



ENVIRONMENTAL PRODUCT DECLARATION:

**ADAPTA VIVENDI SDS
(Super Durable System)
Powder coating**

DAPcons®.100.171

DECLARACIÓN AMBIENTAL DE PRODUCTO
ENVIRONMENTAL PRODUCT DECLARATION

According to the standards:
ISO 14025 y EN 15804 + A2:2020



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According to the standards:
ISO 14025 y EN UNE 15804 + A2:2020



GENERAL INFORMATION

Product

ADAPTA VIVENDI SDS (Super Durable System) powder coating

Company



Product description

The ADAPTA VIVENDI SDS product is a powder coating (UN CPC 3511 - Paints and varnishes and related products) made up of saturated polyester resins, hardeners free of TGIC, and pigments and additives that do not need to be declared.

Reference RCP

RCP 100 (version 3 - 27/05/2021) Construction products in general

Production plant

ADAPTA POWDER COATINGS (ADAPTA COLOR S.L.)
Ctra. Nacional 340a, km. 1041.1
12598 Peñíscola (Castellón)
Spain

Validity

From: 12/02/2024 Until: 12/02/2029

The validity of DAPcons®.100.171 is subject to the conditions of the regulation DAPcons®. The current edition of this DAPcons® is the one that appears in the registry maintained by Cateb; for informational purposes, it is included on the Program website www.csostenible.net

EXECUTIVE SUMMARY

ADAPTA VIVENDI SDS (Super Durable System) powder coating

**DAPconstruction® Programme Operator**

Environmental Product Declarations in the Construction sector
www.csostenible.net

**Programme Manager**

Colegio de la Arquitectura Técnica de Barcelona (Cateb)
Bon Pastor, 5 · 08021 Barcelona www.apabcn.cat

**Owner of the declaration**

ADAPTA COLOR S.L.
Ctra. N-340a Km. 1.041,1 12598 - CASTELLON (España)
www.adaptacolor.com

**Author of the Life cycle assessment:**

HELIOS POMAR BLANCO tlf: 677098569; mail: hpomar@serviciosqma.com
Calle Jesús Martí Martín, 18, 3ºA, 12006 - CASTELLON, España

Declared product

ADAPTA VIVENDI SDS (Super Durable System) powder coating

Geographic representation

Production: Spain.

Variability between different products

The values declared in the EPD are an average product, with a variability of the "Climate change-total (GWP-total)" indicator in stages A1-A3 of 8.27%.

Declaration number

DAPcons®.100.171

Issue date

06/11/2023

Validity

This verified declaration authorizes its holder to carry the logo of the operator of the ecolabelling program DAPconstruction®. The declaration is applicable exclusively to the mentioned product and for five years from the date of registration. The information contained in this statement was provided under the responsibility of:
ADAPTA COLOR S.L.

Programme Administrator Signature

Celestí Ventura Cisternas. President of Cateb

Verifier Signature

Ferran Pérez Ibáñez. Institut de Tecnologia de la Construcció de Catalunya - ITeC. Verifier accredited by the administrator of the DAPcons® Programme

ENVIRONMENTAL PRODUCT DECLARATION

1. PRODUCT DESCRIPTION AND USE

The ADAPTA VIVENDI SDS product is a powder coating (UN CPC 3511 - Paints and varnishes and related products) made up of saturated polyester resins, hardeners free of TGIC, and pigments and additives that do not need to be declared, which are used for the surface protection of various products (automotive and agricultural items, extruded profiles for doors and windows, metal facades, ventilated facades, and parts for solar protection, street furniture, infrastructure components, etc.), and whose general properties are shown in the table below.

ADAPTA VIVENDI SDS coatings offer excellent exterior durability for more than 20 years, passing the natural aging test (Florida test) after 36 months with excellent gloss retention and colour stability. This type of product more than comply with international quality specifications, such as Qualicoat CLASS 2, GSB MASTER, and AAMA 2604, among others, and can be used on metal architectural components.

ADAPTA VIVENDI SDS is available in different gloss levels and finishes.

Likewise, ADAPTA VIVENDI SDS is available in a wide range of RAL and NCS colours. It is possible to produce tailor made colours based on customer's requests.

1.1 Content information

Product components

The components are:

Polyester resins and hardener: 58-90%

Additives: 2.5 – 10%

Pigments: 0 – 35%

Packaging materials

The ADAPTA VIVENDI SDS product is packed in polyethylene bags (15, 20 and 25kg) inside a cardboard box. 24 boxes per pallet.



