ENVIRONMENTAL PRODUCT DECLARATION

Puro_titanium & VOC Free

PROGRAMME:	**THE INTERNATIONAL EPD® SYSTEM, WWW ENVIRONDEC.COM**
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1. The company and the product

San Marco Group SpA is working on the quantification of the environmental impacts of its products in order to improve their technical and environmental performance.

1.1 San Marco Group S.p.A.

Il San Marco Group is an international group, leader in the production and marketing of paints and varnishes for professional construction in Italy. The headquarters are located in Marcon, Venice, where part of the production takes place, together with the innovation centre and two training centres. The Group consists of 7 production sites and 3 sales companies located in Europe, where more than 300 people work directly. International growth has allowed the Group to be present in most parts of the globe with a network of distributors touching more than 100 countries on five continents, with a widespread network of sales outlets.

The Group manages 6 different brands. The key factors that have enabled the San Marco Group to become a reference company within its market are certainly the search for opportunities in foreign markets, the acquisition of other entities and the strengthening of the services offered.

The Group's various brands, acquired or developed internally, have expanded business opportunities into new markets and new customer segments. All of the Group's companies have a precise role to play, so as to enhance their specificities and define their positions, reducing overlaps and exploiting synergies. This type of organisation has progressively led to the upgrading of machinery and plants, increasing the quantity and quality of products, all through a commitment to constant improvement and growth.

San Marco Group has voluntarily chosen to establish, implement, maintain and improve its integrated management system for quality, the environment and the health and safety of workers.

Indeed, San Marco Group obtained the ISO 9001:2015 Quality Certification through the Certification Body DNV-GL, for all the Italian production unit of San Marco Group S.p.A. (Marcon, Latisana and Montemarciano), for the company of Forlì, Novacolor S.r.l., for the Bosnian company San Marco DT BH Doo, and for the Norwegian company Tjaeralin AS. It obtained the ISO 14001:2015 Environmental Certification again with the Certification Body DNV-GL, awarded in 2018 for Marcon headquarters, in 2019 it was extended to the sites of Latisana and Montemarciano of San Marco Group S.p.A and to the Forlì-based Novacolor S.r.l. and, in 2020, also to the secondary production units incorporated into the San Marco Group. It obtained the Workplace safety recognition of safety management system as per the UNI INAIL (National Istitute for Insurance against Accidents at Work) model, for the Marcon headquarters.

San Marco Group is the first company in Italy to receive the prestigious Eurofins Indoor Air Comfort Gold certification, which is only achieved if the products meet precise requirements for low VOC (Volatile Organic Compounds) emissions, guaranteeing a healthy indoor environment. In addition, the Marcon and Forlì sites have obtained REDcert^2 certification for a wide range of products, which is a certification schemes for the use of sustainable biomass in the chemical industry.

1.2 Mission

At San Marco Group we work every day to create a more beautiful and sustainable world.

People are our strength. By always investing in the development of talents and professional skills, we can count on a cohesive and motivated team that has led us to be a leader in Italy in the field of coating systems for professional construction.

We develop innovative, technologically advanced and environmentally friendly products, fully aware of our economic, social and environmental responsibilities. Responsibilities that we feel even greater at this time.

With satisfaction and pride, we continue to look confidently to the future to continue promoting the value of Made in Italy and the culture of building and restoration around the world.

1.3 Environmental policy

Protecting the environment and respecting the workplace for operators are important aspects of San Marco Group's company policy. This is why San Marco Group is continuously trying to improve the quality of its products and its production cycles in order to reduce the overall environmental impact.

San Marco Group was one of the first companies that offered water-based solutions for enamels and stains back in 1982 with the Unimarc Line and since then the pursuit has continued towards eliminating from its formulations raw materials considered hazardous to humans and the environment.

The Greenspirit line was developed in 2009: a selection of high-tech natural products for bioconstruction with low environmental impact.

In 2010 San Marco Group has begun using the LCA methodology to understand the environmental performance of its products and to analyze their strengths and weaknesses. The holistic view of LCA convinced San Marco Group to acquire internally skills on the methodology and its application, with the ambitious goal of carrying out the LCA analysis of all the main products.

The LCA studies conducted enable San Marco Group to get a picture of its products from an environmental point of view, and to take actions of eco-design, both through actions for the improvement of its processes, and through the involvement of the supply chain in a virtuous circle. Moreover, the application of LCA in 2011 has allowed San Marco to achieve the certification EPD, or Environmental Product Declaration, for three products in the International EPD System.

