

***CRADLE TO CRADLE***<sup>®</sup>  
**CERTIFICATION OF PRODUCTS**

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### ***Cradle to Cradle Certified<sup>CM</sup> Product Standard***

Since 1987, the Environmental Protection Encouragement Agency (EPEA), founded by Prof. Michael Braungart, has been working on the implementation of the principles of *Cradle to Cradle*<sup>®</sup> design. The definition of materials and products and their optimization through *Cradle to Cradle*<sup>®</sup> opens a new dimension of product quality, based on materials being regarded as nutrients either for biological or technical metabolisms.

This approach comprises using environmentally safe and healthy materials and design for material reutilization, such as recycling or composting. Furthermore, the use of renewable energy, the responsible use of water and social responsibility aspects are required. *Cradle to Cradle*<sup>®</sup> design aims to create truly cyclic flows of materials, beneficial to man and the environment, as in nature where “waste” basically is no other than nutrients, flowing in a closed system.

Since 1995, EPEA in Germany and McDonough Braungart Design Chemistry (MBDC) in the U.S. have been actively engaged with small and large companies in scientific evaluation of raw materials, products and industrial procedures according to the *Cradle to Cradle*<sup>®</sup> principles. EPEA and MBDC are operating independently with companies to develop new products, services and processes in a *Cradle to Cradle*<sup>®</sup> design framework.

In response to industry demand, MBDC conceived in 2005 a *Cradle to Cradle*<sup>®</sup> Certification Program. Together with MBDC, but as an operatively independent company, EPEA subsequently offered companies the opportunity to have their materials and products not only evaluated but also certified according to the *Cradle to Cradle*<sup>®</sup> principles. EPEA holds a license of MBDC for conducting Certifications and using the logo. Owners of the intellectual property rights of *Cradle to Cradle*<sup>®</sup> are William McDonough and Michael Braungart. As *Cradle to Cradle*<sup>®</sup>-Certification was growing worldwide since 2011 the *Cradle to Cradle Products Innovation Institute* (C2CPII) was established. C2CPII, based in San Francisco, is an independent, non-profit organization that adopts responsibilities for the *Cradle to Cradle Certified<sup>CM</sup>* program for products. The institute carries out the Audit before a Certificate is issued.

The *Cradle to Cradle Certified<sup>CM</sup>* program for products provides a company with the means to credibly and tangibly measure the achievement of products in environmentally-intelligent design. The *Cradle to Cradle Certified<sup>CM</sup>* mark helps customers to purchase products that are pursuing a broader definition of quality. If a candidate product achieves the Certification criteria, it is certified at the levels Basic, Bronze, Silver, Gold or Platinum.

Companies with *Cradle to Cradle Certified<sup>CM</sup>* products, have the right to use the *Cradle to Cradle Certified<sup>CM</sup>* branded Certification trademark for their world-wide business for two years in relation to the certified product. Because product certification at the Basic level is a two-year provisional certification, the Certification Mark for Basic may not be used on the products. A prolongation is acquired through recertification every two years. This Certification mark will emphasize to customers that the company actively uses the *Cradle to Cradle*<sup>®</sup> concept to optimize its chemicals choices for health and recyclability. Furthermore production processes including water and energy management as well as social fairness are optimized within the framework of the concept.

For more information on the *Cradle to Cradle Certified<sup>CM</sup>* Product Standard, please see the website of C2CPII: <http://c2ccertified.org/>.

## ***The Cradle to Cradle Certified<sup>CM</sup> Mark***

### Benefits of the Certification Mark are:

- ▲ can be used by companies for products;
- ▲ enhances values for customers due to:
  - assessed chemicals and materials;
  - assessed processes;
  - safety for humans and the environment;
- ▲ leads to added brand value;
- ▲ leads to product differentiation;
- ▲ facilitates transparency;
- ▲ enhances liability;
- ▲ helps products meet upcoming standards for products;
- ▲ documents that the company is on its way to eliminate the concept of waste;
- ▲ eligibility for points in USGB's and LEED program.



**The Cradle to Cradle Certified<sup>CM</sup> criteria**

Since 2013 an optimized version (Version 3.0) of the *Cradle to Cradle Certified<sup>CM</sup>* Product Standard is in place.

The certification process is based on the following five categories:

- *Material Health and Safety.*
- *Material Reutilization.*
- *Energy Usage and Source.*
- *Water Usage and Discharge.*
- *Social Fairness.*

Based on ratings in each of the five categories, a product can be certified at the levels Basic, Bronze, Silver, Gold, or Platinum.

The Certification process, where data and information are evaluated, contains four steps as explained in the figure below:

