Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Sigmalsol PIR

from

Programme:	The International EPD® System, www.environdec.com
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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

EPD of multiple products, based on a representative product

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *Construction Products, 2019:14, version 1.3.4. c-PCR-005 Thermal Insulation Products (EN 16783), version 2024-05-03*
PCR review was conducted by: *PCR Committee: IVL Swedish Environmental Research Institute, Secretariat of the International EPD® System* *Moderator: Martin Erlandsson, IVL Swedish Environmental Research Institute*
Life Cycle Assessment (LCA)
LCA accountability: *Eng. Francesca Intini* *Arch. Daniela Petrone*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by accredited certification body Bureau Veritas Italia S.p.A is an approved certification body accountable for the third-party verification The certification body is accredited by: Accredia
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

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, or not compliant with EN 15804, 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 EN 15804 and ISO 14025.

Company information

Owner of the EPD: PPG Architectural Coatings Italy S.r.l. Architectural Coatings EMEA

Contact: Elisabetta Pili, Mpili@ppg.com

Description of the organisation: Founded in 1883, PPG Industries has its headquarters in Pittsburgh and is a large global company founded in 70 years. Leader in paint for construction, marina, anti-corrosion and industry, it provides global supply of a vast ran
ge of specialist products: all products, special materials, chemical products, glass and fiberglass.

Product-related or management system-related certifications: PPG's EHS Policy incorporates the elements of voluntary global industry initiatives, including Responsible Care® and Coatings Care®, which help companies manage safe and environmentally responsible practices in the chemicals and coatings industries. At more than 40 of its facilities, PPG has received ISO 14001:2004 certification.

Name and location of production site(s): Cavallirio (NO), Italy

Product information

Product name: SigmaIsol PIR

Product identification: Products are identified by name

Product description: SigmaIsol PIR is an External Thermal Insulation Composite System (ETICS) with panel expanded rigid polyurethane foam, high thermal-acoustic performance, with the possibility of finishing in acrylic, acrylic, silosan and self-propelled.
The SIGMAISOL PIR system is an ETICS system certified with ETA 24/1252. The system complies with the Reaction Class B,s1,d0 second to EN 13501-1.
The system consists of:

- Adhesive/basecoat SIGMAISOL PW, specific for the PIR conforming to norm 998-I:2003.
- SIGMAISOL PIR panel expanded rigid polyurethane foam, thermal conductivity λ = 0.024-0.027 W/mK tensile strength TR ≥ 80 kPa, thickness 10 cm, density[1] 30 kg/m^3.
- HDPE (High Density Polyethylene) Anchors, percussion or screwed depending on the type of support and the type of building, dated EAD Certification 330196-01-0604 cat. A-B-C-D-E.
- Skim coating SIGMAISOL PW, specific for the coating of PIR insulating panels, conforming to norm 998-I:2003.
- PPG net in fiberglass.
- SIGMAPRIM ASSIST pigment adhesion base specific acrylic water pigment, totally free from emissions of harmful substances and solvents (E.L.F. product), at standard VOC (Organic Volatility Compost). As an alternative pigmentable adhesive base, SIGMAPRIM ACRYLSILOXAN FILLPRIMER is an water-water-siloxan base with excellent potency, allowing for high traspirability.
- Finishing Coat SIGMA ACRYL PUTZ Fein 1.2 mm (alternative grain size Mittel 1.5 mm), acrylic coating for external surfaces, pigmentable, resistant to the proliferation of muffe and funghi, a VOC norm, water repellency class W2 second to standard EN 1063, class of vapor permeability

[1] The value of 30 kg/m^3 was used for the calculations. It should be noted that during production, panels may be subject to deviations with tolerance percentages of 10%.

V2 secondo the EN 1062 standard, ready to use. Alternate Finishing Coat to the SIGMA SILOXAN PUTZ spigot with grain size 1.2 mm (alternating with grain size 1.5 mm), silosan coating on the surface is external, pigmented, highly breathable and hydrorepellent, VOC standard, water repellency class W3 second to standard EN 1063, vapor permeability class V1 second to standard EN 1062, ready to use. Alternate Finishing Coat to the SIGMA ACRYLSILOXAN PUTZ granulometria Fein 1.2 mm (alternating with grain size 1.5 mm), silosan coating on the surface is external, pigmented, highly breathable and hydrorepellent, VOC standard, water repellency class W2 second to standard EN 1063, vapor permeability class V1 second to standard EN 1062, ready to use.

