

SUSTAINABILITY ASSESSMENT AND LEED COMPLIANCE EVALUATION



CONFIDENTIAL REPORT -- DUPLICATION ONLY WITH PERMISSION

The information used in developing this report has been deemed confidential and proprietary in nature by the manufacturer. This report contains Trade Secrets as defined by The Uniform Trade Secrets Act (UTSA), as amended in 1985. Unauthorized duplication and distribution of this report without the express permission of Borgo Contract Seating is strictly prohibited and constitutes a violation of U.S. Federal Law.

This report has been compiled by AmeriGreen Strategies, based upon written information and other tangible documentation provided by BORGO Contract Seating, Toronto, Ontario, Canada

This report was developed based upon the ISO 14000 series standards, the ISO 19011 environmental systems auditing standards and the ASTM E-2129 environmental collection and assessment standards, under the direction of Jaime Hayden-Pisczek, MS, LEED-AP.



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SCOPE AND METHODOLOGY

The purpose of this report is to examine the manufacturing and distribution functions of seven different lines of commercial office, theater and multi-purpose chairs and related seating products made in Toronto, Canada by Borgo Contract Seating. Although the format of this study follows that of a basic Life Cycle Assessment, no attempt was made to perform the in-depth on-site audits that are typically generated in a formal LCA report. In generating this report, AmeriGreen Strategies relied solely on questionnaires and other formal documentation furnished in writing from the manufacturer as well as published information generated by or for the manufacturer.

This report was compiled after the manufacturer completed and returned a series of questionnaires developed by AmeriGreen Standards and based on ASTM E2129-05: Standard Practice for Data Collection for Sustainability Assessment of Building Products and ISO 14030: Environmental Performance Evaluation. Protocols derived from ISO 19011: Guidelines for Quality and/or Environmental Management Systems Auditing were also followed in preparing this report.

Based on the questionnaire responses, the manufacturer also provided all requested documentation to justify the accuracy of the responses. This documentation data typically includes supplier invoices, bills of lading, internal memos and directives, maps, graphs, inventory and usage reports and similar information. Much of this data is proprietary in nature, therefore duplication and distribution of this report is being controlled by the client, Borgo Contract Seating.

AmeriGreen Strategies is functioning as a third-party verification conduit between the manufacturer/distributor and the customer. The data generated in the development of this report was obtained directly from the manufacturer with no prior amendments or alteration. Non-proprietary questions concerning the protocols for the development of this report may be directed via email to the following: info@ameriGreenStrategies.com.

This report is divided into two parts and is being presented in a format that allows to client to supply either one or both parts, depending on the circumstances of the request. Part One is above-defined analysis of the product's sustainable attributes within the framework of a Life Cycle Analysis. Part Two of this report provides insight into how the products manufactured by Borgo Contract Seating can potentially assist in the earning of credit points in projects registered under the U.S. Green Building Council's LEED Rating System.TM



PART ONE

SUSTAINABILITY ASSESSMENT

In accordance with the established categories identified in a typical Life Cycle Assessment, this report is divided into five specific analytical parts. These include:

1. **RAW MATERIALS** – This is a breakdown of the specific components that make up the product. It includes the source of these materials as well as the extraction, formulation and/or refining of the raw materials into a usable component as well as both the environmental impact and energy needs associated with extraction/harvesting.
2. **MANUFACTURING PROCESS** – This includes environmental impact, energy consumption, waste and other factors involved in transforming the raw materials into a finished product at the manufacturing site.
3. **TRANSPORTATION AND DISTRIBUTION** – This section evaluates the costs and impacts associated with getting the product from the manufacturing plant to the job site.
4. **PRODUCT PERFORMANCE (USE & MAINTENANCE)** – This segment evaluates the energy and environmental impact associated with the product's intended performance. This includes installation, required maintenance, any projected repair or replacement up to, but not including, final disposal.
5. **RECYCLABILITY AND DISPOSAL** – This phase includes the final disposition of the product and potential recycling of the used product after its useful life.

Borgio Contract Seating currently manufactures more than 90 different product models for various commercial and industrial applications. Organizationally, we have divided these products into seven groupings, depending on the application. This report will individually analyze each of these seven product categories based on each of the five life cycle attributes listed above, and evaluate the Borgio product groups based on the data supplied by the manufacturer.

