

Ecolabels - Preserve the environment with IGP powder coatings

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Introduction

The definition of sustainability in construction has produced an important certification and building labelling system. By taking social, economic and ecological aspects into consideration (three pillar principle for «sustainable» development), balanced sustainability is ensured. In some cases, the emphasis placed on the requirements within these three pillars varies greatly. This TI illustrates the relationship between powder coatings and Green Building Labels and should aid the decision-making process.

Green Building Labels such as MINERGIE-ECO, LEED, BREEAM or DGNB are object labels with exclusion criteria in terms of the level of compliance with construction-related ecological and health-relevant standards in the material groups listed below:



- VOC (volatile organic compound), products containing solvents
- Heavy metals such as lead, zinc or compounds with heavy metal content
- Emission of hazardous substances (indoor toxins) such as formaldehyde, biocide

Consequently, these substances may not be included in the coating formula, in order to comply with the aforementioned requirements.

IGP coating systems do not emit any detectable toxic, mutagenic or carcinogenic components in the cross-linked state (paint film). IGP powder coatings are free of solvents. IGP powder coatings are free of heavy metals. In addition, when recycling coated metal, the accumulated stripping sludge is free of volatile, toxic and water-polluting substances.

IGP Pulvertechnik AG purchases raw materials if their extraction conditions and rarity is known and the manufacturers are located in regions that deliver with efficient transport conditions.

IGP Pulvertechnik recommends the following coating systems for coating building construction components made of aluminium and steel, which meet the Green Building Label and Qaulicoat and GSB quality certification requirements for the coating of (aluminium) components:

IGP-HWF*superior* – Coating product made of polyester, highly weather-resistant+

IGP-HWF*classic* – Coating product made of modified polyester, highly weather-resistant

IGP-DURA[®]*face* – Coating product made of polyester, weather-proof

IGP- DURA[®]*xal* – A particularly interesting ecological substitute for anodised surfaces.

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The following contains two examples of contributions towards compliance with the Green Building Label criteria that can be made by using IGP powder coatings:

BREEAM example

BREEAM stands for **B**uilding **R**esearch **E**stablishment **E**nvironmental **A**ssessment **M**ethod and illustrates the environmentally-relevant overall performance of a building, from the planning phase, through implementation, to usage. The environmentally-relevant overall performance is explained by dividing into these categories:

- Management: Aspects of general processes
- Health and comfort: Interior and exterior aspects
- Energy: Operational energy and CO₂ aspects
- Water: Consumption and loss-related aspects
- Materials: Ecological influences of the materials used
- Premises ecology: Aspects of the ecological premises value
- Pollution: Aspects of air and water pollution
- Dry storage areas as well as storage under airventilated shelters (reduced formation of condensation) are suitable.

DGNB example

The classification made by the **Deutsche Gesellschaft für Nachhaltiges Bauen** (German Sustainable Building Council) increasingly includes economic and sociocultural topics as well as ecological aspects. In this way, certification by the DGNB involves all three pillars of sustainability. The assessment categories are divided in:

- Ecology
- Economy
- Social and functional aspects
- Technology
- Processes
- Location

Weaknesses in one of these categories cannot be compensated by strengths in other categories. Depending on the achieved compliance level, the object is assigned a corresponding classification (gold, silver, bronze).

Contribution made by using IGP powder coatings

In the economic evaluation category, powder coatings can positively affect the compliance level by the improved life cycle costs (e.g. IGP-HWF products), and/or optimised upkeep costs (e.g., extension of façade cleaning intervals).

In terms of «ecology», the solvent-free aspect and the absence of environmentally hazardous ingredients have a positive impact. In addition, the environmental risk and possibilities for demolition are evaluated in this category.

With regard to environmental risk, powder coatings can in general make a contribution with their optimised reactivity (LT powder with low stoving temperatures).