

Environmental wood solutions

Steelcase





Sapling #001072 planted in the
Steelcase wood research plot.

Why should we care about the environment? It's the right thing to do.

Our vision as a company came about naturally—our people are passionate about the environment. We don't do things just to make headlines. We were environmental stewards long before environmental concerns were mainstream. Before certifications existed.

Because we care, we constantly reevaluate what we're doing and how we do it. Can we do better? We hope so. We think so. And we will.

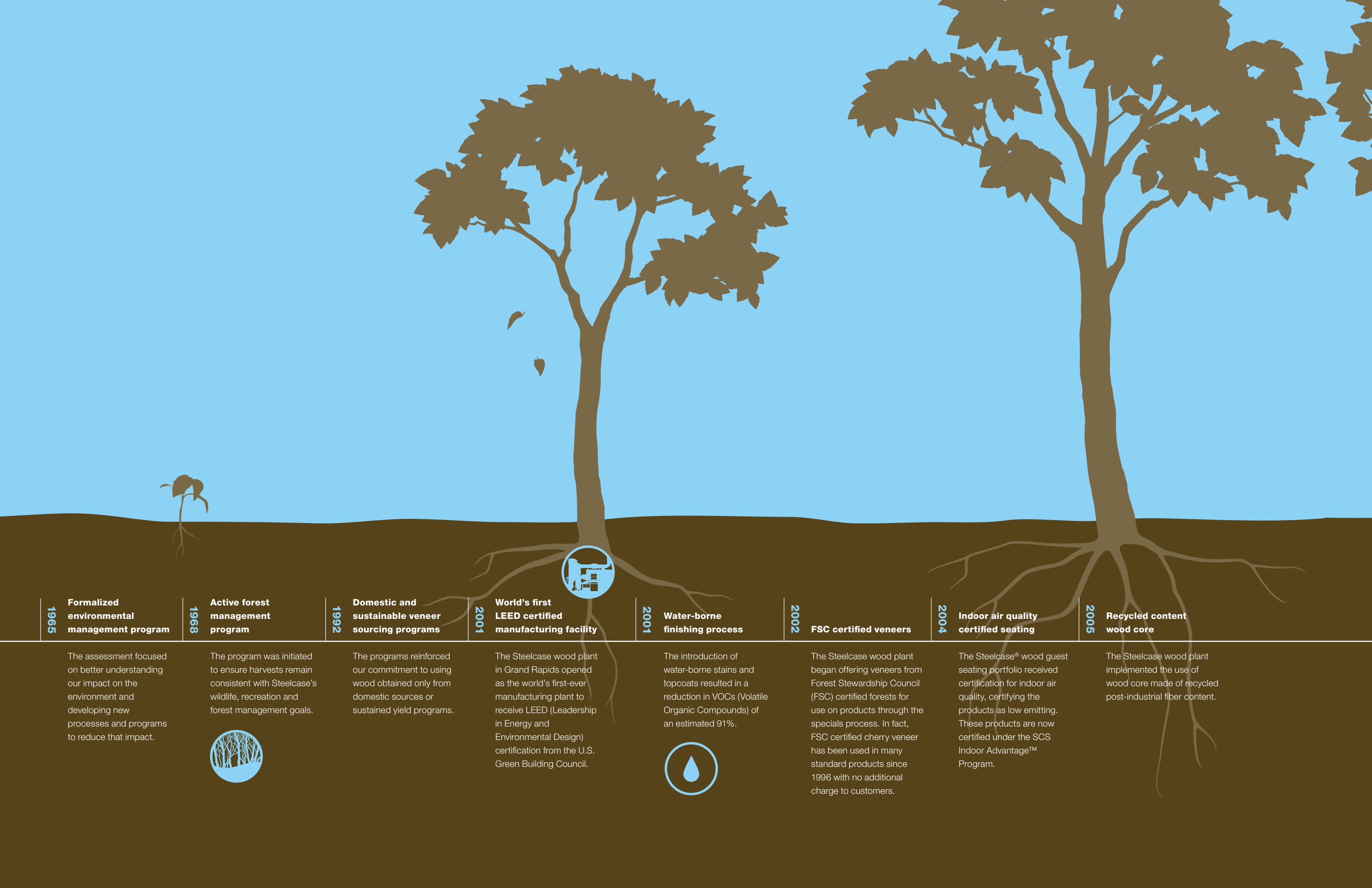
One step at a time (and over time).

