epoch Homes Green Building Program; this program will continue to be expanded over the next year as Epoch finds new ways to meet the needs of our customers. It is Epoch's intent to be able to provide the materials and processes to allow our builders and their customers to achieve the highest green rating that they would like to aspire to.

If you have ordered a house from Epoch Homes you have already started to build a Green House. Building a home using modular construction is a very effective way to make the best use of materials, manufacturing efficiencies and offers protection of the framing process from the elements. Epoch offers the option of using open web floor trusses to reduce the recourses needed to construct floors. Using modular construction minimizes the disturbance at the site and will reduce local traffic to the construction site.

The first items that are being introduced into our process will be new glues, paints and sealants with low VOC content. These changes will be happen over the next month or two.

It is our intent to do a test house in May of 07 with sprayed in Icynene insulation that is 100% water-blown and environment friendly. Icynene is soft foam insulation and air barrier that significantly reduces air movement in and out of a house. Air leakage accounts for as much as 99 percent of the moisture movement in a house. Minimizing airflow through a house is the most effective method of designing a healthy, durable and efficient home.

One of the important parts of any of the Green Building programs is educating the homeowner in the maintenance and operation of their home. So Epoch Homes will be putting together a Homeowners Manual that the builder will present to the homeowner at the completion of the project. For example this manual will include information on habits and actions to optimize water and energy use, household recycling opportunities, narrative detailing the importance of maintenance and operation to keep their green house green. It will also include all of their warranty and operation information for their home.

In preparing this manual we have used information and data from both the National Home Builders Association's Green Building Guidelines and the U.S. Green Building Council's LEED's program for the purpose of introducing our builders to Green Building.

Green Home Building

Frequently Asked Questions

What is a Green Home?

A green home uses less energy, water and natural resources; creates less waste and is healthier for people living inside. There are many shades of green building; which refers to the various levels of achievement in adopting resource efficiency in a home. Homes with one or two green measures are considered light green, while homes with several green measures are called dark green. There are several programs that attempt to quantify the level of greenness such as U.S. Green Building Council and NAHB. The LEED rating program has four levels of green: Certified, Silver, Gold and Platinum. The NAHB's Green Building program has three tiers Bronze, Silver and Gold.

Why build Green?

There are many reasons to change the way we build and operate homes in 2007. Building a new home will always affect the environment, so when we build a Green Home we work towards minimizing the environmental impact. In the United States buildings account for the following percentage:

- a. 39% of energy use
- b. 12% of water consumption
- c. 68 % of total electricity consumption
- d. 38% of the carbon dioxide emissions

It is clear that if we can build Green and reduce those numbers we can have a very positive affect on the environment.

What are the benefits of a Green Home?

Green homes are safer, healthier, more comfortable, and more durable than conventional homes and will greatly improve the overall quality of life for the homeowners. There are many other benefits to building a green home, starting with the environmental benefits such as improved air and water quality, reduced exposure to mold, mildew and other indoor toxins, reduce waste streams, conservation and restoration of natural resources along with enhancing and protecting ecosystems. In addition there are the economical benefits like lower operating cost, enhanced durability, less maintenance and optimized life cycle economic performance. The last large benefit comes from the social side of green building, increased occupant comfort and health; heightened aesthetic qualities and reducing the strain on local infrastructure.

How Green Are Epoch Homes Today?:

There are many ways that Epoch Homes is already a green company. The Leadership in Energy and Environmental Design (LEED) organization has created a rating system to define and measure “Green Buildings” based on existing and already proven technology. In addition the National Association of Home Builders (NAHB) has created the Green Home Building Guidelines for use by homebuilders. Here at Epoch, we have already instituted many of these practices and there are many more that can be accomplished over time.

Epoch makes it a standard practice to control waste and our employees work together as a team to make the best and most efficient use of materials. By doing all of the rough framing in a controlled environment allows us to keep all materials dry and away from the elements, this helps to reduce the chance of mold and other toxins from later contaminating the indoor air quality.

Local communities are looking for ways to minimize the impact of construction on local infrastructure at the building site. By building with modular construction you can reduce the traffic to a building site by delivering a house that is 80% complete house in one day as opposed to trucks delivering materials day after day.

What is LEED for Homes?

LEED for Homes is a green home rating system for ensuring that homes are designed and built to be energy and resource efficient and healthy for occupants. LEED can be applied to single and multi-family homes and is intended for both market-rate and affordable housing. The U.S. Green Building Council (USGBC) originally developed the LEED green building rating system in 2000 for new commercial construction. Following LEED’s success in the commercial sector, USGBC began the pilot test of LEED for homes in August 2005. There are currently over 5,800 homes across the U.S. involved in the LEED for Homes pilot program and more than 150 that have already been LEED certified as a green home. The LEED for Homes pilot test will conclude in spring 2007 and USGBC will publicly launch the LEED for homes rating system in June 2007.

What is Energy Star?

ENERGY STAR qualified homes are at least 15 percent more energy efficient than homes built to the 2004 International Residential Code (IRC). Any home three stories or less can earn the ENERGY STAR label if it has been verified to meet EPA's guidelines for energy efficiency. This includes site-constructed homes, attached or detached homes, single or low-rise multi-family residential buildings, manufactured homes, systems-built (e.g., SIP or modular) and log homes, existing homes, or retrofitted homes. ENERGY STAR qualified homes achieve energy savings through established, reliable building technologies. Builders work with Home Energy Raters to select from a number of features when planning and building homes.

1. Effective Insulation

Properly installed, climate-appropriate insulation in floors, walls, and attics ensures even temperatures throughout the house, less energy consumption, and increased comfort.

2. High-Performance Windows

Energy-efficient windows employ advanced technologies, such as protective coatings and improved frame assemblies, to help keep heat in during winter and out during summer. These windows also block damaging ultraviolet sunlight that can discolor carpets and furnishings.

3. Tight Construction and Ducts

Sealing holes and cracks in the home's "envelope" and in duct systems helps reduce drafts, moisture, dust, pollen, and noise. A tightly sealed home improves comfort and indoor air quality while reducing utility bills.

4. Efficient Heating and Cooling Equipment

In addition to using less energy to operate, energy-efficient heating and cooling systems can be quieter, reduce indoor humidity, and improve the overall comfort of the home. Typically, energy-efficient equipment is also more durable and requires less maintenance than standard models.

5. Lighting and Appliances

ENERGY STAR qualified homes may also be equipped with ENERGY STAR qualified products — lighting fixtures, compact fluorescent bulbs, ventilation fans, and appliances, such as refrigerators, dish washers, and washing machines. These ENERGY STAR qualified products provide additional energy savings to the owner.