CATEGORY 1 – RAW MATERIALS

The raw materials used in the manufacture of the various Borgio products vary, depending on the characteristics of the specific product. A list of these seven product categories and the raw materials they each utilize is as follows:



PRODUCT CATEGORY GROUP	RAW MATERIALS USED
ASCOT (Lounge)	WOOD, METAL, FABRIC, LEATHER, FOAM, GLUE
ATWOOD (Hospitality)	WOOD, VARNISH, FABRIC, LEATHER, FOAM, GLUE
JENDRA (Office)	WOOD, METAL, FABRIC, FOAM, LEATHER, PLASTIC, GLUE
OMNIA (Theater/Conference)	WOOD, METAL, FABRIC, FOAM, VARNISH, GLUE
PG-50 (Industrial)	PLASTIC, METAL, POLYURETHANE
STAXIS (Side)	WOOD, METAL, FABRIC, LEATHER, FOAM, PLASTIC, GLUE
TEKNICA (Multi-Purpose)	PLASTIC, METAL, FABRIC, LEATHER, FOAM

In the seven listed general product categories, there are collectively nine different raw material components used in the manufacturing process. A specific analysis of each of these components is as follows:

WOOD -- One of the major raw materials used in five of the seven product groups is wood. Wood stock is shipped to three Borgo suppliers who custom cut, drill, plane and sand the wood to Borgo specifications. A significant amount of the wood used to manufacture Borgo products is grown in Canada under Canada's National Sustainable Forest Management Standard (CSA). The CSA standard is the world's largest sustainable forestry management program and similar to popular international initiatives managed by the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI). All wood used in Borgo products comes from sources that are located 12 miles or less from the manufacturing facility. Wood grown in the Canadian province of Ontario is also subject to the Crown Forest Sustainability Act, an even more comprehensive set of standards for forest management. Wood utilized in the Borgo facility is rapidly renewable and the environmental impact of wood harvesting is negligible. Over 95% of wood waste in the Borgo plant is recycled.

METAL-- The second major raw material used by Borgo is metal. The metal components used in the assembly of Borgo products are machined, punched, drilled, welded and shaped prior to shipment to the Borgo plant. Approximate 50% of the metal components come from a supplier located eight miles from the plant and no more than 30% of the needed metal is shipped 70 miles or less. Although the natural resources that are used in metal manufacturing are depletable, metal, and steel specifically (the primary metal used by Borgo) is 100% recyclable and reusable. The industry source, The Metal Initiative, refers to steel as "the world's most recycled material, with almost 76 million tons of steel recycled in the U.S. in 2006." It is also probable that some percentage of the steel components used by Borgo contains some percentage of recycled material, but precise documentation is not available.

LEATHER -- Because bovine herds used in the harvesting of hides for leather production are carefully managed much in the same way as various initiatives manage the tree harvesting in forests for the production of wood products, leather can be considered a rapidly renewable resource. The environmental effects associated with obtaining the raw materials are negligible. Byproducts are all organic and can be used for food, fertilizer, cosmetics and other products. There is very little waste. Leather is one of the most durable natural materials available. Its life cycle meets and often exceeds the material to which it is attached. Leather is readily reusable and recyclable and all Borgo leather scraps are sold to a recycler for use in other products.



FABRIC -- Borgo manufactures over 90 different product models, with a number of variations possible to each one, therefore the fabric choices available to customers are varied in terms of raw materials used. Choices include cotton, polyester, rayon, latex, nylon, acrylic, polyvinyl chloride, and various blends of these fibers. Borgo serves a number of different diversified markets, ranging from hospitality to heavy industry, and factors such as budget, application and physical environment often dictate upholstery fabric choices. Borgo does offer customers several upholstery choices that are made from 100 % recycled polyester. Other choices include cotton and bamboo, both classified as rapidly renewable. All Borgo upholstery waste is recycled into decking for chair and sofa seats.

FOAM -- Furniture grade foam is used as a cushioning material on seats and back and is one of the primary components used in the Borgo manufacturing facility. Foam is essentially formed through a chemical reaction of urethane and a blowing agent. Suppliers of foam to Borgo certify that they use a CFC and HCFC-free blowing agent in their respective production processes. Borgo returns all foam waste and scraps to the respective manufacturer for recycling into a carpet underlayment product.

PLASTIC -- Molded plastic seats and back panels are used in a few Borgo products, but the majority of plastic is used for knobs, handles, casters, wear plates and similar components. Although plastic is made from non-renewable petroleum derivatives, factors such as economy, weight and durability make it the best material choice for such components. Plastic is among the most recycled materials in the world and the U.S. Environmental Protection Agency estimates that as much as 72% of all plastic used in North America is eventually recycled.

