



The New Standard of Living

www.super-e.com



Canada^{ca}





**Do you consider yourself
an innovative builder?**

**Are you committed to providing your
customer with a high quality home?**

**Do you want to provide your customers with the
benefits of a healthy and comfortable indoor
environment that also complies with stringent
requirements for energy efficiency?**

If the answer is “Yes” then you should take a serious look at the Super E[®] Program. Through this program, you are able to take advantage of Canada’s experience in wood frame housing together with our international reputation for delivering energy efficient housing.





What is Super E® ?

www.super-e.com

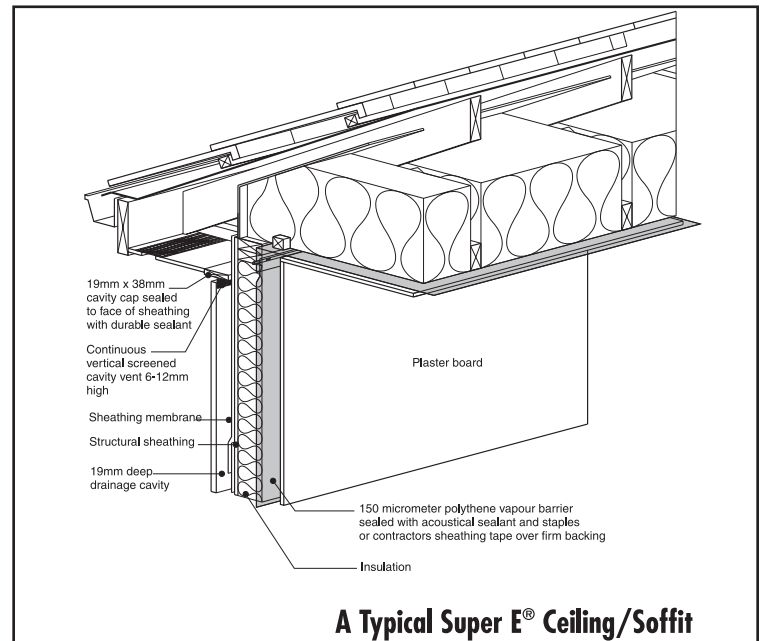


The housing market is changing. A new approach to building homes is required in order for industry to continue to meet strong housing demand and increasing demand for better environmental and energy performance.

- Super E® represents the best of these new housing systems. Through Super E®, builders have access to the product, technology, expertise and support systems necessary to produce the best housing available to today's home buyers.
- Super E® can help you gain a competitive advantage as you benefit from faster construction, reduced call backs and the latest innovations in housing.

- Super E® teams your company with a Canadian partner who provides design expertise and technology transfer as well as products and materials which use leading edge building science developed over the past 50 years in Canada.
- Super E® provides you with solutions to the challenge of delivering high quality, comfortable, energy efficient and healthy housing to your customers.

This summary will describe the program and will explain how simple it is to start building Super E® homes.



Super E[®] builds on Canadian experience



www.super-e.com

Canada is a large country with a diverse climate. Its construction industry and government have made a considerable investment in research and development to provide Canadian consumers with new housing that is recognized as being a world leader in terms of performance, quality and affordability. With its abundant forests, Canada is particularly well known for its long history and expertise in wood frame construction.

Super E[®] was specifically developed as an export version of its domestic R-2000 Program by Natural Resources Canada. Working in co-operation with industry and other government departments such as Canada Mortgage and Housing Corporation International, Super E[®] has quickly evolved as a strategic Government of Canada initiative to adapt and promote high quality, high performance Canadian housing to a growing community of environmentally and quality conscious builders throughout the world. After establishing itself in the demanding Japanese market, Super E[®] was adapted specifically for the UK and Ireland. Proven performance in these diverse climates demonstrates that the Super E[®] system will provide excellent housing anywhere in the world. The Super E[®] House Program blends the best practices from Canada and the partner country in housing design, technology and construction methods through:



- increased use of innovative building materials, products and methods
- delivery of customized training and technical support
- use of flexible technical requirements that are sensitive to the local climate and energy costs
- pre-construction design evaluation to optimize the balance between construction costs and energy costs
- commitment to quality assurance during the construction process and after sales service once the home is occupied
- on-going monitoring and evaluation of house performance



www.super-e.com

- continued research and demonstration of new technologies
- strategic supply chain partnerships between leading builders and Canadian housing companies and suppliers
- sharing knowledge and experiences among Canadian and partner companies

Super E® provides strong support to its member companies. Super E® technical standards are stringent and exceed many Building Regulations and home warranty requirements. Back-up is in place to help local builders and their Canadian partners meet Super E® standards and offer a product with a distinct marketing advantage. Although the specific components in a Super E® house may vary, all Super E® houses have some common characteristics.

