









COMPANY INFORMATION



Imeros Topos 19 300 Aspropyrgos Attiki, Greece 0030 210 5589 580 customercare @vitex.gr www.vitex.gr



DECLARED UNIT/FUNCTIONAL UNIT

to protect and decorate 1 m² of substrate for 50 years at a specified quality level (minimum 98% opacity)

DESCRIPTION OF PRODUCT

Ecological PU acrylic water-based trim enamel paint

VISUAL PRODUCT



MRPI® REGISTRATION 1.1.00271.2022

DATE OF ISSUE 11-02-2022

EXPIRY DATE 11-02-2027



MORE INFORMATION http://www.vitex.gr/product/aquavit-eco/

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by **ing. Kamiel Jansen, Aveco de Bondt.** The LCA study has been done by **Natalia Chebaeva, Ecomatters.**

The certificate is based on an LCA-dossier according to ISO14025 and EN15804+A2. It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate List of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.



PROGRAM OPERATOR

Stichting MRPI® Kingsfordweg 151 1043GR Amsterdam

ir. J-P den Hollander, Managing director MRPI®

DEMONSTRATION OF VERIFICATION
CEN standard EN15804 serves as the core PCR[a]
Independent verification of the declaration and data,
according to EN ISO 14025:2010:
internal: external: X
Third party verifier:
Jawsen
ing. Kamiel Jansen, Aveco de Bondt
[a] PCR = Product Category Rules





DETAILED PRODUCT DESCRIPTION

PU acrylic water based ecological enamel paint ideal for surfaces made of wood, plaster, glass, PVC, aluminum e.tc. Certified according to the criteria of the European Union Ecolabelling Board (EUEB) and according to standard EN 71-3 for non-heavy metal migration from toys and toys materials. Classified in the upper category A+ in terms of indoor air quality and it is certified with Indoor Air Comfort GOLD, the world's most rigorous indoor emission rating system.

Production process:

Production process includes measurement of ingredients, preparation and pigment dispersion, let-down, quality control and canning.

Technical Characteristics:

Density: 1,27 \pm 0,02 kg / L (ISO 2811) for the white; 1,23 kg / L for the EPD representative paint Gloss: @ 60° (ISO 2813) < 5 units (mat), 20-40 units (satin), > 75 units (gloss) Quality: Q1 (according to the durability scheme of the PEF CR for Decorative paints v.1: estimated durability 12 years, 4,17 reapplication for the 50 years reference service life)

Typical use:

Exterior or interior new wooden and metal surfaces or old painted surfaces with water based paints or solvent based varnishes.

Application method:

Dilute with water 5-10% (brush/ roller) or 10-15% (airless spray gun) and stir well before use. Apply the first coat by brush, roller or airless spray gun. Recoat after 6-8 hours.

Pack size:

The paint is available in the following pack sizes White(Gloss, Satin, Mat): 750ml, 2.5 L Bases (Gloss, Satin,Mat): 750mL, 2.25L

COMPONENT (> 1%)	[kg / %]
Light fast pigments	Confidential
Solvent: water	Confidential
Filler	Confidential
Binder, by polymerization in water	Confidential
Solvent: ether	Confidential

(*) > 1% of total mass







SCOPE AND TYPE

The type of this EPD is Cradle-to-Grave. All steps from the extraction of natural resources to re-application and the final disposal of the product are included in the environmental performance. This EPD is an average EPD representative for AQUAVIT ECO products produced in Greece and sold in Europe. The paint is produced in Aspropyrgos Attiki, Greece and the application market is for customers within the European region. Likewise, for the end-of-life, the fate of the paint product is described within a European context.

The software GaBi 10.5.0.78 is used to perform the LCA. Background processes sourced from Ecoinvent v3.6 (2019) and the Raw materials LCI database for the European coatings and printing ink industries (2016).

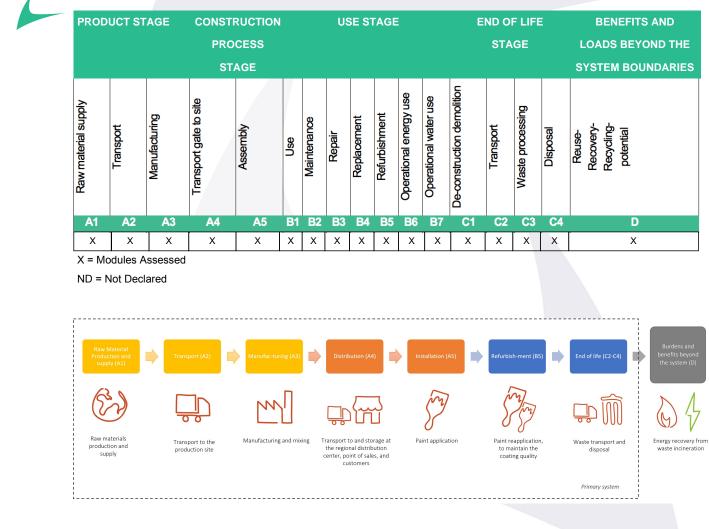


Figure: LCA process diagram according to EN 15804(7.2.1)







