



ENERLOGIC[®] WINDOW FILMS
Carbon Footprint

Revolutionary
GLASS INSULATION

Introduction: A Life Cycle Assessment (LCA)

Reducing carbon footprint is a critical component of corporate sustainability programs. Property and facility managers/owners, architects, utilities and government regulators are looking beyond simple payback and energy savings.

Products must also be carbon neutral.

Introduction: A Life Cycle Assessment (LCA)

To be carbon neutral, greenhouse gas (GHG) emissions resulting from a products manufacturing process and distribution must be offset by energy savings and reductions in GHG emissions from the products used.

What is a 'Carbon Footprint'?

Carbon footprint is a term that is commonly used to describe the amount of GHG emissions caused by a particular activity or entity.

What is a 'Carbon Footprint'?

To calculate a carbon footprint, emissions of an individual GHG is converted to the measurement of carbon dioxide equivalents (CO₂ equivalents), using the inter-governmental panel on climate change (IPCC) and 100 year global warming potential (GWP) factors.

This allows the potential effect on climate change from different activities to be evaluated on a common basis.

What is a Life Cycle Assessment (LCA)?

A Life Cycle Assessment (LCA) is a comprehensive study to assess a product's cumulative environmental impact associated with all stages of a products life from 'cradle-to-grave'.

What is a Life Cycle Assessment (LCA)?

A Life Cycle Assessment (LCA) must not be confused with an 'environmental compliance.

What is a Life Cycle Assessment (LCA)?

Case in point: a manufacturer may claim to reduce a buildings carbon footprint by up to 40%, but doesn't mention the resulting resources consumed in production and/or of the disposal issues.

Why does a company need a Life Cycle Assessment (LCA)?

Life Cycle Assessment (LCA) methods are used to evaluate the life cycle carbon footprint of a product. In this case architectural window film distributed by MEP Films and manufactured by Performance Films, a division of Solutia.

The result of a Life Cycle Assessment (LCA), provides a manufacturer and material suppliers with information to assist in reducing their respective life cycle GHG emissions. The study also informs consumers of the GHG emissions associated with the product.

Why does a company need a Life Cycle Assessment (LCA)?

Additionally, companies are using results of these studies to make operating, manufacturing and supply chain decisions, as well as decisions for purchasing renewable energy certificates and/or carbon offsets.

Why does a company need a Life Cycle Assessment (LCA)?

A Life Cycle Assessment (LCA) is a crucial first step in taking carbon out of the system because it provides a baseline measurement and helps identify areas for improvement.

Why does a company need a Life Cycle Assessment (LCA)?

The vision is to be a leader in the environmentally sustainable practices and life cycle assessments in order to provide the tools to achieve that goal.

Why does a company need a Life Cycle Assessment (LCA)?

Performance Films/Solutia, at the end of 2010, completed an LCA to determine the environmental impact of its products life cycle. The study was completed by a third party independent company - Harmony Environmental LLC, peer reviewed and consistent with International Standards Organisation (ISO) standards.

Stages reviewed in the assessment were:

- Research and development
- Raw material acquisition and their extraction
- Manufacturing
- Distribution, including transportation
- Packaging
- Manufacturing plant waste/recycling
- Ultimate product disposal

Stages reviewed in the assessment were:

The assessment considered only energy savings from architectural films installed on non-residential buildings films with solar heat gain co-efficients (SHGC) of 0.36 - while carbon emissions from all manufacturing processes were included.

Positive impact study results

The study also determined that upgrading current windows with the application of an architectural window film will produce less than 4.88 kg of carbon dioxide equivalents (CO₂ – E) per square metre.

That amount is 70 - 267 times less than the carbon footprint of replacing current windows with new vinyl, wood or aluminium framed Low-E windows.

Positive impact study results

Exceptionally high thermal performing architectural window films, such as Enerlogic®, will become carbon neutral even faster.

Company commitment

The completion of a Life Cycle Assessment (LCA) report is just one part of Performance Films/Solutia's commitment to environmental responsibility, which includes a comprehensive company-wide effort to reduce its global impact along with its international partners.

Company commitment

Performance Films/Solutia is an active participant in the US Department of Energy's, Save Energy Now, LEADER program and Performance Films division is also an EPA/DOE Energy Star partner, promoting the benefits of Energy Star and related tools.

Thank you.

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