



DCI Sustainability Overview

DCI is committed to delivering products that balance our customer’s desires for quality and affordability with minimal adverse environmental impacts. For over 40 years DCI craftsmen have been employing time tested methods for constructing solid hardwood furniture right here in the United States. Although our factory today is filled with modern machinery and finishing equipment, we strive not lose sight of the old world craftsmanship and the authenticity solid wood brings to our line of products. Today, engineered wood materials and composites have become common in the residence hall marketplace. Veneers, particleboard, and medium density fiberboard (MDF) are being used to lower material costs and enable mass production of furniture both here in the United States and overseas.

It’s our belief furniture constructed primarily from solid wood is the “greenest” choice for our customers. However, in order to remain cost competitive DCI offers our customers a option to have their Casegoods – (dressers, desks, pedestals, bookcases, study carrels and wardrobes) constructed from hardwood plywood. Each material group is available with certified green materials.

Benefits of Solid Wood

Solid wood furniture from DCI is highly durable, recyclable, reclaimable, sourced and processed domestically, and manufactured into furniture in the United States.

Proven Durability

Furniture made primarily from solid wood is extremely resilient and requires little maintenance. Screw retention is one of the most important distinctions between solid wood vs. plywood. Simply put, there is not a plywood or composite wood material on the market today that holds a metal screw better, and for a longer period of time, than a solid piece of oak, maple, or ash. This is an objective observation, and supported through laboratory tests. As evidence of this longevity, we have serviceable furniture in place in residence halls at the University of California, Dartmouth College, and University of Maryland installed over 30 years ago.

Ability to Refinish

Sanding and refinishing allows DCI's solid wood furniture a second, third or fourth life without having to be replaced over and over again. This is much more difficult to do with furniture made from veneered plywood.

Recyclable

Other than high pressure laminated tops, solid hardwood furniture treated with low VOC finishes makes solid wood furniture easily recyclable and turned into other useful products. This eliminates the need to send wood furniture to a landfill at the end of its useful lifecycle on campus. While MDF and other chip core products on the market today can be manufactured using sustainable methods, they are unfortunately very difficult, if not impossible, to recycle after high pressure and low pressure laminates are adhered to their surfaces.

Reclaimable

The ability to reclaim wood helps to preserve our forests by reducing the need for new timber. Generally, processing this wood has less impact on the environment than felling, transporting and processing new lumber.

Domestically Sourced and Processed

Unlike our competitors that source wood panels and other hardwood components from outside vendors either in the US or overseas, DCI owns and operates a sawmill in South Royalton, Vermont. The mill is 75 miles from our main factory in Lisbon, New Hampshire. All of our timber entering our sawmill comes from within a 125 mile radius of our sawmill. This uniquely positions DCI in the college residence hall furniture market, and gives our environmental principles a firm standing because we control our selection of timber, control how that timber is processed into lumber, and control how that lumber is utilized throughout the entire manufacturing process as outlined in the previous section.

Green Certifications

FSC Certified

Our manufacturing process played a central role in DCI becoming member of the SmartWood Program of the Rainforest Alliance and obtaining Chain-of-Custody FSC (Forest Stewardship Council) Certification. Our certificate registration code is SW-COC-001181 Chain-of-Custody certification allows us to provide an assurance to our customers that our lumber comes from certified forests and there is a high level of social

and environmental responsibility throughout our manufacturing process. While there are a number of forest certification programs in the marketplace, FSC is the only global standard-setting organization in forest management, and is widely considered the most coveted certification an eco-friendly wood product can receive. FSC is the only forest management standard that guarantees the following:

- Prohibits the conversion of forests and other natural habitat.
- Prohibits the use of highly hazardous pesticides.
- Prohibits the cultivation of genetically modified trees (GMOs).
- Balances social, environmental and industry interests.
- Respects the rights of indigenous peoples.