OTHER MATERIALS -- In its manufacturing process, Borgo also utilizes smaller amounts (by total volume) of coatings such as polyurethane and varnish, along with glue. Although these components can be hazardous, the company meets or exceeds all national, regional and trade guidelines for the storage and use of these materials.

CATEGORY 2 – MANUFACTURING

The furniture manufacturing process, in general, is not significantly environmentally impactful. Specifically, the Borgo operation is primarily a single shift assembly plant and maintains compliance documentation for ISO 9001:2000 standards. In operation since 1984, the company purchases pre-fabricated components, performs light drilling and machining functions, adds upholstery and then assembles, stores and ships finished products.

Borgo has made substantial modifications and improvements in the past 24 to 36 months in order to improve the environmental performance of its manufacturing processes. The company has also submitted evidence that it has significantly altered its manufacturing process and packaging in an effort to make the Borgo manufacturing process more environmentally friendly. Specifically, these alterations include:



WASTE CONTAINMENT -- Borgo has implemented a systematic process for waste containment whereby all waste byproducts resulting from production are either returned to suppliers for recycling or diverted to a waste management firm for reprocessing. As a result of this initiative the company has documented that landfill waste has been reduced by more than 70%.

NOISE & ODOR CONTROL – The company has installed equipment and implemented policies to significantly reduce both odor and noise pollution in the plant. This initiative includes the adoption of a plant-wide no smoking policy.

ENERGY SAVINGS -- Borgo has installed control equipment and implemented policies to reduce electrical consumption with an established goal of a 20% reduction. This is being achieved by turning off unnecessary lighting, maximizing natural sunlight and installing timers on electric heaters.

REDUCED PACKAGING MATERIAL – The company has encouraged its customers to accept blanket wrapped product shipments in an effort to reduce the amount of cardboard packaging material by a minimum of 30%. Only recycled cardboard and similar materials are used for packaging where blanket wrapping is not possible.

RECYCLED CONTENT -- Because of the wide variety of possible choices available within each of the seven Borgo product line groupings, it is impossible within the scope of this report to determine specific recycled content amounts for each individual product. As an alternative, we have computed averages for each specific group with the understanding that actual amount of recycled content may be higher or lower after upholstery options and other choices are selected. Based on documented information provided by Borgo, the following are the average amounts of post-industrial (pre-consumer) and post-consumer recycled content contained in each respective product grouping:

	Post Industrial	Post Consumer		Post Industrial	Post Consumer
ASCOT	10%	15%	OMNIA	10%	15%
ATWOOD	10%	15%	PG-50	5%	5%
JENDRA	40%	40%	STAXIS	10%	15%
TEKNICA	10%	15%			

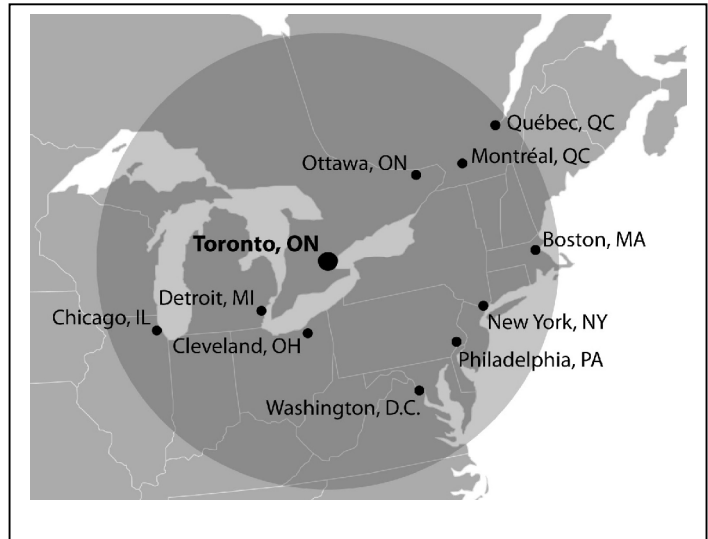
This is a family owned company and the management team is very proactive on environmental issues, often expending funds to go above and beyond mandated Canadian laws and industry standards in order to maintain an ongoing generational heritage of environmental responsibility. It was emphasized during the interview phase of this report that Borgo management is committed to an ongoing sustainability program, constantly seeking and implementing new technologies related to energy savings, reduced water use, waste and pollution control and other elements related to reducing the negative environmental effects of the manufacturing process.



