





Thin sheets of veneer maximize the use of raw materials

Being an environmentally responsible company starts by asking questions. Each new technology, every manufacturing process, each certification system presents an opportunity to reevaluate our impact. How do we know what steps to take? What happens when the product reaches the end of its useful life? How do we integrate environmental responsibility into everything we do? These questions are often complex with no easy answers. That's why we carefully analyze all our actions and strive to become more environmentally effective tomorrow than we are today.



At our LEED manufacturing facility, 715,000 gallons of water are conserved each year by using rain water collected in three retention ponds to irrigate landscaping.



Is it possible for a building to balance ecological, economic, and social responsibility? The LEED certification program goes a long way towards helping companies create well-rounded structures (figuratively speaking of course).

LEED Through Action

When Steelcase began designing our wood furniture manufacturing plant in Gaines Township, Michigan, we worked closely with the U.S. Green Building Council to use the building as a pilot project in its LEED program. Under the LEED (Leadership in Energy and Environmental Design) program, credits are earned toward certification by meeting standards for energy efficiency, safeguarding water, conserving materials and resources, enhancing indoor environmental quality, and site planning. The completed 600,000 square foot building received LEED Silver certification in 2001, and is the first manufacturing site in the world to be certified.

We believe that ultimately LEED certification contributes to the quality of the products built there. Safer, healthier workers create better products. And a cleaner, healthier environment creates a better future for people and for business. We welcome the opportunity to use our experience and our products to help customers attain LEED certification for their own building or interior projects.

See the back of this brochure for details on how we earned LEED certification.



The world's first LEED certified manufacturing facility



The particleboard we use is made of 100% recycled wood fiber content.



A wood guest chair on the production line

There is nothing quite like wood. Each piece of wood is truly one of a kind, a unique slice of history. Wood is strong and beautiful, warm and familiar, always distinctly individual. Beginning with the Stow Davis company over a century ago, we build wood furniture that celebrates those qualities and respects their natural origins.

Forest to Furniture

Environmental responsibility begins with harvesting practices. We monitor endangered species lists and use woods that are not endangered or considered questionable. If a customer wants an exotic look, we can work together to find a wood that has the right aesthetic and is responsibly harvested. We source the majority of our veneers and solids from forests in North America. Using domestic suppliers reduces the distance materials must be shipped, and allows us to more easily conduct evaluations of their environmental practices. Our purchasing policy gives preference to forests independently certified as sustainable. The most widely known certifications are the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI) programs. For instance, on average we are able to purchase 30% of our cherry veneer with FSC certification. Some of our suppliers use creative solutions that go beyond certification requirements. For example, one of our maple suppliers uses Belgian horses to pull logs out of the forest, instead of trucks, to minimize forest disruptions.

After the trees are harvested, they are cut into veneers and solids. Veneer is an efficient use of resources because the thin leaves of wood (usually 0.4 mm to 0.7 mm thick) are pressed over particleboard, radiating the same look as solid wood but requiring fewer trees to produce.

Even lower grade veneers are utilized by applying them to the inside of cases and other unseen areas, so practically nothing goes unused.

We use natural veneers rather than composite veneers because natural veneers are more durable, have a more efficient chain of custody, and involve less processing. If a customer wants the look of a composite, we can suggest natural veneers with a similar consistency of grain and hand select veneers for even more control.

The particleboard we use is made of 100% recycled wood fiber content. Weyerhaeuser, our particleboard supplier, was named to the list of the Global 100 Most Sustainable Corporations in the World at the 2005 World Economic Forum in Switzerland. If desired, Steelcase can use wheatboard, a rapidly renewable bio-based resource as an alternative to particleboard.



The specially developed water-based UV finish used in our facility (shown below, left) is nearly VOC-free, helping to preserve air quality. Additionally, all wood guest seating, all Metro wood systems, and other select wood products carry the Scientific Certification Systems Indoor Advantage™ certification for indoor air quality in North America.



Responsible Manufacturing

Our LEED Silver certified wood plant in Michigan, and our California wood plant, use water-based glues, stains, topcoats and UV finishes. The switch from traditional solvent-based processes to water-based processes involved consolidating manufacturing from several locations into the Michigan plant. The result is a 91% reduction in VOC emissions today compared to four years ago. Any VOC emissions that are produced are captured by our emission control process. Water from the finishing process is cleaned and reused in a continuous loop.

The water-based UV finish technology used in those facilities was developed with our supplier as a better alternative to solvent-based UV finishes. Our water-based UV finish is nearly VOC-free, is durable yet repairable, and wonderfully clear for a beautiful product. It also cures faster so there's less risk of damage to the product during shipping and installation.

