



ARD Raccanello S.p.A

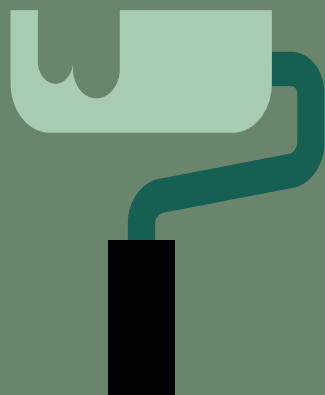


ENVIRONMENTAL PRODUCT DECLARATION



Environmental Product Declaration

Bianco Coprente, Interior, Domotica, Maison



In conformity with ISO 14025:2006 and EN15804:2012+A2:2019

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change.
The stated validity is therefore subject to the continued registration and publication at www.environdec.com.



Programme information

The EPD owner has the sole ownership, liability and responsibility of the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804:2012+A2:2019 and ISO 14025.

Programme	The International EPD® System
Address of Program Operator	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website	www.environdec.com
E-mail	info@environdec.com
ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)	
Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.11	
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 .	
Independent third-party verification of the declaration and data, according to ISO 14025:2006: <input checked="" type="checkbox"/> External <input type="checkbox"/> Internal covering <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification	
Third party verifier: Guido Croce (individual verifier) Approved by: The International EPD® System Technical Committee, supported by the Secretariat	
Procedure for follow-up during EPD validity involves third party verifier: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



Product information



The EPD owner is ARD Raccanello SpA.

The company contact details are:

ARD Raccanello SpA

Contact: +39 049 80 600 00

Via prima Strada, 13 Z.I. Nord 35129 PADOVA

E-mail: ardspa@ard-raccanello.it

Website: www.ard-raccanello.it

The company

For over half a century, ARD Raccanello has been producing colour with passion, fairness and innovation.

From provisions to production, quality has always been the company's guiding principle. To meet the most demanding expectations of its partners, products must comply with stringent chemical-physical and performance requirements, which the company ensures through the systematic control of raw materials, semi-finished and finished products by a team of dedicated technicians.

ARD Raccanello S.p.A. has progressed by offering a wide range of products for the building industry: from the traditional latex paints for interiors to the suggestive slaked lime paints for prestigious ambiances; from the professional high performing elastomeric and siloxanic exterior finishes to the products for the application of ETICS, which considerably improve the energy performance.

The company was founded in 1949 when Dante Aurelio Raccanello, owner of a historic grocer's shop selling paints in Padua since 1939, founded ARD with his sons Gino and Giuseppe.

From the very beginning ARD produced a wide range of products: from zinc paints to synthetic enamels, from iron oxide colorants to oil paints for casings.

The new millennium brought an exponential growth in environmental awareness, a very sensitive issue for ARD. Consequently, products with low solvent levels and ETICS (External Thermal Insulation Composite Systems) are manufactured in compliance with the energy efficiency regulations. Moreover, in order to meet primary objectives such as customer satisfaction, protection of the health and safety of workers and respect for the environment, ARD is certified in compliance with the International Quality Management System UNI EN ISO 9001 and the plant in Castelfuglielmo is also certified in compliance with the International Environmental Quality System UNI EN ISO 14001.



The product

The products of the Environmental Product Declaration are the following water-based paints:



Bianco Coprente

matt emulsion paint with optimum covering power



14 and 4 liters

Interior

washable latex paint for interiors



14 and 4 liters

Domotica

class a+ super washable latex paint for interiors



14, 4 and 1 liter.

Maison

washable latex paint for interiors & exteriors



14, 4 and 1 liter

Products are available in the following packaging:

In this study only 14 litres packaging have been considered, as they represent the majority of sales.

Primary packaging of the four products is made of a polypropylene can with a pressure lid and a steel handle.

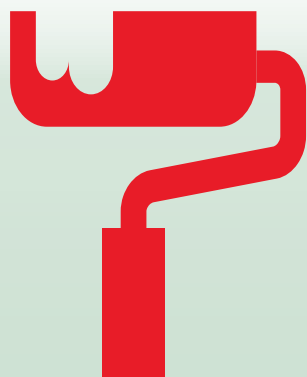
The ARD Raccanello S.p.A. production site is located in Castलगuglielmo, in the province of Rovigo.

