Forbo Flooring Systems is a global provider of high-quality commercial and residential floor coverings with over 150 years experience.

The company offers a complete product portfolio including Marmoleum as well as vinyl resilient flooring.

The Global Reporting Initiative (GRI) compliant 2013 Forbo Flooring Systems Sustainability Report has been published.

The company strives to continuously improve products and processes.

It demonstrates commitment to the environment and to developing knowledgeable, skilled and dedicated people.

To reduce greenhouse gas in production the factory uses hydro, solar and wind power.

To encourage reuse and recycling at end of life Forbo offers product stewardship program.

They focus on employee and third-party health and well-being and corporate social responsibility promotes care for environment and ethics.

Flotex has low emission of Volatile Organic Compounds (VOC) to enable indoor environmental health.

Forbo sites have ISO 14001: Environmental Management and ISO 9001 Quality Management System certifications

More information is at http://www.forbo-flooring.com.au
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<td>10</td>
</tr>
</tbody>
</table>

Different program EPDs may not be comparable as e.g. Australian transport is more than elsewhere. Further explanatory information is found at [http://www.globalgreentag.com/](http://www.globalgreentag.com/) or contact: certification1@globalgreentag.com © This EPD remains the property of Global GreenTag Pty Ltd.
1. Details of This Declaration

Program Operator: GreenTag Global Pty Ltd hereafter called Global GreenTag noted at www.globalgreentag.com

EPD Number: FFCCT-002-A-2014

Date issue: 30th November 2015

Validity: 30th November 2018

Reference PCR: Compliant with PCR: FP 2014 Building Floor Covering

Time: Made in 2014, sold from 2015 for 20 years use

Geography: Made in UK. Uses are assumed as for Australasia.

Application: Commercial and residential building interiors

Functional unit: Interior use 20 year 1.8kg/m² Flotex cradle to grave

Ecolabel Global GreenTag CertTM LCARate Silver PLUS GreenRate Level A

2. Product Characterisation

Definition: Flocked floorcovering made by Forbo Flooring Systems for building interiors


3. Base Material Origin and Detail

Table 1 lists key components by function, type, key operation, source and mass share.

<table>
<thead>
<tr>
<th>Function</th>
<th>Component</th>
<th>Production</th>
<th>Origin</th>
<th>Amount %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binder</td>
<td>Emulsion PVC</td>
<td>Extract, Chlorinate, Polymerise</td>
<td>FR</td>
<td>34.5</td>
</tr>
<tr>
<td>White Filler</td>
<td>Limestone CaCO3</td>
<td>Mine, Crush, Sieve &amp; Haul</td>
<td>UK</td>
<td>20.2</td>
</tr>
<tr>
<td>Plasticiser</td>
<td>Diisononyl phthalate</td>
<td>Drill, Distil, Extract, Polymerise</td>
<td>DE &amp; NL</td>
<td>24.0</td>
</tr>
<tr>
<td>Face Fibre</td>
<td>SDN6,6 Polyamide</td>
<td>Drill, Distil, Extract, Polymerise</td>
<td>FR &amp; DE</td>
<td>13.6</td>
</tr>
<tr>
<td>Reinforcing</td>
<td>Filament Glass Veil</td>
<td>Mine, Refine, Fuse, Spin, Weave</td>
<td>BE</td>
<td>3.2</td>
</tr>
<tr>
<td>Net Backing</td>
<td>Vinyl Fibreglass</td>
<td>Mine, Refine, Fuse, Spin, Weave</td>
<td>UK</td>
<td>1.5</td>
</tr>
<tr>
<td>Fire Retarder</td>
<td>Aluminium Trihydrate</td>
<td>Mine, Extract, Refine, Mill</td>
<td>DE</td>
<td>1.0</td>
</tr>
<tr>
<td>Colorants</td>
<td>Carbon Black &amp; Dye</td>
<td>Drill, Distil, Extract, Mill, Polymerise</td>
<td>EU</td>
<td>0.9</td>
</tr>
<tr>
<td>Foam agent</td>
<td>ADF¹ Blowing agent</td>
<td>Drill, Distil, Extract, Refine</td>
<td>UK</td>
<td>0.7</td>
</tr>
<tr>
<td>Heat Stabiliser</td>
<td>Zinc Soap</td>
<td>Mine, Farm, Press, Refine, Mill</td>
<td>IT</td>
<td>0.6</td>
</tr>
<tr>
<td>Biocides</td>
<td>ZnBO₃ SbO₃²</td>
<td>Drill, Extract, Synthesise, Compound</td>
<td>UK</td>
<td>0.4</td>
</tr>
<tr>
<td>Antistatic</td>
<td>Prop/Butane</td>
<td>Drill, Distil, Extract, Refine</td>
<td>IT</td>
<td>0.2</td>
</tr>
<tr>
<td>Adhesive</td>
<td>TDI³/DINP</td>
<td>Drill, Distil, Extract, Polymerise</td>
<td>UK</td>
<td>0.2</td>
</tr>
</tbody>
</table>

