



Cradle to Cradle
Sustainable from the outset

Cradle to Cradle is becoming standard at Schüco



Cradle to Cradle stands for continuous material cycles and positively-defined materials which do not harm humans or the environment.

Building means thinking years ahead. Buildings which we design today determine how future generations will live and work. Properties that are inspired by the Cradle to Cradle principle fulfil the standards of tomorrow today while also functioning as a valuable raw materials stock.

Schüco develops solutions which preserve and shape the livelihood of future generations. Cradle to Cradle, or C2C for short, is therefore an essential part of our 360° sustainability approach. It covers the whole lifecycle of a building from the design and manufacture, installation and use through to the possibility of dismantling the products and feeding them back into the closed recycling process.

Buildings are constructed in line with the C2C concept to be flexible and easy to convert, so that they meet future requirements. Any subsequent adjustments are taken into account here even in the early planning stages. This preserves the value that is created in manufacturing and finishing processes for the long term.

“Sustainability is not a trend – it’s an attitude. This is reflected in all areas of our company.

Schüco is one of the pioneers in the construction industry, not only with regard to sustainability issues, but also in the development of C2C-certified products. We anticipate that the need and hence the demand for these certificates will increase significantly. After all, no other system covers sustainability at product level so extensively and consistently.”



Andreas Engelhardt
Managing Partner

With C2C Silver certification: ▶
Schüco ALB sun shading with C/Z-shaped louvre blades
Schüco FWS 50 façade

When it comes to implementing the C2C principle in the construction sector, Schüco leads the way with 43 systems already certified with Silver status.

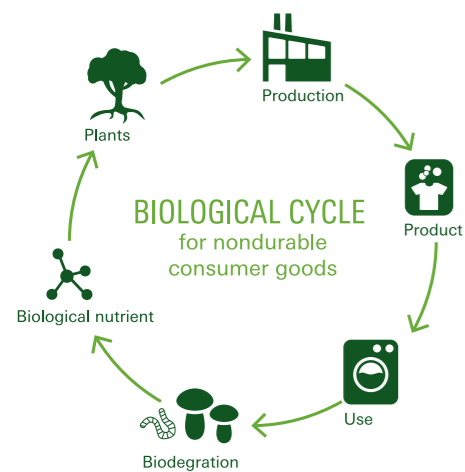
Sustainability with added value

The Cradle to Cradle philosophy forms the basis for all product developments at Schüco. This provides developers, architects and clients with independently tested reliability when selecting materials.

All C2C-certified systems from Schüco are available as standard at no additional charge and already meet the standards of tomorrow. This also means that C2C-inspired properties maintain their value better than conventional buildings.



Cradle to Cradle: A revolutionary concept

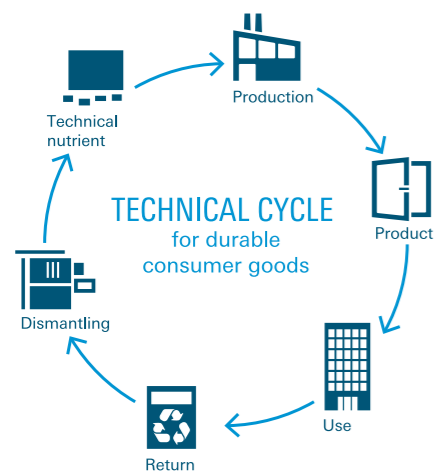


Nature was the inspiration for the groundbreaking design concept of the two forward and lateral thinkers, Professor Michael Braungart and William McDonough. The C2C philosophy views all materials to be nutrients in closed biological or technical cycles.

A differentiation is made here between nondurable consumer goods that are completely biodegradable and durable consumer goods that can be broken down to their raw materials at the end of their use. In this way, for example, construction products, technical installations and devices serve as "nutrition" for new products.

Within the framework of the C2C philosophy, raw materials are no longer lost following their use and can potentially be reused infinitely. This approach goes far beyond conventional notions of recycling, as the materials retain their quality and there is no waste.