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



The product

TECHNICAL DATA	Bianco Coprente	Interior	Domotica	Maison
Aspect of film	Matt	Satiny	Matt	Matt
Wash resistance (EN13300)	-	Class 3	Class 3	Class 2
Yield	4 – 4,5 m ² /lt	5 – 5,5 m ² /lt	5,5 – 6 m ² /lt	7 m ² /lt
Application	Interior	Interior	Interior	Exterior and interior



Geographical representativeness



Declared unit

Reference year

LCA software and database

System boundaries



ARD Raccanello S.p.A. production site is located in Casteljuglielmo, in the province of Rovigo. Since the analysed products are mainly sold in Italy, the study refers to the national situation.

Raw materials originate from Italy and abroad. Ecoinvent database processes have been modified to make them more representative for the Italian situation by selecting, where possible, Italian input processes.

The declared unit is **1 kg of paint, including packaging.**

The average consumption of each paint is equal to **413, 312, 277 e 226 g/m²** respectively for **Bianco Coprente, Interior, Domotica** and **Maison**.

Primary data provided by the company refer to **2021**.

The ecoinvent database v3.8 (allocation, cut-off by classification) published in 2021 e the SimaPro software 9.3 have been used for LCA calculations. The LCIA method has been developed based on the standard EN 15804:2012+A2:2019.

This **EPD** is of type “**e**” (“from cradle to gate, with options”) **with A4 as additional module**. The included phases in the study are the production stage (**A1-A3 modules**) and the product distribution (**A4 module**).


















The following processes are considered: raw material extraction and their transport, production of product and its packaging, product storage and distribution phase.

A5, B1-B7, C1-4 and D modules are excluded as the following three conditions are valid:

- the product is physically integrated with other products during installation so it cannot be physically separated from them at end of life.
- the product is no longer identifiable at end of life as a result of a physical or chemical transformation process.
- the product does not contain biogenic carbon.



System boundaries

Module	Product stage				Construction process stage	Use stage								End of life stage				Resource recovery stage
																		
	Raw material supply	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	
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	GLO	GLO	IT	IT	-	-	-	-	-	-	-	-	-	-	-	-	-	
	>90%																	
	Not relevant																	
	Not relevant																	



Energy mix



The energy mix used in the production site is **certified 100% renewable from hydroelectric source**.

The GWP-GHG indicator value for electricity is equal to **0,0118 kg CO₂ eq./kWh**.

Additional technical information

Transport (A4) 	Bianco Coprente	Interior	Domotica	Maison
Lorry 16-32 t, diesel, euro4 (ecoinvent)	231 km	264 km	275 km	288 km
Lorry 16-32 t, diesel, euro6 (ecoinvent)	299 km	269 km	329 km	254 km
Container ship (ecoinvent)	63 km	-	58 km	162 km



A4 module

This phase includes transport from the production site in Castलगuglielmo (RO) to clients who purchased the product in 2021. As the distribution takes place almost exclusively in Italy, the study refers to the national territory. For the distance from ARD Raccanello to clients, transport from Castलगuglielmo (RO) to the capital of the destination region was calculated. It was also assumed an additional local transport of 50 km. The distribution regions covering 90% of sales were considered.

Distribution is mainly by land with sea transport only to Sicily and Sardinia.



Allocation rules and cut-off

In the analysed system, there are no co-products, hence no allocation has been applied.
No cut-off rules have been applied.

Data quality

Both primary and secondary data have been used in the study.
Primary data have been collected and provided by ARD Raccanello S.p.A., whereas secondary data have been used for all processes for which primary data were not available.
LCA ecoinvent database v3.8 and literature have been used for secondary data.
Data quality has been estimated based on criteria of the pedigree matrix.

Assumptions and simplifications

In accordance with PCR "Construction products", company capital goods (for example infrastructure, construction, and production equipment) have been excluded.
Since not all chemicals used by ARD Raccanello for paints manufacturing are available in the reference LCA database, simplifications have been made based on material safety datasheets and technical datasheets.

Further information:

The Life Cycle Assessment (LCA) study and the EPD have been carried out by ARD Raccanello SpA, in collaboration with 2B Srl (www.to-be.it).
Further information about products are available on www.ard-raccanello.it.



Content declaration

The following tables show material composition of **Bianco Coprente**, **Interior**, **Domotica** and **Maison** and packaging (same for all products). Secondary and tertiary packaging are for 33 pieces.

The four water-based paints do not contain SVHC (substances very high concern) in the Candidate List available via the ECHA (European Chemicals Agency).



