

BSI Methodological Note V7

# EVERYTHING YOU NEED TO KNOW ABOUT THE BECKERS SUSTAINABILITY INDEX



**The Beckers Sustainability Index (BSI) is a classification tool that transparently maps and measures the sustainability of coating systems. Beckers uses the BSI to drive the development and commercialisation of more sustainable products.**

This document provides an overview of why we have developed the BSI, what it measures and how it works. Please speak with your Beckers representative for more information or to obtain the BSI scores for a particular product.

Why has Beckers developed the BSI?

Since 2016, Beckers has been using the BSI to integrate sustainability into product development and communicate the sustainability benefits of its products. The BSI was developed to help us to meet the growing demand for more sustainable industrial coatings – by translating sustainability and sustainable design into quantitative, comprehensive and accurate metrics.

Today, the BSI is key to realising our ambition to be the most sustainable coatings company by helping us to offer coating solutions that help advance society while protecting the environment. It does this by providing a data-driven, objective means to measure and track the development of our sustainable product portfolio and puts sustainability at the heart of our product development. Furthermore, the BSI enables us to communicate the sustainable value of our current and future portfolio to our stakeholders in a manner that is aligned with industry standards and key sustainability parameters.





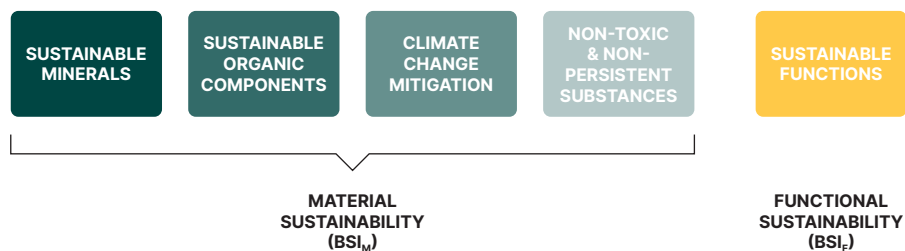
### What does the BSI measure?

The BSI assesses the sustainability performance of our products from two dimensions – Material Sustainability and Functional Sustainability. This reflects our view that the sustainability of a coating is a combination of both the sustainability impacts from the materials and processes we use to make our coatings and how our coatings add sustainable value to what is being coated. This is regardless of if the product being coated is a building panel, a dishwasher, part of a computer or an earth excavator vehicle.

We have split these two dimensions into five BSI Sustainability Indicators with each focusing on a different aspect of product sustainability. Four of the indicators describe a product's material sustainability. The fifth indicator describes the added value of the product in terms of its functional sustainability delivered to customers and end-users as well as society at large. See Figure 1.

The BSI combines these five Sustainability Indicators to calculate two scores: one for product material sustainability ( $BSI_M$ ) and one for functional sustainability ( $BSI_F$ ). This provides a well-balanced and holistic assessment of the product's overall sustainability performance – including not only how the coating is made but also the sustainability benefits they provide for the end user.

Figure 1 – The BSI Indicators



These five sustainability BSI indicators were selected because they together define how we believe a more sustainable industrial coating should be. The indicators are:

1. Sustainable Mineral Indicator – rates the sustainability performance of all the inorganic materials (such as pigments and additives) used in the coating on the basis of 1 kg of finished, packed product.
2. Sustainable Organic Component Indicator – rates the sustainability performance of all organic materials (such as binders, solvents and additives) used in the coating on the basis of 1 kg of finished, packed product.
3. Climate Change Mitigation Indicator – rates the environmental impacts arising from the production of 1 kg of finished, packed product.
4. Non-toxic and Non-persistent Substances Indicator – rates the human and environmental health hazards and occurrence of restricted or banned substances contained in 1 kg of formulated, finished, packed product.
5. Functional Sustainability Indicator – rates the level of functional performance the product offers which impacts on the sustainability of the coated object during its operation or use by improving for instance the resilience or lifetime of the coated object or by reducing the energy consumption for a building in use (unit of measure varies depending on function).

Each of the five BSI Indicators comprises a range of different categories that have been selected because they provide the best and most relevant metric for that particular sustainability indicator. See Figure 2.