REPRESENTATIVENESS

The EPD is representative for the nine paints belonging to AQUAVIT ECO:

- 1. AQUAVIT ECO gloss white
- 2. AQUAVIT ECO gloss base white
- 3. AQUAVIT ECO gloss base transparent
- 4. AQUAVIT ECO satin white
- 5. AQUAVIT ECO satin base white
- 6. AQUAVIT ECO satin base transparent
- 7. AQUAVIT ECO matt white
- 8. AQUAVIT ECO matt base white
- 9. AQUAVIT ECO matt base transparent

This EPD is representative for the products manufactured in Greece and sold in Europe. The paint is produced at one production site: Imeros Topos, 19300 Aspropyrgos Attiki, Greece.







ENVIRO	DNMENTAL	IMPA	\СТ р	er fui	nctior	nal ur	it or	decla	red u	nit (c	ore ir	ndicat	tors A	(2)		
	UNIT	A1-A3	A4	A5	B1	B2	В3	В4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	2.51 E-1	2.77 E-1	5.18 E-2	0.00	0.00	0.00	0.00	2.27 E+0	0.00	0.00	0.00	9.64 E-4	0.00	1.35 E-1	-1.50 E-2
GWP-fossil	kg CO2 eq.	2.65 E-1	2.70 E-1	3.86 E-2	0.00	0.00	0.00	0.00	2.25 E+0	0.00	0.00	0.00	9.63 E-4	0.00	1.35 E-1	-1.48 E-2
GWP-biogenic	kg CO2 eq.	-1.43 E-2	7.10 E-3	1.31 E-2	0.00	0.00	0.00	0.00	1.88 E-2	0.00	0.00	0.00	4.80 E-7	0.00	5.50 E-6	-2.40 E-4
GWP-luluc	kg CO2 eq.	9.41 E-5	1.20 E-4	8.51 E-5	0.00	0.00	0.00	0.00	9.51 E-4	0.00	0.00	0.00	4.27 E-7	0.00	2.57 E-7	-1.78 E-5
ODP	kg CFC11 eq.	2.68 E-8	4.90 E-8	1.64 E-9	0.00	0.00	0.00	0.00	2.47 E-7	0.00	0.00	0.00	2.14 E-10	0.00	1.25 E-10	-1.71 E-9
AP	mol H+ eq.	1.88 E-3	1.10 E-3	1.05 E-4	0.00	0.00	0.00	0.00	9.82 E-3	0.00	0.00	0.00	4.72 E-6	0.00	1.19 E-5	-4.82 E-5
EP-freshwater	kg PO4 eq.	4.72 E-5	4.16 E-5	5.24 E-6	0.00	0.00	0.00	0.00	2.99 E-4	0.00	0.00	0.00	8.28 E-8	0.00	1.99 E-7	-7.49 E-6
EP-marine	kg N eq.	6.25 E-4	2.70 E-4	5.62 E-5	0.00	0.00	0.00	0.00	3.04 E-3	0.00	0.00	0.00	1.56 E-6	0.00	5.34 E-6	-9.06 E-6
EP-terrestrial	mol N eq.	2.98 E-3	2.83 E-3	2.04 E-4	0.00	0.00	0.00	0.00	1.93 E-2	0.00	0.00	0.00	1.71 E-5	0.00	5.86 E-5	-8.81 E-5
POCP	kg NMVOC eq.	1.35 E-3	1.06 E-3	8.21 E-3	0.00	0.00	0.00	0.00	3.37 E-2	0.00	0.00	0.00	4.91 E-6	0.00	1.45 E-5	-2.40 E-5
ADP-minerals & metals	kg Sb eq.	7.63 E-7	1.81 E-5	1.50 E-7	0.00	0.00	0.00	0.00	6.05 E-5	0.00	0.00	0.00	3.48 E-8	0.00	1.05 E-8	-1.90 E-8
ADP-fossil	MJ, net calorific value	4.16 E+0	3.81 E+0	3.89 E-1	0.00	0.00	0.00	0.00	2.66 E+1	0.00	0.00	0.00	1.46 E-2	0.00	1.24 E-2	-2.98 E-1
WDP	m3 world eq.	7.91	3.13	2.51	0.00	0.00	0.00	0.00	2.53	0.00	0.00	0.00	7.38	0.00	4.45	-5.78

