



CertainTeed

# Sustainable Freedom of Choice

Polymer, Fiber Cement, Insulated and Vinyl Siding and Trim

*Everything you need to know  
to make the right design choice  
for you and our environment.*

**CertainTeed**  
SAINT-GOBAIN

# Commitment to Sustainable Products

Sustainable design is the practice of reducing or eliminating the negative impact of buildings on the environment and their occupants. It includes how the site is planned, the effective use of water and energy, conservation of materials and resources, and indoor air quality.

As a manufacturer of siding products, CertainTeed is committed to making a sustainable difference. That's why our polymer, fiber cement, insulated and vinyl sidings, as well as our exterior cellular PVC trim are manufactured in a way that is responsible to our environment, economical for building professionals and homeowners and beneficial to our communities.

## Creating Economic Advantage

By reducing waste and energy use in our plants, CertainTeed is able to achieve cost savings that can be applied toward research and development of new sustainable products. This has resulted in the creation of some of the industry's most economical siding and trim options, and the lowest maintenance costs of any other cladding.

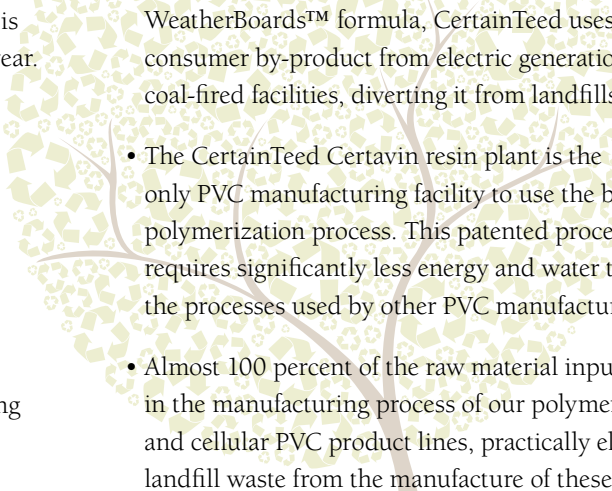
## Caring for the Community

The CertainTeed commitment to sustainability extends to the communities where we work and live. We are committed to the wellbeing of our employees and surrounding communities.

## Protecting the Environment

*CertainTeed is actively pursuing strategies to reduce our environmental impact, while increasing the sustainability of our operations and products. We fulfill this commitment through our manufacturing methods, and through the design of siding products with environmentally friendly performance attributes.*

### Resource Conservation

- Our manufacturing facilities recycle the water that is used in our plants, saving billions of gallons each year.
  - CedarBoards D6 contains 53% pre- and post-consumer recycled material, and is NAHB Research Center Green Approved.
  - Our polymer, vinyl and cellular PVC products are recyclable. CertainTeed takes back post-consumer siding from builders and manufactured housing plants, creating a "cradle-to-cradle" system. We coordinate the operations of over 200 vinyl recycling centers nationwide to reclaim vinyl siding.
  - To incorporate recycled content into its WeatherBoards™ formula, CertainTeed uses pre-consumer by-product from electric generation at coal-fired facilities, diverting it from landfills.
  - The CertainTeed Certavin resin plant is the only PVC manufacturing facility to use the bulk polymerization process. This patented process requires significantly less energy and water than the processes used by other PVC manufacturers.
  - Almost 100 percent of the raw material inputs are used in the manufacturing process of our polymer, vinyl and cellular PVC product lines, practically eliminating landfill waste from the manufacture of these products.
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# Contributions to Regional Materials



## Life Cycle Analysis (LCA)

A LCA identifies the environmental impacts of a product, process or activity over its life span. CertainTeed submitted its products to BEES for third party verification and is the first siding manufacturer to conduct LCAs on each of its siding products. The results illustrate that CertainTeed vinyl and polymer siding have a lower environmental impact than the majority of cladding options.

## Energy Conservation

- The manufacturing process used by vinyl and polymer producers is less energy and resource intensive than that used by other cladding choices such as brick and stucco.
- Products such as CertainTeed's CedarBoards™ insulated siding and Triple 3-1/3" InvisiVent® ventilated soffit can help increase a project's energy efficiency. When installed properly, CedarBoards can help increase a home's energy efficiency.
- Through continued sustainable initiatives by our parent company Saint-Gobain, CertainTeed continues



to earn the Energy Star Partner of the Year Award.