6. Third-Party Verification

With the help of independent Home Energy Raters, ENERGY STAR builder partners choose the most appropriate energy-saving features for their homes. Additionally, raters conduct onsite testing and inspections to verify that the homes qualify as ENERGY STAR.

What is NAHB's Voluntary Model Green Home Building Guidelines ?

The exploding market for sustainable, environmentally friendly and recycled building products, along with the greater availability of educational opportunities for builders, has accelerated green building's acceptance rate. By the end of 2007, more than half of NAHB's members, who build more than 80 percent of the homes in this country, will be incorporating green practices into the development, design and construction of new homes.

NAHB's voluntary Model Green Home Building Guidelines are designed to be a tool kit for the individual builder looking to engage in green building practices and home builder

associations (HBAs) looking to launch their own local green building programs. Since their debut in 2005, the Guidelines have helped move environmentally friendly home building concepts further into the mainstream marketplace.

Currently, there are approximately 50 locally grown green building programs across the country, many of which are run by the local home builders' association (HBA). Eleven of these programs are voluntary, HBA-driven efforts, based on the NAHB Model Green Home Building Guidelines; and approximately ten additional Guidelines-based programs are under development.

The Guidelines contain six primary sections:

- Lot Preparation and Design - Even before the foundation is poured, careful planning can reduce the home's impact on natural features such as vegetation and soil; and enhance the home's long-term performance. Such preparation can provide significant value to the homeowner, the environment, and the community. Included for the end user, especially developers, is a Site Planning Appendix that closely mirrors this section and provides additional guidance.
- Resource Efficiency – Advanced framing techniques and home designs can effectively optimize the use of building materials. This section also details how careful material selection can reduce the amount of time and money needed for home maintenance; and demonstrates equally important construction waste management concepts.
- Energy Efficiency – This is the most quantifiable aspect of green building. The information in this section will help a builder create a better building envelope and incorporate more energy efficient mechanical systems, appliances, and lighting into a home, yielding long-term utility bill savings and increased comfort for the homeowner.
- Water Efficiency/Conservation – Although, the relative importance of water availability and usage varies from region to region, the concern with adequate supply is becoming more widespread geographically. Experience also shows that employing the line items from this section of the Guidelines for indoor and outdoor water use can reduce utility bills, regardless of location.
- Occupancy Comfort and Indoor Environmental Quality – Effective management of moisture, ventilation, and other issues can create a more comfortable and healthier indoor living environment.
- Operation, Maintenance and Education - Given the level of effort that a home builder goes through to create a well thought out home system, it would be a shame not to give the home owner guidance on how to optimally operate and maintain the house. Line items from this section show a builder how best to educate homeowners on the features of their new green home.

In summary, the voluntary Model Green Home Building Guidelines are for the mainstream homebuilder. They will help systematize the green design and construction process and assist the builder toward incorporating more green building features into homes. As NAHB Research Center data indicates that there is a growing number of green homes

built annually, it is expected that these voluntary Guidelines will help builders meet the needs of this growing market.

Which Program Will Epoch Use?

In addition to the Energy Star ratings which have been available from Epoch Homes since 2000, Epoch is now offering a standard based on NAHB's Green Building Guidelines and working towards compliance with LEED's as that program becomes more widespread. LEED homes are rated by "LEED for Homes Providers", local organizations with demonstrated experience and expertise in their region's market. A LEED for Homes Provider has three primary roles in a given market:

- Marketing LEED to builders;
- Providing green home rating support services to builders;
- Training, coordinating, and overseeing LEED qualified inspectors and builder support staff.

Why Not Start With LEED's?

The LEED's program is much more involved and is very difficult to achieve. It will require much greater participation in the design and construction process for the Builder, Architect and Site Planner. In addition the cost to achieve and acquire LEED certification can become an issue for many homeowners.

How Much Will It Cost To Earn A Leed Home Rating?

Documentation and verification fees for LEED are established by each LEED for Homes Provider. Fees for the initial verification tasks range from \$500 to \$3,000 per home. The cost of verification and time to complete the process will vary with size of the home, the LEED performance tier (i.e., Certified, Silver, Gold, Platinum), travel time required by the rater, the number of homes being built, and the builder's experience with green home building techniques. Certain areas may have cost incentives provided through utilities, state energy organizations or corporate sponsors.

What Are The Levels Of The Green Building Program?

There are three different levels of green building available for the NAHB program; Bronze, Silver and Gold. All levels have a minimum number of points required for each of the seven guiding principles to assure that all aspects of green building are addressed and that

there is a balanced whole systems approach. After reaching the thresholds, an additional 100 points must be achieved by implementing any of the remaining line items.

	Bronze	Silver	Gold
Lot Preparation and Design	8	10	12
Resource Efficiency	44	60	77
Energy Efficiency	37	62	100
For homes without ducted heating and cooling – deduct 15 points from Energy Efficiency section.			
Water Efficiency/Conservation	6	13	19
Occupancy Comfort and Indoor Quality	32	54	72
Operation, Maintenance and Education	7	7	9
Global Impact	3	5	6
Additional points from sections of your choice	<u>100</u>	<u>100</u>	<u>100</u>
Total points for each level	237	311	395

How Can Consumers Compare Green Homes?

One of the many challenges faced by a homebuyer is comparing a green home to another home. Any home can be called "green," but how does the homeowner know that it really is green? LEED certification is something that consumers can look for to readily identify green homes that have been third-party inspected, performance-tested, and certified to perform better than conventional homes. The LEED certification ensures that the home you are purchasing was designed to meet the highest standards and is operating exactly the way it is supposed to.

