



Environmental product declaration **EPD®**

Complies to ISO 14025:2006 and to EN 15804:2012+A2:2019

Products:	Latex paints, fixatives and water-based hardeners
Line:	Architectural Line
Program:	The International EPD® System, www.environdec.com
Program operator:	EPD International AB
CPC Code:	35110 Paints and varnishes and related products
Reference PCR:	2019:14
EPD® registration number:	S-P-04547
Publication date:	2021-09-02
Valid until:	2026-08-30







Environmental product declaration **EPD®**



EPD®



Environmental product declaration **EPD®**



Complies with ISO 14025 and EN 15804: 2012 + A2: 2019 for the following paint products:

MURALPIÙ Series 0240

SETAPLUS SATIN Series 1202

AURORA Series 1344

GARDEN UV MATT Series 3798

AURORA FIX Series 1360

AQUAFLOX Series 2184

EPOX HARDENER FOR FLOORS Series 0948



Program:

Program operator:

EPD® registration number:

Publication date:

Valid until:

The International EPD® System, www.environdec.com

EPD International AB

S-P-04547

2021-09-02

2026-08-30

An EPD® statement should provide up-to-date information and can be revised if conditions change. The declared validity is, therefore, subject to continuous registration and publication on www.environdec.com



The background of the entire page is a dense, close-up photograph of dark green leaves, likely from a peace lily or similar plant. The leaves are layered, with some in sharp focus and others blurred in the background, creating a sense of depth. The lighting is dramatic, with highlights on the veins and edges of the leaves, while the rest of the foliage is in deep shadow.

EPD®

*ENVIRONMENTAL PRODUCT
DECLARATION*

A woman with long brown hair is lying down, looking at a glowing green Earth globe. The globe is covered in lush green vegetation and blue water, with a bright light source from the top left creating a lens flare effect. The woman's face is in profile, looking towards the globe.

GO GREEN

THE FUTURE IS NOW

1. General information

Program information

Program	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

General data

The **UNI EN 15804** standard acts as Core Product Category Rules (PCR)

Product category rules (PCR):

CONSTRUCTION PRODUCTS, 2019:14, VERSION 1.1

The PCR review was conducted by:

The Technical Committee of the International EPD® System

Reviewer: Claudia A. Peña, University of Concepción, Chile.

Contact: www.environdec.com/contact.

Web: www.environdec.com/TC for member list.

Independent third-party verification of the declaration and data:

☒ External

☐ Internal

☐ EPD® process certification

☒ EPD® verification

Third party verifier: Certiquality srl

Accredited by:

Accredia - Accreditation n ° 003H rev. 15

The procedure for the follow-up of data during the validity of the EPD® involves a third-party verifier:

☒ No

☐ Yes

Estalia S.p.a. is responsible for the content of this EPD® declaration and has exclusive ownership of it.

EPD® claims belonging to the same product category but from different programs may not be comparable.

EPD® declarations of construction products may not be comparable if they do not comply with EN 15804.

For more information on comparability, see EN 15804 and ISO 14025 standards.

ESTALIA

PERFORMANCE COATINGS SPA



2. Company information

EPD® signer

Estalia Performance Coatings S.p.A.

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Certification body

Certiquality srl
Via Gaetano Giardino, 4 20123 Milano (MI)
www.certiquality.it



Description of the organization

Although formed in January 2020, the **Estalia Performance Coatings** group proudly boasts much deeper roots. In fact, the stories, know-how and experiences of various historical brands of paint manufacturers on the Italian scene converge within it, including **Franchi&Kim** and **Damiani**, starting immediately after the war up to the present day. A story that is the result of commercial successes and mergers that has led, year after year, to a strengthening and consolidation in the market of all the brands of the group with particular reference to the industrial sector.

A group that, starting from the Latin name "**Est Italia**", proudly wants to recall the excellence of **Made in Italy** even in a particular sector such as that of painting products.

Through the name **Estalia** we intend to recall our territory and its excellences elegantly and proudly and - at the same time - not to set limits by going "**beyond the limits**" through an expansive strategy beyond the borders of the Italian brand.

With the new name, the goal is to align with the values of solidity and dynamism that are representative of the company. The primordial imprinting lies precisely in this desire to **look beyond**, to dream of **new goals**, to find new horizons, to the East, to study and develop new solutions, to seize new opportunities on the market, to take risks, to anticipate concepts that could be metabolized after years.

Estalia means **aiming high**, it means looking beyond one's personal and territorial limits, it means leaving one's comfort zone. The only essential element to welcome and anticipate change.

The high specialization in its sector and consolidated experience give the group concreteness and the desire to maintain its leading position on the market. Constant growth, increase in turnover and expansion abroad represent the mission of the new group.

The group has a staff of **175** employees (including **25** laboratory technicians), **51** commercial consultants, **7** permanent consultants, for a group turnover of **47** million euros.

The organizational structure makes use of **3 production plants** located in **Castenedolo**, **Macclodio** and **Montecchio Emilia** with related goods shipping warehouses.

SBU Strategic Business Units

ESTALIA Performance Coatings divides its business into some very specific areas: we move from industrial paints to products for industrial bodywork, up to particular and niche sectors such as aerosol products, products for the realization of color cards, those for spray cans and primers and finishes for fiber cement sheets.

The flagship of the group cannot be excluded from the strategic business areas: that is, the color formulations and tinting software department and the entire market linked to it.