## Emissions Reduction

- The majority of raw materials used to manufacture CertainTeed vinyl and polymer products are shipped by rail, decreasing emissions and the need for over-the-road transportation.
- CedarBoards insulated siding can actually increase the R-value of the building envelope, which reduces energy consumption and related CO<sub>2</sub> emissions for the life of the building.

## Cost of Ownership

CertainTeed insulated siding, vinyl siding, and cellular PVC trim eliminate the need for paint and caulk, decreasing maintenance and a project's environmental impact. CertainTeed's Fiber Cement products arrive pre-finished, reducing installation and maintenance time and costs.

## Guaranteed quality and compliance

Many of CertainTeed's siding products contribute to efforts to conserve resources and reduce environmental impact by buying from local suppliers and by using locally available indigenous materials. CertainTeed siding products are shipped from one of our manufacturing facilities, ensuring that building professionals are rarely more than 500 miles from a factory location.

CertainTeed's Siding and Fiber Cement facilities are ISO 14001-certified. These facilities maintain environmental management systems that meet standards set by the International Standards Organization (ISO). CertainTeed takes pride in establishing these programs to reduce our environmental impact and improve our environmental performance at our manufacturing facilities.

# Sustainable Products. Freedom of Choice.

CertainTeed offers freedom of choice in the selection of both sustainability benefits and design options. Each of our siding products support sustainability goals, and our complete siding portfolio offers the industry's broadest selection of designs, materials and styles.



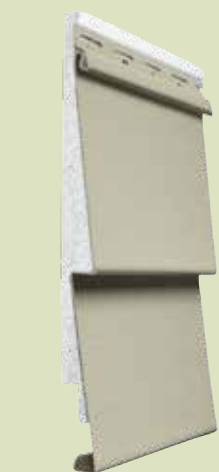
## **CertainTeed Cedar Impressions® Polypropylene Siding**

Cedar Impressions is a blend of a polypropylene (PP) resin, calcium carbonate filler, additives and color concentrate. The color concentrate consists of approximately 50 percent inorganic, mineral-based compounds and 50 percent organic compounds. Cedar Impressions is recyclable. Because it requires no painting or caulking, Cedar Impressions decreases maintenance and environmental impact.



## **CertainTeed WeatherBoards™ Fiber Cement Siding with Recycled Content**

CertainTeed WeatherBoards Fiber Cement siding contains 30 percent recycled content. To incorporate recycled content into its WeatherBoards formula, CertainTeed uses pre-consumer by-product from electric generation at coal-fired facilities, diverting it from landfills. CertainTeed is dedicated to sustainable wood fiber solutions, and wherever possible, works to source and secure pulp from sustainably managed forests.



## **CertainTeed CedarBoards™ D6 Insulated Siding with Recycled Content**

CertainTeed CedarBoards D6 contains the highest recycled content of any vinyl siding product currently on the market. The product contains both post-consumer and pre-consumer recycled content PVC resin, with a PVC recycled content of 53%. When installed properly, CedarBoards can help increase a home's energy efficiency.

### **Certified Environmental Facts**

Company: CertainTeed Corporation  
Product: CedarBoards D6  
Plant Location: Jackson, MI

#### **Product Specific:**

Recycled Content	53%
Rapidly Renewable Material Content	--%
Regional Raw Material Sourcing	63%
Carbon Footprint Reduction - Product	33%
Recyclable Material	*
Completed LCA/EPD	Yes - Published LCA
Closed Loop Recycling Program	No

#### **Manufacturing Specific:**

Carbon Footprint Reduction - Facility	12.66%
Reduced Waste	36.24%
Reduced Water Usage	14.60%
Reduced Energy Usage	8.21%
ISO 14001 Certified	Yes

Evaluation Period: 2009 - 2011  
Certification Number: 12-0239  
Certification Period: 10/1/2012 - 9/30/2013  
For more information on the  
Certified Environmental Facts of this product,  
please contact: [info@GreenCircleCertified.com](mailto:info@GreenCircleCertified.com)  
[www.GreenCircleCertified.com](http://www.GreenCircleCertified.com)

\*The vinyl siding component of this product is recyclable, however, additional steps will need to be taken to recycle the insulated vinyl siding assembly.



## **CertainTeed Vinyl Siding Collection**

Compared to brick, stucco and other cladding materials, CertainTeed vinyl siding offers significantly better overall environmental and economic performance. Contributing factors include the recycled content of raw materials, manufacturing methods, durability, low-maintenance characteristics and recyclability. Through CertainTeed's take-back program old vinyl siding can be recycled for use in making new vinyl siding.



