

Environmental Product Declaration



In accordance with ISO 14025

Noè pallet – cod.PR12
CPR SYSTEM s.c.



Programme:

The International EPD® System
www.environdec.com

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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

1. Programme information

Programme	<p>The International EPD[®] System</p> <p>EPD International AB Box 210 60 SE-100 31 Stockholm Sweden</p> <p>www.environdec.com info@environdec.com</p>
Product Category Rules:	PCR 2019:13, Packaging v.1.1.3
PCR review was conducted by:	The Technical Committee of the International EPD [®] System. Chair: Maurizio Fieschi, info@environdec.com
Life Cycle Assessment (LCA):	LCA accountability: <i>Ing. Paolo Simon Ostan</i>
Independent third-party verification of the declaration and data, according to ISO 14025:	<input type="checkbox"/> EPD Process Certification <input checked="" type="checkbox"/> EPD verification
Third-party verifier:	<p>SGS ICS Italia S.r.l. via Caldera, 21 20153 - Milano</p> <p>Approved by: Accredia, certificato n.0005VV</p>
Procedure for follow-up of data during EPD validity involves third party verifier:	Yes

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

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see ISO 14025.

The environmental impacts of different EPDs can only be compared only taking into account all the technical information supporting the declared/functional unit definition as requested by the PCR.

The calculated environmental impacts refer to only one reuse of the packaging.

2. Company information

EPD Owner

CPR SYSTEM s.c.
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40051 Malalbergo (BO), Italy
www.cprsystem.it

Contact

info@cprsystem.it
Ph. 0532 823912

CPR SYSTEM s.c. was founded in 1998 thanks to the initiative of a group of fruit and vegetable producers, with the aim of creating a business cooperation to generate efficiency, environmental and economic value to be shared throughout the entire agri-food supply chain.

The company, a leader in Italy in the production, handling, reuse, and recycling of foldable plastic packaging and pallets for the agri-food supply chain, stands out for its constant commitment to innovation, in order to improve its offering with a focus on the circular economy.

CPR SYSTEM is an example of a "supply chain based business", capable of bringing together different players in the agri-food sector, including agricultural producers, distribution companies and businesses operating in the services and transport sectors. The company is the parent of three other subsidiaries:

- FC Log S.p.A., a commercial company that operates in the free market of pooling and handles logistics and management of CPR Deposits.
- CPR SYSTEM Iberia, which manages the pooling activity in the Spanish domestic market and the export of Spanish products to the Italian market.
- Newpal S.p.A.



The latter is a subsidiary of CPR SYSTEM and is partly owned by Lucart S.p.A., dedicated to the production of reusable pallets made from recycled plastic. To increase its market competitiveness, CPR SYSTEM decided to produce plastic pallets internally for use in its core business. The industrial site located in Gallo (FE) is equipped with an innovative plant that allows the moulding of recycled plastics, including heterogeneous ones, especially those derived from food containers like Tetra Pak®, as well as systems for the management and mixing of materials and the automatic assembly of pallet components.

The Newpal project represents a virtuous example of the circular economy because, in addition to using recycled materials derived from waste and scraps that would normally be destined for disposal, it also recycles internal production scraps and end-of-life pallets to produce new pallets.

Name and location of production site

Newpal S.p.a.
Via Nazionale, 3
44028 Gallo (FE), Italy
www.newpal.it

3. Product information

UN CPC code

36490 Other articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics.

Product description

The Noè pallet, identified by code PR12, is a product developed and patented by CPR SYSTEM and produced by Newpal S.p.A. It is used by the CPR SYSTEM Group as a support for the plastic folding crates managed within the company's pooling system.

This four-way, non-reversible pallet consists of a platform and crosspieces connected by a male-female locking system on the blocks. It is equipped with a Smart Label traceability tag that includes an RFID TAG, an EAN128 barcode, and a Data Matrix, allowing monitoring throughout the entire logistics chain. Additionally, the product is recyclable at the end of its life, easily washable and sanitizable, resistant to rust, and stable in determining its tare weight.

The pallet has been designed with containment edges and specific technical features to minimize load slippage, typically consisting of CPR SYSTEM plastic crates, common in the agri-food supply chain.



The Noè pallet is made of secondary materials sourced from various recycling processes:

- polyolefin component in compliance with the standard UNI 10667-16, obtained from poly-bonded scraps derived from the recycling of post-consumer beverage cartons such as Tetra Pak®, once the cellulose component is separated by paper mills;
- material obtained from the recycling of composite materials with a polyester resin matrix reinforced with fiberglass, in compliance with the standard UNI 10667-13: this charge contributes to providing greater resistance and durability to the pallet;
- material derived from the recycling of obsolete Noè pallets, in compliance with the standard UNI 10667-16: the waste from pallets no longer usable, along with production scraps, are recycled externally and reused.

The production of the pallet takes place through a highly automated process, which includes the following phases:

- a. storage of the materials needed for production;
- b. loading of the materials into the feeding system, towards to the moulding unit;
- c. injection moulding;
- d. removal of sprues;

- e. traceability labelling;
- f. automatic assembly of the platform and crosspieces to form the finished pallet;
- g. storage in the warehouse for shipment.