Technical performance of SigmaIsol PIR KIT:

Essential Characteristic	***Performance***	***Clause EAD***
Basic requirement of construction works 2: Safety in case of fire (BWR 2)		
Fire reaction:	Euroclass	2.2.1
Fire reaction of insulation material	E	2.2.1.2
Basic requirement of construction works 3: Hygiene, health and environment (BWR 3)		
Dangerous substances:	NPD	2.2.4
Water absorption:		2.2.5
Water absorption of base coat and plaster system After 1 h (kg/m²) After 24 h (kg/m²)	 ≤ 0,1 kg/m² ≤ 0,4 kg/m²	2.2.5.1
Water absorption of the insulation	NPD	2.2.5.2
Waterproofness of ETICS:		
Hygrothermal behavior	Verified and satisfied	2.2.6
Frost/Defrost behavior	Verified and satisfied	2.2.7
Impact resistance (Category)	**Cat II**	
Vapor permeability:	Equivalent air thickness S_D (m)	2.2.9
Water vapor permeability of the plaster system	Sd ≤ 0,8	2.2.9.1
Water vapor permeability of insulation	NPD	2.2.9.2

Table 1: Parameters required in the reference standard EAD 040083-00-0404,values from ETA 24/1252

Products included: This is an EPD of multiple products, based on a representative product.
SIGMAISOL PIR with 10 cm panel has been selected as a representative product. The choice was made based on production volumes.
Product variability includes the thickness range (from 20 mm to 160 mm), the grain size of the primer and the topcoat (Fine and Mittel), acrylic and acrysiloxane topcoat, filler primer for acrysiloxane and acrylic systems.

UN CPC code: 54650 - Insulation services

Geographical scope: European Union Countries

LCA information

Functional unit / declared unit: 1m^2 (14,266 kg) of external thermal insulation composition systems (ETICS) with an panel expanded rigid polyurethane foam of 10 cm

Reference service life: A typical service life is 50 years

Time representativeness: The LCA study is conducted in 2024 with data relating to 2023

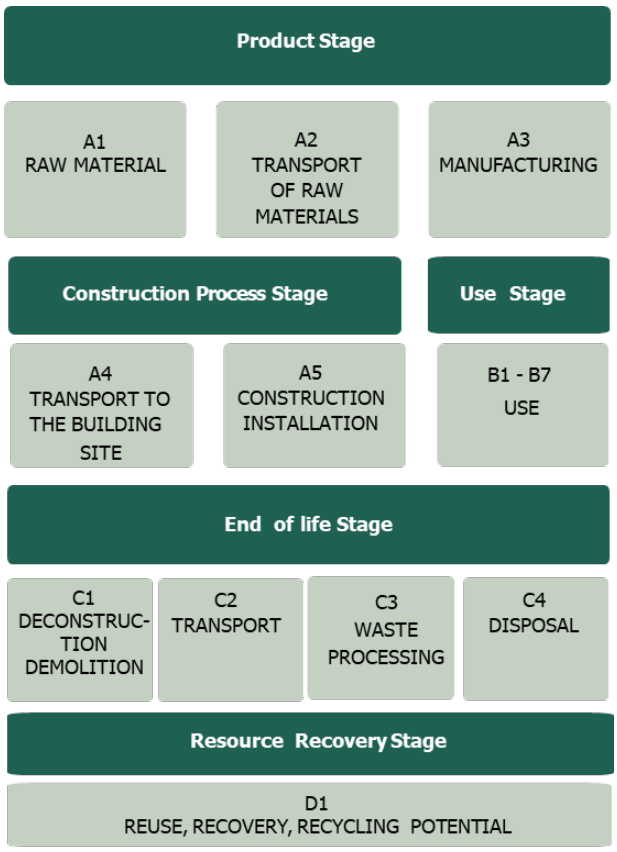
Database(s) and LCA software used: The Ecoinvent database v.3.10 (www.ecoinvent.org) provides the life cycle inventory data for the raw and process materials obtained from the background system and other EPD from suppliers. LCA software used is SimaPro 9.6.0.1.

Cut-off rules: The 1% cut-off percentage was applied for inventory inflows.
Maintenance operations of plants, infrastructure processes, machinery were excluded from the study.

Environmental impact method:
For environmental performance indicators: EN 15804 + A2 based on EF 3.1 characterisation factors (JRC Website). To determine the use of renewable and non-renewable resources, the CED (Cumulative Energy Demand LHV) v.1.11 method is used.