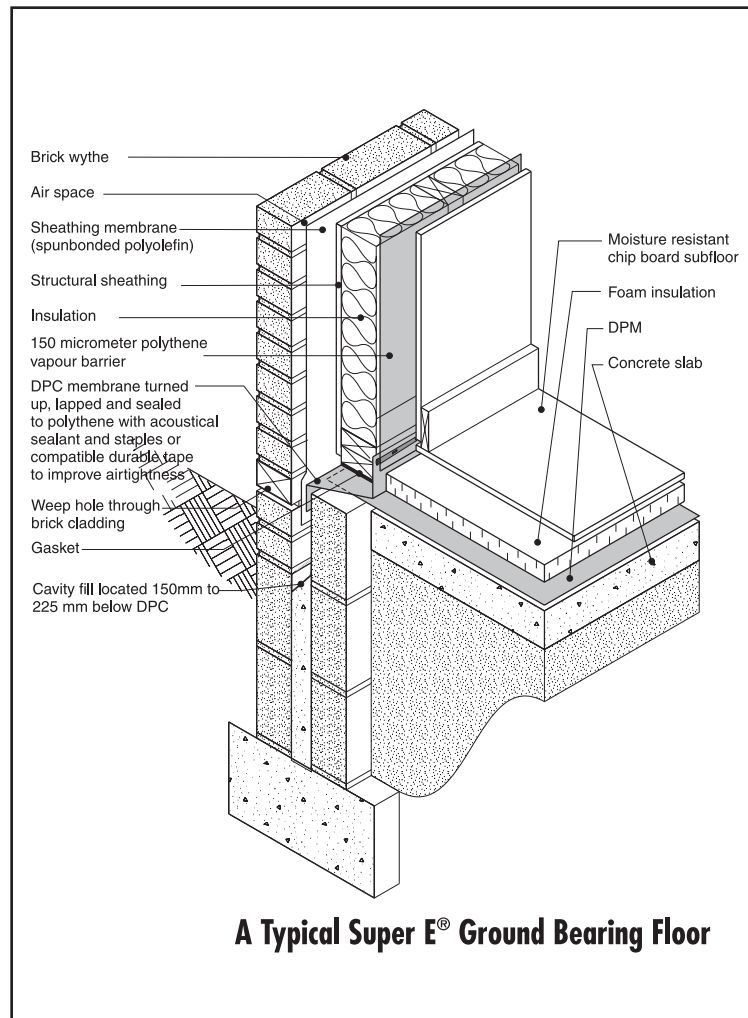
Super E® attracts buyers

With homebuyers more informed and demanding than ever, successful builders are the ones who stay a step ahead of their competition. Super E® can give you an edge.

Super E® offers compelling benefits to potential customers:

High quality — Buyers want the peace-of-mind and security that comes from a well built, durable home.

Super E® responds — all Super E® houses must meet strict guidelines for design and performance. Each Super E® house must pass independent quality control testing.