## LEED Certification

### The "Green" Home Standard

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a nationally recognized standard that promotes the design and construction of high-performance "green" buildings. CertainTeed siding products can contribute to earning points in the New Construction, Core and Shell, Retail, Healthcare, Schools and LEED for Homes rating systems.

A green single/multi-family home uses less energy, water and natural resources. It creates less waste, and is healthier and more comfortable for the occupants. A LEED Certified home will have lower energy and

water bills, reduced greenhouse gas emissions and less exposure to mold, mildew and other indoor toxins.

In order to be LEED certified a home must earn various credits in various LEED categories. Points are earned by using various building products and building methods that will contribute to the requirements in each credit to achieve certification.

CertainTeed siding and trim products contribute to the attainment of LEED Certification through: Environmentally Preferable Product Characteristics, Life Cycle Assessment Data, Recycled Content, Energy Efficiency, Durability, and Regional Material.

#### Cedar Impressions® Polypropylene Siding

LEED Criteria	Requirement	Points
LEED for New Construction (NC), LEED for Core and Shell (CS), LEED for Schools, LEED for Healthcare, and LEED for Retail		
Pilot Credit 61: Material Disclosure & Assessment	Assessment and Optimization of Structure and Enclosure	1

#### WeatherBoards™ Fiber Cement Siding with Recycled Content

LEED Criteria	Requirement	Points
LEED for New Construction (NC), LEED for Core and Shell (CS), LEED for Schools, and LEED for Retail		
MR 4	Recycled Content	1-2
MR 5	Regional Material	1-2
Pilot Credit 61: Material Disclosure & Assessment	Assessment and Optimization of Structure and Enclosure	1
LEED for Healthcare		
MR 3	Recycled Content and Regional Material	1-2
ID 1: Pilot Credit 61: Material Disclosure Assessment	Assessment and Optimization of Structure and Enclosure	1
LEED for Homes (2009)		
MR 2.2	Environmentally Preferable Product: Local	.5
SS 5	Non Toxic Pest Control-Can protect foundation insulation	.5

#### CedarBoards™ D6 Insulated Siding with Recycled Content

LEED Criteria	Requirement	Points
LEED for New Construction (NC), LEED for Core and Shell (CS), LEED for Schools, and LEED for Retail		
EA Prerequisite 2	Minimum Energy Performance	Required
EA 1	Optimize Energy Performance	1-19 (NC, Schools, Retail) 3-21 (CS)
MR 4	Recycled Content	1-2
MR 5	Regional Material	1-2
IEQ 7.1	Thermal Comfort - Design	1
ID 1: Pilot Credit 61: Material Disclosure Assessment	Assessment and Optimization of Structure and Enclosure	1
LEED for Healthcare		
EA Prerequisite 2	Minimum Energy Performance	Required
EA 1	Optimize Energy Performance	1-24
MR 3	Recycled Content	1
IEQ 7.1	Thermal Comfort - Design	1
Pilot Credit 61: Material Disclosure & Assessment	Assessment and Optimization of Structure and Enclosure	1
LEED for Homes (2009)		
MR 2.2	Environmentally Preferable Product: Materials	0.5

#### CertainTeed Vinyl Siding Collection

LEED Criteria	Requirement	Points	CT Product
LEED for New Construction (NC), LEED for Core and Shell (CS), LEED for Schools, and LEED for Retail			
MR 2	Construction Waste Management - Recyclable	1	Vinyl Siding Products
MR 3	Regional Material	1-2	Restoration Millwork (Social Circle Plant)
ID 1: Pilot Credit 61: Material Disclosure Assessment	Assessment and Optimization of Structure and Enclosure	1	Vinyl Siding Products
LEED for Healthcare			
MR 2	Construction Waste Management - Recyclable	1	Vinyl Siding Products
MR 3	Regional Material	1	Restoration Millwork (Social Circle Plant)
Pilot Credit 61: Material Disclosure & Assessment	Assessment and Optimization of Structure and Enclosure	1	Vinyl Siding Products
LEED for Homes (2009)			
MR 2.2	Environmentally Preferable Product: Local	0.5	Restoration Millwork (Social Circle Plant)



The life cycle assessment of CertainTeed siding products can contribute to earning points for green building certification in both the USGBC and NAHB green building programs.

In the NAHB National Green Building Standard, points can be earned for using LCA data to select more environmentally preferable products.