¹ Azo Diformamide
² Zinc Borate and Antimony Trioxide
³ Toluene Diisocyanate
4. Packaging, Installation, Use & Disposal

Packaging
Cardboard forms & cartons, plastic wrap & strapping on reused pallets.

Service life
Residential and commercial refits vary but 20 year life is assumed typical.

Health Safety & Environment
Apart from compliance to occupational and workplace health safety and environmental laws no additional personal protection is considered essential.

Residual Scrap
Mill off-cuts are reused. Installation scrap of 5% is assumed to landfill.

Cleaning & Maintenance
The recommended cleaning and maintenance raises no ecosystem or human health concerns. Care and maintenance guides are on company websites.

Scenario
Weekly vacuuming or damp mopping with hot water and neutral detergent

Recycling
Home mill, fabrication and installation scrap is reworked into new product.

Re-use
After 20 years service 60% product is assumed reusable for 40 more years.

Disposal
At end of life 30% is assumed recycled without incineration that is rare in Australia.

5. Whole of life Performance

Health Protection
The product contains minimal Antimony Dioxide that acts as an IARC 2B carcinogen warranting human health concern cradle to grave. It passed the Ecospecifier Cautionary Assessment Process (ESCAP) and no issues or red light concerns existed for product human or ecological toxicity.

Effluent
The LCI results and ESCAP raised no red light concerns in emissions to water\textsuperscript{4}.

Waste
Cradle to grave waste to landfill was 1% hazardous and 99% non-hazardous.

Environmental Protection
Continuous improvement under the maker’s certified ISO14001 EMS aims to avoid toxics, waste and pollution plus reduce their material and energy use.

Environmental Health Effects
Installed products are certified as having VOC’s compliant with Green Star\textsuperscript{®} IEQ VOC credits for indoor environment\textsuperscript{5} quality credits. No other potential in-use impacts on environment or health are known.

6. Green Star\textsuperscript{®} Certified Credits

Products are relevant to the Green Building Council of Australia’s (GBCA) Green Star\textsuperscript{®} scheme. If required this EPD is evidence the declared product meets the following Green Star\textsuperscript{®} credits. It may be used as evidence in Green Star\textsuperscript{®} submissions for those credits.

The product is certified by GBCA recognised Global GreenTag GreenRate to meet the following credits of Green Star\textsuperscript{®}:

- Design & as Built V1.1: Sustainable Products, Indoor Pollutants
- Interiors V1: Sustainable Products, Indoor Pollutants
- Performance V1: Refurbishment Materials
- Legacy Rating Tools: Flooring, Volatile Organic Compounds

GBCA Disclaimer

Green Star\textsuperscript{®} is a registered mark of the Green Building Council of Australia (GBCA). Assessments shall not be reproduced in part at any time. Rating Tools and Technical Manuals are subject to change by the GBCA.

This EPD provides Technical Opinion and as such is not endorsed by the GBCA or its agents. Green Star\textsuperscript{®} Technical Manuals give technical details of credit requirements.

\textsuperscript{4} According with national standards in ANZECC Guideline For Fresh & Marine Water Quality (2000)
\textsuperscript{5} in accordance with national standards and practice
7. Results

Table 2 shows the product Life Cycle Assessment (LCA) Eco-Indicator 99 results for 20 years of use.