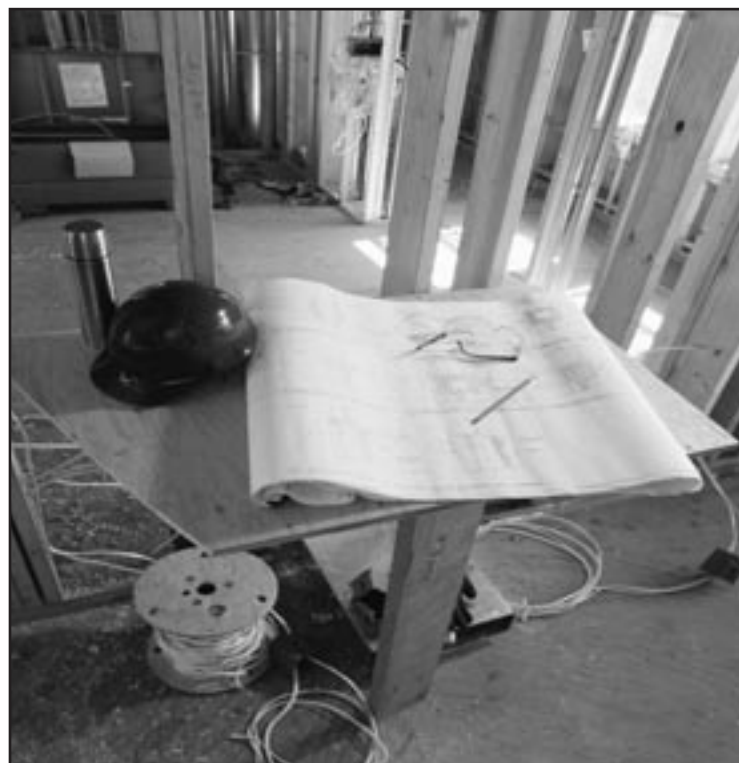


Comfortable — Customers also expect comfort. Super E® houses deliver, with freedom from draughts, even temperatures and an effective ventilation system to deliver fresh air throughout the house. With insulation and careful attention to construction details, a Super E® home is peaceful, quiet and private.

Healthier — Super E® requirements for healthy building materials and other measures to enhance indoor air quality are a perfect fit with the new homeowner awareness of healthy living environments.

Energy efficient — Consumers know that the true test of affordability isn't just the purchase price, but also the running costs. Homeowners will appreciate the money they can save every month with their Super E® house.

Environmentally progressive — Super E® encourages the use of building materials and methods that reduce the impact on the natural environment. This strengthens a consumer's view that Super E® builders are progressive and responsible.





What makes a Super E[®] House?

www.super-e.com

Design Evaluation

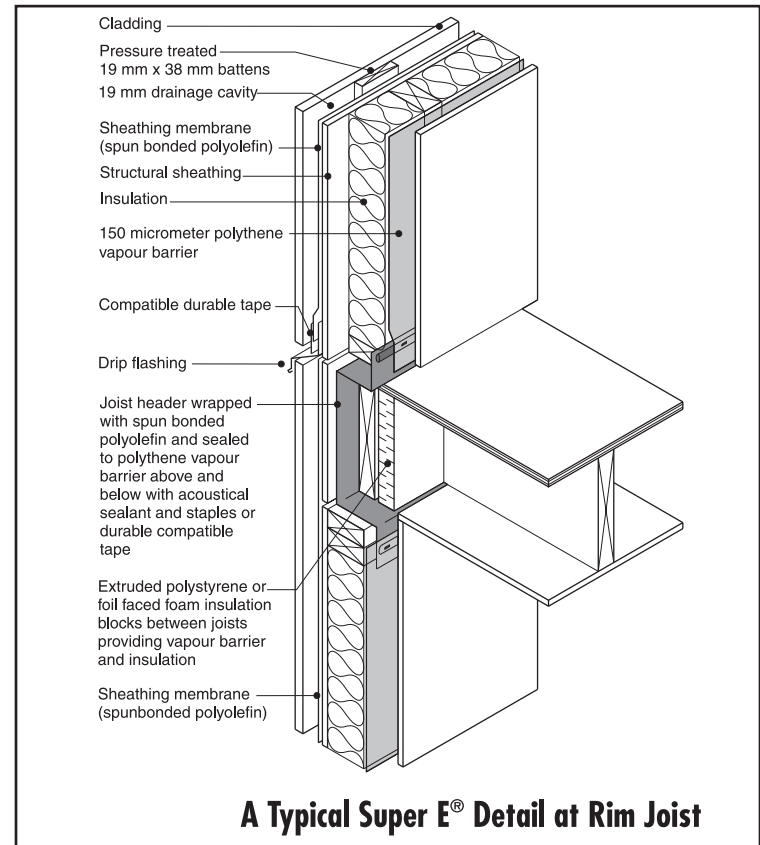
The plans and specifications for every Super E[®] house are subject to a complete evaluation with an energy analysis software tool (HOT2000) before being built.



This design evaluation verifies that the finished house will meet the exacting Super E[®] standards to ensure occupant comfort, durability, safe and proper performance of the ventilation and mechanical systems, energy efficiency and reduced impact on the environment.

Building Envelope

The building envelope of a Super E[®] house - exposed floors, walls and ceiling or roofs - must conform to advanced levels of insulation, airtightness and condensation control. The continuous, well-sealed air barrier of the building envelope makes the house draught-free, easy to heat and cool, and helps to control indoor humidity. High levels of insulation ensure that the home is affordable to heat and can maintain a comfortable living temperature, all year long.