	<i>Finish</i>	<i>Gloss range</i>		
DB	Glossy	80 - 95	P-1319	260c
DS	Satin	30 - 80	P-1194	
DM	Matt	3 - 30	P-1628	260a
DT	Fine textured	3 - 20	P-1087	260b
DX	Smooth metallic or pearl mica effect	3 - 95	P-1319 P-1194	260c
DF	Fine textured metallic or pearl mica	6 - 20	P-1087	

<i>Properties</i>	<i>Description</i>
Chemical product	Polyester
Particle size	< 125 microns, suitable for electrostatic spray finishing
Solids	> 99%
Specific gravity	Between 1,2 and 1,7 g/cm ³ depending on the colour
Storage stability	24 months at a maximum of 35 °C
Best before	24 months
Packing units	15, 20 or 25 kg (PE bag in carton box)

<i>Characteristic</i>	<i>Value</i>	<i>Test method</i>
Dry film thickness	70-80 microns	ISO 2630
Gloss	According to product definition	ISO 2813
Adhesion - Cross cut	PASS GT0	ISO 2409
Impact	> 2,5Nm	ISO 6272
Flexibility	< 5 mm	ISO 1519
Cupping test	> 5 mm	ISO 1520
Persoz hardness	>220 seg	ISO 1522
Buchholz hardness	>80	ISO 2815
Salt spray test	1000 h. PASS corrosion process < 1 mm	ISO 9227
Humidity	1000 h. PASS no blistering < 1 mm	ISO 6270
Kesternnich SO2	30 cycles PASS no blistering	ISO 3231
Machu test	< 0,5 mmg	Qualicoat
Mortar resistance	PASS	EN 12201
Boiling water	< 0,5 mm	Qualicoat
Natural Florida	PASS 3 years > 50% retention of gloss and colour	ISO 2810
Suntest	PASS 1000 hours > 90% retention of gloss	ISO 16474
QUV 313B	PASS 600 hours >50% retention of gloss	ISO 16474

**PRODUCT STAGE****A1 RAW MATERIAL SUPPLY**Extraction and production
of raw materialsExtraction and production
of ancillary materialsProduction of packaging
materials**A2 TRANSPORT**Transportation to
production plant**A3 MANUFACTURING**

Manufacturing

END OF LIFE STAGE**C1 DECONSTRUCTION**

Deconstruction

C2 TRANSPORT

Waste transportation

C3 WASTE PROCESSING

Waste processing

C4 DISPOSAL

Disposal of waste

MODULE D - BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY

2. DESCRIPTION OF THE STAGES OF THE LIFE CYCLE

2.1. Manufacturing (A1, A2 y A3)

Raw Materials and transport (A1 y A2)

The raw materials are polyester resins, TGIC-free hardeners, pigments and additives.

The raw and ancillary materials are supplied by different suppliers to the company in different formats (paper or plastic bags, cardboard or metal boxes, big-bags and in bulk in tanker trucks).

The real distances and real means of transportation (lorry and ship) have been taken into account.

Manufacturing (A3)

This consists of several stages:

- The loading and blending of raw materials
- The extrusion of the mixture at 120 °C
- Cooling to 20-25 °C and breaking into flakes of the extruded material
- Milling to obtain the end granulometry
- Heating and Cooling Mixing (only metal finishes)
- Packaging (polyethylene bags for 15, 20, and 25 kg in cardboard boxes) and storage.

The real distances and real means of transportation (lorry) were taken into account when managing the waste produced during production.

2.2. Construction process stage (A4 y A5)

Transport to the building site (A4)

Undeclared

Product installation process and construction (A5)

Undeclared

2.3. Product use (B1-B7)

Use (B1)

Undeclared

Maintenance (B2)

Undeclared

Repair (B3)

Undeclared

Replacement (B4)

Undeclared

Refurbishment (B5)

Undeclared

Operational energy use (B6)

Undeclared

Operational water use (B7)

Undeclared

2.4. End of life (C1-C4)

Deconstruction and demolition (C1)

The environmental impacts attributed to the deconstruction of the product at the end of its useful life are negligible, since they constitute a very small part of the demolition of a building.

Transport to waste processing (C2)

It has been considered that the product waste obtained in the previous phase is transported by 27t EURO VI truck over a distance of 50 km to the landfill.

Waste processing for reuse, recovery and/or recycling (C3)

In this module, no environmental impact is counted because paint waste at the end of its life cycle does not have any reuse, recovery or recycling process.

Disposal (C4)

In this module, the environmental impacts of landfill management of 100% of product waste are accounted for.