<table>
<thead>
<tr>
<th>Evaluation Category</th>
<th>Unit</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product mass</td>
<td>kg/m²</td>
<td>1.185</td>
</tr>
<tr>
<td>EcoIndicator 99</td>
<td>ecopoint</td>
<td>0.45</td>
</tr>
<tr>
<td>Embodied Water</td>
<td>kl</td>
<td>475</td>
</tr>
<tr>
<td>Carbon Dioxide Emissions</td>
<td>kg CO₂e</td>
<td>6.52</td>
</tr>
<tr>
<td>Gross Energy and Feedstock</td>
<td>MJ</td>
<td>197</td>
</tr>
<tr>
<td>Renewable Primary Energy</td>
<td>MJ</td>
<td>14</td>
</tr>
<tr>
<td>Ecosystem Quality Damages</td>
<td>PDF m²²·yr</td>
<td>6.88E-05</td>
</tr>
<tr>
<td>Human Health Damages</td>
<td>DALY</td>
<td>5.55E-04</td>
</tr>
<tr>
<td>Ozone Depletion</td>
<td>kg R11e</td>
<td>9.13E-10</td>
</tr>
<tr>
<td>Acidification</td>
<td>kg SO₂e</td>
<td>0.24</td>
</tr>
<tr>
<td>Eutrophication</td>
<td>kg PO₄³⁻</td>
<td>0.02</td>
</tr>
<tr>
<td>Fossil Fuel Depletion</td>
<td>MJ_surplus</td>
<td>6.86</td>
</tr>
<tr>
<td>Mineral Resource</td>
<td>MJ_surplus</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Table 3 lists product Global GreenTag Sustainability Assessment Criteria (SAC) scores prior to weighting and then used to determine the GreenTag EcoPOINT7. Lower scores show greater environmental and social outcome benefits with fewer impacts and damages for sustainability. SAC scores are normalised against products that perform the same function and results with:

- 1.0 = worst base business as usual (BAU)
- 0.0 = neutral no improvement and
- -1.0= net positive benefit

<table>
<thead>
<tr>
<th>Category Potential</th>
<th>Results (-1 to +1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Synergy</td>
<td>1.00</td>
</tr>
<tr>
<td>Health &amp; Ecotoxicity</td>
<td>0.50</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>0.64</td>
</tr>
<tr>
<td>LCA Score</td>
<td>0.60</td>
</tr>
<tr>
<td>Greenhouse Emission</td>
<td>0.42</td>
</tr>
<tr>
<td>Social Responsibility</td>
<td>0.40</td>
</tr>
<tr>
<td>GreenTag EcoPOINT</td>
<td>0.56</td>
</tr>
</tbody>
</table>

8. Verification of this Declaration

This EPD was approved on 15th December 2015 according to requirements of ISO14025 8.1.3b.

<table>
<thead>
<tr>
<th>Role</th>
<th>Signature</th>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCA Review</td>
<td>Shloka Ashar</td>
<td>Global GreenTag Lead Auditor</td>
<td></td>
</tr>
<tr>
<td>PCR Review Chair</td>
<td>Delwyn Jones</td>
<td>Evah Institute CEO &amp; Assessment Director</td>
<td></td>
</tr>
<tr>
<td>Internal EPD Review</td>
<td>David Baggs</td>
<td>Global GreenTag CEO &amp; Program Director</td>
<td></td>
</tr>
</tbody>
</table>

6 where e= equivalent
9. Life Cycle Assessment Method

LCA Author: The Evah Institute as described at [www.evah.com.au](http://www.evah.com.au)
Study Period: Factory data was collected from 2012 to 2014
Scope: Cradle to grave
LCA Method: Compliant with ISO 14040 and ISO 14044 Standards
LCIA Method: EcoIndicator 99 Life Cycle Impact (LCIA) Assessment

The LCA covers all operations in the system boundary depicted in Figure 2. It includes water, waste and emissions for all intermediates used to make and pack product as well as after sale delivery. Some background operations are not shown but all known operations were tracked to the cradle and included.

Phases: The study covered all known stages and phases including resource acquisition, fuel use, power generation, scrap recovery, manufacture, packing, freight, installation, use, disposal plus dispatch for reuse, recycling, landfill and recovery.

Processes: All known processes are included for water, fuel & energy use, resource acquisition, power generation, manufacture, transport, installation and landfill. All waste and emissions for depicted product intermediates and supply chain operations shown in Figure 3 are included.

Scenarios: Use, cleaning, maintenance plus disposition and re-use were scenario-based using Facility Management Association denoted and published typical operations.

Assumptions: Use is to typical Australian Facility Management professional practice.

10. LCA System Phases

All cradle to grave phases and stages that the LCA covered are depicted in Figure 2.