MAS Certified Green

In 2013, DCI achieved another milestone in our commitment to sustainability when we received MAS Certified Green designation. MAS Certification is administered by Material Analytical Services, an independent, third party laboratory offering testing services that meet stringent ANSI (American National Standards Institute) Furniture Sustainability Standards. **This is the same set of standards for GreenGuard certification.**

- ANSI/BIFMA e3-2012 Section 7.6.1, 7.6.2, and X7.1-2011 for private offices
- California Dept. of Public Health (CDPH) Standard Method V1.1

Low VOC emitting furniture is important because many of today's energy-efficient buildings operate on minimal amount of outside make-up air. When combined with lower ventilation rates, higher occupant densities and greater use of chemicals in interior furnishings, this often translates into more reported allergen problems, odor complaints and other health problems. Use of lowVOC and formaldehyde emitting furniture serves to reduce these types of problems.

The hardwood panels produced at our Lisbon, New Hampshire factory use either no-added formaldehyde (NAF) based resins or ultra-low-emitting formaldehyde (ULEF) resins. NAF based resins are resins formulated with no added formaldehyde as part of the resin cross linking structure, and include resins made from soy, polyvinyl acetate, or methylene disocyanate. ULEF resins are formaldehyde containing resins formulated such that the formaldehyde emissions from composite wood products are consistently below applicable CARB Phase 2 emission standards.

Sustainable Sourcing

DCI is committed to forging partnerships with suppliers that share our commitment to reducing our dependence on fossil fuels and developing innovative products with minimal impact on the environment and public health. We hold DCI's suppliers to the same set of standards our Higher Education customers expect from us.

When sourcing laminates, foam, fabrics, and wood core materials, we look for products that carry certifications from industry specific, third-party organizations.

Upholstery Foams

We source foam used for cushioning in our upholstered products that minimize petroleum-based foam with more sustainable soy and corn based alternatives. The third-party certifications we require include CertiPUR-US, MAS Green or GreenGuard.

CARB Compliant Wood Core Materials

DCI sources hardwood plywood, particleboard, and medium density fiberboard products that use either no-added formaldehyde (NAF) based resins or ultra-low-emitting formaldehyde (ULEF) resins. These materials exceed requirements set fourth by the California Air Resources Board (CARB)

We can also incorporate into any of our product lines sheets goods that meet the Eco-Certified Composite™ (ECC) Sustainability Standard. This is an industry standard developed by the Composite Panel Association (CPA) for manufacturers of composite wood or agrifiber-based panels. In order to meet this standard, our supplier must demonstrate the following:

- The panel's carbon store offsets its cradle-to-gate carbon footprint as determined in kgCO₂ equivalents of greenhouse gas (GHG) emissions. The plant must use the CPA Carbon Calculator to determine if a panel performs as a carbon sink resulting in overall net carbon storage.
- At least 85% of total annual wood fiber used is sourced within 250 miles (402 km) of the manufacturing plant.
- Use a minimum of 75% recycled or recovered fiber; OR at least 50% recycled or recovered fiber AND a minimum of 5% post-consumer fiber.
- The plant shall hold a valid assessment and certiCicate from a certifying agency recognized by CPA such as the Forest Stewardship Council (FSC—

Controlled Wood Standard or Chain of Custody Standard) or the Sustainable Forestry Initiative (SFI—Fiber Sourcing Standard).

LEED Credits

As outlined above, there are a number of important categories new building projects can earn LEED credits. In this section the intent and requirements of credits applicable to furniture are outlined, in addition to explaining how DCI furniture can be used to toward gaining these credits.

Materials Reuse: MR Credit 3.1 and 3.2:

Intent: Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

Requirements: Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5% or 10%, based on cost, of the total value of materials on the project.

Response: DCI has experience manufacturing furniture reclaimed from old residence hall furniture. This can be done in a cost effectively due to our vertical integration.

Recycled Content - MR Credit 4.1 & 4.2:

Intent: Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

Requirements: Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project. The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value. Furniture may be included, providing it is included consistently in MR Credits 3–7.

Response: DCI has purchased “cut-offs” from wood manufacturers in other industries and utilized finger jointing technology to produce wood panels out of materials that would have been sent to a landfill.

Regional Materials MR Credit 5.1 and 5.2

Intent: Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

Requirements: Use materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% or 20% (based on cost) of the total materials value.

Response: DCI owns and operates a sawmill in Vermont and has regional production capabilities in New Hampshire, North Carolina and California.

Certified Wood : MR Credit 7

Intent: To encourage environmentally responsible forest management.

Requirement: When using new wood-based products and materials, use a minimum of 50% that are certified in accordance with the Forest Stewardship Council's principles and criteria.