We've done plenty of big things to reduce our impact on the environment, but we realize a collection of grand gestures is not enough. The little things we do every day, both as a company and as individuals, are just as important as the big things.

Here are a few milestones, big and small, for Steelcase wood that got us where we are today.

It started with planting a vision.





1965
Formalized environmental management program

The assessment focused on better understanding our impact on the environment and developing new processes and programs to reduce that impact.

1968
Active forest management program

The program was initiated to ensure harvests remain consistent with Steelcase's wildlife, recreation and forest management goals.



1992
Domestic and sustainable veneer sourcing programs

The programs reinforced our commitment to using wood obtained only from domestic sources or sustained yield programs.

2001
World's first LEED certified manufacturing facility

The Steelcase wood plant in Grand Rapids opened as the world's first-ever manufacturing plant to receive LEED (Leadership in Energy and Environmental Design) certification from the U.S. Green Building Council.



2001
Water-borne finishing process

The introduction of water-borne stains and topcoats resulted in a reduction in VOCs (Volatile Organic Compounds) of an estimated 91%.



2002
FSC certified veneers

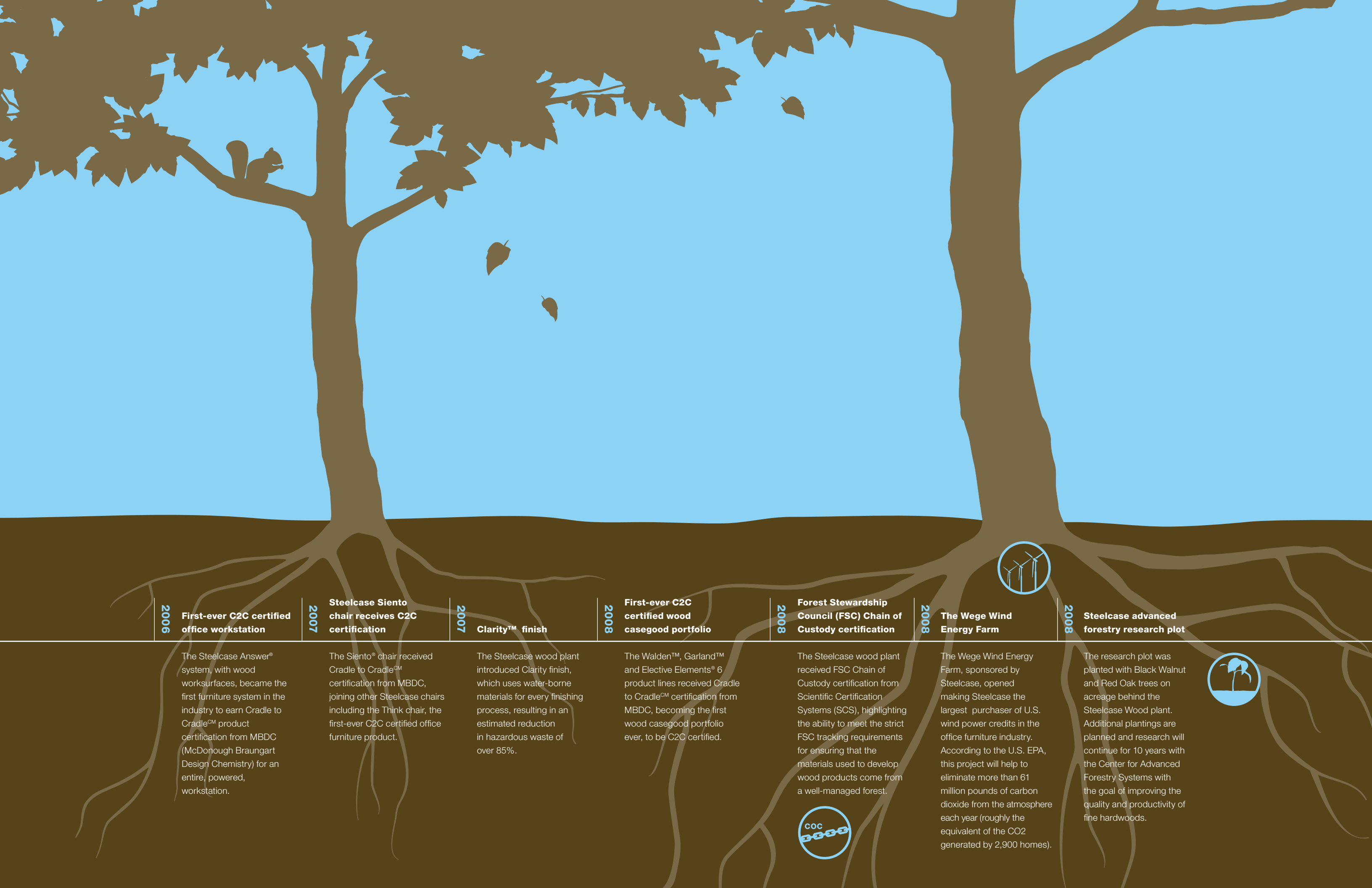
The Steelcase wood plant began offering veneers from Forest Stewardship Council (FSC) certified forests for use on products through the specials process. In fact, FSC certified cherry veneer has been used in many standard products since 1996 with no additional charge to customers.

