

SYSTEXX PRODUCT INFORMATION FOR DGNB AUDITORS

Sustainable building in the context of the DGNB assessment system “New Construction Office Version (NBV09)”

The present information serves the DGNB Auditor as a convenient summary of the relevant contribution of SYSTEXX products within the categories of the DGNB assessment system.

Thus Vitruvan facilitates your practical buildings certification work: Troublesome seeking in redundant categories is dropped. You can find all relevant information at a glance.

Life-cycle assessment Profiles 1–5 and 10, 11

It is necessary to determine the ecological impact of the construction of the building, including its industrial manufacturing equipment, by means of life-cycle assessment of the materials or components according to DIN EN ISO 14040 and 14044.

Assessment takes place corresponding to the percentage undercutting of defined reference values.

Objective in the context of DGNB	Requirements	Product rating
Employment of products with littlest possible environment impact via the life cycle of the building. Evaluation of the life-cycle assessment	Consideration of the product in the overall life-cycle assessment on the basis of standard values (Ökobau.dat) or a product-specific EPD.	In the context of the life-cycle assessment, the material is considered in profiles 1-5, 10, and 11. The life-cycle assessment data for the product were assembled in the context of an EPD (environmental product declaration).

Evidence and documentation:

Evaluation quantity	Unit per declared unit*	Product <i>without</i> water activatable adhesive coating on the backside	Product <i>with</i> water activatable adhesive coating on the backside
Primary energy, non-renewable	[MJ]	11.26	14.64
Primary energy, renewable	[MJ]	0.82	1.42
Global warming potential (GWP 100 years)	[kg CO ₂ -Äqv.]	6.46E-01	7.60E-01
Ozone depletion potential (ODP)	[kg R ₁₁ -Äqv.]	5.07E-08	6.36E-08
Acidification potential (AP)	[kg SO ₂ -Äqv.]	3.59E-03	4.05E-03
Nutrification potential (NP)	[kg PO ₄ ³⁻ -Äqv.]	1.92E-04	2.65E-04
Photochemical ozone creation potential (POCP)	[kg C ₂ H ₄ -Äqv.]	1.67E-04	2.04E-04

* The declaration applies to 1 m² of wall and ceiling covering without water activatable adhesive coating on the backside with a weight of 146 g/m², or to 1 m² of wall and ceiling covering with water activatable adhesive coating on the backside with a weight of 184 g/m².

The life-cycle assessment values can be directly applied in the life-cycle assessment for the DGNB certification.

Risks for the local environment

Profile 6

Die Bestimmung der ökologischen Auswirkungen der Konstruktion des Gebäudes einschließlich seiner Anlagentechnik mittels Ökobilanzierung der eingesetzten Materialien bzw. Bauteile nach DIN EN ISO 14040 und 14044 ist erforderlich.

Objective in the context of DGNB	Requirements	Product rating
Employment of environmentally acceptable products that contain no harmful pollutants.	Documentation and inspection of all paints, lacquers, floor/wall coverings, and wood-based materials in respect of their VOC content and other environment criteria (solvent content, VOC/formaldehyde emissions, PVC). Inspection of the individual pollutants. Synthetic materials have to be free from lead, cadmium or tin stabilisers. For glass fibre adhesives on mineral and non-mineral surfaces, a maximum VOC content of 3 % in the ready-to-use material is acceptable for the highest quality category according to 2004/42/EG (ISO 11890-2 / ASTM D 2369).	<p>Synthetic materials are free from lead, cadmium or tin stabilisers.</p> <p>The adhesives employed for products with water activatable adhesive coating feature a VOC content of 4.8 %. Thus the product meets the requirements for quality category 3. For products without adhesive coating, the chosen adhesives are to be considered.</p>

Evidence and documentation:

You will find all necessary data about documentation in the manufacturer's declaration attached.

Economic quality

Profile 16: Building-related expenses during the life cycle

Objective in the context of DGNB

Reduction of whole life cost by means of low production and maintenance cost as well as cleaning and energy cost during the life cycle of the building.

Requirements & product rating

Consideration of the production costs and replacement cycles of the wall coverings. The impact of wall coverings on whole life cost depends on the employed wall covering. **It is assumed that the share is below 1 % of the total whole life cost.**

Evidence & documentation:

The costs of the wall coverings in the respective project have to be set. Costs of material and production costs flow into the whole life costs. These are found again in the context of the cost report in cost group KG345 "Indoor wall coverings" according to DIN 276.

Sociocultural and functional quality

Profile 20: Indoor air quality

Die Bestimmung der ökologischen Auswirkungen der Konstruktion des Gebäudes einschließlich seiner Anlagentechnik mittels Ökobilanzierung der eingesetzten Materialien bzw. Bauteile nach DIN EN ISO 14040 und 14044 ist erforderlich.

Objective in the context of DGNB

Reduction of pollutants in the indoor air which impair the well-being of workers and users by smells, irritations, or harmful ingredients.

Requirements

Indoor room air measurements after completion of the building must reach indoor air concentrations for VOC < 500 µg/m³ and formaldehyde < 60 µg/m³. This requires employment of low-emission materials.

Product rating

Certification by Oeko-Tex Standard 100 according to product class I (products for babies). Moreover, emissions of 0.1 mg/m² VOC after 28 days according to the Committee for Health-related Evaluation of Building Products (AgBB) are undercut. Also low-emission indoor rooms can be designed with the product.

Thus the product adds to attainment of points in profile 20 "Indoor air quality".

Profile 20 requires the measurement of the room temperature and the proof of coming below VOC concentrations and formaldehyde.

Evidence & documentation:

You will find all necessary data about documentation in the manufacturer's declaration attached.

Acoustic comfort
Profile 21

Objective in the context of DGNB	Requirements	Product rating
Guarantee of high acoustic comfort.	Compliance with reverberation times in the room.	By decreasing reverberation times in the room, glass fibre wallpaper can add to the improvement of acoustic comfort.

Evidence & documentation:
Indication of the sound absorption coefficient of the surface (see manufacturer's declaration).

Safety and incident risks
Profile 25

Objective in the context of DGNB	Requirements	Product rating
Among others, decrease of the extent of fire losses.	Employment of halogen-free substances that can cause toxic flue gases or damage the building substance by caustic flue gases.	The product is free of PVC and halogen and thus contains no halogenated substances that cause caustic or corrosive gases in the case of fire. Thus the product adds to attainment of points in profile 25 "Safety and incident risks".

Evidence & documentation:
You will find all necessary data about documentation in the manufacturer's declaration attached.

Technical quality

Profile 33: Fire protection

Objective in the context of DGNB

Among others, decrease of the extent of fire losses.

Requirements

Employment of halogen-free substances that can cause no toxic flue gases and cannot damage the building substance by caustic flue gases.

Product rating

The product is free of PVC and halogen and thus contains no halogenated substances that cause caustic or corrosive gases in the case of fire.

A test of the toxic fire gases according to /DIN 53436/ at 400 °C showed that under the chosen testing conditions, the flue gases score as unobjectionable.

Thus the product adds to attainment of points in profile 33 "Fire protection".

Evidence & documentation:

You will find all necessary data about documentation in the manufacturer's declaration attached.