Bianco Coprente		14 Lt packaging		Declared unit
		Weight (kg)	%	Weight (kg)
BULK PRODUCT	Water	6,49	25,06	0,264
	Additives	0,27	1,02	0,011
	Pigments and fillers	16,62	64,13	0,676
	Dispersions and resins	1,20	4,62	0,049
	TOTAL BULK PRODUCT	24,57	94,83	1,000
PACKAGING	TOTAL PACKAGING	1,34	5,17	0,055
	TOTAL	25,91	100,00	1,055



Interior		14 Lt packaging		Declared unit
		Weight (kg)	%	Weight (kg)
BULK PRODUCT	Water	6,45	26,53	0,281
	Additives	0,37	1,54	0,016
	Pigments and fillers	13,67	56,26	0,596
	Dispersions and resins	2,47	10,15	0,107
	TOTAL BULK PRODUCT	22,96	94,49	1,000
PACKAGING	TOTAL PACKAGING	1,34	5,51	0,058
	TOTAL	24,30	100,00	1,059



Content declaration



Domotica		14 Lt packaging		Declared unit
		Weight (kg)	%	Weight (kg)
BULK PRODUCT	Water	6,02	25,52	0,271
	Additives	0,32	1,35	0,014
	Pigments and fillers	12,41	52,60	0,558
	Dispersions and resins	3,51	14,85	0,157
	TOTAL BULK PRODUCT	22,26	94,32	1,000
PACKAGING	TOTAL PACKAGING	1,34	5,68	0,060
	TOTAL	23,60	100,00	1,060



Maison		14 Lt packaging		Declared unit
		Weight (kg)	%	Weight (kg)
BULK PRODUCT	Water	5,88	25,04	0,266
	Additives	0,39	1,66	0,018
	Pigments and fillers	11,84	50,46	0,535
	Dispersions and resins	4,02	17,13	0,182
	TOTAL BULK PRODUCT	22,12	94,29	1,000
PACKAGING	TOTAL PACKAGING	1,34	5,71	0,061
	TOTAL	23,46	100,00	1,061

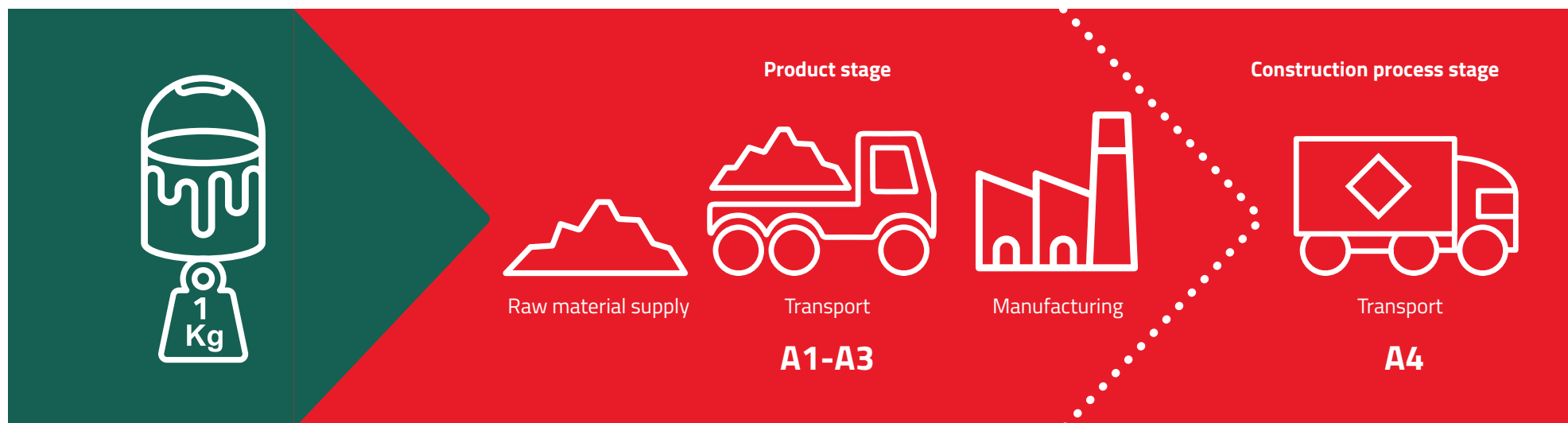


Content declaration

Packaging			14 Lt packaging	
	Primary packaging		Weight (kg)	%
		PP	0,717	53,5
		Steel	0,059	4,4
		Paper + ink	0,002	0,1
		TOTAL PRIMARY PACKAGING	0,778	58,1
	Secondary packaging	Wood	0,545	40,7
	Tertiary packaging	PE	0,016	1,2
		TOTAL	1,339	100,00



Environmental performance



For the environmental performance assessment of products, the LCIA method developed according to the EN 15804:2012+A2:2019 standard has been used.

