

## Product Declaration - LEED® v4 Building Design and Major Renovations

MANUFACTURER	SCHOMBURG GmbH & Co. KG
PRODUCT NAME	CRISTALLFUGE-PLUS
PRODUCT CHARACTERISTICS	Multi-function grout, especially suitable for the discolouration-free grouting of natural stone such as e.g. limestone, Jura marble, Solnhofen tiles, sensitive light crystalline marble, granite and others. Discolouration at the tile edges is reliably avoided due to the rapid crystalline binding of the mix water. For grouting low porosity wall and floor finishing materials such as fully vitrified, vitrified, synthetic stone and glass tiles. Fulfills the requirements of CG2 WA in accordance with DIN EN 13888. Very low emissions - GEV EMICODE EC1PLUS. For joint widths from 1 to 10 mm. Grindable.



SCHOMBURG GmbH & Co. KG  
 Aquafinstraße 2  
 32760 Detmold  
 Deutschland

Product Rating				
LEED Category	LEED Credit	max. influenced score	Degree of fulfillment %	
<ul style="list-style-type: none"> <li>For the product exists an EPD which can be used for the calculation of the Life-Cycle Assessment of the building under MR Credit 1 Building Life-Cycle Impact Reductions / Option 4.</li> <li>The product contributes toward satisfying MR Credit 2 "BPDO - Environmental Product Declarations" under LEED.</li> <li>The product contributes toward satisfying MR Credit 3 "BPDO - Sourcing of Raw Materials" under LEED.</li> <li>The product contributes toward satisfying EQ Credit 2 "Low Emitting Materials" under LEED.</li> </ul>				
Materials & Ressources	Credit 1: Building Life-Cycle Impact Reductions (Option 4: LCA)	1-3 Points	100%	100%
	Credit 2: BPDO - Environmental Product Declarations	1-2 Points		
	Option 1: Environmental Product Declaration	1 Point	50%	50%
	Option 2: Multi-Attribute Optimization	1 Point	0%	0%
	Credit 3: BPDO - Sourcing of Raw Materials	1-2 Points		
	Option 1: Raw Material Source and Extraction Reporting	1 Point	0%	0%
	Option 2: Leadership Extraction Practices	1 Point	5.5%	5.5%
	Credit 4: BPDO - Material Ingredients	1-2 Points		
	Option 1: Material Ingredient Reporting	1 Point	0%	0%
	Option 2: Material Ingredient Optimization	1 Point	0%	0%
Option 3: Product Manufacturer Supply Chain Optimization	1 Point	0%	0%	
Indoor Environmental Quality	Credit 2: Low Emitting Materials	1-3 Points	100%	100%

About LEED & Products - [www.usgbc.org](http://www.usgbc.org)

This declaration helps to assess products easily according to the certification system LEED® v4 Building Design and Major Renovations (excluded HEALTHCARE and SCHOOLS). Products are not reviewed or certified by LEED. LEED credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands. For more information about LEED visit [www.usgbc.org/leed](http://www.usgbc.org/leed). The project team or the manufacturer is responsible to declare the compliance with the project requirements to achieve LEED points. Below you find an explanation of the symbols. Detailed information are on the next pages.



Product helps to achieve the LEED point in the Credit

22%

X% of the product contributes toward satisfying the credit



Credit is not applicable to this product



Required data not specified - for required data contact manufacturer



Credit requirements are not fulfilled

## MR Credit 1: Building Life-Cycle Impact Reductions (Option 4: LCA)

### Intent

To encourage adaptive reuse and optimize the environmental performance of products and materials.

### Requirement

Environmental Product Declaration (EPD) can be used in Credit "MR 1: Building Life-Cycle Impact Reductions" in Option 4 "Whole-Building Life-Cycle Assessment" for the calculation of the Life-Cycle Assessment of the building. If no EPD existst, generic datasets will be used.

### Detailed Rating

No.	General Information			Option 4:	Compliance
	Product name	Manufacturer	Mass [%]	Whole-Building Life-Cycle Assessment	
	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	For the product exists an EPD.	✓
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	For the product exists an EPD.	✓

## MR Credit 2: BPDO - Environmental Product Declarations

### Intent

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts.

### Requirement

Achieve one or more of the options below, for a maximum of 2 points.

#### Option 1: Environmental Product Declaration (1 Point)

Use at least 20 different permanently installed products sourced from at least five different manufacturers, for which an Environmental Product Declaration exist.

Proof - weighted value [%]:

- Product-specific declaration - 25 %
- Industry-wide (generic) EPD - 50 %
- Product-specific Type III EPD - 100 %

#### Option 2: Multi-Attribute Optimization (1 Point)

50 % of all materials (based on the material costs of the project) must be less than the industry average in terms of environmental emissions. Third party certified products that demonstrate impact reduction below industry average in at least three of the following categories are valued at 100 % of their cost for credit achievement calculations.

- global warming potential (greenhouse gases), in CO<sub>2</sub>e;
- depletion of the stratospheric ozone layer, in kg CFC-11;
- acidification of land and water sources, in moles H<sup>+</sup> or kg SO<sub>2</sub>;
- eutrophication, in kg nitrogen or kg phosphate;
- formation of tropospheric ozone, in kg NO<sub>x</sub> or kg ethene;
- and depletion of nonrenewable energy resources, in MJ.