In 2015 the thermal insulation system Marcotherm was certified EPD.

After using the LCA methodology for 4 years and having studied more than 40 products, San Marco Group has created its own LCA calculation system, reviewed by the certification body CSQA in March 2014 and July 2015.

In 2018 the LCA calculation methodology became the San Marco EPD process, certified within the International EPD system. This certification enables San Marco to create EPD autonomously. The EPD process is verified by a third party verifier and, internally, once a year. Each EPD is verified only internally.

1.4 Product description

The object of this EPD is a water-based matt mineral paint for interiors, formulated with polysilicate of potassium, odorless and without biocides, volatile organic compounds (VOC) and Formaldehyde, Puro_titanium & VOC Free. It sensitively reduces the formaldehyde concentration in the surrounding environment, as tested per the specific law ISO 16000-23.

It contains an innovative mix of mineral charges that guarantee hiding without the use of Titanium dioxide. Its innovative formulation makes Puro_titanium & VOC Frees uitable for the application on each kind of walls, mineral or synthetic paints, and direct application on plasterboard. The high breathability and alkaline nature help to preserve the substrate from mold development.

The analysis is in line with the PCR 2019:14 v1.2.5 "Construction products" [4] and the EN 15804:2012+A2:2019/AC2021 E [5].

Puro_titanium & VOC Free is produced by Novacolor, which is part of San Marco Group, in the production plant located in the municipality of Forlì, in the province of Forlì-Cesena.

The UN CPC code is 3511 "Paints and varnished and related products".

The product is available in one option: white in the package of 14 and 5 l.
In this study only the package of 14 l is assessed, that is usually applied by professional users.

1.5 Content information

		White, 14 Lt package		Declared Unit	Biogenic material
		Weight (kg)	%	Weight (kg)	Weight (% and kg C/kg)
Product	Water	4,384	18,24	0,199	0,000
	Additives	0,931	3,87	0,042	0,000
	Pigments and fillers	11,760	48,93	0,535	0,000
	Dispersion and resins	4,905	20,41	0,223	0,000
	Total bulk product	**21,980**	**91,46**	**1,000**	**0,000**
1° packaging	Steel	0,055	0,23	0,003	0,000
	Virgin polypropylene	0,513	2,13	0,023	0,000
	Recycled polypropylene	0,218	0,91	0,010	0,000
	Total primary packaging	**0,786**	**3,27**	**0,036**	**0,000**
3° packaging	Wood	1,246	5,18	0,057	39,31%-0,022
	Polyethylene	0,020	0,08	0,001	0,000
	Total tertiary packaging	**1,266**	**5,26**	**0,058**	**38,42%-0,022**
	Total	**24,032**	**100,00**	**1,094**	**2,04%-0,022**

Table 1 – Puro_titanium & VOC Free Composition.

Puro_titanium & VOC Free contains no SVHC (substances of very high concern) on the Candidate List published by ECHA (European Chemicals Agency) in a concentration more than 0,1 % (w/w).

2. Environmental performance declaration

2.1 Declared unit

The declared unit is 1 kg of paint that enables to paint a certain number of m2.

The average consumption of the product Puro_titanium & VOC Free is 0,288 kg/m2.

2.2 System boundaries

The present EPD is a declaration "from cradle to gate with options, modules C1-C4, module D and with optional modules" (type "b" EPD). The system boundaries include production phase (A1-A2-A3), the application phase (A4-A5), the end of life phase (C1-C2-C3-C4) and the recovery phase (D). For completeness, the product packaging and its disposal are included.

The use (B1-B7) is excluded because they are strongly characterized by the conditions in which the system is used. B1, B2, B3, B4, B5, B6 and B7 modules are not declared.

The **Production phase** for San Marco manufacturing include:

- A1 - Raw materials and their packaging: raw materials extraction, production of product components and packaging, and energy consumption (use of a mechanical mixer for liquid products, internal transfers with electric vehicles, packaging with primary packaging materials, palletisation, product storage);
- A2 – Transport: transportation of raw materials and packaging to San Marco plant;
- A3 – Manufacturing: washing operations, production and disposal of scrap, water consumption and waste treatment.

Distribution and application phase include (after the production process):

- A4 - Transport: product distribution,
- A5 - Construction installation: product application, water dilution, waste and packaging end-of-life.