CATEGORY 3 – TRANSPORTATION & DISTRIBUTION

The Borgo plant is located in Toronto, Ontario, Canada, strategically located for maximum utilization of all forms of commercial shipping channels. The company reports that 80% of its finished products are shipped by truck, 18% shipped by rail, and 2% by sea.

The various versions of U.S. Green Building Council’s LEED program, considered to be one of the standards in the measurement of sustainability, offer a one or two point incentive for products manufactured within a 500-mile radius of the customer (end user). This map shows the location of the Borgo plant in the center of its 500-mile radius. Nearly every major market in Eastern Canada as well as the Central and Northeast United States is located within this radius.



Likewise, Borgo has developed supplier relationships with companies located 70 or less from their plant. The average Borgo supplier is located 15.9 miles from the plant – an exemplary achievement! A summary of the Borgo suppliers and their specific proximity to the plant is as follows (List corresponds to categories listed on pages 4 and 5):

COMPONENT	SUPPLIER	% SUPPLIED	MILES FROM PLANT
WOOD	A	70	2.5
	B	15	9
	C	15	12
METAL	A	50	8
	B	30	70
	C	20	10
LEATHER	A	100	18
FABRIC	A	60	13
	B	25	30
	C	15	10
FOAM	A	70	11
	B	30	13



COMPONENT	SUPPLIER	% SUPPLIED	MILES FROM PLANT
PLASTIC	A	60	13
	B	40	18
OTHERS	A	--	11
	B	--	12
	C	--	10
	D	--	13
	E	--	18

Also noteworthy in terms of shipping is the fact that the Borgo does not use any distribution facilities or regional warehouses. All products are shipped directly from the manufacturing plant to the end user. All Borgo products can be shipped through conventional freight carriers and parcel delivery services. The material is not fragile, not subject to adverse temperature damage, neither oversized nor overweight, and is not categorized as hazardous to ship.

CATEGORY 4 – PRODUCT PERFORMANCE

The installation, use and maintenance of Borgo seating products can be considered sustainable because of the general durability and historic long life cycle characteristics of office furniture. Industry sources vary widely in terms of establishing an “average” life cycle for an office chair. Because of the enormous variety of frames, upholstery choices and adjustment mechanisms, it is impossible to determine what average is. Borgo alone makes over 90. There is, however, a correlation between quality and durability.

Most industry sources agree that a product’s warranty is a good indicator of quality, and therefore its life cycle expectations. Borgo offers warranties that vary from a Limited Lifetime Warranty on most products to a one-year warranty on products used in certain hospitality and industrial conditions. The lifetime warranty contains exclusions for abuse, modification, accidental damage and other similar occurrences. Fabric upholstery is covered by warranty for five years and some adjustment mechanisms are covered for ten years.

A general conclusion is that the sustainable life expectancy of most Borgo products is in the eight to twelve year range, based on location and use. Borgo products can be expected to last as long as, or longer, than other related components in the end-use environment, such as wall coverings, floor coverings, partitions and other decorative fixtures.

From an Indoor Environmental Quality (IEQ) perspective, there are no harmful VOC’s involved in the initial installation or ongoing use of Borgo products, and surfaces can be cleaned and conditioned with the use of a variety of VOC-free maintenance cleaners. The product normally emits no harmful odors or



off gasses during its normal life cycle as long as it is maintained in accordance with manufacturer's maintenance guidelines. The inert nature of the Borgo products does not require the issuance of any Materials Safety Data Sheets (MSDS).

CATEGORY 5 – RECYCLABILITY & DISPOSAL

Borgio products, and the majority of individual components that make up Borgo products, are both reusable and recyclable.

In terms of reusability, there is a robust market for used office furniture, especially in the current economic climate. Borgo seats and chair backs can be readily reupholstered and metal, wood and some plastic frames can typically be re-used after being discarded because of appearance issues. Borgo also maintains a policy accepting used products from original customers in order to divert them from the landfill. Typical returned products are then disassembled and returned to respective suppliers for use as post consumer recycled material in new product production.

Borgio's own in-house recycling policy involves all phases of the office and manufacturing plant. All cardboard from incoming shipments is either re-used within the facility or recycled. All marketing materials, office forms, envelopes and other similar items are printed on recycled paper. All waste paper, glass and aluminum cans are also recycled. The documented result of this total effort is the fact that more than 95% of all waste produced in the office and plant is now being recycled.

