

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

<b>MANUFACTURER</b>	GEZE GmbH
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<b>PRODUCT NAME</b>	Powerchain
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**Product Characteristics**

Electric chain drive for a smoke and heat extraction system for daily aeration and ventilation and safe and fast smoke and heat exhaust and smoke extraction on vertically or angled installed, inward and outward opening bottom-hung, top-hung, and side-hung casements as well as for light domes and skylights. Direct opener in 24 V version. The drive is actuated via a micro-processor. The drive is equipped with electronic end position cut-off and overload protection and has electronically regulated soft start and soft stop. Synchronised multiple operation of up to 3 drives must be guaranteed without additional external module. Activation and adjustment of the synchro function is by means of integrated DIP switches without additional programming being necessary. Stroke: 600/800 and 1200 mm Tensile force/pressure: 600 N/max. 600 N, stroke-dependent Voltage: 24 V DC / 230 V with external mains adapter The GEZE chain drive Powerchain is suitable for installation in tested and certified GEZE SHEVs in accordance with EN 12101-2.

**Product Rating**

- 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'.

<b>The product contains the following components:</b>	<b>Mass per unit [%]</b>
K1 Steel parts	40%
K2 Aluminium	16%
K3 Copper	4%
K4 Zinc die-cast	35%
K5 Plastics	5%

**About DGNB Products - [www.dgnb.de](http://www.dgnb.de)**

This declaration helps to assess products easily according to 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
26	Panels made of aluminum and stainless steel on the facade and the roof (sun protection systems are not currently considered)  Subject: Products to passivation of aluminum and stainless steel	Quality Level 1	No requirements	Use of chromium-VI-free passivation agents	<b>Quality Level 4</b>
		Quality Level 2	No requirements		
		Quality Level 3	Chromium VI-free passivation		
		Quality Level 4	Chromium VI-free passivation		

Relevant Products		Requirements of Quality Levels		Assesment of Product	Evaluation
27	Factory coated metal components: cladding, doors, radiators, heating and cooling ceilings. Hot-dipped galvanizing are not considered as coatings for the purposes of this criterion.  Subject: Primer and finish coat (for example, paints, varnishes, powder coatings)	Quality Level 1	No use of lead, cadmium and chromium VI compounds	No use of lead, cadmium and chromium VI compounds	<b>Quality Level 4</b>
		Quality Level 2	No use of lead, cadmium and chromium VI compounds		
		Quality Level 3	No use of lead, cadmium and chromium VI compounds		
		Quality Level 4	No use of lead, cadmium and chromium VI compounds		

Relevant Products		Requirements of Quality Levels		Assesment of Product	Evaluation
28	Plastics for coating of surfaces (floor and wall) and components on the facade	Quality Level 1	Content of lead and tin <0.1%	The lead and tin content of the plastics used is <0.1%	<b>Quality Level 4</b>
		Quality Level 2	Content of lead and tin <0.1%		
		Quality Level 3	Content of lead and tin <0.1%		
		Quality Level 4	Content of lead and tin <0.1%		

**Other remarks on classification**

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**Product assessment for criteria SOC1.7 - Safety and Security**

The product fulfills the requirements 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	Assesment 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.	<b>20 Checklist Points</b>

**Other remarks on classification**