End of life phase include:

- C1 – Deconstruction demolition,
- C2 - EOL Transport: transport to landfill of the de-constructed product,
- C3 - Waste processing: collection and treatment of material flow for reuse, recycling and energy recovery. No waste processing for Puro_titanium & VOC Free are expected.
- C4 - Disposal: the complete landfill disposal has been assumed for the product.

The impact of the reuse and recovery phase is assessed separately:

- D - Recovery, reuse and recycling potential.

No cut-off rules were applied.

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw materials	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO	IT	GLO	GLO	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific data used	>90%																
Variation – products	not relevant																
Variation - sites	not relevant																

Table 2 - Modules evaluated of the life cycle

2.3 Time boundaries

Primary data come from San Marco Group and refer to the year 2021. Secondary data come from the database ecoinvent v3.8 [6] released in 2021 and available in the LCA software used for calculations SimaPro 9.4 [6].

2.4 Geographic boundaries

The production site San Marco is located in the municipality of Forlì, in the province of Forlì-Cesena. Since Puro_titanium & VOC Free components are mainly produced, sold and used in Europe, the study refers to the Italian and European situation. End of life scenarios of packaging refer to national data taken from the Eurostat database [8].

Raw materials come from Italy or from abroad. The most significant database processes have been modified in order to make them more representative of the Italian situation by selecting, where possible, the input processes with Italian processes.

2.5 Life cycle boundaries

In accordance with the options of the PCR for “Construction products”, the following processes are excluded from the LCA: the construction of company buildings, the production of manufacturing equipment and other capital goods, personnel activities.

The contribution of infrastructure has not been excluded from the processes that already contained it, like the ecoinvent secondary processes.

2.6 Boundaries to nature and other systems

Wastewater treatment, transport and waste treatment from the production process were included in the LCA.

Wastewater from the production plant is sent to an external wastewater treatment plant.

Biogenic carbon removals and emissions are assessed with the Total Global Warming Potential (GWP-total) (including fossil GWP, biogenic GWP and land use GWP).

As required by the PCR 2019:14 v1.2.5, an additional mandatory indicator is included (GWP-GHG), adopting the carbon neutrality approach. This permits comparability with EPDs based on other PCRs, aligned with version 4.0 of the GPI [9].

In order to achieve neutrality, the biogenic CO2 content in the pallet was balanced in the end of life by manually inserting a biogenic CO2 emission equal to the sequestrated amount in the biomass.

2.7 Allocation and cut-off rules

As regards end-of-life allocation, the “cut-off” approach was adopted. Raw materials and manufacturing processes are included for virgin resources. No allocation is made for materials subject to recycling. The recycling process is included for the input of recycled resources. The outputs subject to recycling are considered inputs for the next life cycle.

Mass-based allocation has been applied to energy and water consumed in the production plants of San Marco in Forlì (FC) in 2021.

2.8 Database and LCA software used

Ecoinvent 3.8., SimaPro 9.4

3. Data quality

Primary data have been used for the fundamental aspects of the study, such as energy and water consumption in production plants of San Marco or the product composition. For all processes for which primary or representative data were not available, the LCA database ecoinvent v3.8, cut-off by classification, was used. The processes selected from the ecoinvent database have been modified, if necessary, to make them more representative.

Data quality has been evaluated through the pedigree matrix. All processes with incidence >5% for the main LCIA categories have been considered. There are no proxy data among the analysed ones.

All inputs of the productive process have been evaluated.

For data collection and LCA calculations, the methodology described in the manual "Processo di elaborazione delle EPD del San Marco Group S.P.A." has been used.

Raw materials not available in the ecoinvent database have been modelled from the information contained in the respective safety and technical data sheets or by modifying existing ecoinvent processes of similar chemicals.

For San Marco plant electricity consumption, a specific electricity mix has been modelled. The mix is composed by 100% specific electricity mix as purchased. The GWP-GHG indicator related to the electricity mix is equal to 0,412 kg CO2 eq/kWh.

To define the plant consumption (A3) data concerning the consumption of electricity, water and waste production in 2021 have been used.

For the distribution stage (A4) sale data concerning 2021 have been used. Distances and means of transport have been evaluated as reported in the EPD process manual. Road and sea transports have been considered, according to suppliers declarations.