The following tables report environmental impacts due to the production of **1 kg** of **Bianco Coprente**, **Interior**, **Domotica** and **Maison** paints (included packaging), divided in **A1-A3** and **A4 modules**.



Bianco Coprente



IMPACT CATEGORY	INDICATOR	UNIT	A1-A3	A4
Climate change - Total	Global Warming Potential total (GWP-total)	kg CO ₂ eq	3,38E-01	9,02E-02
Climate change - Fossil	Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq	3,32E-01	9,00E-02
Climate change - Biogenic	Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ eq	2,32E-03	8,13E-05
Climate change - Land use and LU change	Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ eq	3,66E-03	3,61E-05
Ozone depletion	Ozone depletion potential (ODP)	kg CFC ₁₁ eq	3,38E-08	2,09E-08
Acidification	Acidification potential (AP)	mol H ⁺ eq	4,17E-03	3,59E-04
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg P eq	9,34E-05	5,86E-06
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg PO ₄ eq	2,87E-04	1,80E-05
Eutrophication, marine	Eutrophication potential - marine (EP-marine)	kg N eq	3,80E-04	1,01E-04
Eutrophication, terrestrial	Eutrophication potential - terrestrial (EP-terrestrial)	mol N eq	3,49E-03	1,11E-03
Photochemical ozone formation	Photochemical Ozone Creation Potential (POCP)	kg NMVOC eq	1,25E-03	3,46E-04
Resource use, minerals and metals	Abiotic depletion for non-fossil resources (ADP-minerals&metals) ²	kg Sb eq	2,78E-06	3,16E-07
Resource use, fossils	Abiotic depletion for fossil resources potential (ADP-fossil) ²	MJ	6,96E+00	1,37E+00
Water use (AWARE)	Water (user) deprivation potential (WDP) ²	m ³	3,33E-01	4,14E-03





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.



Bianco Coprente



ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Particulate matter	Particulate Matter emissions (PM)	disease inc.	2,20E-08	7,55E-09
Ionising radiation	Ionizing radiation, human health (IRP) ¹	kBq U-235 eq	3,31E-02	7,03E-03
Ecotoxicity, freshwater	Eco-toxicity - freshwater (ETP-fw)	CTUe	8,09E+00	1,07E+00
Human toxicity, cancer	Human toxicity, cancer effect (HTP-c) ²	CTUh	6,38E-10	3,47E-11
Human toxicity, non-cancer	Human toxicity, non-cancer effects (HTP-nc) ²	CTUh	4,78E-09	1,10E-09
Land use	Land use related impacts/Soil quality (SQP) ²	Pt	5,04E+00	9,43E-01

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.



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 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Climate change (IPCC 2013)	Global Warming Potential neutral (GWP-GHG)	kg CO ₂ eq	3,29E-01	8,94E-02



Bianco Coprente



	UNIT		
		A1-A3	A4
INDICATORS FOR RESOURCE USE			
Use of renewable primary energy as energy carrier	MJ	1,55E+00	1,94E-02
Use of renewable primary energy resources used as raw materials	MJ	2,99E-01	0,00E+00
Total use of renewable primary energy	MJ	1,19E+00	1,94E-02
Use of non renewable primary energy as energy carrier	MJ	5,98E+00	1,37E+00
Use of non renewable primary energy resources used as raw materials	MJ	9,92E-01	0,00E+00
Total use of non renewable primary energy resource	MJ	6,97E+00	1,37E+00
Use of secondary material	kg	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00
Use of non renewable secondary fuels	MJ	0,00E+00	0,00E+00
Net use of fresh water	m ³	8,67E-03	1,53E-04
INDICATORS DESCRIBING WASTE PRODUCTION	UNIT	A1-A3	A4
Hazardous waste disposed	kg	6,38E-06	3,56E-06
Non-hazardous waste disposed	kg	1,71E-01	7,06E-02
Radioactive waste disposed	kg	1,54E-05	9,24E-06
INDICATORS DESCRIBING OUTPUT FLOWS	UNIT	A1-A3	A4
Components for re-use	kg	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00