The 4 main clusters

Industrial Coatings

With reference to DTM, 1K and 2K water and solvent-based paint products, to the paint cycles tested according to the 12944 standard, to the certifications and solutions for all markets of the so-called General Industry.

Mainly: Ace Sector, Industrial Bodywork, Light and Heavy Carpentry, Metalworking and Industrial Automation, Liquid Storage and Treatment, Food Industry, High Temperatures.

Architectural Coatings

Latex paints, enamels, exterior coatings, and special products for walls, for iron and wood supports for all environments relating to civil and industrial architecture. As well as products for concrete floors such as fixative impregnating agents, thin film finishes and clear coats.

Special Coatings

Tinting products and systems for the spray can sector, converters and colorants for the painting of color cards, products for the coloring of flat and corrugated fiber cement sheets.

Tinting Solutions

The tinting cluster is the flagship of the group with reference to colorants, tinting systems and software as well as professional color detection equipment, in order to provide tinting and colorimetric support.



The product sectors

INDUSTRY

Paint products for all sectors of the General Industry.

DECORATIVE

Water-based paints and enamels for interiors and exteriors, for iron and wood.

CAR BODY

Products for car-refinishing and industrial bodywork.

AEROSOL

Specific paint products for the spray can sector.

COLOR CARDS

Converters and colorants for the creation of color cards.

FIBROCEMENT

Products for coloring flat and corrugated sheets.

COLOUR FORMULATION & TINTING SOFTWARE DEPARTMENT

Colorants, tinting systems and software for all sectors.

Certifications

The company is equipped with certified management systems, according to the following standards:

UNI EN ISO 9001 Quality management systems

UNI EN ISO 14001 Environmental management systems

ENVIRONMENTAL PRODUCT DECLARATION

GREEN PRODUCT



3. Information on the declaration

The document

The EPD® - Environmental Product Declaration is an environmental product declaration developed in application of the standard:

UNI EN ISO 14025 2010 Environmental labels and declarations - **Type III** environmental declarations - Principles and procedures.

It is a document subject to verification by an independent third party.

The EPD® uses the **LCA methodology - Life Cycle Assessment** to identify and quantify the environmental impacts of products. It has an international value and requires registration on www.environdec.com.

Evaluations

The EPD® declaration makes it possible to **evaluate** the **environmental impacts of the products** used for new construction, renovation and maintenance works of public buildings and to **certify the sustainability** of **public** and **private buildings**.



EPD® guarantees

Objectivity

Uses the LCA (*life cycle assessment*) as a methodology for identifying and quantifying environmental impacts;

Comparability

It makes products of the same category comparable through specific requirements (*PCR - Product Category Rules*);

Credibility

It is verified and validated by an independent accredited body which ensures the truthfulness of the information contained.

The technical development of products takes place mainly within the laboratory area at the production unit in Castenedolo (BS), about 500 square meters, where teams of qualified technicians deal with:

- Search for **raw materials** with the best performance, minimum environmental impacts and the least exposure to risks for the health and safety of the person
- **Produce** water-borne and solvent-based **paint products** for decorative, industrial and related sectors, colorants for water-borne and solvent-based tinting systems, using the best technologies;
- **Develop** the most advanced **tinting software** internally;

Objective: environmental impact assessment

The objective of the LCA study conducted by Estalia Performance Coatings SpA is to **quantify the potential environmental impacts** related to the production of certain items such as fixatives, water-based paints, interior and exterior enamels and products for cement flooring, considering their entire life cycle.

The potential environmental impacts are disclosed through the **Environmental Product Declaration EPD®**.



PAINT OUR FUTURE

THE FUTURE IS NOW

4. Product information

Products under study and recipients

The recipients of this document are all stakeholders and all those who are directly or indirectly involved in the use of the products of the series:

Muralpiù Series 0240, Setaplus Satin Series 1202, Aurora Series 1344, Garden UV Matt Series 3798, Aurora-Fix Series 1360, Aquaflox for floors Series 2184 and its **Epox Hardener for floors Series 0948**.

The products analyzed are paint products, belonging to the product categories **UN CPC: 35110** Paints and varnishes and related products.

Fixatives and water-based paints are specific paint products for painting wall supports such as plasterboard, gypsum, civil plaster.

Depending on the specific PVC, **the paint products differ** in terms of use, therefore depending on the **polymer content** (*synthetic binder*), the type and quantity of **fillers present**, the quantity of **titanium dioxide** and functional **additives**, they give the wall product characteristics breathability, water repellency, washability and aesthetic effects. These characteristics make these products suitable for painting internal rooms and external civil and industrial structures.

Paint products based on organic polymers for flooring are two-component systems, which require the use of a specific catalyst, which give the concrete floors characteristics of hardness, durability, resistance to the passage of means of handling and have a pleasant aesthetic effect.



Series 0240

MURALPIU®

High coverage super washable acrylic water-based paint for interiors and exteriors.

S-P-04547 EPD®
environdec.com



TECHNICAL FEATURES

Super washable latex paint for interiors and exteriors, with acrylic binder, white extenders with controlled granulometry and titanium dioxide. The product is characterized by excellent protection against atmospheric agents and ease of application.

Due to its velvety matt appearance, its low dirt absorption characteristic and the countless shades in which it can be reproduced, it is highly appreciated especially for interiors. It is also applicable on non-discontinuous external surfaces.

