### **Statement of Verification**

BREG EN EPD No.: 000676

Issue 01

BRE/Global

FPD

PEL

This is to verify that the

### Environmental Product Declaration provided by: HEMPEL A/S

is in accordance with the requirements of:

EN 15804:2012+A2:2019

anc

BRE Global Scheme Document SD207

This declaration is for: **1 kilogram of Hempel's Spray Tex coating** 

### **Company Address**

HEMPEL A/S Lundtoftegårdsvej 91 DK-2800 Kgs. Lyngby Denmark



May Car Thi Signed for BRE Globa

25 March 2025

Date of First Issue

Hayley Thomson

25 March 2025 Date of this Issue

> 24 March 2030 Expiry Date



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### **Environmental Product Declaration**

### EPD Number: 000676

### **General Information**

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2023 Product Category Rules for Type III environmental product declaration of construction products to EN 15804+A2 PN 514 Rev 3.1.
Commissioner of LCA study	LCA consultant/Tool
HEMPEL A/S Lundtoftegårdsvej 91 DK-2800 Kgs. Lyngby Denmark	ITeC - The Catalonia Institute of Construction Technology Wellington 19 - ES08018 Barcelona - Tel +34 933 093 404 www.itec.cat SimaPro Version 9.6.0.1 by PRé Sustainability BV.
Declared/Functional Unit	Applicability/Coverage
1 kilogram of Hempel's Spray Tex coating	Product Specific
ЕРД Туре	Background database
Cradle to Gate with Modules C and D	Ecoinvent v3.10 (2024) database CEPE Raw Material database v3.0
Demonstra	ation of Verification

Demonstration of Verification

CEN standard EN 15804 serves as the core PCR <sup>a</sup>

Independent verification of the declaration and data according to EN ISO 14025:2010

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(Where appropriate <sup>b</sup>)Third party verifier:

Pat Hermon

a: Product category rules

b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)

#### Comparability

Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A2:2019 for further guidance

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#### Information modules covered

	Product			ruction	Use stage Related to the building fabric Related to the building fabric				End-of-life				Benefits and loads beyond the system boundary			
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, Recovery and/or Recycling potential
$\overline{\mathbf{A}}$	$\mathbf{V}$	V										Ŋ	V	V	V	$\overline{\mathbf{A}}$

Note: Ticks indicate the Information Modules declared.

#### Manufacturing site(s)

The transport distances were adapted to the factory, specific transport distances for each provider were used for raw material transport. The manufacturing site included in this EPD is:

Road Number - 45, 2nd Industrial City - South Jeddah, Jizan Road - Jeddah Leith Street. Kingdom of Saudi Arabia

### **Construction Product:**

#### **Product Description**

This EPD is representative for Hempel's Spray Tex.

Hempel's Spray Tex is a high build, water borne, smooth (nongranular) texture coating formulated on modified acrylic copolymer emulsion, which can be applied as spatter coat. Ideal as texture mid-coat on interior and exterior walls, ceilings and partitions etc and can transform any space into a wall design can bring a room to life with depth and character.

The product has non-drip properties. The final appearance is determined by the application method. Different patterns can be obtained by using application tools and techniques. Over-coating with solvent-borne or waterborne coatings is recommended to obtain best possible finish, wash ability and durability.

#### **Technical Information**

Property	Value, Unit
Relative density	1.8 kg/L
Solids by volume	54 ± 2%
Dry film thickness	400 micron
Wet film thickness	740 micron
Theoretical spreading rate	1.35 m²/L
Coverage	0.75 m²/ kg @ 400 microns

#### **Product Contents**

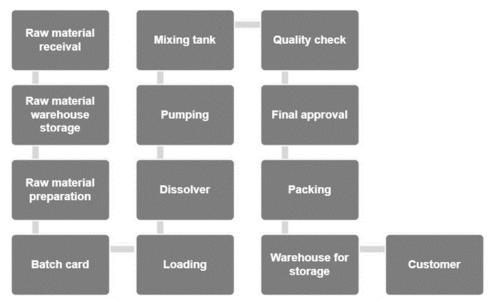
The material composition of the declared mixed product:

Material/Chemical Input	%
Water	15 - 25
Binder	< 15
Filler	50 - 70
Additives	< 5

#### **Manufacturing Process**

The manufacturing process for coatings involves combining and mixing multiple chemicals and materials into a homogenous product, which is then packaged and distributed.

#### **Process flow diagram**



#### **End of Life**

Coatings are typically disposed of with the substrate they are painted on. This can be through recycling, incineration or landfill, but the coating itself is unlikely to be separated from the substrate during the disposal process.