For more information on Cradle to Cradle at Schüco, visit: www.schueco.com/c2c



With C2C Silver certification: ▶
Schüco AWS 75.SI* window



"We need to rethink sustainability if we want to shape the future of our planet in a positive way. Cradle to Cradle thinks in terms of "more benefits" rather than "less damage". To this end, C2C aims to produce intelligent products which are circulated infinitely in technical cycles without loss of quality.

The construction industry can take a leading role in this paradigm shift. The building sector accounts for around half of material consumption worldwide. We should use this fact as an opportunity to innovate and drive forward the development of products that are truly recyclable."



Professor Michael Braungart
Co-founder of the Cradle to Cradle design concept

Sustainable planning and action

Cradle to Cradle products and production processes require radical new thinking and intelligent treatment of resources. This starts with comprehensive, forward-thinking planning "from cradle to cradle" – from production out of raw materials and the usage phase through to dismantling, processing and reuse as raw material.

In practice, this means that all used materials need to be dismantled easily, sorted by type and fully processed without loss of quality.

A closed cycle of this kind must prove that all materials used are free of pollutants and that they are produced using renewable energy so that they are safe and do not harm people or the environment.

Strict criteria for certification

In order to achieve certification in accordance with the C2C Certified™ Product Standard, products are assessed against five extensive criteria. All criteria are weighted equally, however the material health is given particular importance.

Material assessment criteria group



1. Material health of substances used

The health and safety of humans and nature must be guaranteed. To this end, manufacturers should record the substances and assess their toxicology, adhere to limit values and forbidden substances, and substitute problematic substances.

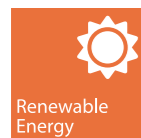
If a material contains substances that are on the defined list of forbidden substances, the test ends immediately. No certification is granted.



2. Recyclability of the product in the technical or biological cycle

Manufacturers are required to manufacture products with high reutilisation potential. To this end, it is necessary to provide proof of good recyclability, encourage a high proportion of secondary raw materials and implement return processes.

Process assessment criteria group



3. Use of renewable energies

The aim is to use renewable energies. To this end, manufacturers should record greenhouse gas emissions, use renewable energies for production and further processing or balance out the emissions caused by energy consumption with certificates.



4. Responsible water management

It is important to have a fair and conscious approach to managing water use. This requires a strategy for handling water responsibly, water audits and the removal of water supply and quality problems.



5. Adherence to social standards

Human dignity and the integrity of natural systems should be respected. To this end, in-house or third-party audits need to be carried out, social problems in the supply chain rectified and positive impact strategies implemented.

C2C product certificates are valid for

2 years.

For recertification, evidence of progress must be provided.

Process and stakeholders

C2C Certified™ confirms successful testing of the product quality by the non-profit Cradle to Cradle Products Innovation Institute (C2CPII). Manufacturers and suppliers provide the necessary information about the product manufacture. For the auditing, optimisation and the certification process, Schüco works with accredited assessor EPEA Internationale Umweltforschung, based in Hamburg.

Certification levels

In each assessment criterion, one of five certification levels can be achieved: Basic, Bronze, Silver, Gold or Platinum. The results are recorded on a scorecard. The overall result for a product is based on the weakest criterion assessed.



Sustainable planning made simple



The Schüco modular system

Every building is unique. Architects and planners therefore need solutions that allow them to plan and configure their building projects in a flexible way. The Schüco modular system is the ideal basis for creating individual combinations of window, door and façade systems – and keeping full control of costs and quality in the process.

Schüco achieved Bronze C2C certification for its modular system back in 2016. This makes it possible to use certified articles to put together entire production line with the C2C Bronze standard. The C2C modular system had Silver certification since 2018. 43 systems are now certified to the high C2C Silver standard.

Flexible planning with SchüCal

Design software SchüCal introduces the modular system to modern planning practice, allowing individual window, door and façade combinations to obtain C2C verification. SchüCal also quickly checks all Silver-certified Schüco systems to see whether there is a C2C-compliant configuration. At the touch of a button, it generates environmental product declarations, U value calculations and CE Declarations of Performance. This gives façade developers and architects complete design freedom and reliability for planning a sustainable building envelope.