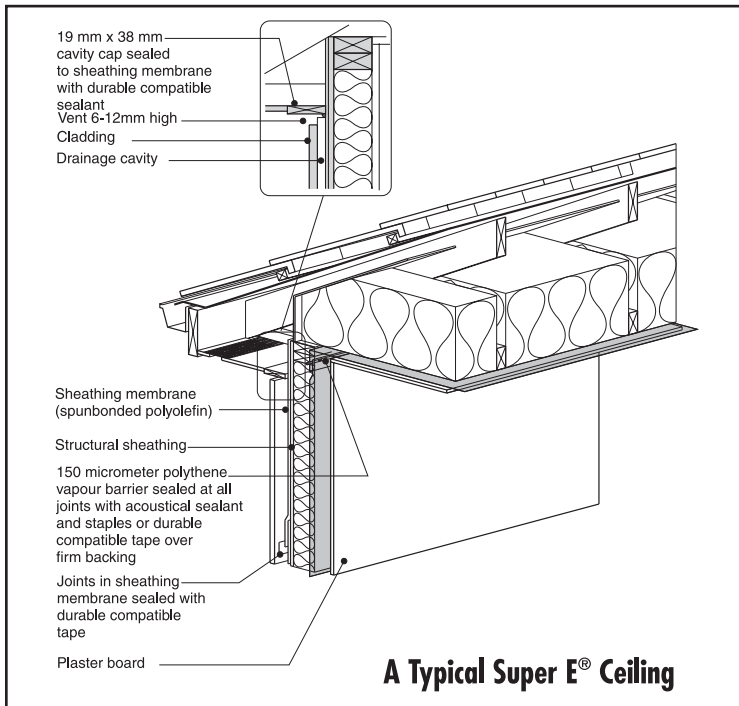
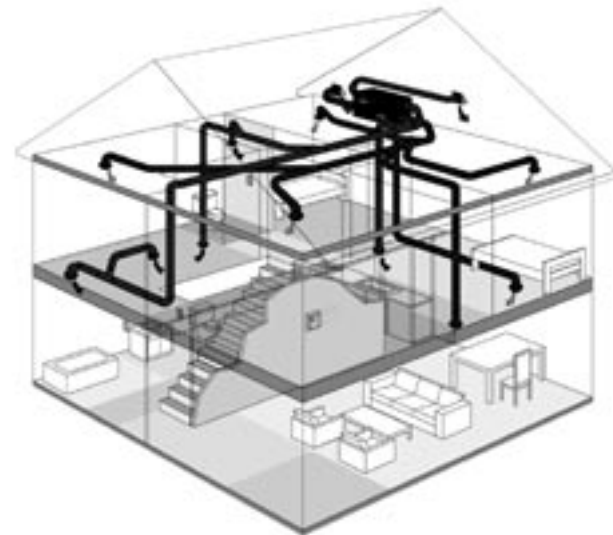
Quiet Living

Super E[®] houses offer added protection against the annoyance of unwanted outdoor noise. The increased insulation levels, high performance windows and extra attention to minimize uncontrolled air leakage and draughts also keeps exterior noise out.

seals prevent draughts and leaks from wind driven rain. Opening windows provide natural ventilation upon demand.

Ventilation

Every Super E[®] house must have a mechanical ventilation system that continually supplies fresh air to every room and exhausts stale air and odours to the outdoors. This provides occupants with a healthier, quieter and more comfortable indoor environment. Trained personnel design, install and test each ventilation system. The Canadian building industry is a world leader in ensuring the proper installation and testing of balanced, distributed mechanical ventilation systems.



Windows

Energy-efficient windows are another key feature of every Super E[®] house. Windows typically have multiple glazing layers, low-emittance coatings, and insulating spacers between the glazings that reduce heat loss and minimize condensation. Weathertight





www.super-e.com

Quality Assurance

To be eligible to participate in the Super E® House Program, Canadian members must demonstrate they are experienced and capable of providing high quality and reliable service to the market.

Specifically, the Super E® Program requires that Canadian members:

- demonstrate technical experience in construction of wood frame houses
- identify qualified staff or external suppliers of services to achieve energy efficient housing construction
- demonstrate experience in exporting of housing to foreign markets
- demonstrate specific knowledge, experience or commitment to the local market
- demonstrate that they are financially sound and reputable companies

To have a house successfully recognized as a Super E® House by the Government of Canada, the team must submit to the Super E® House Program:

- details from design reviews prior to shipping of Canadian materials to ensure the house will comply with the Super E® Standard
- results of testing of the air barrier system
- results of commissioning of the ventilation system
- summary of as-built specifications

Experience has shown that when builders invest in the design process prior to construction, and apply extra attention to site inspection of air barriers and ventilation systems, homeowner complaints and callbacks are significantly reduced.