Interior



IMPACT CATEGORY	INDICATOR	UNIT	A1-A3	A4
Climate change - Total	Global Warming Potential total (GWP-total)	kg CO ₂ eq	7,16E-01	9,05E-02
Climate change - Fossil	Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq	7,05E-01	9,03E-02
Climate change - Biogenic	Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ eq	5,71E-03	8,22E-05
Climate change - Land use and LU change	Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ eq	5,20E-03	3,60E-05
Ozone depletion	Ozone depletion potential (ODP)	kg CFC ₁₁ eq	6,79E-08	2,10E-08
Acidification	Acidification potential (AP)	mol H ⁺ eq	1,35E-02	3,55E-04
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg P eq	2,02E-04	5,90E-06
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg PO ₄ eq	6,21E-04	1,81E-05
Eutrophication, marine	Eutrophication potential - marine (EP-marine)	kg N eq	8,15E-04	1,04E-04
Eutrophication, terrestrial	Eutrophication potential - terrestrial (EP-terrestrial)	mol N eq	7,13E-03	1,13E-03
Photochemical ozone formation	Photochemical Ozone Creation Potential (POCP)	kg NMVOC eq	2,80E-03	3,51E-04
Resource use, minerals and metals	Abiotic depletion for non-fossil resources (ADP-minerals&metals) ²	kg Sb eq	5,82E-06	3,19E-07
Resource use, fossils	Abiotic depletion for fossil resources potential (ADP-fossil) ²	MJ	1,32E+01	1,37E+00
Water use (AWARE)	Water (user) deprivation potential (WDP) ²	m ³	8,85E-01	4,17E-03

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Interior



ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

IMPACT CATEGORY	INDICATOR	UNIT	A1-A3	A4
Particulate matter	Particulate Matter emissions (PM)	disease inc.	5,54E-08	7,66E-09
Ionising radiation	Ionizing radiation, human health (IRP) ¹	kBq U-235 eq	6,94E-02	7,07E-03
Ecotoxicity, freshwater	Eco-toxicity - freshwater (ETP-fw)	CTUe	1,84E+01	1,08E+00
Human toxicity, cancer	Human toxicity, cancer effect (HTP-c) ²	CTUh	1,99E-09	3,47E-11
Human toxicity, non-cancer	Human toxicity, non-cancer effects (HTP-nc) ²	CTUh	9,95E-09	1,11E-09
Land use	Land use related impacts/Soil quality (SQP) ²	Pt	7,54E+00	9,51E-01

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.



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IMPACT CATEGORY	INDICATOR	UNIT	A1-A3	A4
Climate change (IPCC 2013)	Global Warming Potential neutral (GWP-GHG)	kg CO ₂ eq	6,99E-01	8,97E-02



Interior



 INDICATORS FOR RESOURCE USE	UNIT	 A1-A3 A4	
		A1-A3	A4
Use of renewable primary energy as energy carrier	MJ	1,36E+00	1,95E-02
Use of renewable primary energy resources used as raw materials	MJ	3,20E-01	0,00E+00
Total use of renewable primary energy	MJ	1,68E+00	1,95E-02
Use of non renewable primary energy as energy carrier	MJ	1,21E+01	1,37E+00
Use of non renewable primary energy resources used as raw materials	MJ	1,06E+00	0,00E+00
Total use of non renewable primary energy resource	MJ	1,32E+01	1,37E+00
Use of secondary material	kg	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00
Use of non renewable secondary fuels	MJ	0,00E+00	0,00E+00
Net use of fresh water	m ³	2,29E-02	1,54E-04
INDICATORS DESCRIBING WASTE PRODUCTION	UNIT	A1-A3	A4
Hazardous waste disposed	kg	1,26E-05	3,59E-06
Non-hazardous waste disposed	kg	5,11E-01	7,13E-02
Radioactive waste disposed	kg	3,21E-05	9,28E-06
INDICATORS DESCRIBING OUTPUT FLOWS	UNIT	A1-A3	A4
Components for re-use	kg	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00