Description of system boundaries:
Cradle to grave and module D (A + B + C + D).

System diagram:



Electricity mix: Electricity, medium voltage {IT}| electricity, medium voltage, residual mix | Cut-off, S; Climate impact: 0.641kg CO2eq/kWh (GWP-GHG)

Transport to construction site (A4)
The products are shipped to construction sites located in Italy and Europe, with an average distance of 300 km.

Construction installation (A5)
During the installation phase, the use of water and a quantity of construction site waste of 1% is estimated.
Sending the packaging materials to the waste recycling chain has been evaluated (distance 10km).

Use Stage (B1-B7)
If the installation phases have been carried out correctly and according to the technical instructions provided by PPG, the product does not undergo variations and is not subject to ordinary maintenance interventions during its useful life of 50 years.

End of Life Stage (C1-C4)
C1: The impacts associated with the demolition phase is negligible.

C2: The transportation of the product at the end of its life is modelled with a scenario equal to 20 km by truck.

C3: In the case of selective demolition of buildings, the product can be recovered and sent to specialized recovery companies. As a precaution, it was assumed that 100% of the material at the end of its life will be sent to landfill, therefore no recovery activities are foreseen.

C4: The product after the demolition activities is disposed of in landfill.

Resource recovery stage (D)

There are no benefits associated with the recovery/recycling/reuse phase because 100% of the material will be sent to landfill in phase C.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	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
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	x	x	x	x	x	x	x
Geography	EU	EU	IT	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU
Specific data used	58%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-57% +18%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-

The following table shows the range of variability for A1-A3 module (smaller and larger thickness of insulation) and for each category of impact. These values are required by PCR 2019:14 v.1.4 for EPD of multiple products with variances greater than 10%.

Module A1-A3	Range
ODP	-63% +21%
AP	-54% +18%
EP-freshwater	-66% +19%
EP- marine	-54% +17%
EP-terrestrial	54% +17%
POCP	-59% +18%
ADP-minerals&metals	-18% +7%
ADP-fossil	-62% +19%
WDP	-57% +20%
GWP-GHG	-57% +18%

Content information (Representative product)

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/m²
Adhesives SIGMAISOL PW	4,000	0,00%	0,000
Insulation PIR	3,000	0,00%	0,000
Anchors in HDPE	0,201	0,00%	0,000
Skim coatings SIGMAISOL PW	4,500	0,00%	0,000
Net Fiberglass	0,165	0,00%	0,000
Primer SIGMAPRIM	0,200	0,00%	0,000
Finishing coat SIGMA PUTZ	2,200	0,00%	0,000
TOTAL	**14,266**	**0,00%**	**0,000**
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/m²**
Steel	0,006	0,04%	0,000
Polypropylene	0,075	0,52%	0,000
Cardboard	0,039	0,27%	0,016
Wood pallet	0,265	1,86%	0,132
Polyethylene for pallet wrap	0,099	0,69%	0,000
TOTAL	**0,484**	**3,39%**	**0,149**

The product do not contain substances which exceed the limits for registration with the European Chemicals Agency regarding the “Candidate List of Substances of Very High Concern for Authorisation”.

Results of the environmental performance indicators[2]