Sample Of The LEED Project Checklist:

LEED for New Construction v2.2 Registered Project Checklist

Project Name:
Project Address:

Yes ? No

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sustainable Sites	14 Points
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq 1	Construction Activity Pollution Prevention	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1	Site Selection	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	Development Density & Community Connectivity	1

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3	Brownfield Redevelopment	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.1	Alternative Transportation , Public Transportation Access	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.2	Alternative Transportation , Bicycle Storage & Changing Rooms	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.3	Alternative Transportation , Low-Emitting & Fuel-Efficient Vehicles	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.4	Alternative Transportation , Parking Capacity	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 5.1	Site Development , Protect or Restore Habitat	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 5.2	Site Development , Maximize Open Space	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 6.1	Stormwater Design , Quantity Control	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 6.2	Stormwater Design , Quality Control	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 7.1	Heat Island Effect , Non-Roof	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 7.2	Heat Island Effect , Roof	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 8	Light Pollution Reduction	1

Yes ? No

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Efficiency	5 Points
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.1	Water Efficient Landscaping , Reduce by 50%	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.2	Water Efficient Landscaping , No Potable Use or No Irrigation	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	Innovative Wastewater Technologies	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3.1	Water Use Reduction , 20% Reduction	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3.2	Water Use Reduction , 30% Reduction	1

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Energy & Atmosphere	17 Points
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq 2	Minimum Energy Performance	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq 3	Fundamental Refrigerant Management	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1	Optimize Energy Performance	1 to 10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		10.5% New Buildings or 3.5% Existing Building Renovations	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		14% New Buildings or 7% Existing Building Renovations	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		17.5% New Buildings or 10.5% Existing Building Renovations	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		21% New Buildings or 14% Existing Building Renovations	4
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		24.5% New Buildings or 17.5% Existing Building Renovations	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		28% New Buildings or 21% Existing Building Renovations	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		31.5% New Buildings or 24.5% Existing Building Renovations	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		35% New Buildings or 28% Existing Building Renovations	8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		38.5% New Buildings or 31.5% Existing Building Renovations	9
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		42% New Buildings or 35% Existing Building Renovations	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	On-Site Renewable Energy	1 to 3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2.5% Renewable Energy	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		7.5% Renewable Energy	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		12.5% Renewable Energy	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3	Enhanced Commissioning	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4	Enhanced Refrigerant Management	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 5	Measurement & Verification	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 6	Green Power	1

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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials & Resources	13 Points
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Yes ? No

Y	Prereq 1	Storage & Collection of Recyclables	Required
	Credit 1.1	Building Reuse , Maintain 75% of Existing Walls, Floors & Roof	1
	Credit 1.2	Building Reuse , Maintain 100% of Existing Walls, Floors & Roof	1
	Credit 1.3	Building Reuse , Maintain 50% of Interior Non-Structural Elements	1
	Credit 2.1	Construction Waste Management , Divert 50% from Disposal	1
	Credit 2.2	Construction Waste Management , Divert 75% from Disposal	1
	Credit 3.1	Materials Reuse , 5%	1
	Credit 3.2	Materials Reuse , 10%	1
	Credit 4.1	Recycled Content , 10% (post-consumer + ½ pre-consumer)	1
	Credit 4.2	Recycled Content , 20% (post-consumer + ½ pre-consumer)	1
	Credit 5.1	Regional Materials , 10% Extracted, Processed & Manufactured Regionally	1
	Credit 5.2	Regional Materials , 20% Extracted, Processed & Manufactured Regionally	1
	Credit 6	Rapidly Renewable Materials	1
	Credit 7	Certified Wood	1
Yes	?	No	

			Indoor Environmental Quality	15 Points
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Y	Prereq 1	Minimum IAQ Performance	Required
Y	Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
	Credit 1	Outdoor Air Delivery Monitoring	1
	Credit 2	Increased Ventilation	1
	Credit 3.1	Construction IAQ Management Plan , During Construction	1
	Credit 3.2	Construction IAQ Management Plan , Before Occupancy	1
	Credit 4.1	Low-Emitting Materials , Adhesives & Sealants	1
	Credit 4.2	Low-Emitting Materials , Paints & Coatings	1
	Credit 4.3	Low-Emitting Materials , Carpet Systems	1
	Credit 4.4	Low-Emitting Materials , Composite Wood & Agrifiber Products	1
	Credit 5	Indoor Chemical & Pollutant Source Control	1
	Credit 6.1	Controllability of Systems , Lighting	1
	Credit 6.2	Controllability of Systems , Thermal Comfort	1
	Credit 7.1	Thermal Comfort , Design	1
	Credit 7.2	Thermal Comfort , Verification	1
	Credit 8.1	Daylight & Views , Daylight 75% of Spaces	1
	Credit 8.2	Daylight & Views , Views for 90% of Spaces	1
Yes	?	No	

			Innovation & Design Process	5 Points
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	Credit 1.1	Innovation in Design : Provide Specific Title	1
	Credit 1.2	Innovation in Design : Provide Specific Title	1
	Credit 1.3	Innovation in Design : Provide Specific Title	1
	Credit 1.4	Innovation in Design : Provide Specific Title	1
	Credit 2	LEED® Accredited Professional	1
Yes	?	No	

			Project Totals (pre-certification estimates)	69 Points
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Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points

What Parts Of Epoch Homes Are Green Now:

Many of the NAHB green requirements are being met by Epoch Homes. The following is a section-by-section breakdown of the items that Epoch meets or exceeds and the point total as a result of meeting those goals.

Section 1 – Lot Design, Preparation, and Development

<u>1.2.1 Establish a knowledgeable team, define roles, objectives and goals</u>	6
	6

Section 2 – Resource Efficiency

2.1.1 through 2.1.5 by creating an efficient floor plan that maintains the homes functionality, using advance framing techniques that reduce amount of building materials, creating a detailed framing plan with a cut list for materials and using pre-finished materials.	34
2.1.6A use manufactured floor trusses and roof trusses	6
2.1.6 B Provide panelized wall system	6
2.1.6 D Provide modular construction for entire house	7
2.2.1 Provide covered entry at front door	6
2.2.2. Use recommended sized roof overhang	7
2.2.4 Use drip edge at eave and gable roof edges	6
2.2.12 Employ and show on plans flashing details	9
<u>2.5.3 Recycle waste off site</u>	6
	Points
	87

Section 3 – Energy Efficiency

3.3.1A Increase effective R-value of building envelope using advanced framing techniques and continuous insulation.	6
3.3.1B Incorporate air sealing package to reduce infiltration	10
3.3.1C Use rated windows appropriate for local climate	8
3.3.2O Install whole house fan with insulated louvers	4
3.3.2P Install Energy Star labeled mechanical exhaust fan in every bath ducted to outside	8