Support for Super E® Members



www.super-e.com

Wood Frame Housing

There is growing interest in the advantages of wood frame housing. Many builders will find Canadian manufactured or pre-assembled wood frame house construction offers an attractive way to address concerns about the cost or availability of skilled on-site labour. (Note: While Super E® houses can use other construction methods, such as steel frame, most are wood frame).

All of the principles of Super E® are applicable to other forms of construction including brick and block and steel framing. For those builders of brick and block who are making the transition to wood frame, Super E® is a low risk way to incorporate features that will maximize durability, quality, comfort and energy efficiency ensuring the change over to wood frame is both a positive and beneficial experience.



Super E® Training and Technical Support

Member companies have access to specialized training from their Canadian partners to ensure that all aspects of the Super E® house are completed exactly as designed. General training is also available on a cost recovery basis through the Super E® House Program. Training modules include Super E® Building Technology, The House as a System, Ventilation Systems and Installation, Plans Evaluation, Computer Simulation, and Inspection Methods.

Promotion and Marketing

Super E® provides solid brand recognition. Super E® is a trademark of the Government of Canada that gives local companies an opportunity to distinguish themselves from their competition. Only recognized Super E® members can be licensed to use the Super E® name or logo. Once a licensing agreement with the Government of Canada is signed, members have access to generic brochures, ad mats and other types of sales information. Licensed member companies may use the name and mark in their own promotion and marketing, within the limits set out in the licence.



www.super-e.com



Super E® exceeds local standards and regulations

Key to every Super E® House project is the design partnership between the Canadian and local companies. Each project integrates Canadian building science expertise, technologies and systems with accepted local best building practices. This partnership ensures the integration of all the design elements into the best product—for price, performance, comfort, energy efficiency, and durability.

The Super E® House Program supports efforts to improve energy efficiency in the housing sector and reduce the production of greenhouse gases. The Super E® House Program enables builders to easily comply with new, more stringent guidelines for energy efficiency as they are introduced.

Monitoring and Evaluation

The Super E® House Program monitors and evaluates the technology and products used by member companies. The on-going evaluation of selected homes includes customer satisfaction surveys, monitoring of moisture levels, indoor air quality measurements as well as analysis of energy bills.

Technology Details



www.super-e.com

From the ground up, Super E® incorporates the latest technology for house performance.

Super E® technical features result in improved:

- comfort
- indoor air quality
- durability through protection from wind-driven rain
- control of humidity and odours
- energy efficiency
- reduction of impact on natural resources and the environment
- reduction in noise pollution due to extra insulation and careful attention to construction details

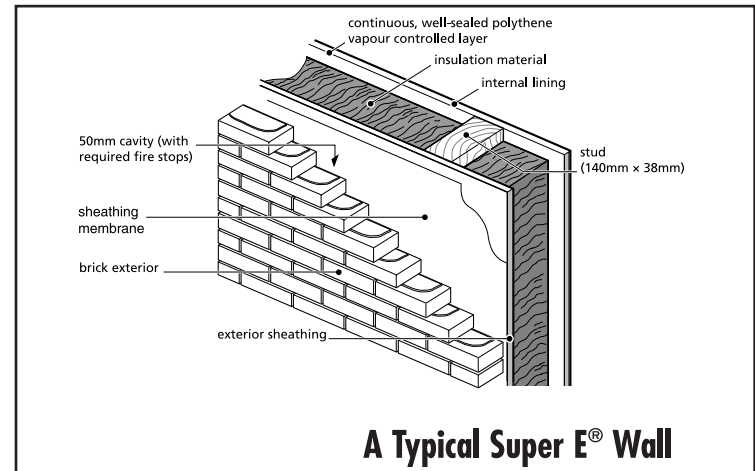
Wall Technology

Super E® wall technology uses four key principles:

- increased insulation
- moisture control
- rainscreen
- air leakage reduction

Increased Insulation

The proper amount and placement of insulation is essential to slow heat loss, increase comfort and minimize the risk of damage due to condensation.