Technical information

- Dimensions: 1200x800x150 mm
- Weight: 23 kg ± 5%
- Base materials: heterogeneous recycled plastics
- Maximum static load: 2000 kg
- Maximum dynamic load: 1000 kg
- Maximum load for use on shelves set on external 'blocks': 1000 kg
- Number of uses of the reusable packaging during its lifetime: 41

The maximum load values have been determined in accordance with the UNI EN ISO 8611-3 standard, while the number of uses over the lifetime has been estimated based on statistics related to pallet movements in 2024, considering restorations during rotation cycles.

Geographical scope

Europe

4. LCA information

The Life Cycle Assessment (LCA) was conducted in accordance with ISO 14040 and ISO 14044 standards and follows a cradle-to-grave approach, considering all environmental impacts from raw materials extraction to the product end of life.

The reference PCRs applied from the product category are PCR 2019:13, Packaging, v.1.1.3.

For the assessment, the software SimaPro v.9.6.0.1 and the Ecoinvent v 3.9.1 database were used.

Functional unit

The functional unit is 1 product unit. The technical information provided in Section 3 supports the functional unit.

Time representativeness

2023–2024 (July 2023 → June 2024)

System boundaries

The system boundaries include all life cycle stages of the product, from cradle to grave. Therefore, the pre-production (upstream) and production (core) phases, as well as the post-production (downstream) phases, are included.

Upstream processes include:

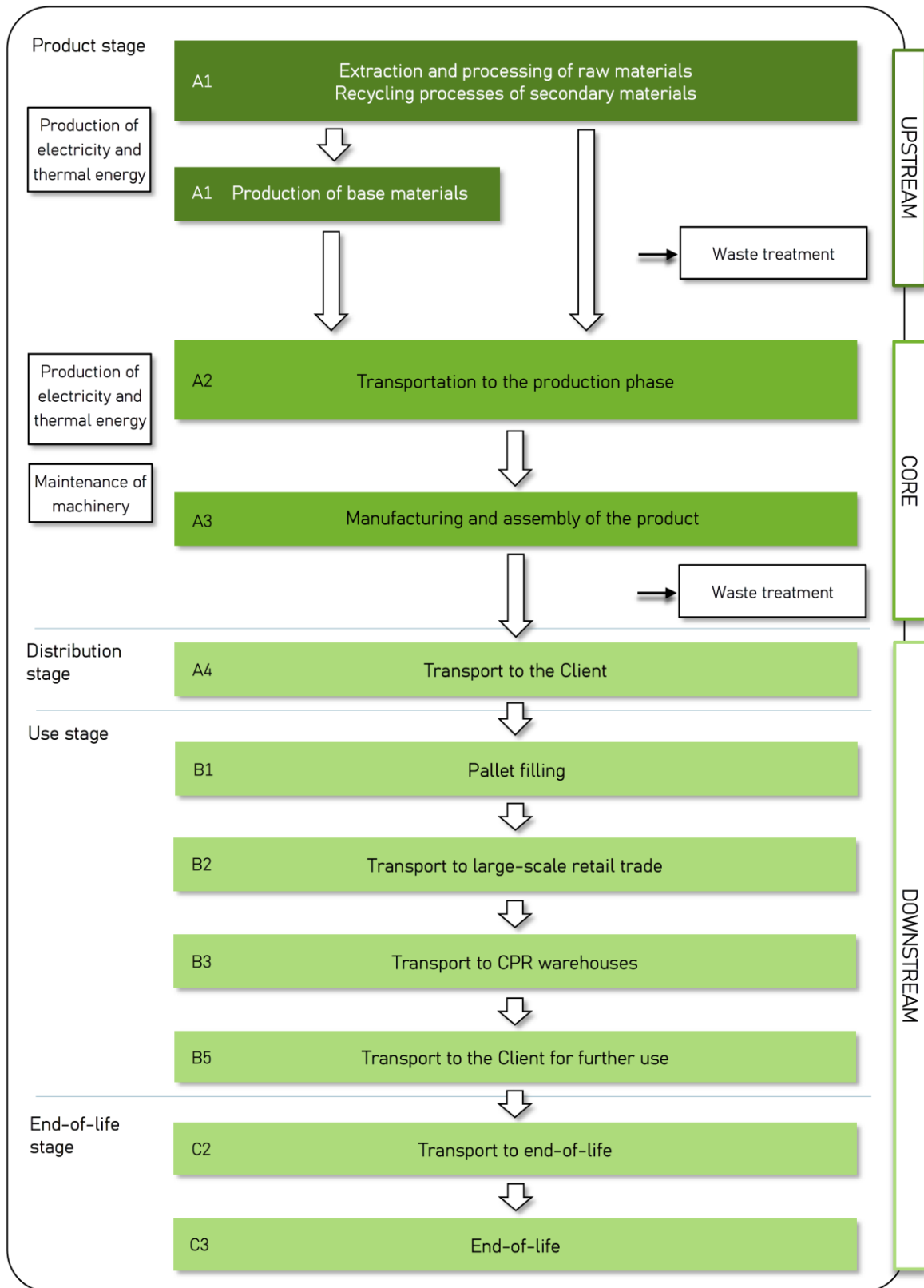
- extraction and processing of raw materials;
- recycling processes of secondary materials used as inputs for the product manufacturing;
- production of base materials (e.g. masterbatch);
- production of electricity and thermal energy for upstream processes;
- treatment of waste generated in upstream processes.