3.3.4B Install recessed lights with the conditioned space	7
Points	43
<hr/>	
Section 4 – <u>Water Efficiency</u>	
Points	0
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Section 5 – Indoor Environment Quality	
5.1.3 Install direct vent sealed combustion gas fireplace or sealed woodstove	6
5.1.4 Ensure a tightly sealed door and provide continuous air barrier between the garage and living area.	9
5.1.5 Ensure MDF and hardwood plywood are certified as low formaldehyde emmision standards	6
5.1.6 Install carpet, carpet pad and floor covering adhesives that hold “Green Label”	6
5.1.7 Cover all HVAC duct work during construction	5
5.2.1 Vent Kitchen range exhaust to the outside	7
5.3.2 Install moisture resistant backerboard under tiled services	6
5.3.4 Protect moisture senitive materials from water damage	6
5.3.5 Keep plumbing supply line out of exterior walls	5
5.3.8 Check moisture content of wood before closing on both sides	4
Points	60
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Section 6 – <u>Operation, Maintenance and Homeowner Education</u>	0
	0
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Section 7 – Global Impact	
7.1.2 Use low VOC paints	6
7.1.3 Use low VOC sealants	5
Points	11
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Total points for an Epoch Homes without making any changes is roughly	207

So as you can see without doing any additional work or spending any additional money you are already well on your way to a very green house with Epoch Homes. As we add new products and processes it will continue to increase the level of Green

Epoch Homes Green Specifications

The following specifications will incorporate many of the new products Epoch will be introducing this year as standard products and many options that will be available to our customers. **Items in bold type are green products.**

STRUCTURAL SPECIFICATIONS

Floor System

Floor Joists:

1st. floor joists – Pre-manufactured floor trusses

2nd. floor joists - Pre-manufactured floor trusses

Subfloor

All floor sheathing is 3/4” Advantech

Bridging

One row of solid 2x wood bridging per module.

Roofs

Ranches and Colonials:

Standard 7 / 12 pitch folding fabricated truss, manufactured with approved nail plates; 24” o.c. , includes proper cross bracing.

Capes:

12/12 Folding rafter system with 2 x 8 SPF #2 or equal lower rafter and a 2 x 4 SPF #2 or equal upper rafter, 16” o.c.

6” eve extensions, optional gable end overhangs

Special roof systems such as gambrel, saltbox, full vault cathedral upon request

Sheathing:

5 / 8” (19/32”) APA rated Advantech sheathing. Stagger joints, stapled with 2” resin coated 16 gauge staples. ZIP System™ Roof is a structural panel with a built-in moisture resistive barrier that eliminates felt paper and H-clips

Shingles:

Ice & Water Barrier - 1st. 3’-0” of front and rear roof covered with a ice & water barrier.

15# Felt Paper - Balance of roof covered with 15# felt paper.

Drip Edge - 8” galvanized drip on front and rear eaves.

Shingles - 235#, self sealing, 3 tab, asphalt shingles. Shingles fastened with 1 1/4” resin coated nails.

Ventilation:

Vented Soffit, full length of module; and either low profile ridge vent at peak or gable end louvers. (Check plans for details)

Built in ventilation and energy recovery system

Insulation

Ranches or Colonials - 12” R-38 fiberglass batt insulation with vapor barrier towards warm side.

Capes & Gambrels - 9” R-30 (with 2 x 10 joist) or 7” R-26 (with 2 x 8 joist) fiberglass batt insulation installed in ceiling system. Balance of insulation required to meet energy codes or customer requirements is supplied and installed by field contractors.

2 Story Homes - 1st. floor ceiling has 6" R-19 Fiberglass around perimeter and 3 1/2" R-11 in balance of ceiling for noise control.

Exterior Walls

Walls:

2 x 6 studs – finger jointed studs, 16" o.c., double jack/ stud at all door and windows. Double top plate and single 2 x 6 bottom plate. All spruce, pine, fir #3 or better.

Insulated corners and interior/exterior wall intersections

Headers:

Double 2 x 3's with 2 x 3 blocking and insulated, over all exterior openings. **Insulated headers on exterior walls.**

Sheathing:

1/2" plywood, applied horizontally, glued and stapled with 7/16" x 1 3/4" chisel point resin coated staple. All seams caulked **ZIP System® Wall Sheathing has a built-in, water-resistive barrier**

Drywall and Moisture Barrier:

1/2" drywall; glued and screwed / nailed. Joints are taped, spackled, sanded and primed with lead-free and mercury-free paint. Foil backed insulation or foiled backed drywall (factory choice depending on availability) provides a continuous moisture barrier across the face of the studs. **All drywall to be manufactured with recycled materials**

Insulation:

6" R-19 friction fit fiberglass insulation.

Optional Icynene sprayed in foam insulation

Interior Walls

Walls:

2 x 4 finger jointed studs, spruce, pine, fir stud grade or better, 16" o.c.

8' ceiling height

Marriage walls:

Double 2 x 3 studs walls, spruce, pine, fir stud grade or better. 16" o.c. with 3/8" plywood sheathing on each wall.

Drywall:

1/2" drywall; glued and screwed / nailed. Joints are taped, spackled, sanded and primed painted using lead-free and mercury-free paint. **All drywall to be manufactured with recycled materials**

Insulation:

3 1/2" R-13 friction fit fiberglass insulation in stairways and bath walls.

Siding

Vinyl siding; 4" double clapboard, various colors

Optional Hardiplank horizontal

Exterior Doors

Swing door - Fiberglass or steel insulated doors supplied with Schlage lockset and dead bolt.

Terrace door - Center hinged, terrace door with low 'E' glass, aluminum / wood sill, screen door, grills.

Sliding glass door - Wood sliding glass door with low 'E' glass, brass hardware, screen, aluminum sill, meeting stile weather-strip.

Windows

Andersen Narroline, low 'E' glass, wood framed, vinyl wrapped with removable grills. Full screens on each operable sash or...
Pella Proline Tilt-out Aluminum clad Low-E Insulshield glass, wood muntin bars. Full screens on each operable sash

Flooring

Carpet - 100% nylon carpet with stain shield protector 3# rebond carpet. Carpet weight = 43 oz. pile weight; 76 oz. total weight.
Vinyl - Armstrong cushioned flooring; 80 mill thick with no wax wear surface using interflex installation system.

Interior Doors

6-panel hardboard with 3 hinges. Doors are primed and finished with a coat of semi-gloss paint and supplied with Schlage brass passage sets

Interior Moldings

Casing - 2 1/2" colonial casing Brosco #8710 or equal.
Baseboard - 3 1/2" colonial baseboard Brosco #8385A or equal.
Window Sills - All windows have interior trim applied so as to provide a window sill (Approximately 5")
All trim is primed, then finish painted with semi-gloss lead-free and mercury-free paint.

Stairs and Handrails

2nd. Floor - Carpet grade treads and risers installed at the factory

Cabinets, Vanities & Accessories

Kitchen Cabinets and Vanities - raised panel doors, finished interiors and adjustable shelves, available in oak, hickory, maple or white thermofoil
Countertops - Plastic laminate, post form 290 wrap countertop, multitude of colors.
Bath Accessories - Wood medicine cabinet or flush mirror (see plans for specific model);
Chrome towel bars, paper holder and shower rod.