La application stage (A5) includes:

- water consumption due to the paint dilution, as reported in the technical data sheet
- application by hand, without energy consumption
- application scrap end of life
- packaging material end of life

It is assumed that 100% of the scrap is sent to landfill for disposal.

Primary packaging and the plastic film of the tertiary packaging are disposed according to the data taken from Eurostat database. Pallet is not recovered and it is sent to recycling.

For primary and tertiary plastic packaging two scenarios are considered: Italian case with 45,1% recycling, 44,7% incineration and 10,2% landfill and European case with 41% recycling, 36,1% incineration and 22,9% landfill (Eurostat data).

For primary steel packaging two scenarios are considered: Italia case with 79,2% recycling, 19,4% landfill and 1,4% incineration and European case with 78% recycling, 20% landfill and 2% incineration (Eurostat data).

It is assumed that Puro_titanium & VOC Free product is sent to landfill for disposal (C3-C4). Transport to disposal is assumed to be 50 km (C2).

The C3 module is empty because no treatment of materials for reuse, recycling and energy recovery are expected. The C1 module is zero because the environmental impacts for demolition associated to the paint are low.

As regards module D, benefits and impacts related to the recovery of the packaging wood and polypropylene have been considered respectively in terms of use of recycled materials in place of virgin materials and energy recovery due to incineration with energy recovery. It is assumed that a recycled material replaces a material with the same origin. For wood a factor equal to 1 is assumed. There are no secondary fuels. Product and packaging are assumed to not produce landfill gas.

4. Environmental impact

4.1 Environmental impact indicators

The following environmental impact indicators are considered, according to PCR 2019:14 v1.2.5 and UNI EN EN 15804:2012+A2:2019/AC2021 E.

Nr.	Core environmental impact indicators	Unit
1.1	Global Warming Potential - total (GWP-total)	kg CO2 eq.
1.2	Global Warming Potential - fossil fuels (GWP-fossil)	kg CO2 eq.
1.3	Global Warming Potential - biogenic (GWP-biogenic)	kg CO2 eq.
1.4	Global Warming Potential - land use and land use change (GWP-luluc)	kg CO2 eq.
1.5	Depletion potential of the stratospheric ozone layer (ODP)	kg CFC-11 eq.
1.6	Acidifcation potential, Accumulated Exceedance (AP)	mol H+ eq.
1.8	Europhication potential - freshwater (EP-freshwater)	kg P eq
1.9	Europhication potential - marine (EP-marine)	kg N eq.
1.10	Europhication potential - terrestrial (EP-terrestrial)	mol N eq.
1.11	Photochemical Ozone Creation Potential (POCP)	kg NMVOC eq.
1.12	Abiotic depletion potential - non-fossil resources (ADPE)	kg Sb eq.
1.13	Abiotic depletion potential - fossil resources (ADPF)	MJ
1.14	Water (user) deprivation potential (WDP)	m3 world eq. deprived
	Additional mandatory environmental impact indicators	
2.1.	Global Warming Potential (GWP-GHG)	kg CO2 eq.
	Additional voluntary environmental impact indicators	
3.1	Particulate Matter emissions (PM)	Disease incidence
3.2	Ionizing radiation, human health (IRP)	kBq U235 eq.
3.3	Eco-toxicity - freshwater (ETP-fw)	CTUe
3.4	Human toxicity, cancer effect (HTP-c)	CTUh
3.5	Human toxicity, non-cancer effects (HTP-nc)	CTUh
3.6	Land use related impacts/Soil quality (SQP)	dimensionless
	Indicators describing resource use	
4.1	Use of renewable primary energy as energy carrier (PERE)	MJ
4.2	Use of renewable primary energy resources used as raw materials (PERM)	MJ
4.3	Total use of renewable primary energy (PERT)	MJ
4.4	Use of non renewable primary energy as energy carrier (PENRE)	MJ

4.5	Use of non renewable primary energy resources used as raw materials (PENRM)	MJ
4.6	Total use of non renewable primary energy resource (PENRT)	MJ
4.7	Use of secondary material (SM)	kg
4.8	Use of renewable secondary fuels (RSF)	MJ
4.9	Use of non renewable secondary fuels (NRSF)	MJ
4.10	Net use of fresh water (FW)	m3
	Environmental information describing waste categories	
5.1	Hazardous waste disposed (HWD)	kg
5.2	Non harzardous waste disposed (NHWD)	kg
5.3	Radioactive waste disposed (RWD)	kg
	Environmental information describing output flows	
6.1	Components for re-use (CRU)	kg
6.2	Materials for recycling (MFR)	kg
6.3	Materials for energy recovery (MER)	kg
6.4	Exported energy (EE), electricity	MJ
6.5	Exported energy (EE), thermal	MJ
	Biogenic carbon content	
7.1	Biogenic carbon content in product	kg C
7.2	Biogenic carbon content in accompanying packaging	kg C

Table 3: Environmental indicators included in the analysis.