2004
Indoor air quality certified seating

The Steelcase® wood guest seating portfolio received certification for indoor air quality, certifying the products as low emitting. These products are now certified under the SCS Indoor Advantage™ Program.

2005
Recycled content wood core

The Steelcase wood plant implemented the use of wood core made of recycled post-industrial fiber content.



2006

First-ever C2C certified office workstation

The Steelcase Answer® system, with wood worksurfaces, became the first furniture system in the industry to earn Cradle to Cradle^{CM} product certification from MBDC (McDonough Braungart Design Chemistry) for an entire, powered, workstation.

2007

Steelcase Siento chair receives C2C certification

The Siento® chair received Cradle to Cradle^{CM} certification from MBDC, joining other Steelcase chairs including the Think chair, the first-ever C2C certified office furniture product.

2007

Clarity™ finish

The Steelcase wood plant introduced Clarity finish, which uses water-borne materials for every finishing process, resulting in an estimated reduction in hazardous waste of over 85%.

2008

First-ever C2C certified wood casegood portfolio

The Walden™, Garland™ and Elective Elements® 6 product lines received Cradle to Cradle^{CM} certification from MBDC, becoming the first wood casegood portfolio ever, to be C2C certified.

2008

Forest Stewardship Council (FSC) Chain of Custody certification

The Steelcase wood plant received FSC Chain of Custody certification from Scientific Certification Systems (SCS), highlighting the ability to meet the strict FSC tracking requirements for ensuring that the materials used to develop wood products come from a well-managed forest.

2008

The Wege Wind Energy Farm

The Wege Wind Energy Farm, sponsored by Steelcase, opened making Steelcase the largest purchaser of U.S. wind power credits in the office furniture industry. According to the U.S. EPA, this project will help to eliminate more than 61 million pounds of carbon dioxide from the atmosphere each year (roughly the equivalent of the CO₂ generated by 2,900 homes).

2008

Steelcase advanced forestry research plot

The research plot was planted with Black Walnut and Red Oak trees on acreage behind the Steelcase Wood plant. Additional plantings are planned and research will continue for 10 years with the Center for Advanced Forestry Systems with the goal of improving the quality and productivity of fine hardwoods.



Improving the environment every day. A closer look at some of the things we do to help the environment a little each day:

LEED certified wood plant

We wanted a new manufacturing facility, and we wanted it to be right for the environment. Our vision was a facility better for our employees, our community, and our environment. Inside, our employees would have healthier surroundings, allowing them to create better products.

The problem was we didn't know exactly how to do it. We asked around and found the United States Green



Building Council to be more than willing to help us. Through them, we became a pilot project for LEED certification.