<table>
<thead>
<tr>
<th>Boundary Phases</th>
<th>A to E</th>
<th>Stages 1 to 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquire &amp; Make</td>
<td>A₁</td>
<td>Acquire &amp; Make</td>
</tr>
<tr>
<td>Fit &amp; Install</td>
<td>A₂</td>
<td>Fit &amp; Install</td>
</tr>
<tr>
<td>Use &amp; Maintain</td>
<td>B</td>
<td>Use &amp; Maintain</td>
</tr>
<tr>
<td>Dispose &amp; Scrap</td>
<td>C</td>
<td>Dispose &amp; Scrap</td>
</tr>
<tr>
<td>Remove to Reuse</td>
<td>D</td>
<td>Remove to Reuse</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functional Unit</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gate/kg</td>
<td>Per kg</td>
</tr>
<tr>
<td>Handover/kg</td>
<td>Per kg</td>
</tr>
<tr>
<td>Occupy/m²</td>
<td>Per m²</td>
</tr>
<tr>
<td>Gravm³</td>
<td>Per m³</td>
</tr>
<tr>
<td>Cradlem³</td>
<td>Per m³</td>
</tr>
</tbody>
</table>

**Figure 2 Phases and Stages Cradle to Grave**
11. Supply Chain Modelling

Industry supply chain databases cover all known domestic and global scope 1 and 2 operations. Processes to acquire, refine, transport, fabricate, coat, use, clean, repair, reuse and dispose of metal, masonry, ceramic, timber, glass, plastic and composites are modelled. These include those of:

- Mining, extracting and refining resources to make commodities and packaging;
- Acquiring, cultivating, harvesting, extracting, refining produce and biomass;
- Fuel production to supply power and process energy and freight;
- Chemicals use in processing resources, intermediates and ancillaries;
- Process energy, fuel and freight of resources, intermediates and ancillaries;
- Use, cleaning, recoating, repair, recycling, re-use and landfill, as well as
- Infrastructure process energy transformed and material wear loss e.g. tyres.

They exclude scope 3 burdens from:

- Building capital facilities, churn updates and equipment; Noise and dehydration as well as
- Incidental activities and travel of employees engaged on-site in production facilities.

A flow chart in Figure 3 shows key product supply chain operations from cradle to disposition.
12. Data Sources Representativeness and Quality

Metadata on corporate locations, logistics and technology used is documented along with market share, management systems, standards and commitment to improved environmental performance. The data employed for modelling the state of art of each operation including all known process:

- technology sequences
- energy and water use
- landfill and effluent plus
- reliance on raw and recycled material
- high and reduced process emissions
- freight and distribution systems

Primary data has been sourced from clients, their Annual Reports and research papers since 1995. Background data is sourced from the International Energy Agency, IBISWorld, USGS Minerals, Franklin Associates, Boustead 6, Plastics Europe, CML2, Simapro 8, Ecoinvent 3 and NREL USLCI model databases. Information about manufacturers’ operations is also sourced from:

- Supply chain mills, their technical manuals, corporate annual reports and sector experts;
- Manufacturers development license applications, specifications, websites;
- Library, document, NPI and web searches, review papers, building manuals and
- Global Industry Association and Government reports on Best Available Technology (BAT).

As most sources do not provide estimates of accuracy a pedigree matrix of uncertainty estimates to 95% confidence levels of Geometric Standard Deviation $^2 (\sigma_g)$ is used to define quality as in Table 4$^8$.

No data set with uncertainties greater than $\pm 30\%$ in any of these qualities is used.

