



# AdvancedEPD for Fixit 222 Aerogel High Performance Insulating Render

## Environmental Product Declaration (EPD)

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### Manufacturer of Declared Product

Fixit AG, Haldenstrasse 5, 6340 Baar, Switzerland

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### Declared Product

Fixit 222 Aerogel High Performance Insulating Render

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### Scope of the EPD

This EPD is based on ISO 14'025 but is not part of a Type III environmental declaration program referred to therein. It describes the environmental impacts of the above named product. Its purpose is to promote production of environmentally friendly products. All relevant environmental data is disclosed in this declaration. Comparisons of the environmental impacts declared in this EPD should only be made with products of a similar function.

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### Validity

This declaration is only valid for the above named product. If the composition of the product is changed this EPD will be no longer valid and must be updated. This EPD must in any event be reviewed no later than 17 March 2018 (after three years) in order to extend its validity for another three years.

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### Declarant

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### Declaration Number

AEPDFIX15001

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### Place and Date

Basel, 17 March 2015

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### Signatures

Silvan Rüttimann

Emil Franov

An AdvancedEPD is an environmental product declaration based on ISO 14'025 but is not part of a Type III environmental declaration program referred to therein. It has been prepared by Carbotech AG independently and with all reasonable skill, care and diligence using all reasonably available, current and appropriate tools and basic data. Carbotech AG uses all available and relevant manufacturer specific data and also collects environmentally important data for relevant upstream processes from the respective enterprises. This data is linked with production processes from the international database for life cycle assessment Ecoinvent. The correlated uncertainties are displayed in the results. Carbotech AG bases the EPD on existing Product Category Rules (PCR), where possible. The calculations are documented in a LCA report.

### Product Description

The Fixit 222 aerogel high performance insulating render is an innovation in the field of insulating render. By using aerogel, Fixit 222 attains much lower thermal conductivity than other commercially available insulating renders, enabling older buildings, as well as historical buildings and buildings with protected status, to be renovated to a high energy efficient standard without losing the architectural detail of the walls. Indeed, architectural details can be faithfully restored and imperfections filled to millimeter precision.

Technical information about the products can be found in the Fixit product technical information sheets.

### Composition Information

<b>Raw Materials:</b>	Calciumhydrate	25 % – 50 %
	Dicalciumsilicate hydrate	10 % – 25 %
	Pozzolane	2.5 % – 10 %
	White cement	2.5 % – 10 %
	Limestone	≤2.5 %
	Silica, [(trimethylsilyl)oxy]-modified	25 % – 50 %

### Scope of the LCA

The data used to do the LCA was obtained from Fixit AG and relates to the year 2013. Also average data from the Ecoinvent v2.2 inventory was used to calculate the environmental impact of the raw materials.. However, due to its high environmental importance, the production data for aerogel was collected directly from the producer.

1 kg product was chosen as the declared unit.

In this EPD the results represent the production phase including packaging of the product and all relevant upstream processes such as raw material production or transport (“cradle to gate”, use phase and disposal were not included). This complies with the requirements of EN 15804 for an EPD for the production phase (product stage A1-A3).

The environmental impacts of the relevant material and energy flows were calculated in the LCA. The environmental evaluation was performed according to ISO Norm 14'040 ff. Detailed documentation for the LCA including the results for all life cycle phases can be found in a separate report “LCA of Fixit 222 Aerogel High Performance Insulation Render”.

All primary data was reviewed and checked for plausibility by Carbotech AG. Carbotech AG can therefore ensure that the preparation of the EPD has been carried out to the best of their knowledge and belief.

### EPD Results “cradle to gate” (A1–A3 according to EN15804)

Impact Category	Unit	Value per kg	Method Reference
Global Warming Potential	kg CO <sub>2</sub> -Equiv.	4.25 ± 11 %	ILCD 2011 updated. (IPCC 2007 to 2013)
Cumulated Energy Demand	MJ- Equiv.	66.1 ± 13 %	Ecoinvent 2.0
Acidification Potential	mol H <sup>+</sup> - Equiv.	0.0135 ± 20 %	ILCD 2011
Eutrophication Potential Terrestrial	mol N- Equiv.	0.0308 ± 19 %	ILCD 2011
Eutrophication Potential Freshwater	kg P- Equiv.	0.00018 ± 53 %	ILCD 2011
Eutrophication Potential Marine	kg N- Equiv.	0.00305 ± 16 %	ILCD 2011
Ozone Creation Potential	kg NMVOC- Equiv.	0.00870 ± 19 %	ILCD 2011

### Energy Pay-back time

The energy pay-back time (insulation benefit compared with the gray energy of the insulation material) is approximately 2.9 years with regard to an insulation thickness of 5 cm on a standard brick stone wall.