The 600,000 square-foot building was the first manufacturing site in the world to be LEED certified.

We welcome the opportunity to use our experience and our products to help customers attain LEED certification for their own projects. To learn more go to steelcase.com/environment.

Sustainable harvesting practices

It only makes sense that creating an environmentally friendly product has to start with environmentally friendly materials harvested in a responsible manner and developed in a responsible way. To protect our forests for generations to come, it's critical we work with our suppliers to use trees grown and harvested in a way aligning with nature's own life-cycle processes, then use the trees as efficiently as possible.

This means giving preference to forests independently certified as sustainable by the Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI).

It means making sure lands, privately held and passed down for generations, are selectively cut in 20- or 30-year cycles, so forests are continually renewed and the environmental balance is maintained.

After harvesting, we scrutinize closely to ensure wood veneers and solids are used to their maximum potentials. We work with our suppliers on their cutting techniques to increase the amount of high-quality material we receive. We take these materials and extend their yield with hand selection, customized lay-up techniques, and finely tuned equipment. Our intense focus in this area has nearly doubled our veneer yield in just two years without compromising the quality or look customers expect from fine furniture.

We use wood veneers and solids for our edges, steering away from PVC-based foils, which can have a negative environmental impact and shorten the life of furniture due to low durability. We specialize in the use of natural veneers because we strongly believe they are more environmentally sound than composite veneers.

Unlike composites, natural veneers are not made with dyes, glues, or extensive processing and transportation steps. Our attention and focus on natural materials, from harvesting through production, allows us to create truly sustainable products.



Achieving LEED certification

LEED (Leadership in Energy and Environmental Design) certification is achieved by meeting standards for energy efficiency, safeguarding water, conserving materials and resources, enhancing indoor environmental quality and planning for site preservation.

The following are a few examples of the actions we took to earn LEED certification for our wood plant:

Energy

- Minimized the use of electricity
- Increased the amount of natural light
- Installed motion activated lighting

Water

- Created ponds to collect rain water for irrigation
- Planted native plants to minimize watering
- Installed low flow toilets

Material

- Utilized post-consumer recycled construction materials
- Used 100% asbestos-free materials
- Recycled 45% of the construction waste

Indoor environmental air quality

- Used water-borne paints
- Installed a system to monitor carbon dioxide levels
- Installed large intake fans to circulate fresh air

Site planning

- Preserved all topsoil during construction
- Planted over 950 trees to shade parking areas
- Provided preferred parking spots for hybrid vehicles



The world's first LEED certified manufacturing facility.



Thin sheets of veneer maximize the use of raw materials.



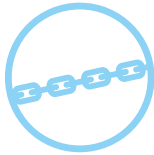
The UV finish used in our facility is nearly VOC-free, helping to preserve air quality.



This Walden casework, manufactured in our Grand Rapids wood plant, is one example of the many Steelcase wood products that are Cradle to CradleSM and SCS Indoor AdvantageTM certified.

FSC COC certification

Our harvesting practices are just one of the steps in achieving Forest Stewardship Council Chain of Custody certification. Chain of Custody is the path taken by raw materials through processing, manufacturing, and distribution.



This certification is more for our customers than for us—we already know our wood products are made from well-managed forests with sustainable harvesting practices. The certification guarantees to customers this is the case.

From the time the wood arrives at our plant, through manufacturing, and until it's loaded for delivery, FSC COC certification assures customers the product is made responsibly and entirely with certified wood.

Cradle to Cradle certification

Introduced in 2005, McDonough Braungart Design Chemistry (MBDC) outlines environmentally intelligent design criteria that must be met to obtain Cradle to Cradle (C2C) product certification.

C2C certification is a way for us to help customers know that we're doing everything we can to minimize the impact of our products on the environment. The certification process also gives us an opportunity to evaluate our products, the raw materials they're made from, the processes we use to produce them, and much more to make sure we're minimizing our environmental impact.

