

Source Report: Life Cycle Assessment

Interface Inc's approach to sustainability has made evident the need for better ways to measure the environmental footprint of its products. Simply measuring the amount of recycled content is no longer sufficient. A focus on recycled content does not capture the environmental impacts associated with sourcing and production of raw materials or the manufacture of the final product. As strange as it may seem, studies have shown that in some cases having recycled content may worsen, rather than improve the overall environmental footprint, particularly when extensive processing is required for turning a material back into a usable form. The true footprint is only seen when a much more detailed analysis, known as a Life Cycle Assessment (LCA), is performed.

The Basics

Life Cycle Assessment is a tool used to evaluate the environmental burdens associated with a product (or process). A detailed LCA requires the evaluation of all elements of a product's life cycle:

- Raw material extraction and processing
- Internal manufacturing
- Transportation and distribution
- Use, reuse, and maintenance
- Recycling or final disposal

A complete assessment involves capturing the materials, energy and wastes involved in each phase of the product's life cycle. Within this method, environmental impacts are quantified and opportunities are identified and evaluated for continuous improvement.

Measuring the Results

The results of a LCA are measured in terms of environmental impacts including:

Global Warming Potential – gases released that contribute to global warming

Toxicity Potential – a measure of the toxic emissions to air, water and land

Ozone Depletion Potential – substances released that destroy ozone

Embodied Energy – the amount of energy contained in the raw material and the energy required to manufacture the final composition

Others – additional measurements include embodied mass, acidification potential, eutrofication potential, photochemical oxidant potential and resource index

LCA at Bentley Prince Street

All LCA development is coordinated through Interface Research Corporation (IRC) to ensure accuracy and consistency. Many existing products have already been evaluated using LCA and are used to assess the environmental impact of proposed changes in actual products or processes as well the development of future products. All products will be evaluated by the end of 2005.

Because of the amount of detailed data required to perform an LCA, Bentley Prince Street does not compare its products to competitors' products. Differences in software, scope, calculation methodology and data availability would cause conflicting results.

Interface's LCAs are also representative of the global marketplace in which we operate, with analyses of carpet and fabric products manufactured in North America, Europe and Asia-Pacific regions.

Source Report: Life Cycle Assessment

Bentley Prince Street's LCAs are conducted by members of the Sustainable Operations Team of Interface Research Corporation and the LCA software currently being used is GaBi4.

One of the advantages of a Life Cycle Assessment is the ability to make environmental claims backed by scientific methods; however, using a LCA to make environmental claims in marketing materials should be backed by third party verification, from a respected source, using ISO 14040 protocols.

In 2002, a LCA comparison was performed on the Terratex® brand product from Interface Fabrics. Terratex is manufactured from 100% recycled polyethylene terephthalate (PET) and a similar product that was made from virgin PET staple. A third party consulting group, ICF Consulting (formally A.D. Little Consulting), was contracted to verify the internally produced LCA so the results could be cited in marketing materials.

Goals and the Future of LCA

Life Cycle Assessment is an excellent tool to aid a manufacturer or a consumer in making informed environmental decisions. Interface will continue to expand its use of LCAs for its products and processes in an effort to produce products with the lowest environmental footprint and to reach its goal for demonstrating what sustainability really is.

Who is asking for LCAs?

As more of our customers become aware of the value that LCAs and other environmental measurement systems provide, the more they will demand LCAs. The U.S. Government has already included such language in Executive Order 13148 - Greening the Government Through Leadership in Environmental Management; part of the "Greening of the Government" initiative that began in the Clinton Administration. That executive order explicitly states that "Each Federal agency should implement formal environmental management systems (EMS) of their own design or based on ISO 14001. They should also use Life Cycle Assessment as a guide to decision making, as well as reduce the use of selected toxic chemicals, hazardous substances and pollutants."

Many architectural and design firms are also becoming keen to the importance of LCAs for their product comparisons, and many are now issuing requests for proposals that include questions directly related to LCA.

LCA results on a number of Bentley Prince Street's products are listed in the Building for Environmental and Economic Sustainability (BEES) database which was created by the National Institute of Standards and Technology (NIST).

More information

For more information, please contact your local Bentley Prince Street sales representative at 800.423.4709 or visit us on the web at www.bentleyprincestreet.com.

For samples, visit us at The Market at www.bentleyprincestreet.com/themarket.