



TIGER Green Building Guide

TIGER Coatings GmbH & Co. KG

16.06.21 - Version 1.0

A BETTER FINISH. A BETTER PRINT. FOR A BETTER WORLD.

ATG Architecture - Green Building Guide



What is LEED?



-> Rating systems which evaluate buildings according to their environmental sustainability



-> Various aspects of the building are taken into account -> categories



-> The entire building receives a single certification. The more points achieved in the various categories, the higher the rating (Certified, Silver, Gold or Platinum).



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Categories relevant for Powder Coatings:

LEED Categories:

Integrative Process

IPc1 [*Integrative Process*](#)

Location & Transportation

LTc1 [*LEED for Neighborhood Development Location*](#)

LTc2 [*Sensitive Land Protection*](#)

LTc3 [*High Priority Site*](#)

LTc4 [*Surrounding Density and Diverse Uses*](#)

LTc5 [*Access to Quality Transit*](#)

LTc6 [*Bicycle Facilities*](#)

LTc7 [*Reduced Parking Footprint*](#)

LTc8 [*Electric Vehicles*](#)

Sustainable Sites

SSp1 [*Construction Activity Pollution Prevention*](#)

SSc1 [*Site Assessment*](#)

SSc2 [*Protect or Restore Habitat*](#)

SSc3 [*Open Space*](#)

SSc4 [*Rainwater Management*](#)

SSc5 [*Heat Island Reduction*](#)

SSc6 [*Light Pollution Reduction*](#)

Water Efficiency

WEp1 [*Outdoor Water Use Reduction*](#)

WEp2 [*Indoor Water Use Reduction*](#)

WEp3 [*Building-Level Water Metering*](#)

WEc1 [*Outdoor Water Use Reduction*](#)

WEc2 [*Indoor Water Use Reduction*](#)

WEc3 [*Cooling Tower and Process Water Use*](#)

WEc4 [*Water Metering*](#)

Energy and Atmosphere

EAp1 [*Fundamental Commissioning and Verification*](#)

EAp2 [*Minimum Energy Performance*](#)

EAp3 [*Building-Level Energy Metering*](#)

EAp4 [*Fundamental Refrigerant Management*](#)

EAc1 [*Enhanced Commissioning*](#)

EAc2 [*Optimize Energy Performance*](#)

EAc3 [*Advanced Energy Metering*](#)

EAc4 [*Grid Harmonization*](#)

EAc5 [*Renewable Energy*](#)

EAc6 [*Enhanced Refrigerant Management*](#)

Materials and Resources

MRp1 [*Storage and Collection of Recyclables*](#)

MRp2 [*Construction and Demolition Waste Management Planning*](#)

MRc1 [*Building Life-Cycle Impact Reduction*](#)

MRc2 [*Building Product Disclosure and Optimization - Environmental Product Declarations*](#)

MRc3 [*Building Product Disclosure and Optimization - Sourcing of Raw Materials*](#)

MRc4 [*Building Product Disclosure and Optimization - Material Ingredients*](#)

MRc5 [*Construction and Demolition Waste Management*](#)

Indoor Environmental Quality

EQp1 [*Minimum Indoor Air Quality Performance*](#)

EQp2 [*Environmental Tobacco Smoke Control*](#)

EQc1 [*Enhanced Indoor Air Quality Strategies*](#)

EQc2 [*Low-Emitting Materials*](#)

EQc3 [*Construction Indoor Air Quality Management Plan*](#)

EQc4 [*Indoor Air Quality Assessment*](#)

EQc5 [*Thermal Comfort*](#)

EQc6 [*Interior Lighting*](#)

EQc7 [*Daylight*](#)

EQc8 [*Quality Views*](#)





EQc9 [*Acoustic Performance*](#)

Innovation

INc1 [*Innovation*](#)

INc2 [*LEED Accredited Professional*](#)

Overview:

System	Category	Possible points to be achieved by using TIGER Powder Coatings
 LEED	Materials and Resources (MR) 	2 LEED Points
	Sustainable Sites (SS) 	2 LEED Points
	Indoor Environmental Quality (EQ) 	1 LEED Point



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Categorization

Materials and Resources (MR)



MRc2 Building Product Disclosure and Optimization - Environmental Product Declarations

MRc4 Building Product Disclosure and Optimization - Material Ingredients

Sustainable Sites (SS)



SSc5 Heat Island Reduction

Indoor Environmental Quality (EQ)



EQc2 Low-Emitting Materials

Requirements

- Environmental Product Declaration
[\(click here for details\)](#)

- Material Ingredient Reporting
[\(click here for details\)](#)

- Use reflective Materials for roofs and horizontal non roof measures
[\(click here for details\)](#)

