



## **Sustainable Solutions for Wood Floor Bonding**



**Innovation & Consistency** | since 1910

# Responsability for the Future



## Sika's Mission

Sika's mission statement specifies the following: "Our aim is to address environmental and safety concerns throughout the value chain." For Sika ecological efficiency means delivering equivalent or better solutions while consuming less material and energy.

Sika is convinced that environmental management is crucial for the future because Limited Resources, Climate Change, Water, and Infrastructure are global megatrends which are re-shaping our life, markets and guiding construction business. Therefore Sika thinks ahead and commits to a better environment with an integrated approach incl. product sustainability, supply chain sustainability and social sustainability.

As a company with a strong innovative tradition, Sika not only develops creative solutions, we also engage in sharing this tradition across company lines with our partners in trade and industry. It is in this respect that we engage among others in the following programs:



## Sustainable Solutions for Wood Floor Bonding

Sika's systems for wood floors consist of innovative products which contribute to sustainable construction solutions in manifold ways:

- Elastic bonding reduces the stress to substrates and guarantees a durable wood floor with long life time.
- They ensure good indoor air quality and safe application because all products are solvent free and have very low emissions.
- Elastic adhesives enhance footfall sound dampening of floor systems and improve living atmosphere which is of great importance especially in urbanized regions with dense populations.
- Fast drying and reacting products shorten the application time, which enable contractors to finish their work in less time. They have to drive only once to the job site.

Sika strives for best solutions and developed a full system for wood floor bonding that even exceed the highest requirements of different legislations and eco-labels. Additionally, the environmental impact, such as Cumulative Energy Demand or Carbon Footprint of the main products could be reduced significantly.



# Sustainable Wood Floor Bonding System



## Sika's Solution

### SikaBond® AT-80

1-part, solvent free, elastic adhesive based on Silane Terminated Polymers for full surface bonding of all kinds of wood floors.

#### Advantages & Benefits

- 1-component, ready to use with an excellent workability ensures fast application.
- Solvent free and very low emissions for application in a healthy environment and good indoor air quality.
- Elastic, footfall sound insulation for improved living atmosphere.
- Suitability for most common types of wood floors allows to minimize the product range and stock.
- The elastic adhesive reduces stress transfer between the wood floor and the substrate which leads to long-lasting floors.



### Sika® Primer MR Fast

Primer used in conjunction with **SikaBond®** Wood Floor Adhesives for moisture control of cementitious substrates and for substrate consolidation on cement and anhydrite screeds, refurbished substrates as well as adhesion promotion on broadcasted mastic asphalt and on old adhesive residues.

#### Advantages & Benefits

- Water-based epoxy primer which is easy to mix and to apply ensures fast and safe application.
- Fast touch dry time allows sooner completion of wood floor installations.
- Due to the smooth primed surface the adhesive consumption is reduced.
- Solvent free and very low emissions for application in a healthy environment and good indoor air quality.
- Low consumption leads to reduced material costs and a low environmental impact.



### Sika® Level-300 Extra

Low dusting, self-levelling high performance cementitious underlayment for the levelling and smoothing of interior floors prior to the application of the final floor finish for thicknesses from 0.5 to 15 mm.

#### Advantages & Benefits

- Fast application because of the very good flow and the good air release of the fresh product.
- Due to the very smooth and pore free surface the adhesive consumption is reduced.
- Fast setting and drying and only 2 hours walk on time allows sooner completion of wood floor installations.
- Very low emissions for application in a healthy environment and good indoor air quality.