FIELDS OF USE

Super washable matt latex paint ideal for the protection and internal and external finishing of houses, civil and industrial buildings where high resistance to abrasion, atmospheric agents and excellent color saturation are required. Ideal for painting prestigious rooms and domestic environments such as living rooms, bedrooms, studios for which it is intended to enhance furnishings and furnishing accessories.

SUBJECT OF STUDY

Production site	Formulation	Base packaging	Colored packaging	Packaging material
Castenedolo (BS)	White Base	14 l	14 l	Steel
		2,5 l	2,5 l	
		0,75 l	0,75 l	Plastic
	White Base M2	13,44 l	14 l	Steel
		2,4 l	2,5 l	
		0,72 l	0,75 l	Plastic
	Clear Base	13,02 l	14 l	Steel
		2,325 l	2,5 l	
		0,698 l	0,75 l	Plastic

TECHNICAL DATA

VOC	20,5 g/l	Spreading Rate	7 m²/kg
Specific Gravity	1,28 - 1,65 kg/l	Dilution	30% - 40% by volume with tap water

Haccp certified satin-finished wall emulsion with velvety effect for interiors, based on silver ions that preserve the film from the proliferation of fungi and bacteria

TECHNICAL FEATURES



Water-based satin-finished wall emulsion for interiors consisting of acrylic resins, it gives the substrate a soft and velvety appearance. It is characterized by ease of application and fast drying.

The film, due to its hardness and compactness, has a high degree of resistance to the penetration of stains, preventing dirt and dust from being retained and thus keeping the surface perfectly clean.

The product is enriched with silver ions in order to improve the quality of the air and the healthiness of the rooms.

FIELDS OF USE

Water-based satin-finished emulsion as a finishing coat, for the protection of masonry, plaster and plasterboard supports. Thanks to the Haccp certification it is the ideal product for painting environments where the deposit, storage, processing, administration of food substances to the consumer takes place, i.e. canteens, food industries, industrial kitchens, warehouses and food laboratories, bars, restaurants and dairies.

Thanks to the addition of silver ions, the product is recommended for painting walls and ceilings in highly frequented rooms where the proliferation of microorganisms can be harmful to the environment and health, such as kindergartens, schools, hospitals, retirement homes, outpatient clinics.

SUBJECT OF STUDY

Production site	Formulati	Base packaging	Colored packaging	Packaging material
Castenedolo (BS)	White Base	10 l	10 l	Steel
		4 l	4 l	Plastic
	Clear Base	8,5 l	10 l	Steel
		3,4 l	4 l	Plastic

TECHNICAL DATA

VOC	1,3 g/l	Spreading Rate	9,5 m ² /kg
Specific Gravity	1,0 - 1,3 kg/l	Dilution	10% - 20% by volume with tap water



Serie 1344

AURORA

S-P-04547 EPD®
environdec.com

Odorless washable latex paint for interiors, with low Voc and formaldehyde content, based on silver ions that preserve the film from the proliferation of fungi and bacteria.

TECHNICAL FEATURES



Eco-friendly latex paint for interiors, washable, with excellent coverage and easy application characteristics. It has good resistance to abrasion and is formulated in respect of health without the use of solvents and/or glycols.

The product is not supplemented with formaldehyde-based preservatives and/or formaldehyde donors and is certified according to Test Report no. 11LA05073 of 10/05/2012: Quantitative determination of the Formaldehyde content and Determination of the VOC content.

The product is enriched with silver ions in order to avoid bacterial proliferation.

Aurora considerably improves air quality and protects subjects sensitive to irritation phenomena.

FIELDS OF USE

For the protection and internal finishing of houses, civil and industrial buildings. Particularly suitable for painting interior domestic environments, hospitals, schools, laboratories and food industries and for all those environments in which the bacterial load and the proliferation of harmful microorganisms are very high. It is the ideal product to make interior environments healthy and livable thanks to its sanitizing action.

SUBJECT OF STUDY

Production site	Formulation	Packaging	Packaging material
Castenedolo (BS)	White	10 l	Steel

TECHNICAL DATA

VOC	1,0 g/l	Spreading Rate	5,3 m²/kg
Specific Gravity	1,5 - 1,6 kg/l	Dilution	20% - 30% by volume with tap water

NOTE: in the reporting year the product was not on the market with the formulation under study.

Series 3798

GARDEN UV MATT

S-P-04547 EPD®
environdec.com

Top quality, matt, acrylic water-based emulsion for exterior walls, with anti-algae additives to protect the dry film.

TECHNICAL FEATURES



Water-based matt emulsion for exteriors, formulated with non-yellowing emulsion acrylic resins, titanium dioxide, matt silicas, microcrystalline fillers and special additives that give it excellent flow and brushability, as well as a smooth and matt aspect. It is characterized by high washability and good opacity in saturated colors and does not show lapping marks. It forms a tough film with excellent resistance to atmospheric agents and UV rays. As per technical certificates, the product is characterized by low dirt pick-up and added with anti-algae in order to make the paint film resistant to the proliferation of algae, molds, fungi and lichens.

FIELDS OF USE

Matt acrylic wall emulsion ideal as a matt finishing coat for exterior for painting industrial and civil buildings, prestressed concrete panels and smooth concrete substrates pre-treated with fixative. Ideal for modern buildings and sheds. It is particularly suitable on very exposed facades and poorly protected by eaves and on substrates subjected to the aggression of algae and lichens. Thanks to the particular formulation, the first 130 colors of the exterior color card are guaranteed for 10 years upon correct application of the dedicated cycle.