### Life Cycle Assessment Calculation Rules

#### **Declared / Functional unit description**

1 kilogram of Hempel's Spray Tex coating.

#### **System boundary**

The chosen system has been Cradle to Gate with Modules C and D, which means that the Life Cycle Assessment is contemplated from the manufacturing of the paints until they leave the factory, considering the end-of-life stage and the benefits and loads beyond the system boundary.

#### Data sources, quality and allocation

To carry out this study, the time period January, 2023 - December, 2023 has been considered as the reference year.

The background databases are Ecoinvent v3.10 (2024) database for the general model and CEPE Raw Material database v3.0 for raw materials.

For electricity, the consumption electricity mix from the publication "Ember Electricity Data Explorer - 2023" from ember-climate.org for Saudi Arabia (0,666 kgCO2eq/kWh) has been used for Hempel's manufacturing site in Jeddah (Saudi Arabia).

The quality of the data and the uncertainties associated with the inventories of each input are also analysed in accordance to Table E.1 of Annex E - Schemes to be applied for data quality assessment of generic and specific data of the EN 15804:2012+A2:2019 standard.

#### Cut-off criteria

For the present analysis, more than 99% of the mass and energy inputs and outputs of the system have been considered, leaving out diffuse emissions in the factory and the production of manufacturing infrastructure such as industrial machinery and equipment. On the other hand, those suppliers or manufacturers of raw materials that supply less than 5% of the total raw material consumption have been omitted. The remaining suppliers have been adjusted proportionally to 100% to balance this deficit.

#### **LCA Results**

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts											
			GWP- total	GWP- fossil	GWP- biogenic	GWP- luluc	ODP	AP	EP- freshwate r		
			kg CO₂ eq	kg CO <sub>2</sub> eq	kg CO <sub>2</sub> eq	kg CO₂ eq	kg CFC11 eq	mol H⁺ eq	kg (PO <sub>4</sub> ) <sup>3-</sup> eq		
	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG		
Product stage	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG		
1 Toutor stage	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG		
	Total (of product stage)	A1-3	6,45E-01	6,17E-01	2,82E-02	1,36E-04	5,86E-08	3,30E-03	1,89E-05		
Construction process stage	Transport	A4	MND	MND	MND	MND	MND	MND	MND		
	Construction	A5	MND	MND	MND	MND	MND	MND	MND		
	Use	B1	MND	MND	MND	MND	MND	MND	MND		
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND		
	Repair	B3	MND	MND	MND	MND	MND	MND	MND		
Use stage	Replacement	B4	MND	MND	MND	MND	MND	MND	MND		
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND		
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND		
	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND		
	Deconstruction, demolition	C1	0	0	0	0	0	0	0		
End of life	Transport	C2	4,52E-03	4,51E-03	5,66E-07	1,46E-07	6,54E-11	6,20E-06	1,09E-08		
	Waste processing	C3	0	0	0	0	0	0	0		
	Disposal	C4	9,38E-02	9,37E-02	9,77E-05	4,56E-06	2,63E-10	7,10E-05	8,17E-08		
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0	0	0	0	0	0	0		

Parameters describing environmental impacts

GWP-total = Global warming potential, total;

GWP-fossil = Global warming potential, fossil; GWP-biogenic = Global warming potential, biogenic;

GWP-biogenic = Global warming potential, biogenic; GWP-luluc = Global warming potential, land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, accumulated exceedance; and EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

#### LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters	describing e	enviro	nmental	impacts					
			EP- marine	EP- terrestrial	POCP	ADP- mineral& metals	ADP- fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m <sup>3</sup> world eq deprived	disease incidence
	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
Product stage	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
Fibuuci stage	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	6,07E-04	6,03E-03	2,15E-03	3,23E-06	1,22E+01	2,44E+00	4,09E-08
Construction	Transport	A4	MND	MND	MND	MND	MND	MND	MND
process stage	Construction	A5	MND	MND	MND	MND	MND	MND	MND
	Use	B1	MND	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND	MND
Use stage	Replacement	B4	MND	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND
	Deconstruction, demolition	C1	0	0	0	0	0	0	0
	Transport	C2	1,29E-06	1,42E-05	9,98E-06	2,66E-10	6,04E-02	5,46E-05	2,72E-10
End of life	Waste processing	СЗ	0	0	0	0	0	0	0
	Disposal	C4	2,78E-05	3,04E-04	1,27E-04	3,79E-09	2,29E-01	1,90E-04	1,64E-09
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0	0	0	0	0	0	0

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;

EP-terrestrial = Eutrophication potential, accumulated exceedance;

POCP = Formation potential of tropospheric ozone;

ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;

ADP-fossil = Depletion potential of the stratospheric ozone layer; WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and PM = Particulate matter.

#### LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U <sup>235</sup> eq	CTUe	CTUh	CTUh	dimensionless
	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG
Product stage	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	8,88E-02	4,22E+00	7,82E-10	1,85E-09	7,72E+00
Construction	Transport	A4	MND	MND	MND	MND	MND
process stage	Construction	A5	MND	MND	MND	MND	MND
	Use	B1	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND
Use stage	Replacement	B4	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND
	Deconstruction, demolition	C1	0	0	0	0	0
	Transport	C2	4,12E-06	3,93E-03	3,53E-13	3,00E-11	2,41E-04
End of life	Waste processing	C3	0	0	0	0	0
	Disposal	C4	6,20E-05	3,31E-01	2,04E-11	3,20E-09	5,46E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0	0	0	0	0

Parameters describing environmental impacts

IRP = Potential human exposure efficiency relative to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans; HTP-nc = Potential comparative toxic unit for humans; and SQP = Potential soil quality index.

#### LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters	describing r	esour	ce use, pr	imary ener	gy			
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
Product stage	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
Toddet stage	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	1,56E+00	4,97E-02	1,61E+00	1,31E+01	5,09E-01	1,36E+01
Construction	Transport	A4	MND	MND	MND	MND	MND	MND
process stage	Construction	A5	MND	MND	MND	MND	MND	MND
	Use	B1	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND
	Repair	В3	MND	MND	MND	MND	MND	MND
Jse stage	Replacement	B4	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND
	Deconstruction, demolition	C1	0	0	0	0	0	0
End of life	Transport	C2	9,83E-05	0	9,83E-05	6,42E-02	0	6,42E-02
	Waste processing	C3	0	0	0	0	0	0
	Disposal	C4	2,15E-03	0	2,15E-03	2,44E-01	0	2,44E-01
Potential penefits and oads beyond he system poundaries	Reuse, recovery, recycling potential	D	0	0	0	0	0	0

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials; PERM = Use of renewable primary energy resources used as raw PENRE = Use of non-renewable primary energy excluding nonrenewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials;

materials; PERT = Total use of renewable primary energy resources;

PENRT = Total use of non-renewable primary energy resource

#### LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated) Parameters describing resource use, secondary materials and fuels, use of water

			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m <sup>3</sup>
	Raw material supply	A1	AGG	AGG	AGG	AGG
Draduat atoga	Transport	A2	AGG	AGG	AGG	AGG
Product stage	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0	0	0	5,69E-02
Construction	Transport	A4	MND	MND	MND	MND
process stage	Construction	A5	MND	MND	MND	MND
	Use	B1	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND
	Repair	В3	MND	MND	MND	MND
Use stage	Replacement	B4	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND
	Operational water use	В7	MND	MND	MND	MND
	Deconstruction, demolition	C1	0	0	0	0
End of life	Transport	C2	0	0	0	2,26E-06
	Waste processing	C3	0	0	0	0
	Disposal	C4	0	0	0	8,95E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0	0	0	0

SM = Use of secondary material;

RSF = Use of renewable secondary fuels;

NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

#### LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated) Other environmental information describing waste categories

Other environmental information describing waste categories											
			HWD	NHWD	RWD						
			kg	kg	kg						
	Raw material supply	A1	AGG	AGG	AGG						
Product stage	Transport	A2	AGG	AGG	AGG						
FTOULCE Stage	Manufacturing	A3	AGG	AGG	AGG						
	Total (of product stage)	A1-3	7,91E-05	3,04E-02	8,56E-06						
Construction	Transport	A4	MND	MND	MND						
process stage	Construction	A5	MND	MND	MND						
	Use	B1	MND	MND	MND						
	Maintenance	B2	MND	MND	MND						
	Repair	B3	MND	MND	MND						
Use stage	Replacement	B4	MND	MND	MND						
	Refurbishment	B5	MND	MND	MND						
	Operational energy use	B6	MND	MND	MND						
	Operational water use	B7	MND	MND	MND						
	Deconstructio n, demolition	C1	0	0	0						
End of life	Transport	C2	4,15E-07	2,54E-06	2,13E-09						
	Waste processing	СЗ	0	0	0						
	Disposal	C4	1,49E-06	1,00E+00	3,78E-08						
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0	0	0						