Simple building certification

C2C-certified products are viewed positively by the LEED and DGNB (German Sustainable Building Council) building certification systems. Moreover, the certification can be used as a supporting document in many other green building standards. Schüco supports architects, investors and fabricators with detailed documentation on the current certificates.

“Since the beginning of the century, we have been concentrating on the issue of what architectural solutions for sustainable buildings might look like. Our considerations have since stretched far beyond the original core issue of energy efficiency: the increasing scarcity of resources requires a holistic consideration of buildings in their lifecycle.

In 2008, the DGNB (German Sustainable Building Council) developed its certification standard, and with it the most comprehensive system yet for sustainable building in the context of ecological and socio-cultural aspects. We have been working actively and formatively with the product advisory board ever since it was founded. In this way, we have been focusing on the responsible treatment of resources from an early stage. A core idea in this regard is the closed-loop circulation of construction products.

The Cradle to Cradle design concept combines these principles in one system. For us it was therefore a logical step to apply the C2C standard to our modular window and façade systems and design them to be adaptable and recyclable.”



Professor Winfried Heusler
Senior Vice President,
Schüco International KG





◀ With C2C Bronze certification:
Schüco FWS 60 CV

C2C-certified Schüco systems

43

systems with Silver certification

| | | |
|------------------------------|--|---|
| 29 window systems | <ul style="list-style-type: none"> ▪ AWS 50 NI ▪ AWS 57 RO ▪ AWS 65 ▪ AWS 65 RL ▪ AWS 65 SL ▪ AWS 65 MC ▪ AWS 65 BS ▪ AWS 65 WF ▪ AWS 70.HI ▪ AWS 70 RL.HI ▪ AWS 70 SL.HI ▪ AWS 70 ST.HI ▪ AWS 70 BS.HI ▪ AWS 70 WF.HI ▪ AWS 75.SI+ | <ul style="list-style-type: none"> ▪ AWS 75 RL.SI+ ▪ AWS 75 BS.HI+ ▪ AWS 75 BS.SI+ ▪ AWS 75 WF.SI+ ▪ AWS 90.SI+ ▪ AWS 90 BS.SI+ ▪ AWS 120 CC.SI ▪ AWS 65 VV ▪ AWS 70 VV.HI ▪ AWS 75 VV.SI+ ▪ AWS 90 VV.SI+ ▪ AWS 90.SI UZD ▪ AWS 75 RAG ▪ AWS 65 NL |
| 6 façade systems | <ul style="list-style-type: none"> ▪ FWS 35 PD.HI ▪ FWS 50.SI ▪ FWS 50 S.SI | <ul style="list-style-type: none"> ▪ FWS 50 SG.SI ▪ FWS 60.SI ▪ FWS 60 SG.SI |
| 6 door systems | <ul style="list-style-type: none"> ▪ AD UP 75 ▪ AD UP 75 BL ▪ AD UP 90 | <ul style="list-style-type: none"> ▪ AD UP 90.SI ▪ ADS 70 HD ▪ ADS 75 HD.HI |
| 2 sun shading systems | <ul style="list-style-type: none"> ▪ ALB passive large louvre blades | <ul style="list-style-type: none"> ▪ ALB C/Z-shaped louvre blades |

4

systems with Bronze certification

| | | |
|-------------------------|---|---|
| 2 window systems | <ul style="list-style-type: none"> ▪ AWS 114.SI | <ul style="list-style-type: none"> ▪ AWS 114 SG.SI |
| 1 façade system | <ul style="list-style-type: none"> ▪ FWS 60 CV | |
| 1 sliding system | <ul style="list-style-type: none"> ▪ ASS 77 PD.HI manual | |

Schüco – System solutions for windows, doors and façades

Based in Bielefeld, the Schüco Group develops and sells system solutions for windows, doors and façades. With more than 4900 employees worldwide, the company strives to be the industry leader in terms of technology and service today and in the future. In addition to innovative products for residential and commercial buildings, the building envelope specialist offers consultation and digital solutions for all phases of a building project – from the initial idea through to design, fabrication and installation.

12,000 fabricators, developers, architects and investors around the world work together with Schüco. The company is active in more than 80 countries and achieved a turnover of 1.575 billion euros in 2017.