CONCLUSIONS

Neither the U.S. Environmental Protection Agency, the Federal Trade Commission nor the Canadian Council of Ministers of the Environment have yet issued any type of guidelines or mandates in terms of what makes a product environmentally acceptable or "green." We must therefore rely on the foundation concepts on what constitutes sustainability, while following any recommendation offered by appropriate government and industry regulations for guidance.

According to general guidelines offered in ASTM E-2129, the products produced by Borgo can be considered "green" or sustainable for the following reasons:

- Sustainability means durability and Borgo products fulfill a basic human need, the need to sit, with a variety of chair models that provide comfort, are manufactured with a number of efficiencies, utilize rapidly renewable resources and recycled materials where possible, preserve environmental



integrity within the manufacturing and distribution cycles, and offer several end-of-life options that include both component reuse and recycling.

- Borgo maintains a recycling policy that is an industry model. This includes utilizing recycled content in raw materials where possible, returning plant waste back to the respective suppliers for recycling, minimizing product packaging, and recycling its own waste materials. The documented end result of these collective efforts is a reduction of landfill waste by more than 70% and the recycling of more than 95% of all plant and office waste.
- The environmental impacts associated with transportation are minimized by Borgo. Raw materials travel an average of only 15.9 miles to reach the Borgo plant and the company's strategic location is well within the desirable 500-mile travel radius for customers in Chicago, New York, Washington DC, Detroit, Boston, Montreal, Quebec and Ottawa.

In summary, Borgo has taken a product category, office furniture, and applied all available policies and procedures to position their company and its products as positively as possible in terms of sustainability and environmental responsibility. It is beyond the scope of this report to comment on product quality, except to say that quality is intrinsic to sustainability.

This report is specific to Borgo Contract Seating and is not reflective of the furniture industry in general. Conclusions formed herein are based upon documented, sometimes proprietary, printed reports, plant logs, transportation bills of lading, certifications and other relevant verified data.





PART TWO

LEED COMPLIANCE EVALUATION

INTRODUCTION

Because of its inherent nature, a case for the sustainability of office furniture would not embrace some typical qualities associated with “green” products. They use no energy, so there’s none to save. Instead, the focus needs to be on durability, reuse and recyclability, and a close examination of the manufacturer and materials used. Green furniture should be durable and long-lasting, made from safe and sustainable materials, and easily disassembled and recycled at the end of life. In the production of green furniture, the company should manage waste and conserve natural resources.

This report deals specifically with Borgo Contract Seating, located in Toronto, Ontario, Canada. The company is a multi-generation family business that began operations in 1984. The company manufactures over 90 specific seating and related products, divided into seven different categories.

Borgo maintains a tradition as being proactive in the area of environmental responsibility. The company has implemented its own policies and procedures that are equal to, or in many cases, more stringent than those established by both the U.S. and Canadian governments as well as by the office furniture manufacturing industry. A brief summary of these achievements include:

- A 70% reduction in the amount of waste sent to the landfill.
- The recycling of more than 95% of all office and plant waste.
- A location that allows significant savings in both incoming and outgoing transportation costs.
- The use of rapidly renewable raw materials and the inclusion of both post consumer and post industrial recycled material in more than 50% of its products.

Specific data detailing these claims as well as additional information on the sustainable aspects of Borgo products are documented in Part One of this report.

Although there are a number of national, regional and private-sector initiatives in place in North America to measure sustainability and environmental responsibility, currently the most popular standard is the U.S. Green Building Council’s LEED Rating System.[®] This program has gained general acceptance by architects, designers, building owners, municipalities and school systems across the United States and in much of Canada. It is therefore important when presenting the sustainable qualities of Borgo and its products to qualify their impact within LEED.



WHAT IS LEED

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on the performance of their buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

LEED provides a roadmap for measuring and documenting success for every building type and for every phase of a building lifecycle. Currently, the USGBC administers five different LEED programs for commercial buildings with several more in development. These include:

- **LEED for New Construction and Major Renovations**
 - This is the original LEED version and it is designed primarily for new commercial office buildings that are four or more stories tall. It can also be applied to major renovation projects involving existing buildings. As a rule of thumb, a major renovation includes the elements of major HVAC replacement, significant building envelope modifications and major interior rehabilitation.