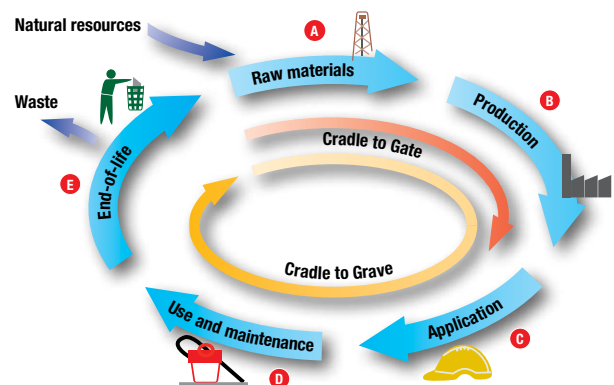
# Life Cycle Assessment



## The Sika Life Cycle Approach for Wood Floor Bonding

Life Cycle Assessment (LCA) is a standardized method to assess and compare the inputs, outputs and potential environmental impacts of products and services over their life cycle. LCA's are increasingly recognised as the tool to evaluate the sustainability of products and systems.

Sika carries out LCA's according to the ISO 14040 series and the Standard EN 15804. The impact assessment methodology used is CML 2001.



The LCA data in this brochure refer to 1 kg of building material and are based on a “Cradle to Gate” approach, which means it investigates the potential environmental impact of a product from raw material extraction until the product is finished and packed.

There are several different impact categories and resource indicators which can be assessed in a LCA. Cumulative Energy Demand (CED) and Global Warming Potential (GWP) are considered to be most relevant for Wood Floor Bonding:

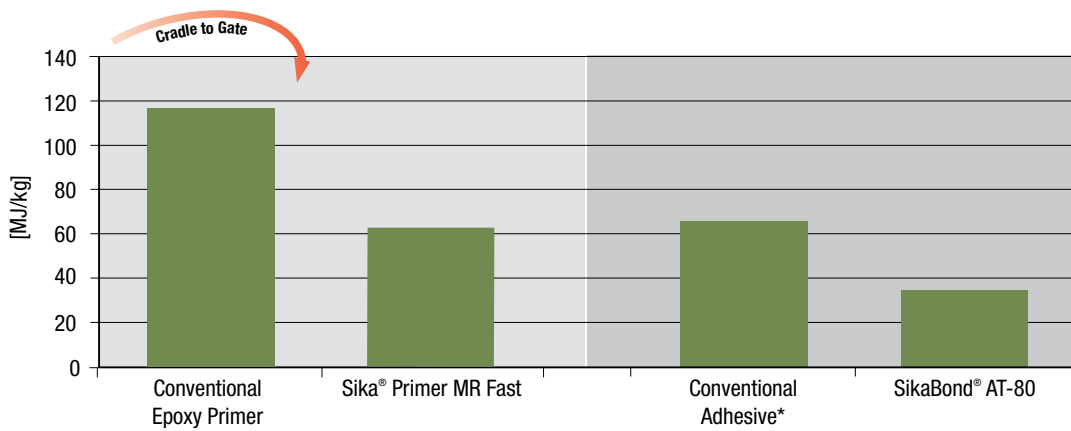
- Cumulative Energy Demand (CED) accounts for the consumption of energy resources, namely the total amount of primary energy from renewable and non-renewable resources.
- Global Warming Potential (GWP), also known as Carbon Footprint, measures the potential contribution to climate change, focusing on emissions of greenhouse gases, such as carbon dioxide (CO<sub>2</sub>), which enhance the heat radiation absorption of the atmosphere, causing the temperature at the earth's surface to rise.