2.5. Reuse/recovery/recycling potential (D)

Since paint waste at the end of its useful life does not have any recycling process, the environmental burdens and benefits generated by the recycling of paint waste produced in the Construction and End of Life stages are zero.

3. LIFE CYCLE ASSESSMENT

The life cycle analysis on which this declaration is based has been carried out following the ISO 14040, ISO 14044 and UNE-EN 15804 standards.

This study has been carried out using the LCA tool SimaPro 9.2.0.2., whose development is based on the UNE-EN ISO 14040-14044 standards, and the Ecoinvent v3.8 (2021) database. This LCA is of the type “from the cradle to the factory gate with modules C1-C4 and D”, that is, it covers the manufacturing stage of the product, end of life and loads and benefits outside the system, leaving out the construction and use stages. Specific data from the ADAPTA Peñíscola plant corresponding to the year 2022 have been used to inventory the manufacturing stage.

3.1. Declared Unit

The Declared Unit of this study is: “Amount of ADAPTA VIVENDI SDS powder coating product necessary to cover 1 m² of substrate surface”

Additional comments

Product yield at 75 micron layer thickness is 9.23 m²/kg (0.108 kg/m²)

3.2. Scope and modules that are declared

Table 2. Declared modules

Product stage			Construction Process Stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw materials supply	Transport	Manufacturing	Transport	Construction - Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

X = Declared module MND = Undeclared module

3.3. LCA results of potential environmental impact referred to the declared unit (ACV)

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage		Use stage								End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Climate change - total (GWP-total)	kg CO2 eq	5,13E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,30E-07	0,00E+00	1,29E-02	0,00E+00	
Climate change - fossil (GWP-fossil)	kg CO2 eq	5,11E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,30E-07	0,00E+00	1,29E-02	0,00E+00	
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	2,04E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,24E-10	0,00E+00	9,31E-06	0,00E+00	
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	5,18E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,69E-11	0,00E+00	1,17E-06	0,00E+00	
Ozone layer depletion (ODP)	kg CFC 11 eq	6,41E-08	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,86E-13	0,00E+00	3,46E-10	0,00E+00	
Acidification (AP)	mol H+ eq	2,01E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,83E-09	0,00E+00	9,63E-06	0,00E+00	
Eutrophication of fresh water (EP-freshwater)	kg P eq	1,15E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,62E-13	0,00E+00	1,83E-08	0,00E+00	
Eutrophication of sea water (EP-marine)	kg N eq.	3,67E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,17E-10	0,00E+00	3,28E-06	0,00E+00	
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	3,66E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,72E-09	0,00E+00	3,61E-05	0,00E+00	
Photochemical ozone formation (POCP)	kg NMVOC eq	1,47E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,43E-09	0,00E+00	1,32E-05	0,00E+00	
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	4,16E-06	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,10E-13	0,00E+00	3,76E-09	0,00E+00	
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, net calorific value	8,78E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,11E-05	0,00E+00	2,68E-02	0,00E+00	
Water consumption (WDP)	m3 worldwide eq. private	3,09E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,46E-09	0,00E+00	1,17E-03	0,00E+00	
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. This Indicator is thus equal to the GWP Indicator originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																	
Global Warming Potential (GHG)	kg CO2 eq	4,90E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,26E-07	0,00E+00	1,10E-02	0,00E+00	

A1 Supply of raw materials.A2 Transport to waste processing.A3 Manufacturing.A4 Transport to waste processing.A5 Installation and construction processes.B1 Use. B2 Maintenance. B3 Repair. B4 Replacement. B5 Refurbishment. B6 Operational energy use.B7 Operational water use.C1 Deconstruction and demolition.C2 Transport to waste processing. C3 Waste management for reuse, recovery and recycling. C4 Fine removal.D Environmental benefits and burdens beyond the system boundary.MND Undeclared module.

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage														Module D	
		Product stage	Construction Process Stage			Use stage							End of life stage				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	5,40E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,26E-08	0,00E+00	4,81E-04	0,00E+00	
Use of renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	5,40E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,26E-08	0,00E+00	4,81E-04	0,00E+00	
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	9,41E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-05	0,00E+00	2,85E-02	0,00E+00	
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	9,41E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-05	0,00E+00	2,85E-02	0,00E+00	
Use of secondary materials	kg	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Net use of freshwater resources	m3	3,09E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,46E-09	0,00E+00	1,17E-03	0,00E+00	
Hazardous waste removed	kg	2,60E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,96E-11	0,00E+00	4,16E-08	0,00E+00	
Non-hazardous waste eliminated	kg	6,08E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,63E-09	1,00E+00	1,08E-01	0,00E+00	
Radioactive waste disposed of	kg	1,68E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,92E-11	2,00E+00	1,61E-07	0,00E+00	
Components for reuse	kg	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for recycling	kg	3,65E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Materials for energy recovery (energy recovery)	kg	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
Exported energy	MJ by energy vector	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	