Figure 2 – BSI Indicators and Categories

INDICATORS	CATEGORIES				
<b>SUSTAINABLE MINERALS</b>	Endangered minerals	Recycled minerals			
<b>SUSTAINABLE ORGANICS</b>	Organic binders	Organic solvents	Organic pigments		
<b>CLIMATE IMPACT</b>	VOC emissions	Global warming potential	Ozone depletion potential	Total energy	
<b>TOXICITY</b>	Acutely toxic hazards	CMR & STOT hazards	Environmental toxic hazards	Banned & restricted substances	
<b>SUSTAINABLE FUNCTIONS</b>	Sustainability functions				

Each category is based on a quantitative analysis of the individual product. Together, they provide an accurate foundation for the BSI calculations and a scientific and traceable basis for the scoring criteria used to classify a product’s overall sustainability performance. Furthermore, many of these categories can be automatically assessed and regularly updated via Beckers’ Enterprise Resource Planning (ERP) systems.

How does the BSI work?

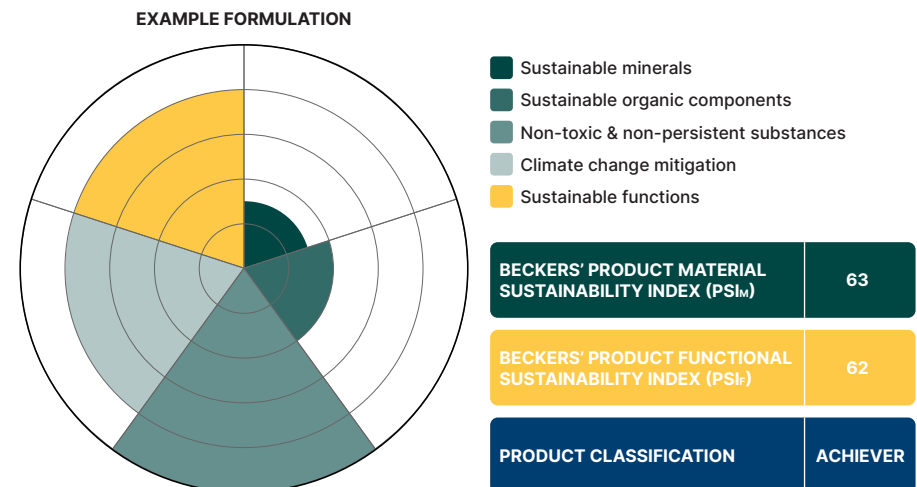
The five BSI Sustainability Indicators are scored individually from 0 to 5, where a score of 5 represents the highest level of attainment in that indicator and 0 represents poor sustainability performance. The four BSI Material Sustainability Indicators are each computed from the scores obtained for their respective categories and each indicator score combined to calculate the Product Material Sustainability Index (BSI<sub>M</sub>). The BSI Functional

Sustainability Indicator Score (BSI<sub>F</sub>) is calculated from the Functional Sustainability Indicator. Figure 3 provides a typical example of the scoring for a Beckers Product.

Each sector in the chart represents one of the five BSI Sustainability Indicators and each is fully filled when the BSI Sustainability Indicator receives a maximum score. The example shows how scores between 0 and 5 are represented by how filled each of the Indicator sectors are.

The BSI Chart therefore communicates not only the overall material and functional sustainability of the product but also highlights those aspects of sustainability where improvements can be made. This helps us focus on the right sustainability aspects to work on in R&D as we develop more sustainable coatings.

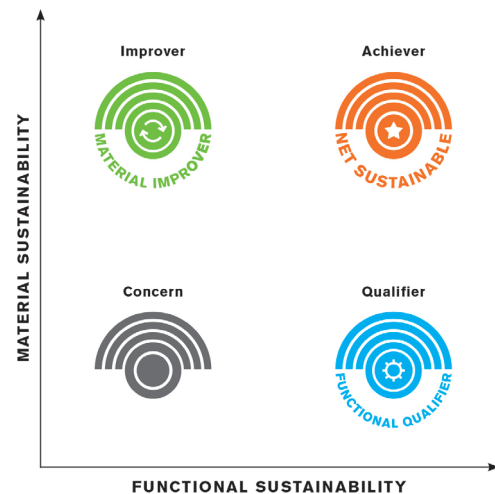
Figure 3 – An example of how the BSI scores a product



How does the BSI classify sustainability?

In the BSI example in Figure 3, the product has been classified as our highest level – Achiever – as its BSI<sub>M</sub> and BSI<sub>F</sub> scores exceed the thresholds set for that class. We have created four classes of sustainability, which are determined by a specific combination of BSI<sub>M</sub> and BSI<sub>F</sub> scores.