Consider something as seemingly simple as a drawer slide—a steel mechanism that allows a drawer to slide in and out. Within this drawer slide is steel, ball bearings, a rubber stop, lubrication for the bearings, paint, and more. Each component needs

to be identified and analyzed chemically, including any applied coating, like the coating on the ball bearings and the process used to get the coating to stick to the ball bearing. Once each chemical is identified, it must be evaluated against 19 human and environmental health criteria. If any chemical proposes a risk, we look to eliminate or find an alternative.

Taking advantage of this opportunity led to us offering many more Cradle to Cradle-certified products than any other company in any industry.

Indoor air quality

The air quality inside is just as important as the air quality outside, particularly because so many of us spend more time indoors than outdoors. That's why we put such importance on working to eliminate materials of concern from our products.

We began testing our products for indoor air quality as far back as the 70s—before any certifications were in place. Now, with SCS Indoor AdvantageTM and Indoor Advantage GoldTM certification available, our goal hasn't changed.

Receiving certifications for our products also help our customers, as our certified products contribute toward earning points toward LEED certification for their buildings.



Cradle to Cradle certification requires that a company's manufacturing processes and products be evaluated and meet MBDC's certification protocol for the following:

- Materials – assessing product component materials based on their intended use and impact on 19 human and environmental health criteria.
- Materials reutilization – using recycled materials that can be easily and effectively recycled.
- Water conservation and maximum water quality – using as little water as possible and then ensuring the water discharged from the manufacturing process meets or exceeds applicable water quality requirements.
- Energy practices – being smarter and more efficient about using less energy and optimizing renewable resources.
- Strategies for social responsibility.

Clarity™ finish

An excellent way to lower emissions is to use a water-borne finish. As a company offering thousands of furniture components, this was no easy task, but we knew working to eliminate materials of concern in our finish process would greatly impact the air quality indoors as well as reduce hazardous waste.

Our journey began in 2001 with the introduction of our first water-borne finish, which led to an estimated 91% reduction in VOCs (Volatile Organic Compounds). We continued to improve our finish and reached a milestone in 2007 with the introduction of Clarity™, a water-borne wood finish including the wash, sealer, and top coats applied using an environmentally friendly process. We tried and ruled out several other water-borne finishing technologies. We worked with different suppliers, modified formulations, and tested many unique processes.

It took about 18 months to perfect the Clarity™ finish and process for our products. The consistency and transparency of the finish allow the natural beauty of the wood to come through, and the clear top coat cures faster than solvent finishes, making Clarity™ more durable during delivery and installation. Clarity also allows for repairs should damage occur.

The finishing process uses no added formaldehyde, and enabled us to reduce the total amount of hazardous waste generated during manufacturing by an estimate of over 85%. All products using Clarity™ finish are Indoor Advantage-certified for indoor air quality.

Looking forward, we continue to work on ways to make the entire manufacturing process more friendly to the environment.



Forest project—Steelcase wood advanced forestry research plot

When we learned Purdue University was working on a research project to study hardwood trees and ways to improve their quality and productivity, we knew we had to get involved.

Purdue was collaborating with other universities, government agencies, and hardwood-industry stakeholders and we wanted to be a part of it. Soon, we were on the phone with the director of the Hardwood Tree Improvement and Regeneration Center (HTIRC) and making plans to meet.

We gave Purdue access to available acreage near our plant in Dutton, Michigan and also provided a research grant. In the spring of 2008, Steelcase wood employees and HTIRC staffers planted 4,000 Red Oak and Black Walnut saplings behind our facility. Additional trees will be planted as the research continues. Each two-year-old sapling was tagged and planted in a specific location, keeping with the center’s strict research protocol. A high fence was built around the plot to keep out animals that like to munch on the new growth of small trees.

This project is a great opportunity for us because it will help us learn more about the woods we use, and help us understand how we can get even more yield from each tree, thus further lessening our environmental impact.

A side benefit of the project is the trees draw carbon dioxide out of the air and help offset greenhouse gas emissions. An acre of walnut trees can take in as much as 2.2 tons of carbon dioxide each year during the trees’ peak growing years.



Saplings are planted in the Steelcase wood advanced forestry research plot.

Love how you work.®

Steelcase®

Call 800.333.9939 or visit steelcase.com

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