Domotica



IMPACT CATEGORY	INDICATOR	UNIT	A1-A3	A4
Climate change - Total	Global Warming Potential total (GWP-total)	kg CO ₂ eq	9,63E-01	1,02E-01
Climate change - Fossil	Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq	9,54E-01	1,02E-01
Climate change - Biogenic	Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ eq	8,70E-03	9,21E-05
Climate change - Land use and LU change	Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ eq	8,94E-04	4,08E-05
Ozone depletion	Ozone depletion potential (ODP)	kg CFC ₁₁ eq	1,23E-07	2,37E-08
Acidification	Acidification potential (AP)	mol H ⁺ eq	1,94E-02	4,06E-04
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg P eq	2,75E-04	6,63E-06
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg PO ₄ eq	8,44E-04	2,04E-05
Eutrophication, marine	Eutrophication potential - marine (EP-marine)	kg N eq	1,08E-03	1,15E-04
Eutrophication, terrestrial	Eutrophication potential - terrestrial (EP-terrestrial)	mol N eq	9,68E-03	1,26E-03
Photochemical ozone formation	Photochemical Ozone Creation Potential (POCP)	kg NMVOC eq	4,02E-03	3,93E-04
Resource use, minerals and metals	Abiotic depletion for non-fossil resources (ADP-minerals&metals) ²	kg Sb eq	7,55E-06	3,58E-07
Resource use, fossils	Abiotic depletion for fossil resources potential (ADP-fossil) ²	MJ	1,70E+01	1,55E+00
Water use (AWARE)	Water (user) deprivation potential (WDP) ²	m ³	1,23E+00	4,69E-03





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Domotica



ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Particulate matter	Particulate Matter emissions (PM)	disease inc.	7,86E-08	8,56E-09
Ionising radiation	Ionizing radiation, human health (IRP) ¹	kBq U-235 eq	9,49E-02	7,96E-03
Ecotoxicity, freshwater	Eco-toxicity - freshwater (ETP-fw)	CTUe	2,61E+01	1,21E+00
Human toxicity, cancer	Human toxicity, cancer effect (HTP-c) ²	CTUh	2,84E-09	3,92E-11
Human toxicity, non-cancer	Human toxicity, non-cancer effects (HTP-nc) ²	CTUh	1,38E-08	1,24E-09
Land use	Land use related impacts/Soil quality (SQP) ²	Pt	8,73E+00	1,07E+00

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.



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.

 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Climate change (IPCC 2013)	Global Warming Potential neutral (GWP-GHG)	kg CO ₂ eq	9,39E-01	1,01E-01



Domotica




 INDICATORS FOR RESOURCE USE	UNIT	 A1-A3 A4	
		A1-A3	A4
Use of renewable primary energy as energy carrier	MJ	1,55E+00	2,19E-02
Use of renewable primary energy resources used as raw materials	MJ	3,30E-01	0,00E+00
Total use of renewable primary energy	MJ	1,88E+00	2,19E-02
Use of non renewable primary energy as energy carrier	MJ	1,59E+01	1,55E+00
Use of non renewable primary energy resources used as raw materials	MJ	1,09E+00	0,00E+00
Total use of non renewable primary energy resource	MJ	1,70E+01	1,55E+00
Use of secondary material	kg	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00
Use of non renewable secondary fuels	MJ	0,00E+00	0,00E+00
Net use of fresh water	m ³	3,15E-02	1,74E-04
INDICATORS DESCRIBING WASTE PRODUCTION	UNIT	A1-A3	A4
Hazardous waste disposed	kg	1,80E-05	4,03E-06
Non-hazardous waste disposed	kg	7,39E-01	8,00E-02
Radioactive waste disposed	kg	4,83E-05	1,05E-05
INDICATORS DESCRIBING OUTPUT FLOWS	UNIT	A1-A3	A4
Components for re-use	kg	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00