- **LEED for Existing Buildings – Operations & Maintenance**
 - Recently revised and expanded, LEED-EB deals with the sustainability issues in operating and maintaining existing buildings. Unlike most other LEED versions, this one involves facility alterations and additions as well as operational issues and procedures for utilizing existing HVAC, lighting and other systems.

- **LEED for Commercial Interiors**
 - This LEED version deals specifically with the build-out of tenant spaces in government as well as private sector commercial buildings. In general terms, this initiative covers the areas of responsibility that a tenant of leased space normally has control of, such as interior floor and wall covering, maintenance and lighting.

- **LEED for Core and Shell Construction**
 - This is the opposite of the Commercial Interior version, structured specifically for the developer. It addresses the details of the building envelope in general, including the HVAC system, roof system and other components that are traditionally handled by the landlord in a tenant-landlord relationship.



- **LEED for Schools**

- This version covers the construction and major renovations of K thru 12 educational facilities. It addresses the unique qualities of school spaces and children's health issues.

Additional LEED programs are also currently in development to address Retail Businesses, Healthcare, Community Development and other categories.

The LEED Rating System was created to transform the built environment to a higher degree of sustainability by providing the building industry with consistent, credible standards for what constitutes a green building. The rating system is developed and continuously refined via an open, consensus-based process that has made LEED the green building standard of choice for Federal agencies, as well as state and local governments nationwide.

The first step to LEED certification is to register a specific building project into one of the above-defined programs. A project is a viable candidate for LEED certification if it can meet all prerequisites and achieve the minimum number of points to earn the basic level of LEED project certification. The number of points needed to earn certification differs from program to program. To earn certification, a building project must meet certain prerequisites and performance benchmarks ("credits") within each category. Projects are awarded Certified, Silver, Gold, or Platinum designations, depending on the number of credits they achieve. This comprehensive approach is the reason LEED-certified buildings have reduced operating costs, have healthier and more productive occupants, and conserve our natural resources.

It is important to understand that LEED rates projects, not products. LEED credits are earned when a product or a series of products are combined to achieve a specific end result (lower energy use, collective recycled content, etc.). It is rare when a single product can be utilized to earn credit points. The total number of available credits varies in each of the above categories. In addition to available credits, each of the above categories also contains one or more prerequisites which MUST be met in order for the project to achieve LEED certification. Examples of these prerequisites include minimum energy performance standards, the collection of recyclables, and requirements for smoking within the building.

LEED points are awarded in six basic categories:

1. Sustainable Sites (SS)
2. Water Efficiency (WE)
3. Energy & Atmosphere (EA)
4. Materials & Resources (MR)
5. Indoor Environmental Quality (IEQ)
6. Innovation & Design (ID)



BORGO CONTRACT SEATING AND LEED

The use of office furniture and related case goods within the commercial building environment is both significant and widespread. Every version of LEED, with the exception of Core & Shell, addresses the use of office furniture in some fashion. The following pages offer potential opportunities where the use of products from Borgo could assist in gaining points in LEED-registered projects.

LEED – NC

New Construction (& Major Renovations) Version 2.2

The LEED-NC Rating System is applicable to new commercial construction and major renovation projects. This was the original LEED program and still remains the one used most often. In LEED-NC there are a total of 69 available points. LEED Certification can be achieved as follows:

- Basic Certification 26–32 points
- Silver 33–38 points
- Gold 39–51 points
- Platinum 52–69 points

Products manufactured by Borgo may contribute possible credit points in the following specific LEED-NC categories:

MR Credit 3.1: Materials Reuse - 5%

MR Credit 3.2: Materials Reuse - 10%

1 Point each credit

Intent

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

Requirements

Use salvaged, refurbished or reused materials so that that the sum of these materials constitutes at least 5% for one credit or at least 10% for two credits, based on cost, of the total value of materials on the project. Identify opportunities to incorporate salvaged materials into building design and research potential material suppliers. Consider salvaged materials such as beams and posts, flooring, paneling, doors and frames, cabinetry and furniture, brick and decorative items.



Strategy

Moving existing Borge office furniture from an old location to the newly built facility furniture can potentially qualify to contribute to these credits. The durability of Borge products yields a life expectancy of between eight and twelve years, depending on use and location.

MR Credit 4.1: Recycled Content – 10%

MR Credit 4.2: Recycled Content – 20%

1 Point each credit

Intent

The purpose of this credit is to utilize 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.

Recycled content shall be defined in accordance with the International Organization of Standards document, ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling).