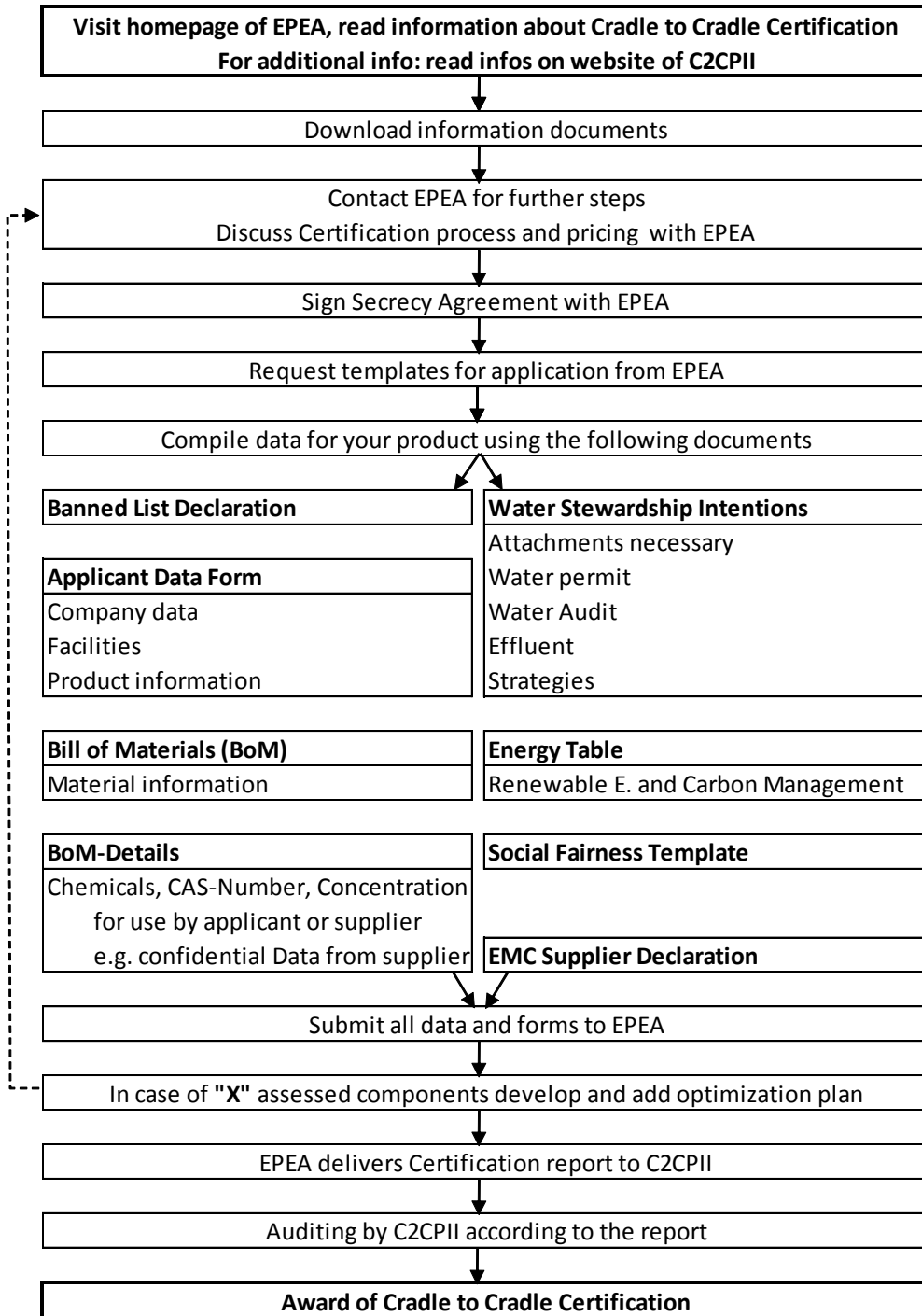


The Certification needs to be renewed every two years. In the Re-Certification process further development in the company strategy will be evaluated. Optimization or phase-out of substances or materials, as well as proceeds regarding renewable energy, social fairness and water stewardship are reviewed.

In case of applying for Certification at EPEA, the Material Assessment and the Process Evaluation are done by EPEA. The audit and issuing of the Certificate is executed by the independent C2C Products Innovation Institute.

### The Cradle to Cradle Certification<sup>CM</sup> process

The following scheme illustrates the standard procedure of Certification. In some cases, complex products and supply chains imply more extensive procedures. Simplifications will be adopted if applicable.



Visit EPEA homepage at: [www.epea.com](http://www.epea.com)  
Visit C2CPII homepage at: [www.c2ccertified.org](http://www.c2ccertified.org)

In terms of the Material Assessment, the product components and/or ingredients (necessary process input) of the product to be certified have to be identified by their chemical name and/or CAS-number. Additionally the customer is asked to supply Material Safety Data Sheets (MSDS) for the product components to EPEA. The objective of the material assessment is to categorize the ingredient chemicals according to a “stoplight model” – X, (problematic, phase-out), C (tolerable) or A/B (OK) - using criteria for human and environmental health. For higher Certification levels also process chemicals have to be assessed in a similar way.

All homogeneous materials present at  $\geq 0.01\%$  ( $\geq 100$  ppm) are subject to review, with the following exceptions: finishes (coatings, plating, paints), blowing agents, textile auxiliaries, paper bleaching agents, and plating chemistry are subject to review at any concentration level when the part these are relevant to is itself present at  $\geq 0.01\%$  in the product.

The customer collects the data according to the structure of the standardized questionnaires that can be received from EPEA. EPEA warrants confidentiality for information that the applicant and the suppliers transmit. A proposal for a confidentiality agreement form can be made available.

Templates to be used:

- ▲ Applicant Data Form.
- ▲ Banned List Declaration.
- ▲ Bill of Material (BoM); covers material data on a generic level.
- ▲ BoM-Details; covers data of product ingredients on a chemical level incl. chemical names and CAS-Numbers of all ingredients down to 100 ppm (some chemicals have to be declared at any level of presence).  
Use by applicant.  
Use by supplier.
- ▲ Water Stewardship Intentions.
- ▲ Energy Table.
- ▲ Social Fairness Table.
- ▲ EMC Supplier Declaration (if applicable).

Finally the templates for application for Certification have to be signed by the CEO of the applicant or an officially authorized person.