<table>
<thead>
<tr>
<th>Metric $\sigma_g$</th>
<th>U $\pm 0.01$</th>
<th>U $\pm 0.05$</th>
<th>U $\pm 0.10$</th>
<th>U $\pm 0.20$</th>
<th>U $\pm 0.30$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>&gt;3yr</td>
<td>3yr</td>
<td>2yr</td>
<td>1yr</td>
<td>&lt;1yr</td>
</tr>
<tr>
<td>Data Source</td>
<td>Process</td>
<td>Line</td>
<td>Plant</td>
<td>Corporate</td>
<td>Sector</td>
</tr>
<tr>
<td>Technology</td>
<td>Actual</td>
<td>Comparable</td>
<td>Within Class</td>
<td>Conventional</td>
<td>Within Sector</td>
</tr>
<tr>
<td>Reliability on</td>
<td>Site Audit</td>
<td>Expert verify</td>
<td>Region Report</td>
<td>Sector Report</td>
<td>Academic</td>
</tr>
<tr>
<td>Precision to</td>
<td>Process</td>
<td>Line</td>
<td>Plant</td>
<td>Company</td>
<td>Industry</td>
</tr>
<tr>
<td>Geography</td>
<td>Process</td>
<td>Line</td>
<td>Plant</td>
<td>Nation</td>
<td>Continent</td>
</tr>
<tr>
<td>True of the</td>
<td>Process</td>
<td>Mill</td>
<td>Company</td>
<td>Group</td>
<td>Industry</td>
</tr>
<tr>
<td>Sites cover of</td>
<td>&gt;50%</td>
<td>&gt;25%</td>
<td>&gt;10%</td>
<td>&gt;5%</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Sample size</td>
<td>&gt;66% trend</td>
<td>&gt;25% trend</td>
<td>&gt;10% batch</td>
<td>&gt;5% batch</td>
<td>Academic</td>
</tr>
<tr>
<td>Cut-off mass</td>
<td>0.01%</td>
<td>0.05%</td>
<td>0.1%</td>
<td>0.5%</td>
<td>1%</td>
</tr>
<tr>
<td>Consistent to</td>
<td>$\pm 0.01$</td>
<td>$\pm 0.05$</td>
<td>$\pm 0.10$</td>
<td>$\pm 0.20$</td>
<td>$\pm 0.30$</td>
</tr>
<tr>
<td>Reproducible</td>
<td>&gt;98% confidence</td>
<td>&gt;95%</td>
<td>&gt;90%</td>
<td>&gt;80%</td>
<td>&gt;70%</td>
</tr>
<tr>
<td>Certainty</td>
<td>Very High</td>
<td>High</td>
<td>Typical</td>
<td>Poor</td>
<td>&gt;$\pm 0.30$ unused</td>
</tr>
</tbody>
</table>

The Evah databases exist in top zones of commercial global modelling and calculating engines. Quality control methods are applied to ensure:

- Coverage of place in time with all information$^9$ for each dataset noted, checked and updated;
- Consistency to Evah guidelines$^{10}$ for all process technology, transport and energy demand;
- Completeness of modelling based on in-house reports, literature and industry reviews;
- Plausibility in 2 way checks of LCI input and output flows of data checked for validity, plus
- Mathematical correctness of all calculations in mass and energy balance cross checks.

Electricity supply models in the active databases are updated annually. As each project is modelled and new data is available the databases are updated and audited by external certifiers.

---

$^8$ Evah Institute data quality control system accords with UNEP SETAC Global LCI Database Quality 2010 Guidelines


03042016EPDForboFlotexSheet@Evah.docx
13. Assumptions for Supply Chain Modelling

Industry sector inventory data is also developed to represent business as usual as well as BAT practices with operations covering industry supply chains and infrastructure in Australia and overseas. Environmental performance is evaluated across sectors by mining, farming, fishery, forestry, freight, infrastructure, manufacture and other process technology type plus their license conditions. Australian building sector rules and Evah assumptions applied are defined in Table 5.

