

Product Declaration - DGNB New Construction Office and Administration Buildings (NBV12)

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| MANUFACTURER | MKT GmbH & Co.KG |
| PRODUCT NAME | MKT Chemical Capsule V-P |

Product Characteristics

Mortar-filled glass capsule for stress free anchorings with European Technical Approval. Suitable for fixing of heavy loads with smaller spacings and edge distances in non-cracked concrete.

Product Rating DGNB Criteria

- The product meets the requirements of quality level 1 to 4 and contributes to achieve 100 (of max. 100 achievable) checklist points according to criterion 'ENV1.2 Local Environmental Impact'.
- The product does not lead to toxic or corrosive fumes in case of fire. Hence this product contributes to achieve 20 (of max. 20 achievable) checklist points according to criterion 'SOC 1.7 Safety and Security'.

| The product contains the following components: | Mass per unit [%] |
|---|--------------------------|
| K1 MKT Chemical Capsule V-P | 100% |

About DGNB Products - www.dgnb.de

This declaration helps to assess products easily according the certification system DGNB. Products are not reviewed or certified by DGNB. DGNB credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands. Therefore the project team or the manufacturer is responsible to declare the compliance with the project requirements to achieve DGNB points. Detailed information are on the next pages.

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Product assessment of complete system

| Topic | Number | Criteria | Relevance | Evaluation |
|--|----------|--|-----------|---|
| Environmental Quality (ENV) | ENV1.1 | Life cycle Assessment - Emissions | | |
| | ENV1.2 | Local environmental impact | ✓ | Quality Level 4 is fulfilled |
| | ENV1.3.1 | Responsible procurement (Wood) | | |
| | ENV1.3.2 | Responsible procurement (Formwork) | | |
| | ENV1.3.3 | Responsible procurement (Natural Stone) | | |
| | ENV2.1 | Life cycle Assessment - Primary Energy | | |
| | ENV2.2 | Potable water demand and wastewater volume | | |
| | ENV2.3 | Land Use | | |
| Economic Quality (ECO) | ECO1.1 | Building-related life-cycle costs | | |
| | ECO2.1 | Suitability for conversion | | |
| | ECO2.2 | Marketability | | |
| Sociocultural and Functional Quality (SOC) | SOC1.1 | Thermal Comfort | | |
| | SOC1.2 | Indoor Air Quality | | |
| | SOC1.3 | Acoustic Comfort | | |
| | SOC1.4 | Visual Comfort | | |
| | SOC1.5 | Occupant control | | |
| | SOC1.6 | Quality of outdoor spaces | | |
| | SOC1.7 | Safety and security | ✓ | The product does not lead to toxic or corrosive fumes in case of fire |
| | SOC2.1 | Access for all | | |
| | SOC2.2 | Public access | | |
| | SOC2.3 | Cyclist facilities | | |
| | SOC3.1 | Design and urban quality | | |
| | SOC3.2 | Integration of public art | | |
| | SOC3.3 | Floor Plan Qualities | | |
| Technical Quality (TEC) | TEC1.1 | Fire prevention | | |
| | TEC1.2 | Noise protection | | |
| | TEC1.3 | Building envelope quality | | |
| | TEC1.4 | Adaptability of Technical Systems | | |
| | TEC1.5 | Ease of cleaning and maintenance | | |
| | TEC1.6 | Ease of dismantling and recycling | | |
| | TEC1.7 | Sound immission control | | |
| Process Quality (PRO) | PRO1.1 | Comprehensive project brief | | |
| | PRO1.2 | Integral design | | |
| | PRO1.3 | Design concept | | |
| | PRO1.4 | Sustainability aspects in tender phase | | |
| | PRO1.5 | Documentation for Facility Management | | |
| | PRO2.1 | Environmental impact of construction | | |
| | PRO2.2 | Construction quality assurance | | |
| | PRO2.3 | Systematic commissioning | | |
| Site Quality (SITE) | SITE1.1 | Site location risks | | |
| | SITE1.2 | Public image and social conditions | | |
| | SITE1.3 | Access to transportation | | |
| | SITE1.4 | Access to specific-use facilities | | |

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Product assessment for criteria ENV1.2 - Local environmental impact

The product fulfills the requirements for Quality Level 1-4

Assessment: **Quality Level 4**

Goals and Relevance

Certain materials, construction products and preparations are a risk for soil, air, groundwater and surface water as well as for human's health, flora and fauna. In order to minimize risks for humans and the local environment, materials, (construction) products and preparations need to be reduced ,avoided or substituted, which due to their material properties or ingredients are a risk for surface and ground water, soil or air. Especially those materials, (construction) products and preparations must be reduced ,avoided or replaced, which affect human health, flora and fauna or harm within a short-, medium / or long-term period . This affects the entire life cycle - from production, processing at site, use of (building) inventory and disposal (dismantling, recycling, landfilling). These local risks are assessed material and product related. Hence eco-and human toxicological impact categories of LCA can not be applied due to lack of evaluation and measurement procedures.

Product Assessment

| Relevant Products | | Requirements of Quality Levels | | Assesment of Product | Evaluation |
|-------------------|---|--------------------------------|--|--|-------------------------|
| 6 | Small surface adhesions of mechanically loaded joints; not considered are areas of glass construction, facade and fire protection | Quality Level 1 | No requirements | The product is free of chlorinated paraffins as a recipe component | Quality Level 4* |
| | | Quality Level 2 | No requirements | | |
| | | Quality Level 3 | The product is free of chlorinated paraffins as a component OR is certified with RAL-UZ 123 (Blauer Engel) | | |
| | | Quality Level 4 | The product is certified with RAL-UZ 123 (Blauer Engel) or equivalent | | |

Other remarks on classification

*The product is neither an acrylate sealant or adhesive nor a silicone sealant and falls strictly speaking not under DGNB requirements. The product contributes to achieve quality level 4.

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Product assessment for criteria SOC1.7 - Safety and Security

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|---|---------------------------------------|
| The product fulfills the requirments for prevention of fumes. | Assessment: 20 of 20 Checklist Points |
|---|---------------------------------------|

Goals and Relevance

A high sense of security contributes fundamentally to the comfort of human being. The goal is to avoid dangerous situations as much as possible and to reduce the impact of a non-preventable damage, as far as possible. The criterion safety and security assesses also the performance of products in case of fire.

Product Assessment

| Relevant Requirements | | Requirements of Quality Levels | | Assesement of Product | Evaluation |
|-----------------------|--------------------------------|--------------------------------|---|--|---------------------|
| 2.3 | Prevention from risks of fumes | 20 Checklist Points | The product does not lead to toxic or corrosive fumes in case of fire | The product does not lead to toxic or corrosive fumes in case of fire. | 20 Checklist Points |

Other remarks on classification