Core processes include:

- transport of raw materials to the factory gate;
- processing, manufacturing and assembly of the finished product;
- maintenance of machinery;
- production of electricity and thermal energy for core processes;
- treatment of waste generated in core processes.

Downstream processes include:

- distribution of the finished product;
- use stage;
- end of life of the product.



The life cycle modules A5 (product forming outside the company boundaries), B4 (reconditioning), and C1 (disassembly/sorting) are not applicable to the product (MND), while module B1 (filling operations) has been included in the cut-off, considering the difficulty in obtaining reliable data for process modeling.

Ecoinvent v3.9.1 datasets related to the energy residual mix have been used for electricity modelling.

Cut-off rules

Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts has been included.

Certain elementary flows have been excluded due to the lack of reliable data:

- the packaging of some base materials;
- some of the waste generated in the production process;
- extraordinary maintenance of the machinery;
- the pallet label;
- the processes related to pallet filling.

Allocation methods

The allocation methods applied in the core module, to associate the elementary flows with the functional unit under study, are based on physical relationships (mass criterion).

Distribution and end-of-life scenario

Specific data from the CPR SYSTEM pallet pooling system have been used for the distribution and handling scenario of the product (except for phase B2). The product end-of-life involves 100% recycling at a specialized company selected by CPR SYSTEM.

5. Content declaration

MATERIAL	%	WEIGHT [kg]
Polyolefins	65,3	15
Micronized aluminium	7,3	1,7
Cellulose	1,5	0,3
Resin	15,4	3,5
Glass fibres	9,4	2,2
Additives and pigments	1,1	0,3
Total	100	23

The product is made up of 99% recycled material derived from pre-consumer and post-consumer materials.

The product is free from any hazardous chemical substances as classified under Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP).

No packaging is used for the finished product.

6. Environmental performance assessment

Version 2.0 of impact categories, as defined in the specific section of www.environdec.com, is used. This version adopts the main indicators of the EN 15804:2012+A2:2019/AC:2021 standard and the characterization factors deriving from the EF 3.1 method (February 2023).

In the tables totals may not match because of rounded data.

6.1. Impact category indicators

Impact category		Unit	Upstream	Core	Downstream	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	9,51E+00	8,70E+00	3,98E+00	2,22E+01
	Biogenic	kg CO ₂ eq.	-6,14E-01	1,75E-02	6,23E-01	2,71E-02
	Land use and land transformation	kg CO ₂ eq.	2,31E-03	1,36E-03	1,93E-03	5,61E-03
	TOTAL	kg CO ₂ eq.	8,89E+00	8,71E+00	4,61E+00	2,22E+01
Ozone layer depletion potential (ODP)		kg CFC 11 eq.	2,09E-07	2,03E-07	8,67E-08	4,99E-07
Acidification potential (AP)		mol H ⁺ eq.	2,08E-02	2,40E-02	1,30E-02	5,79E-02
Eutrophication potential (EP)	Freshwater	kg P eq.	7,23E-04	1,13E-03	2,79E-04	2,13E-03
	Marine	kg N eq.	4,62E-03	5,24E-03	4,47E-03	1,43E-02
	Terrestrial	mol N eq.	4,88E-02	5,53E-02	4,72E-02	1,51E-01
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	2,58E-02	2,57E-02	1,94E-02	7,09E-02
Abiotic depletion potential (ADP)*	Metals and minerals	kg Sb eq.	1,51E-05	1,30E-05	1,28E-05	4,08E-05
	Fossils resources	MJ, net calorific value	1,28E+02	1,27E+02	5,65E+01	3,12E+02
Water deprivation potential (WDP)*		m ³ eq.	1,29E+00	1,97E+00	2,30E-01	3,49E+00

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

6.2. Resource use indicators

Parameter		Unit	Upstream	Core	Downstream	TOTAL
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	1,80E+01	5,14E+00	8,44E-01	2,40E+01
	Used as raw materials	MJ, net calorific value	5,10E+00	0,00E+00	-5,10E+00	0,00E+00
	TOTAL	MJ, net calorific value	2,31E+01	5,14E+00	-4,26E+00	2,40E+01
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1,28E+02	1,27E+02	5,65E+01	3,12E+02
	Used as raw materials	MJ, net calorific value	8,91E+02	0,00E+00	-8,91E+02	0,00E+00
	TOTAL	MJ, net calorific value	1,02E+03	1,27E+02	-8,34E+02	3,12E+02

The option chosen for the calculation of primary energy use Indicators is "B", in accordance with the guidance of Environmental performance indicators for PCRs under GPl4 and before, www.environdec.com.

7. References

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