Regional products (within 160 km = 100 Miles) are double-weighted.

### Detailed Rating

No.	General Information			Option 1: Environmental Product Declaration		Option 2: Multi-Attribute Optimization	
	Product name	Manufacturer	Mass [%]	EPD Program Operator	EPD Type - Weighted Value [%]	Third Party Certification Program **	Location *
	<b>CRISTALLFUGE-PLUS</b>	<b>SCHOMBURG GmbH &amp; Co. KG</b>	<b>100%</b>	<b>Institut Bauen und Umwelt e.V. (IBU)</b>	<b>Industry-wide (generic) EPD - 50%</b>	<b>not specified ***</b>	<b>see location</b>
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	Institut Bauen und Umwelt e.V. (IBU)	Industry-wide (generic) EPD - 50%	not specified ***	see location

\* see explanation "Location Valuation Factor" on page 10

\*\* Demonstrate impact reduction below industry average

\*\*\* Evidence is verified by: not specified

### MR Credit 3: BPDO - Sourcing of Raw Materials 1/2

#### Intent

To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts. To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner.

#### Requirement

Achieve one or more of the options below, for a maximum of 2 points.

##### Option 1: Raw Material Source and Extraction Reporting (1 Point)

Use at least 20 different permanently installed products sourced from at least five different manufacturers, who published a sustainability report of their suppliers.

- Manufacturer declared corporate sustainability report - 50 %
- Third-party verified corporate sustainability report (CSR) according to Global Reporting Initiative (GRI) Sustainability Report, Organisation for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises, U.N. Global Compact: Communication of Progress or ISO 26000: 2010 Guidance on Social Responsibility - 100 %

##### Option 2: Leadership Extraction Practices (1 Point)

25 % of all materials (based on the material costs of the project) must have at least an extended producer responsibility (closed loop or take back program) or are made from SAN certified bio-based materials, FSC certified wood, recycling materials (post-consumer recycled content plus one-half of the pre-consumer content), salvaged or reused materials.

#### Detailed Rating

No.	General Information			Option 1: Raw Material Source and Extraction Reporting
	Product name	Manufacturer	Mass [%]	Corporate Sustainability Report Type - Weighted Value [%]
	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified
	percentage influential degree (weighted contribution)			0%
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified

**MR Credit 3: BPDO - Sourcing of Raw Materials 2/2**
**Detailed Rating**

No.	General Information			Option 2: Leadership Extraction Practices						
	Product name	Manufacturer	Mass [%]	Extended Producer Responsibility - Content [%]	SAN [%]**	FSC [%]***	Salvaged material [%]****	Post-Consumer [%]	Pre-Consumer [%]	Location *
	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified	0%	0%	0%	0%	5.5%	see location
	percentage influential degree (weighted contribution)			5.5%						
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified	0%	0%	0%	0%	11%	see location

\* see explanation "Location Valuation Factor" on page 10

\*\* SAN certified Content [%]

\*\*\* FSC certified Content [%]

\*\*\*\* Content of reused and salvaged materials [%]

## MR Credit 4: BPDO - Material Ingredients

### Intent

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. To reward raw material manufacturers who produce products verified to have improved life-cycle impacts.

### Requirement

Achieve one or more of the options below, for a maximum of 2 points.

#### Option 1: Material Ingredient Reporting (1 Point)

Use at least 20 different permanently installed products sourced from at least five different manufacturers, which published reports or data sheets with all ingredients.

Proofs (Weighted Value 100 %):

- Manufacturer Inventory
- Health Product Declaration (HPD)
- Cradle to Cradle (Cradle to Cradle v2 Basic or Cradle to Cradle v3 Bronze)

#### Option 2: Material Ingredient Optimization (1 Point)

25 % of all materials (based on the material costs of the project) must be certified by Green Screen, Cradle to Cradle or REACH.

- GreenScreen v1.2 List Translator - 100 %
- GreenScreen v1.2 Assessment - 150 %
- Cradle to Cradle v2 Gold - 100 %
- Cradle to Cradle v2 Platinum - 150 %
- Cradle to Cradle v3 Silver - 100 %
- Cradle to Cradle v3 Gold or Platinum - 150 %
- REACH - 100 %

#### Option 3: Product Manufacturer Supply Chain Optimization (1 Point)

25 % of all materials (based on the material costs of the project) are sourced from product manufacturers who engage in validated and robust safety, health, hazard, and risk programs and are sourced from product manufacturers with independent third party verification of their supply chain (e.g. ISO 14001 & OHSAS 18000).

### Detailed Rating

No.	General Information			Option 1: Material Ingredient Reporting	Option 2: Material Ingredient Optimization	Option 3: Product Manufacturer Supply Chain Optimization	Location *
	Product name	Manufacturer	Mass [%]	Type of Reporting	Certification Program Weighted Value [%]		
	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified	not specified	not specified	see location
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified	not specified	not specified	see location

\* see explanation "Location Valuation Factor" on page 10

## Product Declaration - LEED® v4 Building Design and Major Renovations

## EQ Credit 2: Low Emitting Materials 1/4

**Intent**

To reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment.

