



Working with EPEA according to the Cradle to Cradle Certified™ Product Standard

**EPEA Internationale Umweltforschung GmbH
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Cradle to Cradle Certified™ 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*® design. The definition of materials and products and their optimization through *Cradle to Cradle*® 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*® design makes products healthy for users and supports sustainability for future generations.

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*® principles. EPEA and MBDC are operating independently with companies to develop new products, services and processes in a *Cradle to Cradle*® design framework.

In response to industry demand, MBDC conceived in 2005 a Certification Program according to *Cradle to Cradle*®. 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 *Cradle to Cradle*® principles. Owners of the intellectual property rights of *Cradle to Cradle*® are *William McDonough and Michael Braungart*. As this Certification was growing worldwide in 2011 the Cradle to Cradle Products Innovation Institute (C2CPII), a non-profit organization based in San Francisco, was established as an institution which adopted responsibilities of the Cradle to Cradle Certified™ Product Standard by acting as the Certifying Body and organizing the program worldwide. Since 2012 C2CPII is carrying out the Audit before issuing a Certificate¹. EPEA is acting as an Accredited Assessor. A customer will receive two separate invoices: one from EPEA and one from C2CPII (please see http://s3.amazonaws.com/c2c-website/resources/POL_Certification_Fees_V3_FINAL_082813.pdf).

The Cradle to Cradle Certified™ Program for products provides a company with the means to credibly and tangibly measure continuous improvement of products and processes towards Cradle to Cradle targets. It also helps customers purchasing products that are pursuing a broader definition of quality. If a candidate product meets the Certification criteria, it can be certified at the levels Basic, Bronze, Silver, Gold or Platinum.

General information about the Cradle to Cradle Certified™ Product Standard can be found on the website of the C2CPII: (<http://c2ccertified.org/>), certification criteria are outlined in the Product Standard (http://s3.amazonaws.com/c2c-website/resources/certification/standard/C2CCertified_Product_Standard_V3_Nov_4_2013.pdf).

For companies receiving a Cradle to Cradle Certified™ Certificate for their products, the right will be granted to use the Cradle to Cradle Certified™ branded Certification trademark for their world-wide business for two years in connection with the certified product (for Basic-level: not on products) if a TLA is signed by the customer and the C2CPII. A prolongation is

¹ Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute

Cradle to Cradle® is a trademark owned by MBDC, McDonough Braungart Design Chemistry, Charlottesville



acquired by successful recertification every two years. This trademark will signify to customers that the company optimizes the choice of chemicals, materials and processes for health and recyclability including social and water quality of the production.

The Cradle to Cradle Certified™ Certification Mark

Benefits of the Certification Mark:

- ▲ can be used by companies for certified 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 LEED program



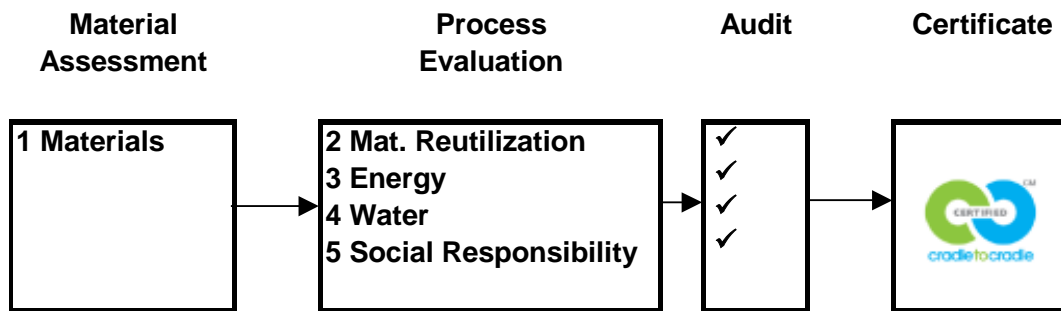
Logo for certified products: Certification Mark
Example for GOLD Certification

The Certification Process

The process is based on the following 5 modules which comprise the main steps “Material Assessment” and “Process Evaluation”.

1. Materials Assessment in terms of Human Health Criteria and Environmental Health Criteria
2. Material Reutilization
3. Energy Usage and Source
4. Water Usage and Discharge
5. Social Fairness

Data and information about these criteria related to a product are checked during four steps of the Certification process.



Based on ratings in each of these categories, a product can be certified at the levels Basic, Bronze, Silver, Gold, or Platinum. The Certification needs to be renewed every two years. In the Re-Certification process it will be checked esp. whether the strategies for optimization/phase-out of substances or materials are followed and whether the company proceeded in strategies regarding renewable energy, social and water issues.

In case of applying for Certification at EPEA, the Material Assessment and the Process Evaluation are done by EPEA, the audit and the issuing of the Certificate by C2CPH. Upon submission of all required data, the Certification can be expected within approximately two months for standard Certification processes. Achievement of a Certification level requires meeting all requirements of the Cradle to Cradle Certified™ Product Standard.

In terms of the Material Assessment, the product components resp. ingredients (input of the process) of the product to be certified have to be identified by their CAS-number. Additionally the customer shall deliver the material safety data sheets (MSDS) for the product components of the product to EPEA. The objective of the material assessment is the categorization of 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.

The Basic level is intended to provide an easier to achieve threshold level in order to get more companies with their products “on board”. Thus regarding the materials these have to be declared only on the basis of “generic materials” (e.g. PP, aluminium, steel...). In addition energy, social and water criteria have to be met. The Basic level is valid for two years, after that the product has to move to Bronze or will be listed out.