Plumbing Fixtures and Fittings

Sink - Kohler china sink lav., various colors with single lever Moen control valve.
Water Closet - Kohler **1.5 gallon water saver china toilet**. Various colors.
Bathtub - Aquaglass one piece fiberglass tub / shower unit, various colors with Moen single lever control, anti-scald valve, 3 GPM shower head.
Shower - Aquaglass one piece fiberglass 3' shower or 4' shower with seat(s), various colors with Moen single lever control, anti-scald valve, 3 GPM shower head.
Kitchen Sink - Moen stainless steel, double bowl sink, with Moen single lever faucet and spray.

Distribution System - all pipe and fittings are PEX piping using a compression fitting

DWV - Drain, waste and vent - PVC schedule 40; main stack 3", balance of pipe sizing per code.
Wire for Disposal - Each home is provided with an outlet and switch for future garbage disposal installation.
Wire for Dishwasher - Each home is provided with an outlet and wire for future dishwasher installation.

Heating

Forced Hotwater baseboard units stubbed to basement or electric baseboard with individual room thermostats. HVAC chase prep on request.

Electrical

Energy efficient light fixture and light bulbs.

Wire - All wire is UL approved copper, 12 and 14 gage except for range cable, which is 8-3 copper.

Panel - 200 amp, 40 position panel and full sized breaker, all UL approved.

Outlets and Decora Switches - All devices are UL approved.

Smoke Detectors - UL approved smoke detectors per local and state codes. All detectors are wired in series. This includes the wire that is provided for customer supplied smoke detector located in basement and 2nd. floor of unfinished capes.

Bath Fan / Light Combination - Standard in each bathroom, vented to the exterior. Light and fan wired to separate switches.

Chimes - Front and rear door buttons along with chimes in hall.

Cable TV - All homes are wired for cable TV, 2 outlets, provided standard. (Feeds provided to 2nd. floor where applicable)

Telephone - All homes are wired for telephone, 2 outlets, provided standard. (Feeds provided to 2nd. floor where applicable)

Attic Light - Each attic area has a porcelain light fixture and switch installed at factory, where possible.

Exterior Outlets - All exterior outlets are protected by Ground Fault Interrupter and switched, includes water proof cover.

Bath and Kitchen Outlets are protected by Ground Fault Interrupter breakers or outlets per National Electric Codes.

Under Cabinet Lighting - Lighting under the upper cabinets per electrical plan (typical is on each side of the kitchen window).

Night Light - Recessed night light in each hall per plan.

Thermostat Wire - 18-2 wire located in hall for thermostat for houses with hot water heat (2nd. floor where applicable).

**New Proposed Green Products Epoch Homes is
looking to add to its Green Product Line**

Benjamin Moore Low VOC's Paint

Eco Spec® Interior Latex Flat 219

A low odor, low VOC, 100% acrylic latex flat that provides high hiding, excellent touch up, and a uniform flat finish. Eco Spec® Interior Latex Flat (219) is ideally suited for commercial, facility management, and residential applications. Eco Spec® Interior Latex Flat (219) does not have the odor of conventional paints that contain ingredients known as Volatile Organic Compounds (VOCs).

Features

- Low odor
- Low VOCs
- Quick return to service
- 100% Acrylic
- Dries quickly to a beautiful, washable, and uniform flat finish
- Spatter-resistant



Color Available

Pure White* and Benjamin Moore® Color Preview® Bases 1B & 2B

Use: Interior

Gloss: Flat

Type: 100% Acrylic Latex

Clean Up: Water

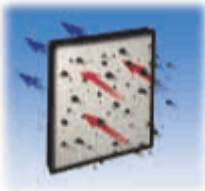
Recommended For: new or previously painted interior wallboard, plaster, ceilings and masonry, as well as primed or previously painted wood and metal; use Eco Spec® Interior Latex Primer (231) as a first coat when a low odor, solvent free Primer / Finish system is desired



Air



Whole House Heat Recovery & Energy Recovery Exchanger Systems By Venmar



Venmar Air Exchangers breathe new life into your home or building and help reduce the risk of polluted air. Based on the principle of “good air in, bad air out,” these units revitalize your whole home, not just selected areas.

Mounting evidence has shown that dependence on the natural exchange of air between indoor and outdoor through air infiltration and exfiltration may not be satisfactory for good moisture control and indoor air quality. Plus traditional ventilation methods, like opening a window or use of a common fan, do not provide adequate ventilation. An Energy Recovery Ventilation system is the key to positive moisture control and heat recovery and will help ensure a healthy indoor environment for the occupants.

Mechanical ventilation systems are used to bring fresh air into and remove stale air from our homes. Two common types are exhaust-only systems and balanced systems. The exhaust-only system has a fan to provide exhaust air; the supply air is not fan powered. The balanced system uses a fan-powered exhaust airflow that is designed to equal the fan-powered supply airflow. The balanced systems may or may not have heat or energy recovery. Those with heat or energy recovery are commonly called Heat Recovery Ventilation (HRV) or Energy Recovery Ventilation (ERV). An HRV transfers heat while an ERV usually transfers heat and moisture.

Venmar Air Exchange Heat/Energy Recovery Solutions Provide Pure Air for Whole House or Building Ventilation Systems

An Energy Recovery Ventilation system uses fans to maintain a low-velocity flow of fresh outdoor air into the building (incoming air stream) while exhausting out an equal amount of stale indoor air (exhaust air stream). Fresh air is supplied to all levels of the building while stale air is removed from areas with high levels of pollutants and moisture

Air Exchange

Expels stale, polluted indoor air and gaseous pollutants and continually exchanges them with a continuous flow of fresh, revitalized outdoor air to improve Indoor Air Quality.

Excess Humidity Control

Helps prevent uncontrolled excess humidity by expelling excess humidity from the air, thereby reducing the risk of window condensation, mildew and mold, which prevents structural damage and deterioration to your home.