- Compliance with VOC Limits
[\(click here for details\)](#)

Fulfillment of requirements

[Type III EPD](#)
(contribution to 1 Point) ✓

Cradle to Cradle Certification
(contribution to 1 Point) ✓

Reflective Powder Coatings on request
(contribution to 2 Points) ✓

Inherently non emitting material
(contribution to 1 Point) ✓



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Categorization:



Materials and Resources (MR)

MRc2 Building Product Disclosure and Optimization - Environmental Product Declarations

Requirements:

Option 1. Environmental Product Declaration (EPD) (1 point)

Use at least 20 different permanently installed products sourced from at least five different manufacturers that meet one of the disclosure criteria below. (10 different permanently installed products from three different manufacturers for CS and Warehouses & Distribution Centers).

- Life-cycle assessment and environmental product declarations.
 - Products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that have at least a cradle to gate scope are valued as one whole product for the purposes of credit achievement calculation.
 - Product-specific Type III EPD – Internally Reviewed. Products with an internally critically reviewed LCA in accordance with ISO 14071. Products with product-specific internal EPDs which conform to ISO 14025, and EN 15804 or ISO 21930 and have at least a cradle to gate scope are valued as one whole product for the purposes of credit achievement calculation.
 - Industry-wide Type III EPD – Products with third-party certification (Type III), including external verification, in which the manufacturer is explicitly recognized as a participant by the program operator. Products with industry-wide EPDs, which conform to ISO 14025, and EN 15804 or ISO 21930 and have at least a cradle to gate scope are valued as one whole product for the purposes of credit achievement calculation.



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Categorization:
Materials and Resources (MR)

MRc2 Building Product Disclosure and Optimization - Environmental Product Declarations

Tiger EPDs:

EPD for Epoxy Powder Coatings

ENVIRONMENTAL PRODUCT DECLARATION
as per ISO 14025/ and /EN 15804/

Owner of the Declaration	Verband der deutschen Lack- und Druckfarbenindustrie e.V.
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-VOL-20160204-IA01-EN
Issue date	21.02.2017
Valid to	20.02.2022

Epoxy Powder Coating

Verband der deutschen Lack- und Druckfarbenindustrie e.V.

www.ibu-epd.com / <https://epd-online.com>



EPD for Hybrid Powder Coatings

ENVIRONMENTAL PRODUCT DECLARATION
as per ISO 14025/ and /EN 15804/

Owner of the Declaration	Verband der deutschen Lack- und Druckfarbenindustrie e.V.
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-VOL-20160205-IA01-EN
Issue date	21.02.2017
Valid to	20.02.2022

Hybrid Powder Coating

Verband der deutschen Lack- und Druckfarbenindustrie e.V.

www.ibu-epd.com / <https://epd-online.com>



EPD for Polyester Powder Coatings

ENVIRONMENTAL PRODUCT DECLARATION
as per ISO 14025/ and /EN 15804/

Owner of the Declaration	Verband der deutschen Lack- und Druckfarbenindustrie e.V.
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-VOL-20160203-IA01-EN
Issue date	21.02.2017
Valid to	20.02.2022

Polyester Powder Coating

Verband der deutschen Lack- und Druckfarbenindustrie e.V.

www.ibu-epd.com / <https://epd-online.com>



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Categorization:



Materials and Resources (MR)

MRc4 Building Product Disclosure and Optimization – Material Ingredients

Requirements:

Option 1. Material Ingredient Reporting (1 point)

Use at least 20 different permanently installed products from at least five different manufacturers that use any of the following programs to demonstrate the chemical inventory of the product to at least 0.1% (1000 ppm). (10 different permanently installed products from at least three different manufacturers for CS and Warehouses & Distribution Centers)

- **Manufacturer Inventory.** The manufacturer has published complete content inventory for the product following these guidelines:
 - A publicly available inventory of all ingredients identified by name and Chemical Abstract Service Registration Number (CASRN) and/or European Community Number (EC Number).
 - Materials defined as trade secret or intellectual property may withhold the name and/or CASRN/EC Number but must disclose ingredient/chemical role, amount and hazard score/class using either:
 - Greenscreen List Translator (LT) score and/or Full GreenScreen Benchmark (BM)
 - The Globally Harmonized System of Classification and Labeling of Chemicals rev.6 (2015) (GHS)
 - The hazard screen must be applied to each trade secret ingredient and the inventory lists the hazard category for each of the health hazards included in Part 3 of GHS (e.g. "GHS Category 2 Carcinogen").
- **Health Product Declaration.** The end use product has a published and complete Health Product Declaration with full disclosure of known hazards in compliance with the Health Product Declaration open Standard
- **Cradle to Cradle.** Product has Material Health Certificate or is Cradle to Cradle Certified™ under standard version 3 or later with a Material Health achievement level at the Bronze level or higher.
- **Declare.** The Declare product label must meet the following requirements:
 - Declare labels designated as Red List Free or Declared.
 - Declare labels designated as LBC Compliant that demonstrate content inventory to 0.1% (1000 ppm).
- **Living Product Challenge.** The included Declare product label must demonstrate content inventory to 0.1% (1000 ppm).