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 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Climate change - Total	Global Warming Potential total (GWP-total)	kg CO ₂ eq	1,14E+00	9,37E-02
Climate change - Fossil	Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ eq	1,12E+00	9,36E-02
Climate change - Biogenic	Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ eq	1,05E-02	8,35E-05
Climate change - Land use and LU change	Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ eq	7,77E-03	3,78E-05
Ozone depletion	Ozone depletion potential (ODP)	kg CFC ₁₁ eq	1,08E-07	2,17E-08
Acidification	Acidification potential (AP)	mol H ⁺ eq	2,37E-02	4,21E-04
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg P eq	3,23E-04	6,06E-06
Eutrophication, freshwater	Eutrophication potential - freshwater (EP-freshwater) ²	kg PO ₄ eq	9,90E-04	1,86E-05
Eutrophication, marine	Eutrophication potential - marine (EP-marine)	kg N eq	1,32E-03	1,22E-04
Eutrophication, terrestrial	Eutrophication potential - terrestrial (EP-terrestrial)	mol N eq	1,14E-02	1,34E-03
Photochemical ozone formation	Photochemical Ozone Creation Potential (POCP)	kg NMVOC eq	4,55E-03	4,05E-04
Resource use, minerals and metals	Abiotic depletion for non-fossil resources (ADP-minerals&metals) ²	kg Sb eq	8,97E-06	3,27E-07
Resource use, fossils	Abiotic depletion for fossil resources potential (ADP-fossil) ²	MJ	2,00E+01	1,42E+00
Water use (AWARE)	Water (user) deprivation potential (WDP) ²	m ³	1,49E+00	4,28E-03





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ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Particulate matter	Particulate Matter emissions (PM)	disease inc.	9,36E-08	7,88E-09
Ionising radiation	Ionizing radiation, human health (IRP) ¹	kBq U-235 eq	1,11E-01	7,29E-03
Ecotoxicity, freshwater	Eco-toxicity - freshwater (ETP-fw)	CTUe	3,03E+01	1,11E+00
Human toxicity, cancer	Human toxicity, cancer effect (HTP-c) ²	CTUh	3,48E-09	3,63E-11
Human toxicity, non-cancer	Human toxicity, non-cancer effects (HTP-nc) ²	CTUh	1,59E-08	1,14E-09
Land use	Land use related impacts/Soil quality (SQP) ²	Pt	1,04E+01	9,71E-01

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.



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 IMPACT CATEGORY	 INDICATOR	UNIT	 A1-A3	 A4
Climate change (IPCC 2013)	Global Warming Potential neutral (GWP-GHG)	kg CO ₂ eq	1,12E+00	9,29E-02



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	UNIT		
		A1-A3	A4
INDICATORS FOR RESOURCE USE			
Use of renewable primary energy as energy carrier	MJ	1,92E+00	2,00E-02
Use of renewable primary energy resources used as raw materials	MJ	3,32E-01	0,00E+00
Total use of renewable primary energy	MJ	2,25E+00	2,00E-02
Use of non renewable primary energy as energy carrier	MJ	1,89E+01	1,42E+00
Use of non renewable primary energy resources used as raw materials	MJ	1,10E+00	0,00E+00
Total use of non renewable primary energy resource	MJ	2,00E+01	1,42E+00
Use of secondary material	kg	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00
Use of non renewable secondary fuels	MJ	0,00E+00	0,00E+00
Net use of fresh water	m ³	3,85E-02	1,58E-04
INDICATORS DESCRIBING WASTE PRODUCTION	UNIT	A1-A3	A4
Hazardous waste disposed	kg	1,97E-05	3,67E-06
Non-hazardous waste disposed	kg	8,92E-01	7,26E-02
Radioactive waste disposed	kg	5,16E-05	9,60E-06
INDICATORS DESCRIBING OUTPUT FLOWS	UNIT	A1-A3	A4
Components for re-use	kg	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00



Information on biogenic carbon content

Results per declared unit (Kg C)				
Biogenic carbon content	Bianco Coprente	Interior	Domotica	Maison
Biogenic carbon content in the product	0,00	0,00	0,00	0,00
Biogenic carbon content in the packaging	0,01	0,01	0,01	0,01



Biogenic carbon content in the packaging (due to wood pallet) represents 16% of the packaging mass quantity for all considered paints.



Additional information

References

Quality and Environmental management systems

ARD Raccanello is ISO 9001 certified and, for the production unit in Castelguglielmo, also ISO 14001 certified (since 2006).



VOC emissions

Domotica is marked as class A+ according to French VOC regulation n. 321/2011 of 23/03/2011 and Arrêté of 19/04/2011 for class A+, based on air emissions after 28 days from paint application (with a scale from class C to class A+).



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EPD owner

ARD Raccanello SpA

Contact: +39 049 80 600 00
Via prima Strada, 13 Z.I. Nord
35129 PADOVA
E-mail: ardspa@ard-raccanello.it
Website: www.ard-raccanello.it

LCA consultant

2B Srl

E-mail: info@to-be.it
Website: www.to-be.it

EPD programme

The International EPD® System

E-mail: info@environdec.com
Website: www.environdec.com