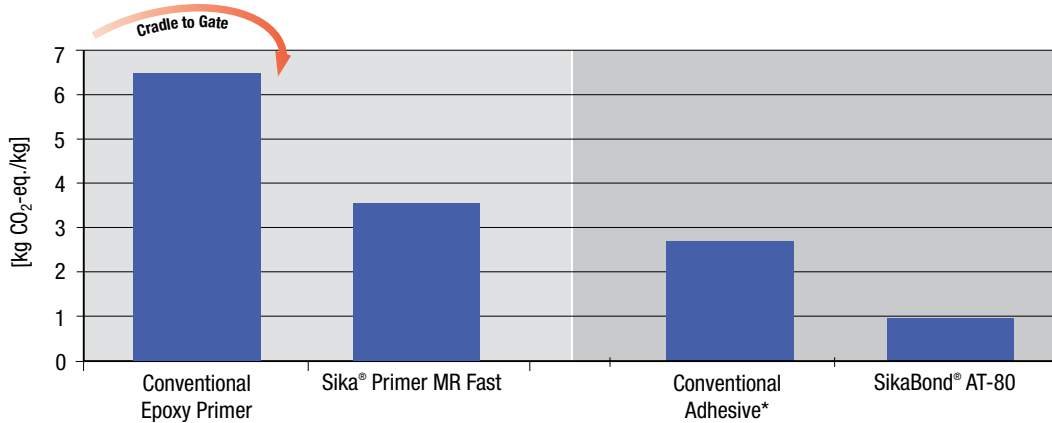


## Results of the Life Cycle Assessment

### Cummulative Energy Demand (CED) for 1 kg Primer or Adhesive [MJ/kg]



### Global Warming Potential (GWP) for 1 kg Primer or Adhesive [kg CO<sub>2</sub>-eq./kg]



\* Conventional, reactive, solvent-free, 1-component wood floor adhesive

# Sika Wood Floor Bonding Solutions Contribute to a Sustainable Future



## Conclusions from LCA (Compared to Conventional Products)

**Sika® Primer MR Fast** and **SikaBond® AT-80** reduce the energy demand and the global warming potential (carbon footprint) compared to conventional products about 50% and therefore achieve the following savings:

### Cumulative Energy demand

- **Sika® Primer MR Fast** saves more than **50 MJ per kg primer**.
- **SikaBond® AT-80** saves more than **30 MJ per kg adhesive**.

### Global Warming Potential (Carbon Footprint)

- **Sika® Primer MR Fast** saves more than **3 kg CO<sub>2</sub> per kg primer**.
- **SikaBond® AT-80** saves nearly **2 kg CO<sub>2</sub> per kg adhesive**.



### Case study for energy and carbon savings:

For an apartment with 100 m<sup>2</sup> wood floor these lead to total savings of about 350 kg CO<sub>2</sub> and 5500 MJ (= 1500 kWh)\*.

As comparison: 1500 kWh would be enough to run an iPad more than 40 years or watch television\*\* 2 years non stop.



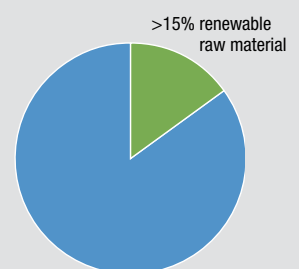
## Innovative Formulations

These savings were possible due to responsible and innovative formulated products:

- **SikaBond® AT-80** belongs to a new generation of adhesives and consists of more than 15% renewable raw material.
- **Sika® Primer MR Fast** is water based and contains no solvents.

**SikaBond® AT-80** and **Sika® Primer MR Fast** together with the renewable material wood provide architects, contractors and owners a real sustainable and economical floor solution and help to save energy and to reduce the overall CO<sub>2</sub>-Footprint of a building.

### Formulation SikaBond® AT-80



\* Reckoned with average material consumption according Product Data Sheet \*\* Flat screen 42", 80 W/h



## Sika's Responsibility for Health & Environment

### Safe Application

Sika strives not only for sustainable solutions but also for products which can be applied easily and safe.

- **Sika® Level-300 Extra** is a dust free mortar which enables craftsmen to mix it without any danger of inhaling dust.
- **Sika® Primer MR Fast** is a water-based and solvent free epoxy primer that is very easy to mix. There is no need of special mixing equipment thus also the use of solvents for cleaning is omitted.
- **SikaBond® AT-80** is a 1-part adhesive and is ready to be used without prior mixing omitting the need to use solvents for cleaning mixing equipment again which would be necessary in the case of 2-component adhesives. Additionally **SikaBond® AT-80** is solvent free and has very low emissions.

The applicator can work with these Sika products during all stages in a safe, dust-free and odour-less environment.