SUBJECT OF STUDY

Production site	Formulati	Base packaging	Colored packaging	Packaging material
Castenedolo (BS)	White Base	10 l	10 l	Steel
		2,5 l	2,5 l	
	Clear Base	8,5 l	10 l	Steel
		2,125 l	2,5 l	

TECHNICAL DATA

VOC 14,4 g/l

Specific Gravity 1,1 - 1,4 kg/l

Spreading Rate 10,0 m²/kg

Dilution 10% - 15% by volume with tap water





Series 1360

AURORA-FIX

S-P-04547 EPD®
environdec.com

High penetration consolidating fixative for interiors and exteriors, odorless and LOW VOC.



TECHNICAL FEATURES

Consolidating water-based fixative for interiors and exteriors, consisting of acrylic binder in micro emulsion. The structure of the polymer guarantees excellent penetration into the support, consolidating and fixing the surface and significantly decreasing its absorption. The product is odorless, has a low VOC and is easy to apply.

FIELDS OF USE

Indicated as a consolidating fixative for the painting of domestic environments, hospitals, schools, laboratories, food industries and in the preparation of surfaces that must subsequently be covered with latex paints and enamels or quartz paints and coatings in the case of painting buildings in the exterior. Ideal in cycles in which washable finishes and low environmental impact enamels, Haccp certified and additives with silver ions are used.

SUBJECT OF STUDY

Production site	Formulation	Packaging	Packaging material
Castenedolo (BS)	Clear	5 l	Plastic tank

TECHNICAL DATA

VOC	1,0 g/l	Spreading Rate	17,0 m ² /kg
Specific Gravity	0,95 - 1,05 kg/l	Dilution	100% by volume with tap water

Series 2184

AQUAFLOX (A part)

S-P-04547 EPD®
environdec.com

Semi-gloss water-based epoxy enamel, specific as an anti-dust coating for industrial concrete floors. CE, CAM and IAQ certified.



TECHNICAL FEATURES

Semi-gloss water-based epoxy enamel, specific as an anti-dust coating for industrial concrete floors. The treated surface is dustproof and impermeable to oils and greases.

It is also resistant to petrol, acids and diluted bases.

The product is characterized by excellent flow, smooth and saturated appearance and above all high adhesion to the cement substrate by virtue of the positive results of the pull-off tests necessary to identify the traction and tightness of the film system.

The product is certified with A + classification according to the minimum environmental criteria (CAM) and the parameters of Indoor Air Quality (IAQ) with reference to voc emissions within 28 days of application.

The product also has the CE marking for construction products with reference to the DoP performance parameters necessary for the construction of products in the construction sector. Finally, the product was tested according to the ministerial decree 239/89 relating to the BCRA method which measures the coefficient of dynamic friction in order to verify the resistance to slipperiness on the cement substrate.

FIELDS OF USE

Water-based epoxy enamel ideal as a finishing coat for concrete floors. Suitable for floors in warehouses, garages, food and mechanical industries, workshops. The product is also suitable for vertical application on ceramic materials. It is the ideal product where a high surface hardness and a structured body effect are required. This product can also be applied directly on the cement substrate as long as the pre-existing conditions of the floor are checked. In cases where the concrete surface requires the use of a suitable primer, we recommend the preliminary application of a first coat of solvent-based and water-based fixative impregnating agents provided in the flooring range.

SUBJECT OF STUDY

Production site	Formulati	Base packaging	Colored packaging	Packaging material
Macloedio (BS)	Clear Base	3,6 kg	4 kg	Steel
		14,4 kg	16 kg	
	White Base N2	3,8 kg	4 kg	Steel
		15,2 kg	16 kg	

TECHNICAL DATA

VOC	0,8 g/l	Spreading Rate	3,8 m ² /kg
Specific Gravity of hardened product	1,46 kg/l	Dilution	1°strato 20% - 2° strato 15% by volume with tap water



Series 0948

EPOX HARDENER FOR FLOORS

(B part)

S-P-04547 EPD®
environdec.com

Water-based hardener for epoxy products, for flooring



TECHNICAL FEATURES

Hardener for water-based epoxy enamels for flooring with high hardness and chemical resistance.

FIELDS OF USE

Emulsifiable epoxy hardener for 2K water-based systems for industrial floors.

SUBJECT OF STUDY

Production site	Formulation	Packaging	Packaging material
Maclodio (BS)	Clear	1 kg 4 kg	Plastic

NOTE

The packages of formulations other than white are completed with the subsequent addition of the pigment, until the format under study is reached.
The relative price lists show the “Base packaging” and “Colored product packaging” formats, the latter being the subject of this EPD® declaration.



ENVIRONMENTAL PRODUCT DECLARATION

5. Information on the LCA

Life Cycle Assessment (LCA) is an analytical and systematic methodology that **evaluates the environmental footprint** of a product or service, throughout its entire life cycle.

Declared unit

The declared unit expresses the quantity of product used in the EPD® to represent the environmental profile of the products based on the life cycle phases included (modules). The declared unit of the study, in analogy to the PCR, is 1 kg of product, including packaging.

Time boundaries

The year taken as a reference for the study is 2019.

LCA database and software used

The modeling of the impacts was conducted using the Sima Pro v.9 software and the Ecoinvent v.3.6 database.