Post-consumer material is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

Pre-consumer (or Post Industrial) material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.



Strategy

Most Borgo products contain both Pre-consumer and Post-consumer recycled content. The following chart offers specific numbers, based on product groupings.

	Post Industrial	Post Consumer		Post Industrial	Post Consumer
ASCOT	10%	15%	OMNIA	10%	15%
ATWOOD	10%	15%	PG-50	5%	5%
JENDRA	40	40%	STAXIS	10%	15%
TEKNICA	10%	15%			

MR Credit 5.1: Regional Material - 10%

MR Credit 5.2: Regional Material - 20%

Up to two total points

Intent

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

Requirement

Use building 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% and/or 20% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

Strategy

Borgo products are manufactured in Toronto, Ontario, Canada. This map shows a 500-mile radius around the plant. LEED registered projects located within the circle are eligible to qualify for these credits. This 500-mile area includes the cities of Ottawa, Quebec, Toronto and Montreal in Canada, as well as Chicago, Detroit, Cleveland, Washington DC, Philadelphia, New York City and Boston in the U.S.





MR Credit 6: Rapidly Renewable Material

1 Point

Intent

Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

Requirements

Use rapidly renewable building materials and products (made from plants or animals that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.

Strategy

Borgo manufactures products that contain wood, cotton and leather, all of which can be classified as rapidly renewable according to the criteria listed above and can potentially be used to count toward this credit.

MR Credit 7: Certified Wood

1 Point

Intent

Encourage environmentally responsible forest management.

Requirements

Use a minimum of 50% of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes. Furniture may also be included.

Strategy

Borgo utilizes wood grown in Canada under Canada's National Sustainable Forest Management Standard (CSA). The CSA standard is the world's largest sustainable forestry management program and similar to popular international initiatives managed by the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI). All wood used in Borgo products comes from sources that are located 12 miles or less from the manufacturing facility. Wood grown in the Canadian province of Ontario is also subject to the Crown Forest Sustainability Act, an even more comprehensive set of standards for forest management.



LEED-CI Commercial Interiors Version 2.0

The LEED-CI Rating System is applicable to tenant improvements of new or existing office space.

Under LEED-CI, a minimum of 21 points are required to achieve certification with a total of 57 possible points available. The breakdown of the various certification levels is as follows:

- Basic Certification 21 – 26 Points
- Silver 27 – 31 Points
- Gold 32 – 41 Points
- Platinum 42 – 57 Points

Borgo products may contribute possible credit points in the following areas:

MR Credit 3.3: Resource Reuse – 30% Furniture & Furnishings

1 Point

Intent

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

Requirements

Use salvaged, refurbished or used furniture and furnishings, such as case pieces, seating, filing systems, decorative lighting and accessories for 30% of the total furniture and furnishings budget.

Strategy

The use of used Borgo products, or the moving of Borgo products from an old location to a new registered LEED-CI project can potentially qualify to help earn this credit.

MR Credit 4.1: Recycled Content – 10%

MR Credit 4.2: Recycled Content – 20%

1 Point each



The Intent, Requirements and Strategy for these credits are the same as those previously identified on Page 15 of this report under MR Credit 4.1 and 4.2.

MR Credit 5.1: Regional Material - 20%

MR Credit 5.2: Regional Material - 10%

One point each

The Intent, Requirements and Strategy for these credits are the same as those previously identified on Page 16 of this report under MR Credit 5.1 and 5.2. However, in this version, the 20% criteria must be met before the 10% bonus point is added.

MR Credit 6: Rapidly Renewable Materials

1 Point

The Intent, Requirements and Strategy for these credits are the same as those previously identified on Page 17 of this report under MR Credit 6.

MR Credit 7: Certified Wood

1 Point

The Intent, Requirements and Strategy for these credits are the same as those previously identified on Page 17 of this report under MR Credit 7.

EQ Credit 4.5: Low-Emitting Materials, Systems Furniture and Seating

1 Point

Intent

Reduce the quantity of indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and well-being of installers and occupants.