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Categorization:
Sustainable Sites (SS)
SSc5 Heat Island Reduction

Requirements:

Option 1. Nonroof and Roof (2 points except Healthcare, 1 point Healthcare)

Meet the following criterion:

$$\frac{\text{Area of Nonroof Measures}}{0.5} + \frac{\text{Area of High-Reflectance Roof}}{0.75} + \frac{\text{Area of Vegetated Roof}}{0.75} \geq \frac{\text{Total Site Paving Area}}{\text{Total Roof Area}}$$

Alternatively, an SRI and SR weighted average approach may be used to calculate compliance.

Use any combination of the following strategies.

Nonroof Measures

- Use the existing plant material or install plants that provide shade over paving areas (including playgrounds) on the site within 10 years of planting. Install vegetated planters. Plants must be in place at the time of occupancy permit and cannot include artificial turf.
- Provide shade with structures covered by energy generation systems, such as solar thermal collectors, photovoltaics, and wind turbines.
- Provide shade with architectural devices or structures that have a three-year aged *solar reflectance (SR)* value of at least 0.28. If three-year aged value information is not available, use materials with an initial SR of at least 0.33 at installation.
- Provide shade with vegetated structures.
- Use paving materials with a three-year aged *solar reflectance (SR)* value of at least 0.28. If three-year aged value information is not available, use materials with an initial SR of at least 0.33 at installation.
- Use an *open-grid pavement system* (at least 50% unbound).



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Categorization:
Sustainable Sites (SS)
SSc5 Heat Island Reduction

Requirements:

High-Reflectance Roof

Use roofing materials that have an SRI equal to or greater than the values in Table 1. Meet the three-year aged SRI value. If three-year aged value information is not available, use materials that meet the initial SRI value.

Table 1. Minimum solar reflectance index value, by roof slope

	Slope	Initial SRI	3-year aged SRI
Low-sloped roof	≤ 2:12	82	64
Steep-sloped roof	> 2:12	39	32

Vegetated Roof

Install a vegetated roof.

OR

Option 2. Parking under Cover (1 point)

Place a minimum of 75% of *parking spaces under cover*. Any roof used to shade or cover parking must (1) have a three-year aged SRI of at least 32 (if three-year aged value information is not available, use materials with an initial SRI of at least 39 at installation), (2) be a vegetated roof, or (3) be covered by energy generation systems, such as solar thermal collectors, photovoltaics, and wind turbines.



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Categorization:
Indoor Environmental Quality (EQ)
EQc2 Low-Emitting Materials

Requirements:

Use materials on the building interior (everything within the waterproofing membrane) that meet the low-emitting criteria below. Points are awarded according to Table 1:

Table 1. Points for low-emitting materials	
2 product categories	1 point
3 product categories	2 points
4 product categories	3 points
5 product categories	3 points + exemplary performance
Reach 90% threshold in at least three product categories	Exemplary performance or 1 additional point if only 1 or 2 points achieved above.

Wall panels

At least 75% of all wall panels, **by cost or surface area**, meet the *VOC emissions evaluation*, *OR inherently nonemitting sources criteria*, *OR salvaged and reused materials criteria*.

The wall panels product category includes all finish wall treatments (wall coverings, wall paneling, wall tile), surface wall structures such as gypsum or plaster, cubicle/curtain/partition walls, trim, doors, frames, windows, and window treatments.

Removable/interchangeable fabric panels, built-in cabinetry, and vertical structural elements are excluded.

Ceilings

At least 90% of all ceilings, **by cost or surface area**, meet the *VOC emissions evaluation*, *OR inherently nonemitting sources criteria*, *OR salvaged and reused materials criteria*.

The ceilings product category includes all ceiling panels, ceiling tile, surface ceiling structures such as gypsum or plaster, suspended systems (including canopies and clouds), and glazed skylights.

Overhead structural elements (exposed, finished, and unfinished) are excluded.

Inherently nonemitting sources

Product is an inherently nonemitting source of VOCs (stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, and unfinished or untreated solid wood) and has no integral organic-based surface coatings, binders, or sealants.



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TIGER Coatings GmbH & Co. KG

Negrellistraße 36 | 4600 Wels | AUSTRIA

T +43 (0)7242/400-0 | F +43 (0)7242/650 08 | office@tiger-coatings.com | www.tiger-coatings.com