Description of the system boundaries

The following type of EPD® was adopted:

“Cradle to gate”, with modules **C1-C4**, module **D** and optional modules **A4** and **A5**.

The system boundaries therefore include the following phases:

A. Production phase

A1 Procurement of raw materials

- Extraction and processing of raw materials (*resins, fillers, additives, etc.*) and their packaging
- Production of energy vectors (*electricity, heat*) used in production processes

A2 Inbound transport

Transport of raw materials and packaging of the finished product to the Estalia production sites

A3 Production

Realization of products in the production sites of Castenedolo and Macclodio; production of primary and secondary packaging and auxiliary materials (*e.g. products used in the water purification plant, spare parts for machines*)

B. Construction phase

A4 Transport to the customer

Distribution of finished products to the customer

A5 Installation

In this phase, the production and treatment phase of the waste deriving from the packaging of the analyzed products was considered as well as any emissions of volatile organic compounds during the application phase of the paint products.

C. End of life

C1 Dismantling and demolition

Dismantling or demolition process

(note: the paint product, after its application, is physically integrated with other materials and cannot be physically separated from these at the end of its life. This module therefore has no impact)

C2 Waste transport (end of life)

Transport of waste to treatment/disposal points

C3 Waste treatment processes

Waste treatment for preparation for recovery-recycling

C4 Disposal

Final disposal of waste (end of life of the product)

D. Recovery of resources

D Reuse, recovery, potential recycling

Potential benefits and impacts related to the recovery-reuse-recycling of materials and energy along the life cycle.

This module evaluates the benefits and/or impacts related, for example, to the potential recycling of materials at the end of the life of the products under study. The modeling of the benefits from recovery-reuse recycling is carried out according to the requirements of EN 15804.

Exclusions

The use phases (**B1-B7**) were not included in the study, as:

1) They are optional for PCRs;

2) The impacts associated with these phases are negligible or nil, given the characteristics and function of the products under study. The paint products, in fact, are applied manually on the product and do not require maintenance or repairs, nor do they consume energy or water, but are disposed of together with the product itself, as they are physically integrated with it.

The following are not considered within the system boundaries: the production of equipment and buildings with a life of more than 3 years and the mobility of employees.



Cut-off criteria and main characteristics of inventory data

The cut-off rules foreseen by EN 15804 and by the PCR have been applied.

In particular, the following were considered in the cut-off:

- 1) Packaging with which the packaging of the **finished product** is supplied;
- 2) Packaging and transport of **auxiliary materials**
(chemicals for Castenedolo treatment plant, main spare parts from on-site maintenance interventions).

A dataset regionalized to the European context was used for most of the **raw materials** and product **packaging**.

For **electricity**, the consumption mix of the plant in the reference year was considered, equal to: 39% energy from the **photovoltaic system** and 61% **electricity** taken from the grid. The value of the GWP-GHG indicator relating to the electricity model implemented in the study is equal to 0.573 kg CO₂ eq/kWh.

For **inbound and outbound logistics**, the weighted average distances were considered.

In particular, the following means of transport were considered for the distribution of the products: **Euro 4 articulated lorry, ship**; the weighted average distance from the production site to the customer and the real densities of the transported products were calculated.

The utilization factor of the volumetric capacity, for packaged products is > 1.

In the product **application phase (A5)**, the **end of life of the packaging** and the **dilution water used** were considered; in this phase auxiliary materials are not used, nor energy resources are consumed. Any releases of volatile organic compounds into the air were also considered, as reported in chapter 4.

The **paint product**, once applied to the product, is physically integrated with it, and cannot be separated when it is dismantled, therefore for module **C1 (demolition)** and module **C3 (treatment for reuse, recovery and recycling)** they have been considered **null impacts**.

A **landfill disposal** scenario (100%) was defined for **paint products**, also considering the transport phase of inert waste by road for a distance of 30 km from the site to the treatment plant.

The benefits and impacts related to the **recovery** of primary plastic and steel **packaging** were considered in module **D**, in terms of:

- 1) **production of electricity** from the combustion of plastic, to replace electricity produced from renewable sources;
- 2) **use of steel and recycled plastic** for the production of steel and plastic, replacing virgin materials.

Allocation criteria

No co-products arise from the manufacturing process of the paint products.

Furthermore, the manufacturing process **does not produce waste**.

The following data have been allocated on the kg of product produced in the factory: consumption of electricity, consumption of natural gas, auxiliary substances and for maintenance, waste produced, emissions into the atmosphere and into water.

Data quality

The inventory data collected for phases **A1-A3** are primary data, specific for the production site.

For secondary data, data from Ecoinvent 3.6 databases were used, December 2019, referring mainly to the European context and with a temporal representativeness of less than 3 years.

System boundaries

In accordance with the reference PCR and the EN 15804 standard, the system boundaries are divided into the following three phases of the product life cycle:

1

PHASE OF PRODUCTION

from cradle-to-gate



Forms A1, A2 and A3



Processes related to the procurement of raw materials, finished product packaging and energy



Processes related to the transport of raw materials from suppliers to the production plant



Realization of products in production sites

2

CONSTRUCTION PHASE

from gate-to-gate



A4 and A5 forms



Transport to the customer and installation of the product

3

END OF LIFE PHASE AND RESOURCES RECOVERY

from gate-to-grave

















Forms C1, C2, C3, C4 to D



Processes related to dismantling and demolition, transport, disposal/recovery of the product and its potential reuse and recycling.