Heat Recovery Core

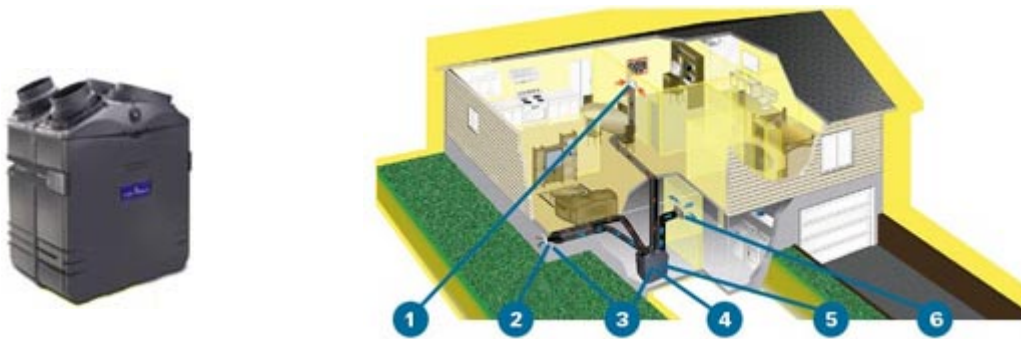
Certain Venmar Air Exchangers feature a heat recovery system. As warm air is expelled from your house, it warms the incoming cold, fresh air before it's circulated throughout your home. The result is a constant supply of fresh air, no unpleasant drafts and greater home comfort.

HEPA Filtration: High Efficiency Particulate Air

The best way to achieve optimal air quality in your home is to combine HEPA filtration with Air Exchange. Together, they create the ultimate system for people who want a clean and healthy environment. HEPA filters capture 99.97% of all dust and particles as small as 0.3 microns (1 human hair = 150 microns). They can help reduce allergy symptoms, asthma, recurring colds and persistent coughs. In fact, HEPA filters are so effective, they're used in hospital operating rooms.

**Registered under Health Canada
License # 1409 as Class 1 Medical Device**

Good news! If you're diagnosed with asthma, or other severe respiratory ailments, the Venmar HEPA Air Exchangers Systems are just what the doctor can now order to help you breathe a little easier!



Standard Features

Venmar is recognized as a leading innovator of technically advanced air exchange systems. You'll breathe easier knowing that every Venmar unit comes with the comfort and convenience of the standard features described below.



Recirculation

Venmar units feature a recirculation setting, which allows you to filter your indoor air 24 hours a day and attain a consistent temperature throughout your whole home



Wall Control (included)

- Allows easy access to control your unit
- Three modes (normal, boost and recirculation)
- Filter maintenance indicator
- Fresh air indicator



Smart Temp

When extreme outdoor temperatures occur, the *Smart Temp* mechanism automatically sets the time of air exchange in order to ensure the most comfortable indoor environment



Peace of Mind Warranty

All Venmar units come with a 2-year warranty

**Choose the Model That's Right for You Home:
Heat Recovery or Energy Recovery**

HEPA 3000 Heat Recovery: Ideal for Colder Climates \$1030 + \$80 Shipping

The HEPA 3000 features a heat recovery system for a home or building up to 3000 sq. ft. As warm air is expelled from your house, it warms the incoming cold, fresh air before it's circulated throughout your home. The result is a constant supply of fresh air, no unpleasant drafts and greater home comfort. Models are available with other filter types or without filtration altogether. For more information, give us a call.

"I purchased a HEPA 3000 air exchange unit from Venmar last fall. I want to let you know how much it has improved our family's quality of life. This system has solved the humidity problem we had in our home, and it has decreased the amount of dust suspended in the air thanks to its HEPA filter. The children felt better as early as last winter. Less coughing and fewer bouts of asthma! I can recommend your system to my friends for their families' well-being without any hesitation whatsoever." Michel Perrier, Montréal, Québec

HEPA 4000 Energy Recovery: Ideal for Warmer Climates \$1240 + \$80 Shipping

The HEPA 4000 features an energy recovery system for a home or building up to 3000 sq. ft. This new system is much more than a conventional energy recovery ventilator. In fact, this unit draws outside air and blends it with interior air. Then, a portion of the stale air is exhausted to the outside, preventing outdoor excess humidity from entering the house (just like everyone expects from an effective energy recovery ventilator). BUT this unit is also equipped with a HEPA filter which traps airborne allergens such as pollen, dust, mold bacteria, etc.

**Get the Ultimate in Clean Air for Your Home
Combine a RGF Induct Air Purifier with a Venmar Ventilation System
and receive 10% discount off RGF induct unit.**

The Venmar air exchange system is fabulous for recovering heat or energy, providing fresh air, controlling humidity and removing particulate (dust, pollen, dander, etc.), but by adding the powerful broad-spectrum pollution purification abilities of a RGF HVAC Induct Air Purifier, you get the ultimate in whole-house clean air. RGF air purifiers destroy bacteria, viruses, pesticides, herbicides, mold spores, chemical fumes and gases, VOCs, odors and more.

The residential and business HVAC (heating, ventilation and air conditioning) induct models are designed for use with forced-air heating and central air conditioning systems (HVAC) to purify the air in all rooms served by ductwork in small to large single-family homes and office buildings. Turn your central heating and cooling system into an air-cleaning machine to significantly reduce pollutants and contaminants in your entire home or business. There are three probe models to work in conjunction with the Venmar Ventilation and HEPA Filtration Air Exchange System, each one designed for a particular house or building size and pollution level, from 1,500 to 5,000 square feet per air handler (assuming an 8 foot ceiling), depending on how polluted the air is (contact us for larger systems):

Forest Stewardship Council – FSC Certified Wood Products

In the days leading up to and following the 1992 Earth Summit in Rio, world attention was focused on the challenges faced by cultures around the globe as demands on their natural resources increased. Poverty, disease, land use change, climate change, and pollution all continue to threaten our resources and the stability of cultures worldwide. The challenges at Rio remain largely unmet. However, the conversations that occurred there contributed to one solution - the Forest Stewardship Council (FSC).

Driven in part by the failure of an intergovernmental process to agree on a global forest compact, and the compelling question- “what is sustainable forestry?”- loggers, foresters, environmentalists, and sociologists came together in the first General Assembly to form the FSC in 1993.

The Forest Stewardship Council was created to change the dialogue about and the practice of sustainable forestry worldwide. This impressive goal has in many ways been achieved, yet there is more work to be done. FSC sets forth principles, criteria, and standards that span economic, social, and environmental concerns. The FSC standards represent the world’s strongest system for guiding forest management toward sustainable outcomes. Like the forestry profession itself, the FSC system includes stakeholders with a diverse array of perspectives on what represents a well-managed and sustainable forest. While the discussion continues, the FSC standards for forest management have now been applied in over 57 countries around the world.

In 1995, FSC-US, located in Washington, D.C., was established as the national “chapter” of FSC.