## The NAHB National Green Building Standard

The Standard for Environmentally Responsible Building Methods

The National Association of Home Builders (NAHB) National Green Building Standard incorporates environmental considerations into every phase of the building process. The standard covers all phases of a home's design, construction and operation including energy and water efficiency, lot development, resource-efficient building design and materials, indoor environmental air quality,

homeowner maintenance and the home's overall impact on the environment. Builders who follow the NAHB National Green Building Standard can earn points in a way similar to the LEED rating systems.

CertainTeed products can help builders earn NAHB Green Building points in four categories:

- Resource Efficiency
- Energy Efficiency
- Locally Available Indigenous Materials
- Life Cycle Assessment (LCA)

### Cedar Impressions® Polypropylene Siding

NAHB Criteria	Requirement	Points
Resource Efficiency		
601.7	No Site Applied Finishing Materials	2-5
602.8	Termite-Resistant Materials	2-6
609.1	Use LCA to determine most environmentally preferable material	3
610.1	Products manufacturer's operations are ISO 14001 certified	1-3

### WeatherBoards™ Fiber Cement Siding with Recycled Content

NAHB Criteria	Requirement	Points
Based on the ANSI approved ICC 700-2008 National Green Building Standard.		
601.7	No Site Applied Finishing Materials	2-5
602.8	Termite-Resistant Materials	2-6
604.1	Recycled Content Materials	1-2
608.1	Locally Available Indigenous Material	2
609.1	Use LCA to determine most environmentally preferable material	3
610.1	Products manufacturer's operations are ISO 14001 certified	1-3

### CedarBoards™ D6 Insulated Siding with Recycled Content

NAHB Criteria	Requirement	Points
Resource Efficiency		
601.7	No Site Applied Finishing Materials	2-5
602.8	Termite-Resistant Materials	2-6
604.1	Recycled Content Materials	2-4
608.1	Locally Available Indigenous Material	2
609.1	Use LCA to determine most environmentally preferable material	3
610.1	Products manufacturer's operations are ISO 14001 certified	1-3
Energy Efficiency		
702.2	Energy/Cost Performance	30-120
703.1.1	Building Envelope	10-36

### CertainTeed Vinyl Siding Collection

NAHB Criteria	Requirement	Points
Resource Efficiency		
601.7	No Site Applied Finishing Materials	2-5
602.8	Termite-Resistant Materials	2-6
605.3	Construction Materials Recycled Offsite (Vinyl Siding only)	3
608.1	Locally available indigenous materials (Restoration Millwork only)	2
609.1	Use LCA to determine most environmentally preferable material (Vinyl Siding only)	3
610.1	Products manufacturer's operations are ISO 14001 certified	1-3

The life cycle assessment of CertainTeed siding products can contribute to earning points for green building certification in both the USGBC and NAHB green building programs.

In the NAHB National Green Building Standard, points can be earned for using LCA data to select more environmentally preferable products. LEED Pilot Credit 61 provides an opportunity to earn points in the innovation and design category of LEED rating systems for selecting products with published and third-party verified LCA's.

## Life Cycle Assessment

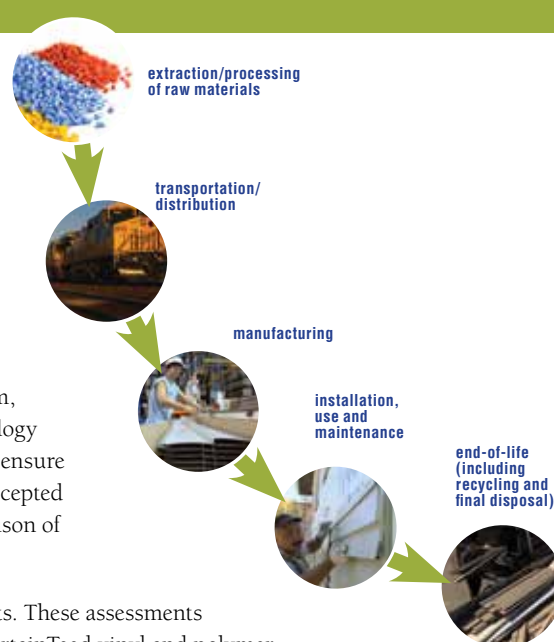
### Identifying Environmental Impact

Life Cycle Assessment (LCA) is the method for identifying the environmental impacts of a product, process or activity over its environmental life span, as well as the environmental cost/benefits of the product.