0.00

0.00

0.00

F-5

0.00

E-4

E-3

GWP-total = Global Warming Potential total

WDP

GWP-fossil = Global Warming Potential fossil fuels

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

deprived

AP = Acidification Potential, Accumulated Exceedence

EP-freshwater = Eutrophication Potential, fraction of nutrients reaching freshwater end compartment

E-2

E-2

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

E+0

EP-terrestrial = Eutrophication Potential, Accumulated Exceedence

POCP = Formation potential of tropospheric ozone photochemical oxidants

ADP-minerals&metals = Abiotic Depletion Potential for non fossil resources [2]

ADP-fossil = Abiotic Depletion for fossil resources potential [2]

WDP = Water (user) deprivation potential, deprivation-weighted water consumption [2]

Disclaimer [2]

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

0.00

0.00

0.00

0.00

F+1







ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

	UNIT	A1-A3	A4	A5	B1	B2	B 3	В4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease	2.89	1.36	1.29	0.00	0.00	0.00	0.00	1.39	0.00	0.00	0.00	6.10	0.00	9.53	-1.34
FIVI	incidence	E-8	E-8	E-9	0.00	0.00	0.00	0.00	E-7	0.00	0.00	0.00	E-11	0.00	E-11	E-10
IRP	kBq U235 eq.	2.24	1.85	1.91	0.00	0.00	0.00	0.00	1.36	0.00	0.00	0.00	7.66	0.00	4.09	-4.25
INF	KBQ 0235 eq.	E-2	E-2	E-3	0.00	0.00	0.00	0.00	E-1	0.00	0.00	0.00	E-5	0.00	E-5	E-3
ETP-fw	CTUe	2.12	5.40	6.91	0.00	0.00	0.00	0.00	8.66	0.00	0.00	0.00	1.27	0.00	3.73	-9.79
	CIDE	E+1	E+0	E-1	0.00	0.00	0.00	0.00	E+1	0.00	0.00	0.00	E-2	0.00	E-2	E-2
HTP-c	CTUh	5.29	2.17	3.90	0.00	0.00	0.00	0.00	3.04	0.00	0.00	0.00	3.80	0.00	1.73	-2.56
	CTON	E-10	E-10	E-11	0.00	0.00	0.00	0.00	E-9	0.00	0.00	0.00	E-13	0.00	E-10	E-12
HTP-nc	CTUh	3.58	4.26	9.55	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.00	1.19	0.00	5.32	-8.54
	CTON	E-8	E-9	E-10	0.00	0.00	0.00	0.00	E-7	0.00	0.00	0.00	E-11	0.00	E-10	E-11
SQP		1.91	1.55	2.46	0.00	0.00	0.00	0.00	1.18	0.00	0.00	0.00	8.57	0.00	4.73	-3.72
		E+0	E+0	E-1	0.00	0.00	0.00	0.00	E+1	0.00	0.00	0.00	E-3	0.00	E-3	E-2

PM = Potential incidence of disease due to PM emissions

IRP = Potential Human exposure efficiency relative to U235 [1]

ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]

HTP-c = Potential Comparative Toxic Unit for humans [2]

HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]

SQP = Potential soil quality index [2]

Disclaimer [1]

- This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer [2]

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.







RESOU	RCE	USE	per fu	nctio	nal u	nit or	decla	ared u	unit (/	41 / A	.2)	
UNIT	A1-A3	A4	A5	B1	B2	B3	B4	B5	B 6	B7	C1	c