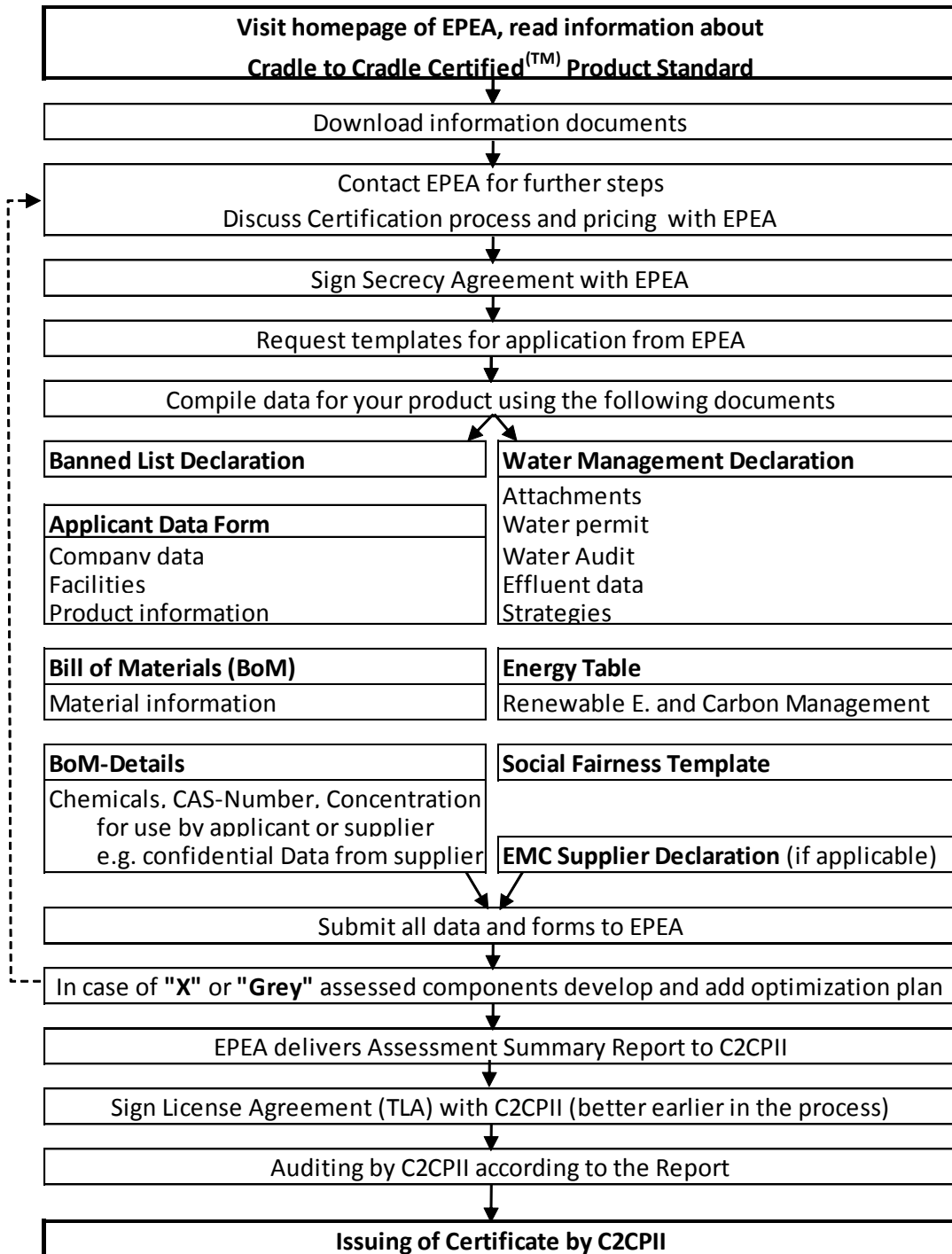
Coating constituents incl. pigments have to be identified according to their CAS- and Color-Index number (C.I. number) at any concentration (other exceptions e.g. paper, plating, organohalogen compounds).

The customer collects the data according to the structure of the standardized questionnaires which 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.



Procedure of a Cradle to Cradle Certified™ Certification process

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





Templates to be used:

- ▲ Applicant Data Form
- ▲ Banned List Declaration
- ▲ Bill of Material (BoM), covers material data more 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 exceptions to be declared at any level)
Use by applicant: If detailed data are known
Use by supplier: More common situation due to confidentiality of composition of supplier products
- ▲ 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 a formally authorized person.

Within the Certification Process an EPEA team member will visit the customer's production site in order to get a deeper understanding of the production process and to answer questions of the customer.

Pricing:

As each case may differ more or less from this standard and some cases do not fit in a standard, a resulting Certification procedure may also grasp several processes and therefore several Process Evaluations. These situations have to be discussed with EPEA separately and individually. As the number of product components (= chemicals) is usually one of the decisive factors regarding the costs this has to be negotiated with EPEA. In general there is the opportunity to certify two or more products as a product group if they are very similar and related to the same production process.

External costs: For the Audit and issuing of Certificate the C2CPII invoices their costs separately which means 1500 € for an Audit and 500 € for issuing the Certificate (for 1 product resp. product group) including licensee fees for using the logo. A license Agreement is sent by C2CPII to the customer and has to be signed.

For a period after initial Certification up to Re-Certification the C2CPII invoices yearly 500 €.

Please note that EPEA additionally calculates appropriate working time for a Re-Certification process. In case of changes regarding product ingredients, components, processes or pre-conditions EPEA charges fees according to the necessary time for project management, assessing new substances or evaluating process changes (incl. additional processes).

For any further information please feel free to contact in the EPEA-Certification Team

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