Table 5 Scope Boundaries Assumptions and Metadata

<table>
<thead>
<tr>
<th>Quality/Domain</th>
<th>National including Import and Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Model</td>
<td>Typical industry practice with currently most common or best (BAT) technology</td>
</tr>
<tr>
<td>Resource flows</td>
<td>Regional data for resource mapping, fuels, energy, electricity and logistics</td>
</tr>
<tr>
<td>Temporal</td>
<td>Project data was collated from 2011 to 2014</td>
</tr>
<tr>
<td>Geography</td>
<td>Designated client, site, regional, national, Pacific Rim then European jurisdiction</td>
</tr>
<tr>
<td>Representation</td>
<td>Designated client, their suppliers and energy supply chains back to the cradle</td>
</tr>
<tr>
<td>Consistency</td>
<td>Model all operations by known given operations with closest proximity</td>
</tr>
<tr>
<td>Technology</td>
<td>Pacific Rim Industry Supply Chain Technology typical of 2012 to 2015</td>
</tr>
<tr>
<td>Functional Unit</td>
<td>Typical product usage with cleaning &amp; disposal/m² over the set year service life</td>
</tr>
<tr>
<td>Primary Sources</td>
<td>Clients and suppliers mills, publications, websites, specifications &amp; manuals</td>
</tr>
<tr>
<td>Data mix</td>
<td>Power grid and renewable shares updated to latest IEA 2014 reports</td>
</tr>
<tr>
<td>Operational</td>
<td>Company data for process performance, product share, waste and emissions</td>
</tr>
<tr>
<td>Logistics</td>
<td>Local data is used for power, fuel mix, water supply, logistics share &amp; capacity</td>
</tr>
<tr>
<td>New Data Entry</td>
<td>Evah Institute 2014; Global Green Tag Researchers 2014; IBIS 2014</td>
</tr>
<tr>
<td>Data Generator</td>
<td>Manufacturers, Evah Institute 2014; GGT 2014; Meta: IBIS 2012, Other pre 2014</td>
</tr>
<tr>
<td>Data Publisher</td>
<td>The Evah Institute Pty Ltd to Global GreenTag and designated client only</td>
</tr>
<tr>
<td>Persons input</td>
<td>All contributors cited in Evah &amp; Global GreenTag records or websites</td>
</tr>
<tr>
<td>Data Flow &amp; Mix</td>
<td>Earth’s cradle of all resource &amp; emission flows to end of use, fitout or build life</td>
</tr>
<tr>
<td>System Boundary</td>
<td>All known from and to air, land, water and community sources &amp; sinks</td>
</tr>
<tr>
<td>Capital inclusions</td>
<td>Natural stocks Δ, industry stockpiles Δ, capital wear Δ, system losses and use</td>
</tr>
<tr>
<td>Arid Practice</td>
<td>Dry technology adopted, Water use is factored by 0.1 as for e.g. Mining</td>
</tr>
<tr>
<td>Transportation</td>
<td>Distance &gt;20% than EU; &gt;20% fuel efficient larger vehicles, load &amp; distance</td>
</tr>
<tr>
<td>Industrial</td>
<td>Company or industry sector data for manufacturing and minerals involved</td>
</tr>
<tr>
<td>Mining</td>
<td>All raw material extraction is based on Australian or Pacific Rim technology</td>
</tr>
<tr>
<td>Imported fuel</td>
<td>Mix is from nearest sources is e.g. UAE, SE Asia, Canada or New Zealand</td>
</tr>
<tr>
<td>Finishes</td>
<td>Processing inputs with finishing burdens are factored in. If not that is denoted</td>
</tr>
<tr>
<td>Validation</td>
<td></td>
</tr>
<tr>
<td>Accuracy</td>
<td>10th generation study is ± 5 to 15% uncertain due to some background data</td>
</tr>
<tr>
<td>Completeness</td>
<td>All significant operations are tracked and documented from the cradle to grave</td>
</tr>
<tr>
<td>Precision</td>
<td>Tracking of &gt;90% flows applies a 90:10 rule sequentially to 99.9% and beyond</td>
</tr>
<tr>
<td>Allocation</td>
<td>%100 to co products on reaction stoichiometry by energetic or mass fraction</td>
</tr>
<tr>
<td>Burdens</td>
<td>All resource use from &amp; emissions to community air land, water are included</td>
</tr>
<tr>
<td>Plausibility</td>
<td>Results are checked and benchmarked against BAT, BAU &amp; worst practice</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>Calculated U is reported &amp; compared to libraries of Bath U RICE &amp; EcoInvent 3</td>
</tr>
<tr>
<td>Validity Checks</td>
<td>Are made versus Plastics Europe, Ecobilan, GaBi &amp; or Industry LCA Literature</td>
</tr>
</tbody>
</table>
14. References for this LCA & EPD


Boustead (2014) Model 6 LCI database http://www.boustead-consulting.co.uk/publicat.htm USA & UK


ISO 9001:2008 Quality Management Systems Requirements

ISO 14001:2004 Environmental management systems: Requirements with guidance for use

ISO 14004:2004 EMS: General guidelines on principles, systems & support techniques

ISO 14015:2001 EMS: Environmental assessment of sites & organizations (EASO)

ISO 14020:2000 Environmental labels & declarations — General principles

ISO 14024:2009 Environmental labels & declarations -- Type I Principles & procedures

ISO 14025:2006 Environmental labelling & declarations Type III EPDs Principles & procedures


ISO 14044:2006 EM: LCA: Requirement & guideline for data review: LCI; LCIA, Interpretation results


ISO 15392:2008 Sustainability in building construction General principles


ISO 15686-8:2008 Buildings & constructed assets SL planning Part 8: Reference & estimation


ISO 21930:2007 Building construction: Sustainability, Environmental declaration of building products


ISO 21932:2013 Sustainability in buildings and civil engineering works -- A review of terminology


USLCSI (2014) Life-Cycle Inventory Database https://www.lcacommmons.gov/nrel/search/ USA


Flotex Sheet Flocked Floorcovering

This Environmental Product Declaration (EPD) discloses potential environmental outcomes compliant with ISO 14025 for business to business communication.

Further and explanatory information is found at
http://www.globalgreentag.com/
or contact:
certification1@globalgreentag.com

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