Process description

UPSTREAM PROCESSES	 PRODUCTION OF RAW MATERIALS	 A1 A2	<p>Raw materials and energy</p> <p>The production process begins with the production and transport of all the raw materials used to make the product, necessary for the production processes. In particular, the products generally consist of a series of powders, resins, pigments and additives of different nature.</p>
	 TRANSPORT OF RAW MATERIALS		
	 ELECTRICITY AND FUEL PRODUCTION		
CORE PROCESSES	 PACKAGING PRODUCTION	 A3	<p>Production plant</p> <p>The production phases of the products are carried out within the factories of Castenedolo and Macclodio (BS): they include the mixing of the “ingredients” to produce painting products and their packaging with primary, secondary and tertiary packaging (<i>stretch film for bundling, wooden pallets</i>) as well as the production of auxiliary materials (<i>spare parts, water purification</i>).</p>
	 AUXILIARY SUBJECTS		
	 PRODUCTION		
	 PACKAGING		
DOWNSTREAM PROCESSES	 DISTRIBUTION	 A4 A5 C D	<p>Distribution, installation and end of life</p> <p>Once packaged, the product is stored in the finished products warehouse.</p> <p>The distribution phase consists of transporting the product to the points of sale.</p> <p>During the installation phase, the following were considered:</p> <ul style="list-style-type: none"> • Production and treatment of waste deriving from packaging • Emissions of volatile organic compounds during application <p>The end of life phase consists of:</p> <ul style="list-style-type: none"> • Transport of waste to treatment plant • Waste disposal • Reuse, recycling or recovery
	 INSTALLATION		
	 TRANSPORT OF WASTE, DISPOSAL AT THE END OF LIFE		
	 REUSE, RECYCLING, RECOVERY		

Declared modules, geographical scope, share of specific data and variation of data (GWP-GHG indicator):

	1			2									3				
	Production			Construction		Use							End of life				Resource Recovery
	Raw material	Inbound transport	Production	Outbound transport	Construction and installation	Use	Maintenance	Repair	Replacement	Renovation	Energy consumption	Water consumption	Disposal and demolition	Waste transport	Recovery treatment	Disposal	Potential for reuse, recovery or recycling
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	-	-	-	-	-	-	-	X	X	X	X	X
Geographic area	EU GLO	EU	EU IT	EU	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Specific data	> 90 %					-	-	-	-	-	-	-	-	-	-	-	-
Product variations ⁽¹⁾ (GWP-GHG)	-33% / +38% ⁽¹⁾					-	-	-	-	-	-	-	-	-	-	-	-
Site changes	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-

⁽¹⁾ For specific variations for each series, check the data contained in the following table

System boundaries
X = included in the study
 - = module not declared

Product variation compared to the representative product for the GWP-GHG indicator

Products	Formulation	Packaging	Product variations (GWP-GHG)
MURALPIÙ Series 0240	White Base	14 l	-
		2,5 l	-
		0,75 l	-
	White Base M2	14 l	-12,3%
		2,5 l	-12,3%
		0,75 l	-12,3%
	Clear Base	14 l	-32,8%
		2,5 l	-32,8%
		0,75 l	-32,8%
SETAPLUS SATIN Series 1202	White Base	10 l	37,6%
		4 l	37,6%
	Clear Base	10 l	-2,7%
		4 l	12,0%
AURORA Series 1344	White	10 l	-14,2%
GARDEN UV MATT Series 3798	White Base	10 l	19,6%
		2,5 l	19,6%
	Clear Base	10 l	-16,5%
		2,5 l	-3,8%
AURORA-FIX Series 1360	Clear	5 l	-11,4%
AQUAFLOX Series 2184 hardening with EPOX HARDENER FOR FLOORS Series 0948	White	4 kg + 1kg	33,7%
	Clear	4 kg + 1kg	30,9%

The white base of the MURALPIÙ Series 0240 product in its 14 l, 2.5 l and 0.75 l formats is the representative product

6. Information on the content of the products

Within each product series, the **formulations available** in the catalog were **analyzed** and specified in the chapter relating to information on the products under study such as fixatives, latex paints, enamels for interiors and exteriors and products for cementitious flooring.

Based on the customer's requests, the **formulations** (white base, clear base, etc.) can be **used** for the **realization of the color** using computerized **tinting systems**.

The table shows the average contents of the raw materials in the different formulations available for each series.

Product	Raw material			
	Water	Fillers and pigments	Emulsions and resins	Additives
MURALPIÙ Series 0240	30-40%	35-55%	10-15%	≤5%
SETAPLUS SATIN Series 1202	40-50%	10-35%	25-35%	≤5%
AURORA Series 1344	30-36%	50-55%	7-12%	≤5%
GARDEN UV MATT Series 3798	40-50%	15-35%	15-35%	≤5%
AURORA-FIX Series 1360	70-80%	-	20-25%	≤5%
AQUAFLOX Series 2184	30-40%	41-47%	15-25%	≤5%
EPOX HARDENER FOR FLOORS Series 0948	-	-	100%	-



The analyzed products can be sold in different formats.
The table shows an average weight, calculated as the average of the sizes under study and reported in the chapter Information on the products under study.