**Requirement**

This credit includes requirements for product manufacturing as well as project teams. It covers volatile organic compound (VOC) emissions into indoor air and the VOC content of materials, as well as the testing methods by which indoor VOC emissions are determined. Different materials must meet different requirements to be considered compliant for this credit.

Category	Requirement
Interior paints and coatings applied on site	<ul style="list-style-type: none"> <li>• General Emissions Evaluation for paints and coatings applied to walls, floors, and ceilings</li> <li>• VOC content requirements for wet applied products</li> </ul>
Interior adhesives and sealants applied on site including flooring adhesive	<ul style="list-style-type: none"> <li>• General Emissions Evaluation</li> <li>• VOC content requirements for wet applied products</li> </ul>
Flooring	<ul style="list-style-type: none"> <li>• General Emissions Evaluation</li> </ul>
Composite wood	<ul style="list-style-type: none"> <li>• Composite Wood Evaluation</li> </ul> Proof: ultra-low-emitting formaldehyde (ULEF), no added formaldehyde resins (NAUF) or salvaged and reused wood
Ceilings, walls, thermal, and acoustic insulation	<ul style="list-style-type: none"> <li>• General Emissions Evaluation</li> </ul>
Furniture (include in calculations if part of scope of work)	<ul style="list-style-type: none"> <li>• Furniture Evaluation</li> </ul> Proof: ANSI/BIFMA e3-2011 §7.6.1, ANSI/BIFMA e3-2011 §7.6.2, CDPH Standard Method v1.1-2010 or salvaged or reused furniture

**Detailed Rating**

No.	General Information			Option 1: Product Category Calculations	Option 2: Budget Calculation Method		Inherently Nonemitting	
	Product name	Manufacturer	Mass [%]	Category	Assembly Type	Emissions Criteria		
	<b>CRISTALLFUGE-PLUS</b>	<b>SCHOMBURG GmbH &amp; Co. KG</b>	<b>100%</b>	<b>see below</b>				
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	Interior adhesives and sealants	Flooring, Walls	General Emissions Evaluation and VOC Content	No	

## EQ Credit 2: Low Emitting Materials 2/4

## Detailed Rating

No.	General Information			General Emissions Evaluation		VOC Content				Compliance	
	Product name	Manufacturer	Mass [%]	Criteria Met	TVOC Range after 14 days	Regulation	Product Type	VOC [g/l] Allowable	VOC [g/l] Actual		
	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	see below							✓
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	AgBB Testing and Evaluation Scheme (2010) *	0.5 mg/m <sup>3</sup> or less	SCAQMD Rule 1168	Ceramic tile adhesives	65 g/l	0 g/l	✓	

## Other remarks on classification

\*The product is certified by the EMICODE. The content of formaldehyde is < 10 µg/m<sup>3</sup> at 28 days. The content of solvent is 0% (0g/l).

## EQ Credit 2: Low Emitting Materials 3/4

## Detailed Rating

No.	General Information			Composite Wood						Compliance
	Product name	Manufacturer	Mass [%]	Criteria Met						
	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	see below						○
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	N/A						○



**EQ Credit 2: Low Emitting Materials 4/4**

**Detailed Rating**

No.	General Information			Furniture	Compliance
	Product name	Manufacturer	Mass [%]	Criteria Met	
	<b>CRISTALLFUGE-PLUS</b>	<b>SCHOMBURG GmbH &amp; Co. KG</b>	<b>100%</b>	<b>see below</b>	<input type="radio"/>
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	N/A	<input type="radio"/>

## Location Valuation Factor

### Information

Several credits in the MR section include a location valuation factor, which adds value to locally produced products and materials. The intent is to incentivize the purchase of products that support the local economy. Products and materials that are extracted, manufactured, and purchased within 100 miles (160 kilometers) of the project are valued at 200 % of their cost. For a product to qualify for the location valuation factor, it must meet two conditions: all extraction, manufacture, and purchase (including distribution) of the product and its materials must occur within that radius, and the product (or portion of an assembled product) must meet at least one of the sustainable criteria (e.g. FSC certification, recycled content) specified in the credit. Products and materials that do not meet the location criteria but do meet at least one of the sustainability criteria are valued 100 % of their cost (i.e. the valuation factor is 1).

The distance must be measured as the crow flies, not by actual travel distance. The point of purchase is considered the location of the purchase transaction. For online or other transactions that do not occur in person, the point of purchase is considered the location of product distribution.

### Detailed Rating

No.	General Information			Location		
	Product name	Manufacturer	Mass [%]	Extraction	Manufacture	Purchase (including distribution)
	<b>CRISTALLFUGE-PLUS</b>	<b>SCHOMBURG GmbH &amp; Co. KG</b>	<b>100%</b>	<b>Double weighting depends on building site</b>		
A1	CRISTALLFUGE-PLUS	SCHOMBURG GmbH & Co. KG	100%	not specified	D-32760 Detmold	not specified

**Notice:**

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