Requirements

All systems furniture and seating introduced into the project space must meet the requirements for indoor air concentrations that are less than or equal to those established for TVOC, Formaldehyde, other Aldehydes and 4 – Phenylcyclohexene (4-PCH) for furniture systems and seating determined by a procedure based on the U.S. Environmental Protection Agency’s Environmental Technology Verification (ETV) Large Chamber Test Protocol for Measuring Emissions of VOCs and Aldehydes (September 1999). To qualify for this credit, systems furniture is defined as either a panel-based workstation comprised of modular interconnecting panels, hang-on components and drawer/filing components or a freestanding grouping of furniture items and their components that have been designed to work in concert. Seating is defined as task and guest chairs used with systems furniture. Salvaged and used furniture that is more than one year old at time of occupancy is excluded from the credit requirements.

Strategy

Office furniture manufactured by Borgo that is less than one year old can potentially qualify to contribute to this credit because they meet the above state U.S. EPA requirements for low-VOC materials.

LEED-EB Operations & Maintenance

This LEED version was recently revamped to focus on the Maintenance and Operations of existing buildings, rather than the rehabilitation of existing commercial space. This program has also become somewhat of an operations template for municipalities, government offices and many private-sector companies.

To achieve certification under LEED-EM O&M, the building must earn a minimum of 34 points out of a total available 92 points. The award ratings break down as follows:

- Basic Certification 34-42 points
- Silver 43-50 points
- Gold 51-67 points
- Platinum 68-92 points

Basic criteria for consideration of certification include:

- Building must be fully occupied (based on average occupancy) for the 12 months prior to registration. A standard vacancy rate of 25 percent is acceptable.
- One hundred percent of the floor area must be included in the scope of the project. There is an exemption of 10 percent if floor maintenance is under separate management control, but that’s the only exception.



- The building must be in compliance with all federal, state and local statutes regarding issues such as lead paint, asbestos and other hazardous material concerns.

Borgo office furniture products can help earn LEED-EB O&M credits in the following areas.

MR Credit 2.2: Sustainable Purchasing: Durable Goods

1-5 Points

Intent

To Reduce the environmental and air quality impacts of the materials acquired for use in the upgrades of buildings.

Requirements

Maintain a sustainable purchasing program covering materials for use in the renovation, refit and remodeling of an existing building. One point is awarded for projects that achieve sustainable purchases of at least 40% of total purchases of furniture (by cost) over the performance period that achieve at least one of the following criteria:

- Contains at least 10% post-consumer or 20% post-industrial material.
- Contains at least 50% rapidly renewable materials.
- Contains at least 70% of materials salvaged from on-site, through an internal organization materials and equipment reuse program.

Strategy

Select Borgo products can assist in qualifying for this credit based on a number of factors:

- Based on the chart on Page 16, Products in the Ascot, Atwood, Omnia, Staxis and Teknica groups meet the post consumer content requirements.
- Products in the Ascot, Atwood, Jendra, Omnia and Staxis groups contain rapidly renewable resources (wood). Leather upholstery would also be categorized as rapidly renewable.
- Reusing Borgo furniture in a new location qualified for the above-defined reuse program.



MR Credit 8: Solid Waste Management: Durable Goods

1 Point

Intent

To facilitate the reduction of ongoing waste and toxins generated by the use of durable goods by building occupants and building operations that are hauled to and disposed of in landfills or incineration facilities.

Requirements

Maintain a waste reduction, reuse and recycling program that address durable goods that are replaced infrequently and/or may require program outlay to purchase. Borgo office furniture can be considered within this category. The requirement includes the reuse or recycling of 75% of the durable goods waste stream (as measured by weight, volume or replacement value) during the performance period. Durable goods waste stream is defined as durable goods leaving the building that have been fully depreciated and that have reached the end of their useful life for normal business operations.

Strategy

There are numerous streams available for the recycling and reuse of Borgo products in order to divert these products from entering landfills. Borgo will accept the return of its used furniture for recycling and can also provide customers with a number of sources that can reuse and recycle used office furniture components.

CONCLUSIONS

Not all projects that start out seeking LEED certification earn the coveted lobby plaque. Quite often, budget overruns or other financial restraints curtail the effort before the project is completed. But it is still very possible to achieve some level of “green” without LEED. There are three general characteristics present in any legitimate effort toward achieving “green” or sustainable objectives. These include energy savings, a preservation of interior environmental quality (IEQ) and earth-friendly building practices, which embrace concepts such as materials reuse, responsible manufacturing, recycling and minimal waste disposal.

It really doesn't matter if an architect, designer or building owner has LEED points on his mind when he selects office furniture products manufactured by Borgo as part of a new construction project or a major renovation in an effort to achieve their own pre-determined level of sustainability because Borgo manufactures products that are among the most sustainable in the industry.