HWD = Hazardous waste disposed;

NHWD = Non-hazardous waste disposed;

RWD = Radioactive waste disposed

#### LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated) Other environmental information describing output flows – at end of life

				in gourput				
			CRU	MFR	MER	EE	Biogenic carbon (product)	Biogenic carbon (packaging)
			kg	kg	kg	MJ per energy carrier	kg C	kg C
	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
Product	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
stage	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1 -3	2,85E-02	2,58E-02	8,23E-04	5,46E-03	0	0
Construction process stage	Transport	A4	MND	MND	MND	MND	MND	MND
	Construction	A5	MND	MND	MND	MND	MND	MND
	Use	B1	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND
Use stage	Replacement	B4	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND
	Deconstructio n, demolition	C1	0	0	0	0	0	0
End of life	Transport	C2	0	0	0	0	0	0
End of life	Waste processing	СЗ	0	0	0	0	0	0
_	Disposal	C4	0	0	0	0	0	0
Potential benefits and loads beyond the system	Reuse, recovery, recycling potential	D	0	0	0	0	0	0

CRU = Components for reuse;

MFR = Materials for recycling

MER = Materials for energy recovery; EE = Exported Energy

### Scenarios and additional technical information

#### Scenarios and additional technical information

Scenarios and additional technical information									
Scenario	Parameter	Units	Results						
A4 – Transport to the building site	Module not declared		·						
A5 – Installation in the building	Module not declared								
B2 – Maintenance	Module not declared								
B3 – Repair	Module not declared								
B4 – Replacement	Module not declared								
B5 – Refurbishment	Module not declared								
Reference service life	Module not declared								
B6 – Use of energy; B7 – Use of water	Module not declared								
	Waste for final disposal: Landfill	%	100						
C1 to C4	Transport to waste processing: Truck, fuel consumption	kgkm	3.66E-05						
End of life,	Transport to waste processing: Distance	km	30						
	Transport to waste processing: Capacity utilisation       %       85								
Module D	Module declared								

### Interpretation

The results displayed in Figure 1 apply to 1 kilogram of Hempel's Spray Tex coating. It illustrates the relative contributions of the different modules assessed to various environmental impact categories and to primary energy use. Most impacts relate to the raw materials that compose the coating (included in Module A1-A3).

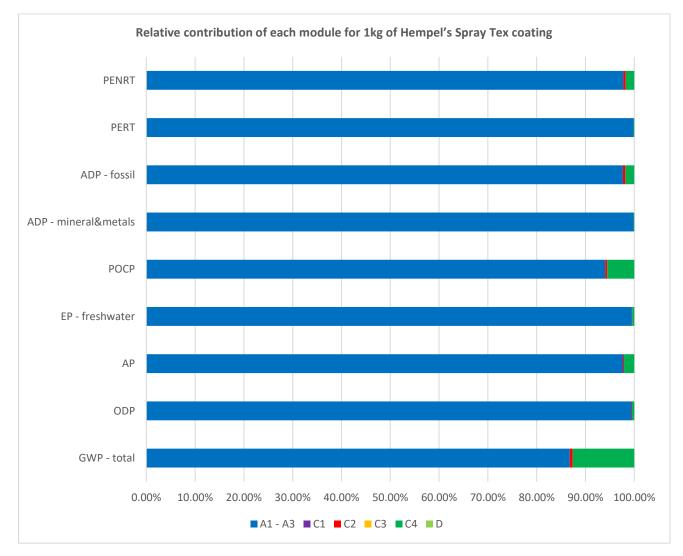


Figure 1: Relative contribution of each module for 1 kilogram of Hempel's Spray Tex coating.

Raw materials and transport (21,4%), packaging (78,48%) and manufacturing consumption (0,12%) account for the total use of renewable primary energy resources (PERT). Raw materials and transport (69,46%) have the greatest impact on the use of non-renewable primary energy resources (PENRT), while the impact of the production process (due to plant consumption and product packaging) accounts for 30,54%. Pre-product manufacturing (raw materials and transport) is the main contributor in all impact categories for A1-A3 modules, with an average of 63,47%.

GWP-biogenic indicator emissions are mainly caused by the packaging of raw materials, whose waste management is carried out in A1-A3 modules (fabrication stage). This explains why biogenic emissions do not follow "-1+1" biogenic CO2 sequestration flow, as the product itself does not contain biogenic carbon.

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