Figure 4 – The four BSI classes of sustainability



The four BSI classes of sustainability are:

1. **Achiever** – Products that achieve the highest level of sustainability, both in terms of material and functional sustainability. They:
  - Are free of any toxic or fatal Hazard phrase for Health Hazards as defined in the Classification, Labelling and Packaging (CLP) Regulation (EC) No 1272/2008 and of any toxic Hazard phase for Environmental Hazards as defined in the CLP. (hereafter “CLP”)

- Are free from banned, restricted and candidate chemical substances and SVHCs as defined in Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) 1907/2006 Annex XIV. (hereafter “REACH”)
- Produce minimal VOC emissions and have lower than average GHG emissions, low impact on ozone layer and lower demands on primary energy used in production based on a cradle to gate life cycle analysis.
- Utilise minimal quantities of endangered minerals.
- Exhibit a broad range of functional sustainability attributes at high levels of performance.

2. **Improver** – Products with improved environmental and climate footprint. Improvers are characterised by more sustainable raw materials and production. They:
  - Are free of any toxic or fatal Hazard phrase for Health Hazards as defined in the CLP Regulation (EC) No 1272/2008 and of any toxic Hazard phase for Environmental Hazards as defined in the CLP.
  - Are free of any banned, restricted and candidate chemical substances and SVHCs as defined in REACH Regulation (EC) 1907/2006 Annex XIV.
  - Produce minimal VOC emissions and have lower than average GHG emissions, low impact on ozone layer and lower demands on primary energy used in production based on a cradle to gate life cycle analysis.
  - Utilise minimal quantities of endangered minerals.
  - Exhibit very few and or just basic functional sustainability attributes.
3. **Qualifier** – Products that provide sustainability benefits to the end-user and society, for example by strengthening the coated object’s sustainability performance. They:

- Are free of any banned, restricted substances and SVHCs as defined in REACH Regulation (EC) 1907/2006 Annex XIV.
- Exhibit a broad range of functional sustainability attributes at high levels of performance.

4. Concern – Products with an issue in terms of sustainability.

A product identified as a Concern will be fully phased out and excluded from Beckers' portfolio within five years of being identified. They may:

- Contain toxic or fatal Hazard phrase as defined in the CLP.
- Contain banned and restricted chemical substances and SVHCs as defined in REACH Annex XIV.
- Produce significant VOC emissions and have greater than average GHG emissions, impacts on depletion of the ozone layer and consume high levels of energy in production based on a cradle to gate life cycle analysis.
- Contain higher quantities of endangered minerals.
- Exhibit very few and or just basic functional sustainability attributes.

The thresholds for the different classes are set to provide a consistent and realistic statement about a product's overall sustainability performance. A coating product does not need to attain full marks in its BSI<sub>M</sub> and BSI<sub>F</sub> scoring to be classified as Achiever. But to be classified as an Achiever, it must exceed the Achiever thresholds in terms of both material sustainability and functional sustainability which means it should not display weak sustainability signals in human and environmentally toxicity, endangered minerals, or climate impact. It must also provide more than just a basic level of functional sustainability. Safeguards are used to ensure that should one critical category score be below a certain minimum level, then the product is automatically blocked from being classified as an Achiever, even





if all other BSI Sustainability Indicators and their individual category scores are rated highly.