A Typical Super E® Wall

Super E® houses are required to have foundations, exposed floors, walls and ceilings with insulation levels and installation details that strike a careful balance between construction costs, energy costs, comfort and durability concerns.

Super E® also offers flexibility in meeting its insulation requirements. Designers have the option of using the well-respected HOT2000 energy analysis software. This can remove the guesswork in selecting trade-offs between the performance and cost of different building components.

Moisture Control

Control of both indoor moisture sources and careful design to exclude rain and other outdoor moisture are among the most significant factors that affect the durability of a home.

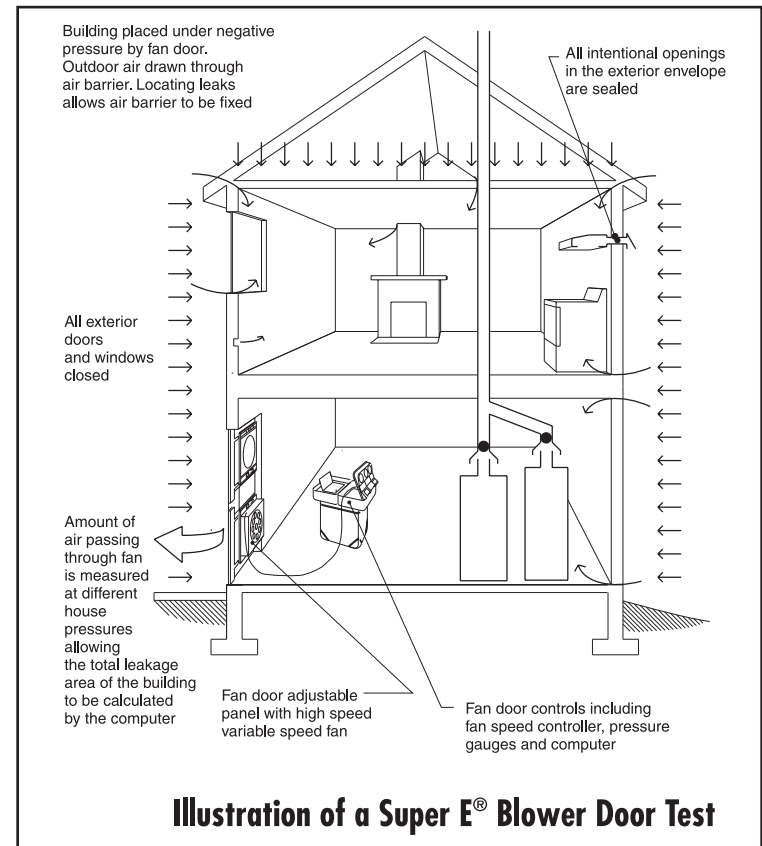
If excess water vapour from inside a house is allowed to pass through the insulation to cold parts of the structure, condensation and long-term damage can occur. To prevent this, every Super E® house must have an advanced mechanical ventilation system that provides enhanced control of indoor humidity as well as a continuous, well-sealed air vapour barrier tested for performance.

The durability of walls can also be affected by penetration of rain, especially when it is wind-driven. Super E® houses must incorporate details that shed rainwater and allow any water that does penetrate the brick or other cladding to dry before it can cause damage.

Rainscreen

In Super E® houses, potential damage from wind-driven rain is minimized by using a “pressure equalized rainscreen” — a leading edge Canadian approach to dealing with wind-driven rain penetration of exterior walls.

Effective rainwater management uses multiple lines of defence – deflection, drainage, drying and durable materials. A pressure-equalized rainscreen deflects rain as it falls, allows drainage and drying of any moisture that accumulates and is constructed with durable materials. This approach reduces the risk of damage from water that may penetrate brick or other wall cladding.



Air Leakage Reduction

Exterior walls with a continuous, well-sealed air vapour barrier are essential for energy-efficient, durable, comfortable, and moisture-controlled houses. In any climate—windy, rainy, hot or cold—a low air leakage rate is important to control wind pressure and rain penetration.