A1 Supply of raw materials. A2 Transport to waste processing. A3 Manufacturing. A4 Transport to waste processing. A5 Installation and construction processes. B1 Use. B2 Maintenance. B3 Repair. B4 Replacement. B5 Refurbishment. B6 Operational energy use. B7 Operational water use. C1 Deconstruction and demolition. C2 Transport to waste processing. C3 Waste management for reuse, recovery and recycling. C4 Fine removal. D Environmental benefits and burdens beyond the system boundary. MND Undeclared module.

Table 5. Kg of biogenic carbon

Carbon content (biogenic) - packaging	8,86E-02
Carbon content (biogenic) - product	0,00E+00

3.4. Recommendations of this EPD

The comparison of construction products must be done applying the same functional unit and at the building level, that is, including the behavior of the product throughout its entire life cycle.

The environmental product declarations of different Type III eco-labelling programs are not directly comparable, since the calculation rules may be different.

This declaration represents the performance of the product ADAPTA VIVENDI SDS Powder Coating manufactured by ADAPTA POWDER COATINGS.

3.5. Cut-off rules

More than 95% of all mass and energy inputs and outputs of the system have been included, leaving out, among others, diffuse emissions in the factory and the production of industrial machinery and equipment.

3.6. Additional environmental information

The product has components that are hazardous substances according to EC Regulation No. 1272/2008: 0.34% Aluminum pigment flakes (H Phrase: H228, Category: Flam. Sol. 1), but which do not contribute to the classification of the product final as a hazardous substance.

3.7. Other data

Waste from the ADAPTA VIVENDI SDS powder coating product is included as non-hazardous waste on the European waste list with the code LoW 080112.

4. ADDITIONAL TECHNICAL INFORMATION AND SCENARIOS

4.1. Transport to the building site (A4)

Undeclared

4.2. Installation processes (A5)

Undeclared

4.3. Reference life (B1)

Undeclared

4.4. Maintenance (B2), Repair (B3), Replacement (B4), or Refurbishment (B5)

Maintenance (B2)

Undeclared

Repair (B3)

Undeclared

Replacement (B4)

Undeclared

Refurbishment (B5)

Undeclared

4.6. Operational energy use (B6) and operational water use (B7)

Undeclared

4.7. End of life (C1-C4)

	Process		
	Collection processes (specified by types)	Recovery systems (specified by type)	Elimination
	kg collected with mixed construction waste	kg	kg for final disposal
	0.108	0	0.108
Assumptions for scenario development	Paint waste at the end of its useful life does not have any reuse, recovery or recycling process. The environmental impacts of eliminating 100% of product waste in landfills are accounted for.		

5. ADDITIONAL INFORMATION

ADAPTA POWDER COATINGS is certified by AENOR in the ISO 9001 Quality Management Standards (since 1998) and ISO 14001 Environmental Management Standards (since 2001).

To contribute to the generation of renewable energy, the company's roofs have a photovoltaic installation of 1,800 solar panels with a total power of 300 Kwp.

It also has a 234 Kwp self-consumption installation located on the vertical facades of the buildings as well as on the roofs of the parking lots.

Additional environmental information can be found on the company's website at the following link:

<https://www.adaptacolor.com/es/medioambiente>

6. PCR AND VERIFICATION

This statement is based on Document

RCP 100 (version 3 - 27/05/2021) Construction products in general

Independent verification of the declaration and data, in accordance with ISO 14025 and IN RCP 100 (version 3 - 27/05/2021)



External

Third party Verifier

Ferran Pérez Ibáñez

Accredited by the administrator of the DAPcons®
Programme



Verification date:

12/02/2024

References

- Life Cycle Assessment of ADAPTA “ADAPTA VIVENDI SDS” powder coating. Helios Pomar Blanco. 2023 (Not published).
- Documentation for Duty Vehicle Processes in GaBi. Report version 1.0. February 2021
- Annex_C_Annex C to the PEF-OEF Methods V2.1_May2020.
- Handbook of Emission Factors for Road Transport (HBEFA). 2017.
- GHG Inventory Report 1990-2020. Annex 7. Spain. 2022.

Programme Manager

Colegio de la Arquitectura Técnica de Barcelona
(Cateb)

Bon Pastor, 5 · 08021 Barcelona www.apabcn.cat