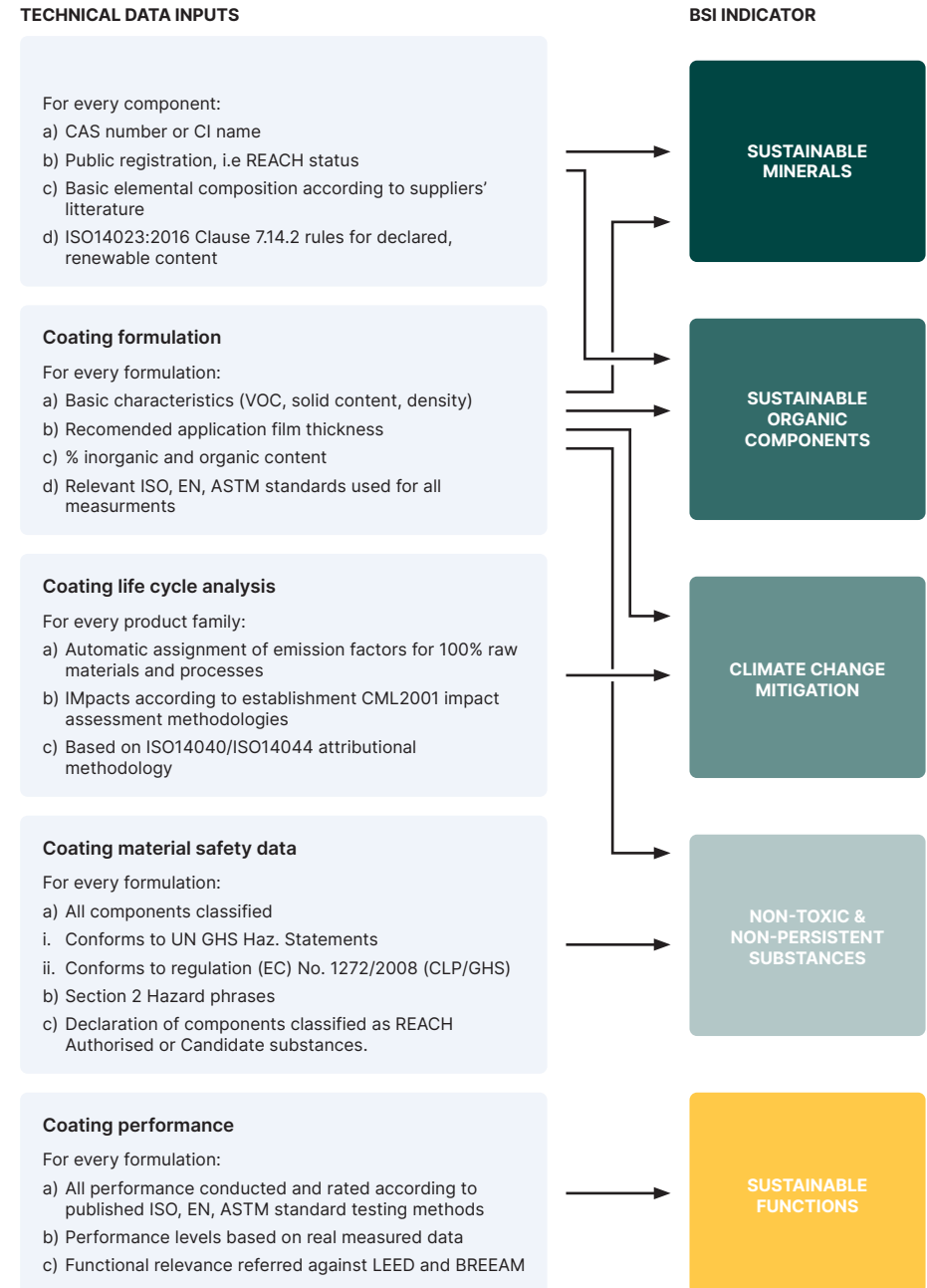
How reliable is the BSI?

The BSI is a Type II environmental declaration, which means it is a self-declaration that has been developed by and for a single company – Beckers. It is in accordance with ISO 14021:2016 and has been independently verified as fulfilling the general principles for the development and use of environmental declarations.

The methodology used for the BSI is based on a scientifically derived coating formulation and performance data, which ensures that the BSI analysis is thorough and comprehensive, to provide results that are consistent, accurate and reproducible. All formulation data used in the BSI tool is determined according to well-established, international, or national scientific standards and controlled methodologies that have been used by Beckers for many years as part of its organisation, management and communication of product characteristics.

Figure 5 indicates how this basic scientific data contributes to the inputs for the BSI Indicators.

Figure 5 – BSI technical inputs



How do I access BSI information for a particular product?

The Beckers BSI is now used by all Beckers' local sites to analyse the sustainability of more than 80% of our current sold portfolios. BSI<sub>M</sub> and BSI<sub>F</sub> values for our products are available on request from our local sales and technical support teams or local Beckers representatives.

With this information, you can check whether what you are using is the most sustainable coating solution available from Beckers and discuss with the Beckers' teams how we can help you improve the sustainability of your coated product. We are continuously looking to improve how we share this useful information with our stakeholders – including digitally.

#### Disclaimer

The BSI has been third-party verified by Ernst & Young. This Methodological Note was developed to provide stakeholder transparency. For further information, please see the published Assurance Statement.

29 November 2023