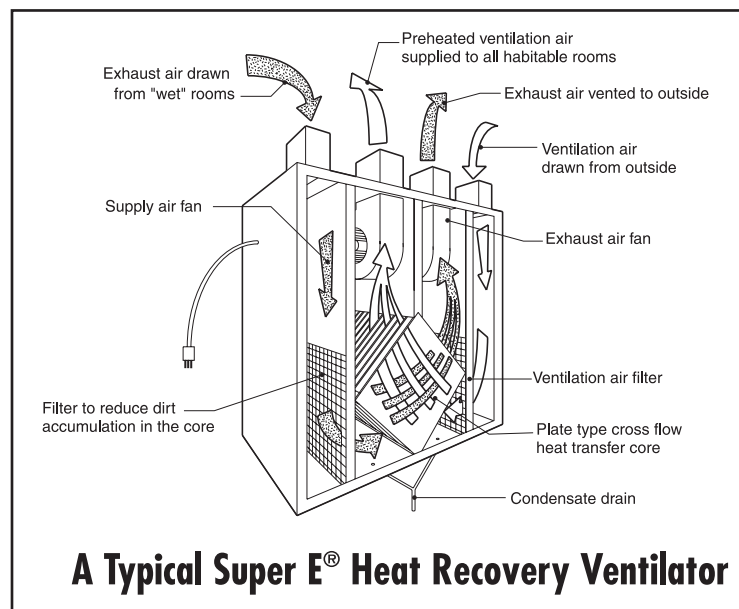


Houses built to the Super E[®] Standard must achieve an air leakage rate that is significantly better than conventional practice—no greater than 1.5 air changes per hour at 50 Pascals pressure, making the homes virtually draught free. Unlike most other new homes, each Super E[®] house is blower door tested to measure the air leakage rate to ensure that this requirement is met.

has operable windows. Canada is a world leader in designing, manufacturing and installing energy-efficient ventilation systems for health and comfort. All Super E[®] ventilation systems are based on rigorous Canadian standards (CSA F-326) which call for fresh air delivery to every room in the house.

Air Leakage Rates and Mechanical Systems Technology

Airtight homes create an indoor environment that is easy to control for health and comfort. Super E[®] houses use whole-house, continuous balanced ventilation systems that provide fresh air and exhaust stale air. Of course every Super E[®] house

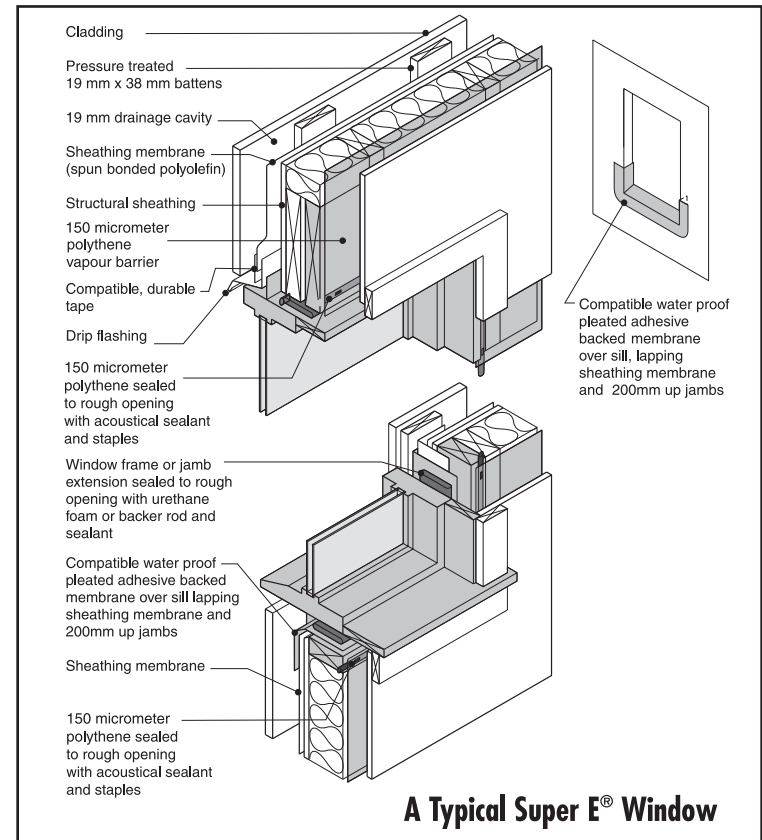


Space heating and cooling equipment and their installation must meet both Canadian and local standards for high performance, energy efficiency, and safety. All combustion systems are vented to the outside to ensure healthy indoor air. Energy-efficient systems and fans also maintain low operating costs.