	UNIT	A1-A3	A4	A5	B1	B2	B 3	B4	B5	B 6	B7	C1	C2	C3	C4	D
PERE	MJ	3.55	8.30	4.12	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	2.24	0.00	3.02	-2.52
		E-1	E-2	E-2	0.00	0.00	0.00	0.00	E+0	0.00	0.00	0.00	E-4	0.00	E-4	E-2
PERM	MJ	7.77	6.03	9.01	0.00	0.00	0.00	0.00	4.68	0.00	0.00	0.00	2.15	0.00	2.37	-1.77
	WIO	E-3	E-3	E-4	0.00	0.00	0.00	0.00	E-2	0.00	0.00	0.00	E-5	0.00	E-5	E-3
PERT	MJ	3.63	8.90	4.21	0.00	0.00	0.00	0.00	1.57	0.00	0.00	0.00	2.46	0.00	3.25	-2.70
	1010	E-1	E-2	E-2	0.00	0.00	0.00	0.00	E+0	0.00	0.00	0.00	E-4	0.00	E-4	E-2
PENRE	MJ	4.16	3.81	3.90	0.00	0.00	0.00	0.00	2.66	0.00	0.00	0.00	1.46	0.00	1.24	-2.98
	WIO	E+0	E+0	E-1	0.00	0.00	0.00	0.00	E+1	0.00	0.00	0.00	E-2	0.00	E-2	E-1
PENRM	мј	5.93	0.00	0.00	0.00	0.00	0.00	0.00	1.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1010	E-7	0.00	0.00	0.00	0.00	0.00	0.00	E-6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PENRT	MJ	4.16	3.81	3.90	0.00	0.00	0.00	0.00	2.66	0.00	0.00	0.00	1.46	0.00	1.24	-2.98
		E+0	E+0	E-1	0.00	0.00	0.00	0.00	E+1		0.00	0.00	E-2	0.00	E-2	E-1
SM	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	m3	1.84	7.30	5.84	0.00	0.00	0.00	0.00	5.88	0.00	0.00	0.00	1.72	0.00	1.04	-1.35
		E-1	E-4	E-4					E-1				E-6		E-5	E-4

PERE = Use of renewable energy excluding renewable primary energy resources

PERM = Use of renewable energy resources used as raw materials

PERT = Total use of renewable primary energy resources

PENRE = Use of non-renewable primary energy resources excluding non-renewable energy resources used as raw materials

PENRM = Use of non-renewable primary energy resources used as raw materials

PENRT = Total use of non-renewable primary energy resources

SM = Use of secondary materials

RSF = Use of renewable secondary fuels

NRSF = Use of non renewable secondary fuels

FW = Use of net fresh water

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or	declared unit (A1 / A2)

	UNIT	A1-A3	A4	A5	B1	B2	В3	В4	В5	B6	B7	C1	C2	C3	C4	D
HWD	kg	3.31 E-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHWD	kg	7.13 E-3	1.13 E-2	3.17 E-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.63 E-2	0.00
RWD	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRU	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EEE	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ETE	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HWD = Hazardous Waste Disposed

RWD = Radioactive Waste Disposed

MFR = Materials for recycling

EEE = Exported Electrical Energy

NHWD = Non Hazardous Waste Disposed

CRU = Components for reuse

MER = Materials for energy recovery

ETE = Exported Thermal Energy







BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 / A2)

		UNIT	A1-A3	A4	A5	B1	B2	B 3	B4	В5	B6	B7	C1	C2	C3	C4	D
E	BCCpr	kg C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
E	ВССра	kg C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BCCpr = Biogenic carbon content in product

BCCpa = Biogenic carbon content in packaging

CALCULATION RULES

Data quality and data collection period

Data quality requirements follow EN15804+A2:2019, data is checked for plausibility with mass balances in the foreground processes. Used datasets are complete according to the system boundary, and are as current as possible. Data collection period is of reference year 2021, based on 1 year averaged data. Data gaps such as i.e. transport data, end of life scenarios, were covered with data generic values for transport as described in the Product Environmental Footprint Category Rules - Decorative Paints document version 1.0 published by CEPE and reviewed in April 2018. Processes used in the background modelling are referring to the widely used databases of recent release (Ecoinvent 3.6, 2019; CEPE, 2016) and are consistent with the foreground modelling in system limits and allocation procedures. The technological and geographical coverage reflects the physical reality as far as possible taking into account the technology mix, location, and representativeness of technologies, input materials, and input energies for the region. Data quality is assessed as fair and adequate to the goal and scope of the study.

Cut-off criteria and allocation procedures

No cut-offs were intentionally applied to inputs and outputs within the system boundaries in the models. Coproduct and system allocation in the foreground system is according to the EN15804+A2. Cut-off and allocation procedures in the background processes are according to the respective methodologies and estimated to be methodologically consistent with the foreground system.

Unit	Value
m2/L	10.52
kg/L	1.23
g/L	80
years	12
-	Q1
	m2/L kg/L g/L







SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Product stage is reported in one module A1-A3. This life cycle stage includes the extraction and processing of raw materials for the product and the packaging, their transportation to the production site by road, and the manufacturing process. The latter includes all processes linked to the production, such as storing, mixing, packing, and internal transportation, covering material and energy consumption, waste treatment and emissions. Data regarding paint production was provided for each paint variation (formulation) and for the production site for the shared processes. Data on packaging, transportation distances and transportation modes are derived from the default scenarios of the product environmental footprint category rules (PEF CR) for decorative paints v.1 (2018). Electricity consumption was modelled based on the primary data on the amount and source of the electricity, with the use of Ecoinvent 3.6 database for modelling of the background processes.