Thanks to our lean manufacturing initiative, started in 2001, waste is minimized throughout the manufacturing process. Of the solid waste that is produced, 70% is recycled. Sawdust is picked up by landfills to absorb liquids and avoid leeching into groundwater. Veneer scrap is mixed with yard waste, composted and reused as topsoil. Any additional wood scrap and particle-board is picked up and burned in a waste-to-energy facility.

When products are shipped, packaging materials such as corrugated cardboard, blankets and shrink wrap are reusable or recyclable.



Products receive personal attention with hand sanding and hand assembly



Over 950 shade trees were planted on the grounds of our LEED certified manufacturing facility following its construction.



Our responsibility doesn't stop when the product leaves our plant. Life cycle thinking means we analyze our impact from product development to the end of a product's useful life. Many years from now, when your wood furniture has reached the end of its useful life, the Steelcase Environmental Partnership program will help connect you with environmentally responsible methods of managing your product, keeping it out of landfills. You can find more information about the program, and start the process with any unused Steelcase furniture you have today by visiting steelcase.com.

Tell us your environmental goals, your concerns, your desires. (We'll speak openly with you about ours.) Environmental responsibility is a journey, and we all benefit along the way.

Life cycle thinking

End of life

The Steelcase Environmental Partnership program helps connect customers to environmentally responsible methods of managing products at the end of life phase, keeping our products out of landfills.

Use

Designed for a long life, furniture is reconfigurable for reuse and modular segments can be replaced. Water-based UV finish technology gives an extremely durable finish that is repairable should anything happen. Wood guest seating, Metro systems, and other products carry the Scientific Certification Systems Indoor Advantage™ certification for indoor air quality in North America.

Transport

We source almost all of our wood from forests in North America, reducing shipping distances for raw materials. Products are shipped to customers blanket and stretch wrapped to minimize packaging. Pallets allow more products per shipment.



Materials

We carefully select our wood suppliers and conduct environmental evaluations. FSC and SFI certified woods are available. Particleboard is 100% recycled wood fiber content and material usage is designed to minimize waste.

Production

Our wood manufacturing facility in Michigan is LEED Silver certified. Water-based glues, stains, topcoats and UV finishes significantly reduce VOC emissions.



Actions we took to achieve LEED certification.

energy

- Ample large windows bring natural light into the manufacturing area of the facility. Plant lighting is monitored by a computer system to maintain only the necessary amount of lighting, using natural daylight whenever it's available.
- Office lights are on motion sensors to shut off when the room is not used for a period of time.
- Seven dust collectors pull hot air out of the facility, cooling the facility in the process during summer.
- Air from those same dust collectors is filtered, tested and released back into the facility to heat it during winter, allowing the building to consume approximately 30% less energy for heating.

water

- A roof and groundwater collection system directs water into three retention ponds. Water from the ponds is used to irrigate landscaping when necessary. This process conserves 715,000 gallons of water each year.
- Grit and oil from parking lot runoff is filtered by the retention ponds to ensure that any water entering the storm sewers is cleaned.
- Native plants used in landscaping minimize watering and maintenance.
- Water cooling towers use closed loop evaporation to conserve water.
- All of the facility's toilets are low flush, saving approximately one million gallons of water each year.
- Pipes and weld points are lead free for safe drinking water.

material

- Ninety-five percent of the steel used in the building's construction is post-consumer recycled.
- Twenty-four percent of the building is constructed with post-consumer recycled materials and over 20% of the materials were purchased within a 300 mile radius.
- CFCs (chloro-fluorocarbons), which contribute to ozone depletion, are not contained

in any of the cooling units, air handlers, fire protection systems, roof foam, blown insulation, or carpeting.

- All materials are asbestos-free.
- Forty-five percent of our construction waste was recycled. On typical construction projects, 100% of construction waste goes into landfills.

indoor environmental air quality

- All of the paint used on the building (over 24,000 gallons) is 100% water-based, and all the sealants, primers, and pipe joints have low VOC (volatile organic compounds) emissions.
- An air monitoring system monitors the air handlers for carbon dioxide.
- Numerous 8' x 8' intake fans circulate fresh air throughout the facility. Air intakes are located away from loading docks and exhaust fans.
- Housekeeping products are stored and mixed in a special area with negative air pressure and outside air venting.

site planning

- Twenty-five percent more open space was preserved on the site than required by zoning laws.
- All topsoil was preserved during construction. At least 50% of habitat areas on the site were restored.
- Silt cloth and retention ponds control and divert water to prevent soil erosion.
- Heat islands are reduced by using light colored roof material that reflects sunlight and stays up to 70° F cooler than dark roofs. Over 950 trees shade the parking areas. Heat islands are areas where pavement, dark roofing, and other structures increase in temperature under sunlight, raising the surrounding temperature and requiring more energy to cool buildings.
- Hybrid vehicles and vehicles that carry three or more commuters receive preferred parking spaces close to the building.
- Bike racks made of 100% recycled material and on-site shower rooms encourage employees to bike to work.