Window Technology

Windows are a key feature of every Super E® house — providing light, comfort and passive ventilation. Canadian windows use the latest and best technologies, including multiple glazing layers, low-emittance coatings and insulating spacers between the glazings that reduce condensation and draughts. Super E® houses that use Canadian-supplied windows must meet tough Canadian standards (CSA A-440) for airtightness, water tightness, wind load resistance and ease of operation. These Canadian standards meet or surpass many foreign standards.



Indoor air quality

Indoor air quality is another important element of every Super E® house. Most homeowners spend more time inside their homes than anywhere else. Research has shown that the air quality in many conventional homes can be much worse than the outdoor air due to mold and chemical emissions from the contents of the house and its building materials.

There are three factors that help to achieve the best indoor air quality available in housing today.

1. *Healthy material choices*

Choosing materials that have minimal or no chemical emissions helps achieve good indoor air quality. Canadian Super E® members are knowledgeable about healthy materials and how to source them for their Super E® houses. Every Super E® house must incorporate at least three healthy building materials from a list of options.

Canada is pro-active in setting guidelines for materials through the Environmental Choice™ Program. The program promotes a safer environment by reducing energy and materials consumption and by minimizing the impacts of pollution. Products that meet the strict Environmental Choice criteria can be labeled with the EcoLogo™.



2. *Air Leakage*

The low air leakage rates in Super E® houses provide an easily controlled indoor environment with fresh air and controlled humidity.

3. *Ventilation*

The mechanical ventilation system brings healthy, filtered fresh air to each room and exhausts stale air from the house.

Environmentally-friendly materials

The Super E® House Program encourages builders to use building materials that minimize the impact on the natural environment and use recycled materials. Each Super E® house must use at least two environmentally friendly building materials chosen from a range of products. Incorporating these environmentally friendly products combined with all of the other Super E® features into your house sends a strong signal of your company's corporate commitment to the environment.



Seismic performance

Super E® houses have proven performance in zones of high seismic activity throughout the world. Floors, walls and roofs in most Super E® houses are made of framed panels, which form diaphragms which act as deep, thin beams and are exceptionally strong. The semi-flexible connections allow minor frame movements without failure, preventing earthquake damage caused by racking and twisting. Wood frame homes are also very easily and inexpensively repaired when minor damage does occur.



Be part of the team

www.super-e.com

The Super E® House Program has the best people, the best product and the best technology. Join the elite group of Super E® members and gain a competitive edge in your market.

What you need to know to build a Super E® Project:

The benefits are clear. With Super E® you have the best product and the best team, backed by years of housing experience and partnerships between Canadian and foreign companies.

The steps to building a Super E® Project:

1. Contact a Super E® Member in Canada who will become your Canadian Expert Affiliate company (www.super-e.com). Or, if you are already working with a Canadian company, have them contact the Super E® office to become a Super E® member.

2. Complete an application with your Canadian Expert Affiliate. Submit the application to the Super E® Office for approval (approximately two weeks).
3. Once you have approval, sign the licence agreement between your company and the Government of Canada. The licence agreement authorizes you to advertise your demonstration Super E® project and to use the Super E® name and logo.
4. Complete your Super E® house with your Canadian Expert Affiliate. It is the joint responsibility of your company and the Canadian Expert Affiliate to ensure that the house meets the Super E® requirements.

To learn more about Super E®, contact a Canadian Super E® company or the Super E® office today, or go to www.super-e.com.

Canadian Super E® Office

c/o Oxford Media Group

Ireland and UK toll free tel: 00-800-3999-9969

fax: (519) 539-7063

e-mail: super-e@super-e.com

Day to day administration and membership applications are handled by Oxford Media Group.

Taking Canada's Housing Experience to International Markets

Canada is known worldwide for its innovations in energy-efficient and healthy housing. For 50 years, Canada's three science-based agencies, Natural Resources Canada, Canada Mortgage and Housing Corporation and National Research Council Canada have worked with housing partners to accelerate the research and development of world-leading energy-efficient and healthy housing technologies. In support of Canada's renowned housing industry, Canadian agencies are expanding their activities to the international market and actively promoting the benefits of Canada's housing products and systems.



Natural Resources
Canada

Ressources naturelles
Canada

Department of Foreign Affairs
and International Trade

Ministère des Affaires étrangères
et du Commerce international



Canada Wood
Produits de bois canadien



Canada

Canadian Super E® Office

c/o Oxford Media Group

Ireland and UK toll free tel: 00-800-3999-9969

fax: (519) 539-7063

e-mail: super-e@super-e.com

www.super-e.com

Canada

Printed and bound in Canada