4.2 Environmental impact assessment

Potential environmental impact – mandatory indicators according to EN 15804

	Result for declared unit								
Indicator	**Unit**	**A1-A2-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO2 eq.	5,24E-01	1,39E-01	1,42E-01	0,00E+00	8,17E-03	0,00E+00	5,25E-02	2,11E-02
GWP-fossil	kg CO2 eq.	5,91E-01	1,39E-01	3,76E-02	0,00E+00	8,16E-03	0,00E+00	5,24E-02	-1,49E-02
GWP-biogenic	kg CO2 eq.	-6,77E-02	1,26E-04	1,04E-01	0,00E+00	7,40E-06	0,00E+00	1,35E-04	3,60E-02
GWP-luluc	kg CO2 eq.	4,86E-04	5,74E-05	2,27E-07	0,00E+00	3,23E-06	0,00E+00	2,08E-06	-1,59E-05
ODP	kg CFC 11 eq.	4,59E-07	3,23E-08	7,95E-11	0,00E+00	1,90E-09	0,00E+00	3,07E-09	-1,98E-09
AP	mol H+eq.	3,43E-03	7,24E-04	6,11E-06	0,00E+00	4,13E-05	0,00E+00	7,15E-05	-3,79E-05
EP-freshwater	kg P eq	1,51E-04	9,04E-06	9,50E-08	0,00E+00	5,30E-07	0,00E+00	6,64E-07	-3,10E-06
EP-marine	kg N eq.	6,28E-04	2,06E-04	4,62E-06	0,00E+00	1,42E-05	0,00E+00	2,70E-05	-6,77E-06
EP-terrestrial	mol N eq.	6,14E-03	2,26E-03	2,96E-05	0,00E+00	1,56E-04	0,00E+00	2,96E-04	-7,01E-05
POCP	kg NMVOC eq.	1,97E-03	6,79E-04	8,29E-06	0,00E+00	4,44E-05	0,00E+00	9,50E-05	-2,38E-05
ADP-minerals & metals*	kg Sb eq.	9,10E-06	4,53E-07	1,54E-09	0,00E+00	2,86E-08	0,00E+00	2,75E-08	-6,97E-09
ADP-fossil*	MJ	1,08E+01	2,12E+00	6,29E-03	0,00E+00	1,24E-01	0,00E+00	2,21E-01	-2,55E-01
WDP*	m3eq	3,40E-01	6,70E-03	7,93E-03	0,00E+00	3,75E-04	0,00E+00	9,69E-04	-3,64E-03
Acronyms		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; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption							

Table 4 - Results for declared unit

** Disclaimer: 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 experience with the indicator.*

Potential environmental impact – additional mandatory and voluntary indicators

	Results for declared unit								
Indicator	**Unit**	**A1-A2-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO2 eq.	5,94E-01	1,39E-01	3,76E-02	0,00E+00	8,16E-03	0,00E+00	5,24E-02	-1,50E-02
PM	Disease incidence	3,85E-08	1,26E-08	6,54E-11	0,00E+00	7,27E-10	0,00E+00	1,60E-09	-1,16E-10
IRP**	kBq U235 eq.	6,38E-02	1,08E-02	5,15E-05	0,00E+00	6,39E-04	0,00E+00	1,32E-03	-1,85E-03
ETP-fw*	CTUe	1,66E+01	1,66E+00	1,91E-02	0,00E+00	9,70E-02	0,00E+00	8,11E-01	-7,06E-02
HTP-c*	CTUh	6,97E-10	5,43E-11	5,39E-12	0,00E+00	3,14E-12	0,00E+00	6,31E-12	-2,36E-12
HTP-nc*	CTUh	2,52E-08	1,72E-09	4,02E-11	0,00E+00	1,02E-10	0,00E+00	1,82E-10	-5,00E-11
SQP*	dimensionless	9,58E+00	1,67E+00	9,74E-03	0,00E+00	8,54E-02	0,00E+00	5,77E-01	-2,16E-01
Acronyms		GWP-GHG = Global Warming Potential neutral; PM = Potential incidence of disease due to PM emissions; IRP = Potential human exposure efficiency relative to U235, ETP,fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for effects; HTP-nc = Potential comparative toxic unit for humans; SQP = Potential soil quality index.							