Response: DCI is a member of the SmartWood Program of the Rainforest Alliance and obtained Chain-of-Custody FSC (Forest Stewardship Council) Certification. Our certificate registration code is SW-COC-001181

Sustainable Manufacturing Process

Finish

Our finishing process emits Zero VOC's and is ahead of EPA Standards. VOC's are chemicals emitted as gases from certain solids or liquids. They include a variety of chemicals, some of which may have short and long-term adverse health effects. Elimination of Urea Formaldehyde from glue in solid wood panels.

No Wood Waste

DCI's vertical integration and high yield rough mill allow us to maximize the use of all of our wood. We use left over hardwood to build our internal furniture components rather than buying Poplar or other species. Wood that cannot be used in furniture construction is recycled back into our process to make steam as described below.

Energy Conservation

All of the waste by-products of our manufacturing processes are used to make steam and/or electricity for our factory. DCI uses the steam to dry lumber in our kilns and to heat our factory. When our wood boiler is in use, the factory does not consume any gas or oil (even during cold New Hampshire winters). By using a wood boiler to run our kilns and heat our factory and offices, we are saving an average of 68 gallons of oil an hour or over 200,000 gallons of oil per year!

Sawmill:

Our Manufacturing Process begins with the purchase of logs or rough-cut lumber. DCI purchases lumber from both state regulated forests compliant with current environmental regulations. Logs are sent to the DCI sawmill to be processed into rough cut lumber and consist primarily of ash, oak, and maple. The lumber is graded by species, thickness, and length according to standards set by the National Hardwood Lumber Association (NHLA).

Kiln Drying:

Rough cut lumber is delivered to the main plant and can be stored until needed at which time it is placed into the DCI kilns. The DCI kilns are heated with steam, generated from our wood-fired boilers. 100% of the wood used in these boilers are either a byproduct of our sawmill or plant operations. This non-reliance on burning fossil fuels makes both environmental and economic sense. By using a wood boiler to run our kilns, and heat our factory and offices, we are saving an average of 68 gallons of oil an hour, or over 200,000 gallons of oil per year.

Roughmill:

After the drying process, the lumber enters our rough mill, where it is planed, cut, glued, and processed into panels for use in furniture making. Lumber that does not meet our quality control standards for use on exterior panels, is graded accordingly and separated for use as internal support pieces. Whereas our competitors may need to purchase softer woods like pine and poplar for use as internal supports, it is here DCI has a built in competitive advantage when selecting lumber for internal rails.

Finish Milling:

Solid wood panels are then sent to the finish mill to be made into specific parts. The finish mill processes are carefully scrutinized and our manufacturing steps are subject to strict quality control.

Finishing:

After passing all quality checks, the finished parts are ready for urethane application. DCI uses state of the art ultraviolet cured urethane finishing. This is the same material and application method used on pre-finished hardwood flooring. It is more resistant to damage from abrasion and chemical exposure, as well as to the effects from temperature and humidity changes than other finishes. This finish is also applied to the interior of all cabinets to provide superior dimensional stability.

Assembly:

It is at this point of the manufacturing process that fully finished components can enter final assembly at either our Lisbon plant, or shipped to one of DCI's regional assembly facilities in North Carolina or California.

Upon final assembly the parts and panels are put together under pressure and glue is applied to the mortise and tenon or dowel joints. The cabinet is then clamped to ensure that all joints are tight and the cabinet is completely square before screws are driven into each joint. This is far superior to dry construction and construction methods which do not use mortise and tenon or dowel joinery to join the rails to the end panels and results in a product which will function smoothly for years after the others have begun to give its users nagging problems like drawers that stick and doors that don't shut evenly.

Factory Lighting

The lighting in our factory has been converted to low energy T-8 fluorescent fixtures which switch off automatically when no one is present. **Packing Material** Our packaging material is made from 100% recycled cardboard. When orders permit, we use blanket wrap shipments.

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Logistics

Load optimizing software is used to ensure shipments are loaded to full capacity. Reducing our carbon footprint within our logistics operations is best accomplished by shipping our product by rail. A fully loaded container of DCI furniture weighs 10 tons. If the distance is 3,000 miles by rail, we are only using 60 gallons of diesel fuel to move one of our containers across the country. This calculation is based on information provided by CSX Rail Transportation.