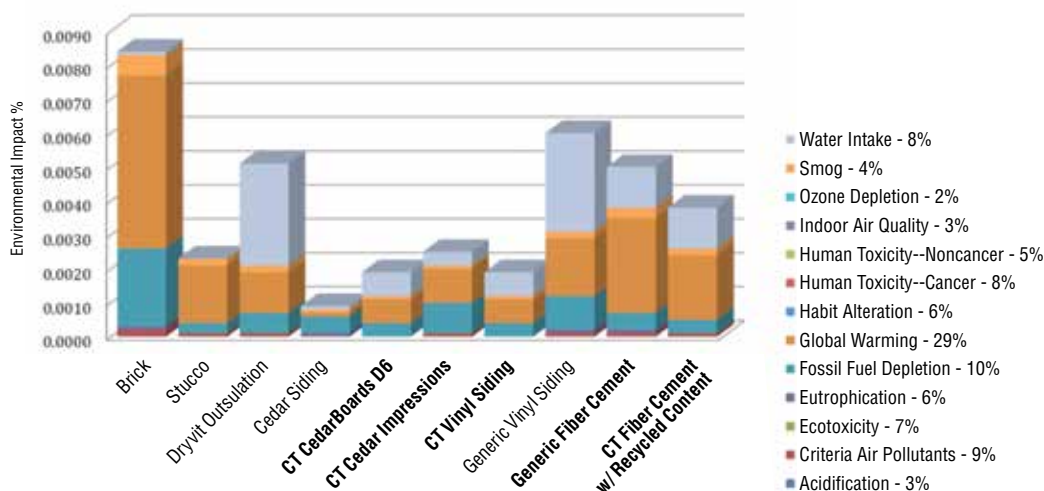
LCA data is submitted by manufacturers to the Building for Environmental and Economic Sustainability (BEES) program, managed by the National Institute of Standards and Technology (NIST). BEES fully reviews and investigates each product to ensure that the data is developed in keeping with internationally accepted standards. LCA data is then published allowing the comparison of building products on a life cycle basis.

CertainTeed has conducted LCAs on all of its siding products. These assessments have shown that in comparison to other siding products, CertainTeed vinyl and polymer siding products have very low impact across all life cycle stages.

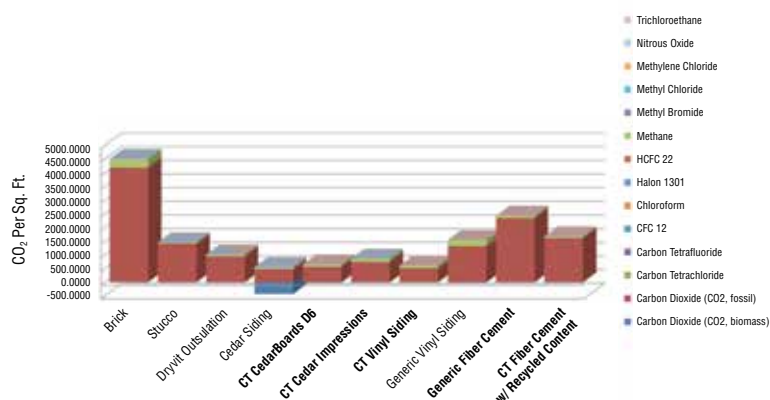
For more LCA information go to [www.certainteed.com/LCA](http://www.certainteed.com/LCA).



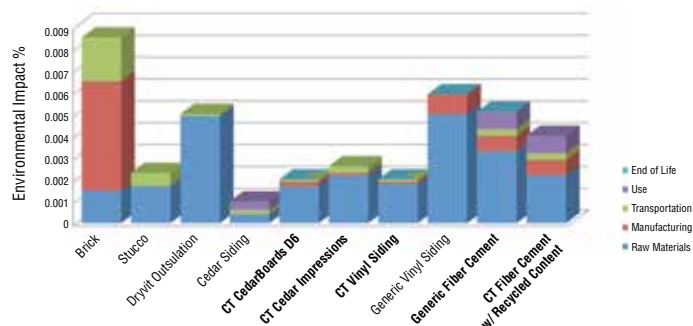
## Overall Environmental Impact



## Global Warming Potential



## Overall Environmental Performance by Life Cycle Stage





Polymer Shakes & Shingles



Fiber Cement Siding



Fence



Insulated Siding



PVC Exterior Trim & Beadboard



Decking and Railing



Vinyl Siding



Vinyl Carpentry® Trim



Housewrap



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[ **BeCertain** ] Confidence worth building on.™

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