Table 5 - Result for declared unit - additional indicator

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

*** Disclaimer: 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.*

[1]The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product

Use of resources

	Results for declared unit							
Indicator	**Unit**	**A1-A2-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,23E+00	2,94E-02	3,92E-04	0,00E+00	1,75E-03	0,00E+00	9,37E-03	-1,20E-01
PERM	MJ	7,67E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	2,00E+00	2,94E-02	3,92E-04	0,00E+00	1,75E-03	0,00E+00	9,37E-03	-1,20E-01
PENRE	MJ	9,98E+00	2,12E+00	6,29E-03	0,00E+00	1,24E-01	0,00E+00	2,21E-01	-2,55E-01
PENRM	MJ.	8,02E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,08E+01	2,12E+00	6,29E-03	0,00E+00	1,24E-01	0,00E+00	2,21E-01	-2,55E-01
SM	kg	9,73E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	8,79E-03	2,42E-04	2,04E-04	0,00E+00	1,39E-05	0,00E+00	2,79E-04	-1,24E-04
Acronyms		PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water							

Table 6 - Use of resources

Waste production and output flows

Waste production

	Results for declared unit								
Indicator	**Unit**	**A1-A2-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1,27E-05	5,31E-06	1,62E-08	0,00E+00	3,25E-07	0,00E+00	2,67E-07	-2,76E-07
Non-hazardous waste disposed	kg	1,36E-01	1,28E-01	1,56E-02	0,00E+00	6,40E-03	0,00E+00	9,91E-01	-1,31E-04
Radioactive waste disposed	kg	3,19E-05	1,43E-05	3,32E-08	0,00E+00	8,41E-07	0,00E+00	1,43E-06	-5,81E-07

Table 7 - Waste production

Output flows

Risultati per unità dichiarata									
Indicator	**Unit**	**A1-A2-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	3,65E-02	0,00E+00	7,07E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for Energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	6,14E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	1,21E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 8 - Output flows

Information on biogenic carbon content

Results for declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	Non significativo (<5%)
Biogenic carbon content in packaging	kg C	0,022

Table 9 - Biogenic carbon content

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2.

5. Additional environmental information

The packaging has the certificate “Plastica seconda vita”, released by Istituto Italiano dei plastici Srl. The polypropylene primary packaging is obtained through injection moulding using mixtures of recycled plastics from separate collection and/or industrial scraps in the minimum quantity of 30% with virgin material.

Licence number: 1976/2020, Licence expiry data: 2023-10-18.

Puro_titanium & VOC Free is certified “Indoor Air Comfort Gold”. This certification ensures that low product emission requirements are fulfilled and is a sign of the applicant’s focus on quality and contribution to a healthy indoor environment.

Licence number: IACG-442-01-02-2021, Licence expiry data: 2026-12-03.

The product is certified “REDcert2” for the use of sustainable biomass according to the Mass Balance approach.

Licence number: 951-31505292, Licence expiry data: 2024-01-30.

6. General information

6.1 San Marco Group Spa information

The Life Cycle Assessment (LCA) study and this EPD were created by the Product Safety Department of San Marco Group SpA, in collaboration with 2B Srl (www.to-be.it).

The company contact details are:

San Marco Group SpA

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6.2 Program information

Programme EPD:	The International EPD® System
Address	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website	www.environdec.com
E-mail	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
ISO standard ISO 21930 and CEN standard EN 15804 serve as the core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction products, version 1.2.5
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.
Life cycle assessment (LCA)
LCA accountability: 2B Srl
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006 via: ☑ EPD verification by EPD Process Certification* Internal auditor: Leo Breedveld, 2B Srl Third-party verification: CSQA Certificazioni Srl is an approved certification body accountable for third-party verification Third-party verifier is accredited by: Accredia *For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure of the EPDs, see the GPI.
Procedure for follow-up of data during EPD validity involves third-party verifier? ☑ Yes ☐ No

San Marco Group SpA is the exclusive owner of the EPD and is responsible for its content.

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.

7. Bibliography

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