Packaging materials kg/kg of product	Steel packaging/lid	Plastic Bucket, lid, drum	Wood Pallet
MURALPIÙ <i>Series 0240</i>	0,016	0,042	0,046
SETAPLUS SATIN <i>Series 1202</i>	0,033	0,115	0,056
AURORA <i>Series 1344</i>	0,053	0,010	0,039
GARDEN UV MATT <i>Series 3798</i>	0,079	0,006	0,060
AURORA-FIX <i>Series 1360</i>	-	0,056	0,047
AQUAFLOX <i>Series 2184</i>	0,109	-	0,063
EPOX HARDENER FOR FLOORS <i>Series 0948</i>	-	0,085	0,063

The products do not contain SVHC substances (*Substances of Very High Concern*), nor post-consumer or renewable materials.

7a. Environmental information

The results refer to the most representative product among those under study (**MURALPIÙ Series 0240 White Base**), the closest to the average of the results, in relation to the GWP-GHG indicator.

The variations of this indicator are shown in the table on page 29.

Potential environmental impacts: mandatory indicators according to EN 15804

Impact category		UdM	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
Global Warming Potential (GWP)	Fossil (GWP-fossil)	kg CO ₂ eq	1,97	0,23	0,38	0,12	1,04·10 ⁻²	0,00	2,70·10 ⁻³	0,00	0,01	-0,05
	Biogenic (GWP-biogenic)	kg CO ₂ eq	0,00	1,06·10 ⁻⁴	4,70·10 ⁻³	5,22·10 ⁻⁵	1,77·10 ⁻⁴	0,00	1,98·10 ⁻⁵	0,00	1,04·10 ⁻⁵	-2,32·10 ⁻⁴
	Land use (GWP-luluc)	kg CO ₂ eq	1,22·10 ⁻³	1,27·10 ⁻⁴	2,29·10 ⁻⁴	6,91·10 ⁻⁵	2,84·10 ⁻⁷	0,00	7,96·10 ⁻⁷	0,00	1,47·10 ⁻⁶	-3,32·10 ⁻⁵
	TOTAL (GWP)	kg CO₂ eq	1,97	0,23	0,38	0,12	1,06·10⁻²	0,00	2,71·10⁻³	0,00	0,01	-0,05
Total GWP (GWP-GHG ⁽¹⁾)		kg CO ₂ eq	1,93	0,23	0,37	0,12	1,04·10 ⁻²	0,00	2,68·10 ⁻³	0,00	0,01	-0,05
Acidification (AP)		mol H ⁺ eq	0,03	1,11·10 ⁻³	1,72·10 ⁻³	7,60·10 ⁻⁴	3,28·10 ⁻⁶	0,00	1,38·10 ⁻⁵	0,00	5,00·10 ⁻⁵	-2,70·10 ⁻⁴
Freshwater eutrophication (EP-freshwater)		kg P eq	5,68·10 ⁻⁴	2,41·10 ⁻⁵	1,53·10 ⁻⁴	1,26·10 ⁻⁵	1,18·10 ⁻⁷	0,00	1,93·10 ⁻⁷	0,00	5,41·10 ⁻⁷	-3,39·10 ⁻⁵
		kg PO ₄ eq	1,74·10 ⁻³	7,40·10 ⁻⁵	4,70·10 ⁻⁴	3,85·10 ⁻⁵	3,60·10 ⁻⁷	0,00	5,92·10 ⁻⁷	0,00	1,66·10 ⁻⁶	-1,04·10 ⁻⁴
Marine water eutrophication (EP-marine)		kg N eq	1,86·10 ⁻³	3,53·10 ⁻⁴	3,02·10 ⁻⁴	2,28·10 ⁻⁴	1,83·10 ⁻⁶	0,00	4,72·10 ⁻⁶	0,00	1,73·10 ⁻⁵	-5,90·10 ⁻⁵
Terrestrial eutrophication (EP)		mol N eq	0,02	3,85·10 ⁻³	0,00	2,50·10 ⁻³	1,28·10 ⁻⁵	0,00	5,17·10 ⁻⁵	0,00	1,90·10 ⁻⁴	-5,94·10 ⁻⁴
Ozone depletion potential (ODP)		kg CFC 11 eq	1,52·10 ⁻⁷	4,94·10 ⁻⁸	5,19·10 ⁻⁸	2,63·10 ⁻⁸	7,80·10 ⁻¹¹	0,00	6,40·10 ⁻¹⁰	0,00	2,17·10 ⁻⁹	-3,02·10 ⁻⁹
Tropospheric ozone formation(POCP)		kg NMVOC eq	0,01	1,11·10 ⁻³	9,44·10 ⁻⁴	7,06·10 ⁻⁴	3,43·10 ⁻⁵	0,00	1,54·10 ⁻⁵	0,00	5,51·10 ⁻⁵	-2,42·10 ⁻⁴
Abiotic depletion of elements (ADP-minerals&metals) ⁽²⁾		kg Sb eq	2,81·10 ⁻⁵	1,12·10 ⁻⁵	4,31·10 ⁻⁵	5,81·10 ⁻⁶	5,54·10 ⁻⁹	0,00	4,65·10 ⁻⁸	0,00	4,82·10 ⁻⁸	-8,31·10 ⁻⁷
Abiotic exhaustion Fossil fuels (ADP-fossil) ⁽²⁾		MJ, NCV	27,28	3,42	5,99	1,81	0,01	0,00	0,04	0,00	0,15	-0,68
Water deprivation potential (WDP)		m ³ world eq deprived	1,97	1,22·10 ⁻²	0,17	6,31·10 ⁻³	1,86·10 ⁻²	0,00	1,38·10 ⁻⁴	0,00	0,01	-0,01

In relation to the total GWP indicator, it is possible to note that the most impacting phase is phase A1, concerning the production of the raw materials that make up the product.