It’s purpose is to coordinate the development of forest management standards throughout the different biogeographic regions of the U.S., to provide public information about certification and FSC, and to work with certification organizations to promote FSC certification in the U.S. FSC-US has a national presence through the work of its Board of Directors, members, staff, and regional standards coordinators.

What is FSC- US

Forest Stewardship Council (FSC) is a non-profit organization devoted to encouraging the responsible management of the world’s forests. FSC sets high standards that ensure forestry is practiced in an environmentally responsible, socially beneficial, and economically viable way.

Landowners and companies that sell timber or forest products seek certification as a way to verify to consumers that they have practiced forestry consistent with FSC standards. Independent, certification organizations are accredited by FSC to carry out assessments of forest management to determine if standards have been met. These certifiers also verify that companies claiming to sell FSC certified products have tracked their supply back to FSC certified sources. This chain of custody certification assures that consumers can trust the FSC label.



Lamco Forestiers Engineered Wood Products

Historical background

LAMCO FOREST PRODUCTS' head office is located in Saint-Félicien, Lac-St-Jean, one of the richest coniferous forests in the province of Quebec. LAMCO FOREST PRODUCTS is a young manufacturer operating in the secondary wood processing industry. The company's main activities are the processing of innovative lumber products made from small-size timber. By using its unique rim gluing and tongue-and-groove jointing technology, LAMCO is able to offer exceptionally strong lumber, such as LAMSTUD vertical and RELAM structural components, to its clients.



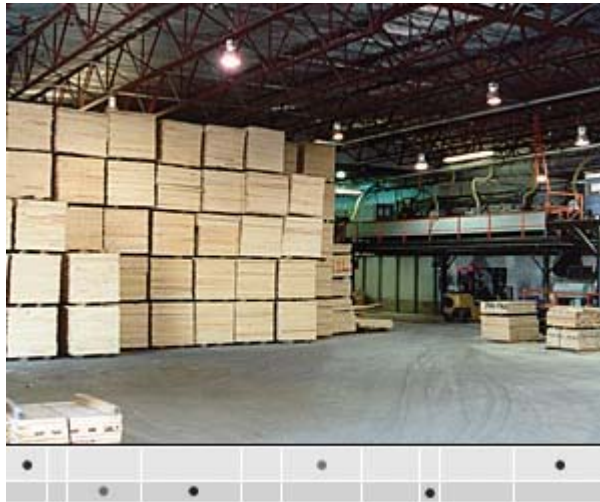
These cutting-edge products were developed thanks to numerous experienced clients who so graciously provided LAMCO FOREST PRODUCTS with their valuable findings and feedback.

One of these findings stated that the diameter of logs supplied to saw mills was continuously decreasing in size. This is mainly due to the fact that logging companies now have to go further up north to have access to coniferous forest areas. Therefore, it is becoming more and more difficult for these mills to supply the market with high-quality large-size timber.

Another one of their findings directly affected wood buyers and users. Once wood bundles were opened, clients found numerous pieces of warped lumber, which obviously generated unnecessary expenses and profit-reducing handling charges.

Mission statement

LAMCO FOREST PRODUCTS thrives to be a world renowned innovator in the lumber manufacturing industry. Our company plays a major role in this sector by respecting and revitalising forestry and human resources. It processes top quality secondary and tertiary lumber components offering technical specifications and advantages that are far superior to conventional wood products.



The RELAM



The know-how used in every RELAM provides the cutting-edge structural strength required by industry standards. Manufactured from very dense S-P-F (Spruce-Pine-Fir) 2"x 3", 2"x 4" and 2"x 6" softwood, our lumber undergoes a unique production process. Flaws are first eliminated from the boards, which are then laminated along the edges and finally finger-jointed lengthwise. The dimensions of the product may range from 2"x 3" to 2"x 14", and can be delivered in lengths up to 24 feet long, according to customer specifications. The exceptional structural qualities of RELAM lie in the development of a two-part manufacturing process - the application of a structural- type glue, combined to our tapered-edge tongue-and-groove fabrication technology. Unlike traditional wood, all flaws are carefully removed during fabrication. Our quality control procedures efficiently eliminate rejects due to warping, waning, decay and excessive knots. Therefore, each and every RELAM is delivered ready to use. The unparalleled dimensional stability of our lumber clearly explains why our clients value our product highly.

PFS Corporation certifies that RELAM lumber complies to Canadian and American industry standards.

ADVANTAGES:

- Unrivalled dimensional stability (no warping);
- Free of flaws (wane, decay, excessive knots);
- Exceptional mechanical strength;
- Manufactured with a structural adhesive that provides excellent waterproofing and fireproofing;
- Fabricated from a renewable resource, which guarantees a unique enviro-friendly product with exceptional added value;
- Available in sizes ranging from 2"x 3" to 2"x 14", up to 24 feet long.

Furthermore, 60-day ageing tests were carried out to compare RELAM to conventional wood. The results clearly demonstrated that LAMCO FOREST PRODUCTS are unquestionably the best products available.

These tests – which were carried out in four different U.S. regions – exposed both products to various types of climatic conditions. By varying heat, humidity and dryness levels, the tests confirmed RELAM'S exceptional dimensional stability – a definite edge over conventional wood which became entirely warped.

The RELAM LFS



The RELAM LFS is a product used for structural purposes that is made with very dense S-P-F (Spruce-Pine-Fir) softwood, measuring 2x3, 2x4 or 2x6. This timber, whose flaws are first eliminated, is laminated along the edges and then abutted lengthwise. The dimensions of this product range from 2x3 to 2x14, and come in all lengths up to 24 feet long, depending upon the customer's requirements.

The application of a structural-type glue, combined with a tapered-edge recess fabrication technology gives this product exceptional structural qualities.

The remarkable stability of the RELAM LFS makes it a product that our clients value highly and of which they are able to use all the timber delivered to them. Indeed, in contrast to traditional wood, there are no rejects because of warping, waning, decay or excessive knots. All these flaws are carefully eliminated during the production process.

This top quality product is certified by PFS Corporation for the Canadian and American market.

The RELAM LFS is thus characterized by:

- Unrivalled stability (no warping);
- Free of flaws (wane, decay, excessive knots);
- Exceptional mechanical strength;
- Fabricated with a structural adhesive that provides excellent resistance to water and fire;
- A value-added ecological product, because it is made from a renewable resource;
- Can be produced in any dimensions ranging from 2 x 3 to 2 x 14, and up to 24 feet in length, according to the client's needs.