Product's distribution to the building site (A4) includes transportation as well as storage and wastage of the products along the distribution leg (formally A4-A5, classified within the study to A4). The distribution leg includes two intermediate points between the production site and the final user: regional distribution centre (RDC) and point of sales (PoS). Transport and storage data are based on the scenarios developed within the PEF CR for Decorative Paints (v1).



Transport parameters	Raw	Packaging	Transport	Transport	Transport	Transport to waste
	materials	transport	to the RDC	to the PoS	to customer	disposal
Vehicle type used for transport	[1]	[1]	[1]	[1]	[2]	[1]
Distance, km	460	250	250	250	60	80
Capacity, t	7.5-16	7.5-16	7.5-16	7.5-16	N/A	7.5-16
Average load factor, t	3.29	3.29	3.29	3.29	N/A	3.29
Bulk density of transported products,	1427	1427	1427	1427	N/A	1427
kg/m3						

[1] = articulated lorry;

[2] = passenger car with internal combustion engine.







Waste treatment and end	unit	Hazardous	Non-hazardous	Wet paint waste	Dried paint film
of life parameters	unit	waste	waste	wei paint waste	
Share sent to incineration	w/w	0.45	0.45	0.45	0
with energy recovery	vv/ vv	0.43	0.43	0.43	0
Share sent to landfilling	w/w	0.55	0.55	0.55	1
VOC emissions to air	% of VOC content	ΝΔ	NA	100%, emissions	NA
	% of VOC content		NA	to air	INA
Piecidos losobing	% of biocidal	NA	NA	100%, emissions	100%, emissions
Biocides leaching	content		NA	to fresh water	to fresh water
Energy recovery from	MJ/kg of	17.1	1.01	1.01	NA
incineration, electricity	incinerated waste	17.1	1.01	1.01	INA
Energy recovery from	MJ/kg of	1.27	2.16	2.16	NA
incineration, heat	incinerated waste	1.27	2.10	2.10	

Stage A5 refers to the paint application and follows the scenario of application developed in the PEF CR for decorative paints v1, including auxiliary materials composition. The stage includes use of auxiliary materials, use of water and water heating, waste water treatment processes, and other waste treatment.



Application paramter	Unit	Value
Auxiliary materials	kg/m2 of painted surface	1.12E-2
Tap water	kg/m2 of painted surface	0.37
Energy for water heating	MJ/m2 of painted surface	0.03
Waste water treatment	kg/m2 of painted surface	0.37
Unused paint disposed	kg/m2 of painted surface	0,0145
Other non-hazardous waste generated	kg/m2 of painted surface	0,0173
Direct emissions to air, VOC	kg/m2 of painted surface	1.29E-2

Parameter	Unit	Value
Reference service life	years	50
Refurbishment process	-	Paint is reapplied following the
		initial life cycle
Refurbishment cycle	Number per RSL	3,17
Energy input during refurbishment	kWh	all inputs as follows from the initial
		application
Material input for refurbishment	kg	all inputs as follows from the initial
		application
Waste material	kg	all outputs as follows from the
		initial application







Electricity generation on site

VITEX supports development of renewable energy in Greece. The manufacturing facilities are equipped with the 10000 m² roof solar park that supplies electricity to the grid. In the period under evaluation, 763,25 kWh is supplied to the electricity grid, which potentially could have covered 49,5% f the total yearly electricity demand of the company.

VOC emissions

The VOC impact of the considered VITEX products is low, which is confirmed by the available test reports by EUROFINS regarding VOC content and VOC emissions (for the paints of the worst performing case scenario). Eurofins Indoor Air Comfort Gold Certificates are achieved.

LEED attestation

LEED v4 and LEED v4.1 BETA attestations were performed by EUROFINS, regarding the compliance of the materials with the US Green Building requirements (EQ Credit). Materials are complied with VOC emissions specifications for LEED projects outside the US and VOC content specifications for LEED projects in Europe.

Biogenic Content

The product is characterized by biogenic content due to the use of partially biobased polyurethane dispersion. This however was not possible to include in the product modelling and therefore is not reflected in the performance results presented in this EPD.







DECLARATION OF SVHC

None of the substances contained in the product are listed in the "Candidate List of Substances of Very High Concern for authorisation" or they do not exceed the threshold with the European Chemicals Agency

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REMARKS

None