This phase takes place upstream of the Estalia production process.

Use of resources

Indicator	UdM	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	3,62	0,04	0,00	0,00	0,00	0,00	0,00	-0,06
PERM	MJ	0,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00
PERT	MJ	3,70	0,04	0,00	0,00	0,00	0,00	0,00	-0,06
PENRE	MJ	36,11	1,81	0,01	0,00	0,04	0,00	0,15	-0,54
PENRM	MJ	0,57	0,00	0,00	0,00	0,00	0,00	0,00	-0,14
PENRT	MJ	36,68	1,81	0,01	0,00	0,04	0,00	0,15	-0,68
SM	kg	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
NRSF	MJ	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
FW	m ³	0,014	0,000	3,49·10 ⁻⁴	0,00	8,83·10 ⁻⁶	0,00	1,61·10 ⁻⁴	-9,15·10 ⁻⁴

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

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

⁽¹⁾ The indicator includes all greenhouse effect gases included in the **total GWP**, but excludes the absorption and emissions of biogenic carbon dioxide and the biogenic carbon stored in the product. This indicator is therefore equal to the **GWP indicator** originally defined in EN 15804: 2012 + A1: 2013.

⁽²⁾Disclaimer: The results of the indicators must be used with caution as the uncertainty related to these results is high or the experience related to this indicator is limited

7b. Production of waste and outgoing flows

Production of waste

Indicator	UdM	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed of	kg	$4,88 \cdot 10^{-5}$	$4,89 \cdot 10^{-6}$	$1,93 \cdot 10^{-8}$	0,00	0,00	0,00	0,00	$-2,65 \cdot 10^{-6}$
Non-hazardous waste disposed of	kg	1,19	0,05	0,01	0,00	0,00	1,00	1,00	-0,02
Radioactive waste disposed of	kg	$1,11 \cdot 10^{-4}$	$1,21 \cdot 10^{-5}$	$4,15 \cdot 10^{-8}$	0,00	0,00	0,00	0,00	$-1,31 \cdot 10^{-6}$

Outgoing flows

Indicator	UdM	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for reuse	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Material for recycling	kg	0,01	0,00	0,10	0,00	0,00	0,00	0,00	0,00
Materials for energy recovery	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Exported energy, electricity	MJ	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Exported, thermal energy	MJ	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

8. Information on biogenic carbon content

Information on biogenic carbon content

Results per declared unit		
Biogenic carbon content	UoM	Amount
Biogenic carbon content in the product	kg C	Not significant
Biogenic carbon content in packaging	kg C	0,032

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

9. Additional impact indicators

Indicator	UdM	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	<i>Disease incidence</i>	$1,37 \cdot 10^{-7}$	$6,61 \cdot 10^{-9}$	$3,45 \cdot 10^{-11}$	0,00	$2,52 \cdot 10^{-10}$	0,00	$9,71 \cdot 10^{-10}$	$-4,61 \cdot 10^{-9}$
IRP	<i>kBq U235 eq.</i>	0,24	0,01	$6,79 \cdot 10^{-5}$	0,00	$2,16 \cdot 10^{-4}$	0,00	$6,58 \cdot 10^{-4}$	$-3,00 \cdot 10^{-3}$
ETP-fw	<i>CTUe</i>	56,68	1,64	0,01	0,00	0,03	0,00	0,10	-2,17
HTP-c	<i>CTUh</i>	$4,91 \cdot 10^{-9}$	$5,89 \cdot 10^{-11}$	$4,95 \cdot 10^{-13}$	0,00	$8,32 \cdot 10^{-13}$	0,00	$2,21 \cdot 10^{-12}$	$-4,20 \cdot 10^{-10}$
HTP-nc	<i>CTUh</i>	$5,37 \cdot 10^{-9}$	$1,68 \cdot 10^{-9}$	$1,83 \cdot 10^{-11}$	0,00	$3,84 \cdot 10^{-11}$	0,00	$6,79 \cdot 10^{-11}$	$-5,13 \cdot 10^{-9}$
SQP	<i>Dimensionless</i>	15,13	0,87	0,01	0,00	0,05	0,00	0,31	-0,19

Acronyms

PM=Particulate matter emissions;
 IRP= Ionizing radiation, human health;
 ETP-fw= Eco-toxicity (freshwater);
 HTP-c= Human toxicity, cancer effects;
 HTP-nc= Human toxicity, non-cancer effects;
 SQP= Land use related impacts/Soil quality

Disclaimer

The IRP impact category mainly deals with the possible impact of low ionizing radiation on human health of the nuclear cycle. It does not consider the effects of possible nuclear accidents, occupational exposure or disposal of radioactive waste.

Potential ionizing radiation from soil, radon and some building materials is also not measured by this indicator.

10. References



ESTALIA Performance Coatings S.p.A.
www.estaliacoatings.com



General Programme Instructions of the International EPD® System.
Version 3.01.
PCR 2019:14 CONSTRUCTION PRODUCTS,
Version 1.1



UNI EN 15804:2019
Sustainability of constructions
Environmental product declarations
Framework rules for development by product category

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EPD®

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