In addition, ageing tests lasting 60 days that compared RELAM LFS to conventional wood demonstrated beyond a shadow of a doubt the superiority

of PRODUITS FORESTIERS LAMCO.

In fact, these tests exposed both types of products to various climatic conditions of heat, humidity and aridity, in four regions of the United States, and they validated the exceptional stability of RELAM LFS, while conventional wood became completely distorted.



WarmBoard Radiant Subfloor

You've come to the right website to learn more about radiant heat. Warmboard radiant subfloor provides the superior comfort of radiant floor heat throughout your new home or addition.

Living in a radiant heat home provides you with a level of comfort that no other heating method can match. If you asked someone who lives in a radiant heat home what they like about it, they'd tell you "It just feels right." That's because, like the sun on your face, or the warm sand under your feet on a tropical beach, living with radiant heat is one of life's simple pleasures. By turning the floor of your home into a source of heat, you and your family will feel the many benefits of radiant heating for years to come.

A Warmboard system is the best way to provide even, responsive, energy efficient radiant heat in a conventional wood framed home.

How do we do this?

Warmboard combines a high strength tongue and groove plywood structural APA rated subfloor panel with a state of the art low mass high performance radiant heat floor panel. The same labor that would normally just install a structural subfloor, simultaneously installs the panels that become part of your radiant heating system.

A structural subfloor and radiant heat system in one highly efficient step

With Warmboard, you will enjoy a superior quality of radiant heating. Warmboard radiant heat systems simply outperform other radiant heating panels:

- High conductivity of Warmboard radiant heating means more even floor temperatures
- High conductivity means thick plush carpeting, hardwood or tile is no problem
- Low mass provides fast response radiant heat that is easy to control
- Fast response means "just right" temperatures right when you want them
- The radiant heat system that saves you money throughout the installation
- The radiant heating system that doesn't ask you to compromise

Whether you're building a new house, or remodeling your present home, isn't comfort one of the most important qualities you desire? Radiant heat has always been the most comfortable choice for heating your home. And today, the smartest radiant heating system you can buy is Warmboard.



Icynene Insulation

Icynene Insulation Products

Icynene's array of insulation products are designed to let you have greater control over the indoor environment. Each product is tailored to accommodate different project sizes and types, yet they all have one attribute in common -- they perform as a continuous insulation and air barrier system. Whether your project calls for The Icynene Insulation System[®] (spray or pour formula) or GOLD SEAL 400[®], you can create an efficient, draft-free, noise-free, and pollution-free environment... with air that is healthy to breathe. Icynene's insulation and air-sealing products provide a protective barrier to the entry of outdoor allergens and pollutants. Forming a complete and proper air-seal also prevents warm, moist air from crossing the building envelope and contacting colder surfaces, causing condensation. This condensation can then create a breeding ground for mold, mildew and other airborne bacteria.

Icynene manufactures its products with three objectives in mind – to create Healthier, Quieter, More Energy Efficient[®] indoor environments. Icynene's products are suitable for steel- or wood- framed residential or commercial construction. No project is too small or too big, and no area or shape is too difficult to insulate. Every Icynene product is created so that trade professionals and homeowners can reap the benefits of a comfortable, energy efficient and healthier indoor environment.

HardiPlank Lap Siding



HardiePlank™ Lap Siding

HardiePlank™ lap siding is the most popular brand of siding in America and can be found on millions of U.S. homes. With its strength, beauty and durability, HardiePlank™ siding enhances and protects homes in all kinds of climates. It comes in a variety of looks and textures, all of which include PrimePlus® sealer and primer, which provide an excellent painting surface. HardiePlank™ lap siding comes with a 50-year transferable limited warranty.

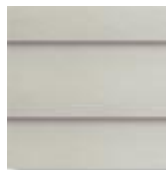
Click images below to enlarge.



Select Cedarmill©

Thickness 5/16"
 Weight 2.3 lbs./sq.ft.
 Length 12' planks

Widths	Exposure	Pcs/Sq.
5 1/4"	4"	25
6 1/4"	5"	20
7 1/4"	6"	17
8 1/4"	7"	15
9 1/4"	8"	13
12"	10 3/4"	10



Smooth

Thickness 5/16"
 Weight 2.3 lbs./sq.ft.
 Length 12' planks

Widths	Exposure	Pcs/Sq.
5 1/4"	4"	25
6 1/4"	5"	20
7 1/4"	6"	17
8 1/4"	7"	15
9 1/4"	8"	13
12"	10 3/4"	10



**Beaded Cedarmill©
 and Beaded Smooth**

(not shown)
 Thickness 5/16"
 Weight 2.3 lbs./sq.ft.
 Length 12' planks

Widths	Exposure	Pcs/Sq.
8 1/4"	7"	15



**Colonial Roughsawn®
 and Colonial Smooth®**

(not shown)
 Thickness 5/16"
 Weight 2.3 lbs./sq.ft.
 Length 12' planks

Widths	Exposure	Pcs/Sq.
8"	6.75"	15



Wall and Roof Sheathing from Advantech

ZIP System® Wall Sheathing has a built-in, water-resistive barrier that lets you say goodbye to housewrap forever. Simply install the panels, tape the seams, and you have a complete structural wall system and a water resistive barrier all-in-one.

ZIP System Wall combines the strength and stability of a high-performing panel with the enhanced weatherability provided by the product's water-resistive barrier. ZIP System Wall panels are backed by our 30-year limited warranty*.

The ZIP System Wall includes:

ZIP System Panel with **STORMEX**™ water-resistive barrier

- 7/16" ZIP System Wall Sheathing panel and water-resistive barrier all-in-one.

ZIP System™ Fastening & Tape Guides

- For faster, easier, more accurate installation.

ZIP System™ Tape & Tape Gun

- Tape seals seams to complete the system and is easy to install with the ZIP System Tape Gun



+ ZIP System™ Roof is a structural panel with a built-in moisture resistive barrier that eliminates felt paper and H-clips. Simply install the panels, tape the seams and you have a structural roof system and code-recognized underlayment all in one. Shingles and other approved roof coverings can be applied directly on top of the ZIP System Roof!

The ZIP System Roof includes:

ZIP System Roof with **Precipitex**™ Moisture Barrier

- 1/2" ZIP System roofing panel and moisture barrier all in one.

ZIP System™ Fastening and Tape Guides

- For faster, easier, more accurate installation.

ZIP System™ Tape and Tape Gun

- Moisture resistance for seams, valleys and ridges.
- Lighter than a roll of felt.
- Tape Gun for easy, accurate installation.