### Compliance with Indoor Air Quality Initiatives

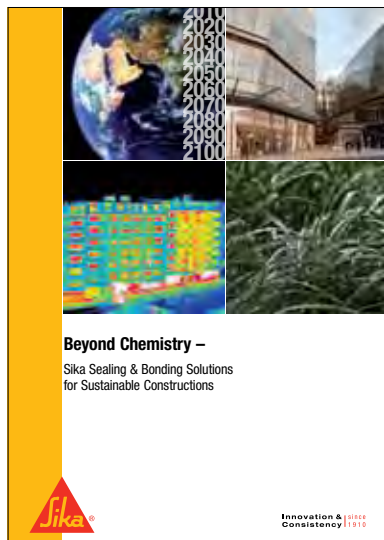
Controlling the quality of indoor air is a recent concern as modern efficient buildings are characterized by thermal insulation and reduced ventilation. Both measures result in decreased air exchange rate.

Most people spent more than 80% of their time in such indoor environments. Therefore Indoor Air Quality in buildings is crucial for the health and well-being of all of us. The solvent free products **Sika® Primer MR Fast**, **SikaBond® AT-80** and **Sika® Level-300 Extra** comply with the most stringent initiatives in terms of Indoor Air Quality today, such as Blue Angel and EMICODE and enable emission free construction without any limitations regarding quality.

Additionally the eco-label Blue Angel ensures that products and services which – from a holistic point of view – are of considerable benefit to the environment and, at the same time, meet high standards of serviceability, health, and occupational protection.

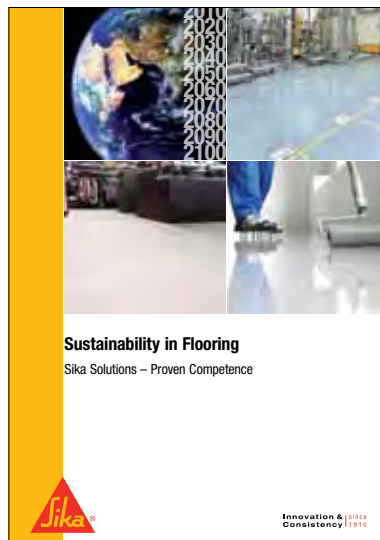


# How Can I Contribute to Sustainable Construction?



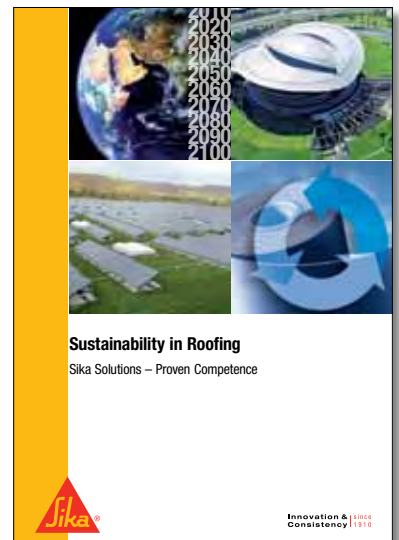
**Beyond Chemistry –**  
Sika Sealing & Bonding Solutions  
for Sustainable Constructions

**Sika**  
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**Sustainability in Flooring**  
Sika Solutions – Proven Competence

**Sika**  
Innovation & Consistency since 1910



**Sustainability in Roofing**  
Sika Solutions – Proven Competence

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Sika provides a full range of solutions from Basement to Roof. Please request further information from your local Sika organization.

## You Can Contribute to Sustainable Construction by:

- Choosing elastic adhesives for bonding to enhance the sound dampening of floors and to reduce stress between construction materials and thus get long lasting wood floors.
- Choosing proven and low emitting products to ensure good indoor air quality.
- Choosing sustainable products to reduce the Cumulative Energy Demand and the Carbon Footprint of your building.

## Further Information on Sustainability



The link opens the Sika Corporate Sustainability webpage. It provides you access to information on Sika sustainability partnerships and initiatives, environment & safety and much more.

[www.sika.com/en/group/sustainability.html](http://www.sika.com/en/group/sustainability.html)

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