Mandatory impact category indicators according to EN 15804

Results per functional unit 1m²										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1,90E+01	8,29E-01	1,31E-03	0,00E+00	0,00E+00	6,86E-02	0,00E+00	1,43E-01	0,00E+00
GWP-biogenic	kg CO_2 eq.	-3,99E-01	5,68E-04	4,98E-01	0,00E+00	0,00E+00	4,01E-05	0,00E+00	8,21E-04	0,00E+00
GWP-luluc	kg CO_2 eq.	1,74E-02	2,71E-04	3,26E-07	0,00E+00	0,00E+00	2,16E-05	0,00E+00	3,46E-05	0,00E+00
GWP-total	kg CO_2 eq.	1,86E+01	8,29E-01	5,00E-01	0,00E+00	0,00E+00	6,87E-02	0,00E+00	1,44E-01	0,00E+00
ODP	kg CFC 11 eq.	7,18E-07	1,65E-08	2,45E-11	0,00E+00	0,00E+00	1,37E-09	0,00E+00	4,47E-09	0,00E+00
AP	mol H^+ eq.	7,32E-02	2,59E-03	6,34E-06	0,00E+00	0,00E+00	2,05E-04	0,00E+00	1,58E-03	0,00E+00
EP-freshwater	kg P eq.	7,13E-04	6,37E-06	7,67E-09	0,00E+00	0,00E+00	5,16E-07	0,00E+00	4,80E-06	0,00E+00
EP-marine	kg N eq.	1,37E-02	8,63E-04	2,57E-06	0,00E+00	0,00E+00	6,79E-05	0,00E+00	3,90E-04	0,00E+00
EP-terrestrial	mol N eq.	1,61E-01	9,50E-03	2,83E-05	0,00E+00	0,00E+00	7,48E-04	0,00E+00	4,22E-03	0,00E+00
POCP	kg NMVOC eq.	7,42E-02	4,06E-03	1,19E-04	0,00E+00	0,00E+00	3,24E-04	0,00E+00	1,54E-03	0,00E+00
ADP-minerals&metals*	kg Sb eq.	1,27E-04	2,65E-06	3,01E-09	0,00E+00	0,00E+00	2,18E-07	0,00E+00	2,73E-07	0,00E+00
ADP-fossil*	MJ	3,73E+02	1,16E+01	1,81E-02	0,00E+00	0,00E+00	9,56E-01	0,00E+00	3,32E+00	0,00E+00
WDP*	m^3	5,72E+00	4,77E-02	9,62E-02	0,00E+00	0,00E+00	3,64E-03	0,00E+00	-1,86E+00	0,00E+00
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									

** 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.*

[2] The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks" is missing.

Additional mandatory and voluntary impact category indicators

Results per functional unit 1m²										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[3]	kg CO_2 eq.	1,91E+01	8,29E-01	1,31E-03	0,00E+00	0,00E+00	6,87E-02	0,00E+00	1,43E-01	0,00E+00

Resource use indicators

Results per functional unit 1m²										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	2,66E+01	1,91E-01	3,33E-04	0,00E+00	0,00E+00	1,79E-02	0,00E+00	6,68E-02	0,00E+00
PERM	MJ	7,77E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	3,44E+01	1,91E-01	3,33E-04	0,00E+00	0,00E+00	1,79E-02	0,00E+00	6,68E-02	0,00E+00
PENRE	MJ	2,76E+02	1,16E+01	1,81E-02	0,00E+00	0,00E+00	9,56E-01	0,00E+00	3,32E+00	0,00E+00
PENRM	MJ	9,74E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,73E+02	1,16E+01	1,81E-02	0,00E+00	0,00E+00	9,56E-01	0,00E+00	3,32E+00	0,00E+00
SM	kg	6,75E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m^3	1,91E-01	1,59E-03	2,14E-03	0,00E+00	0,00E+00	1,33E-04	0,00E+00	-4,01E-02	0,00E+00
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water									

[3] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Waste indicators

Results per functional unit 1m²										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	2,87E-02	2,88E-04	3,84E-07	0,00E+00	0,00E+00	2,20E-05	0,00E+00	1,68E-03	0,00E+00
Non-hazardous waste disposed	kg	3,30E+00	5,52E-01	1,43E-01	0,00E+00	0,00E+00	3,84E-02	0,00E+00	1,43E+01	0,00E+00
Radioactive waste disposed	kg	9,07E-04	3,71E-06	4,57E-09	0,00E+00	0,00E+00	3,66E-07	0,00E+00	1,09E-06	0,00E+00

Output flow indicators

Results per functional unit 1m²										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	0,00E+00	0,00E+00	4,84E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	2,46E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental information

Calculation of GWP-GHG indicator for different insulation thicknesses
It should be noted that this EPD represents multiple products based on different insulation panel thicknesses.
A unique linear equation for performance indicator GWP-GHG (A1-A3) was derived from the study and can be used to calculate the potential environmental impacts of any relevant thickness of a specific type of insulation panel in the SIMAISOL system.
This relationship is presented in the form y=ax+b, where x represents the insulation thickness (in cm) and y represents the GWP-GHG indicator (in kg CO_2eq.) for the specified thickness.

$$y = 1.35\,x + 5.60$$

Constant related to the GWP-GHG of the SIGMAISOL PIR system less than the GWP-GHG of the insulation

Value related to the GWP-GHG of the insulation as a function of the thickness insulation

Use and maintenance phase
Stages B1 to B7 were evaluated: the coat system is permanently installed in the structure, it does not require any energy or operational water consumption during the usage phase.
The coat system, when properly laid, does not require maintenance, repair, replacement or renovation under normal conditions of usage.

Disassembly and end of life
Cautiously, for the sole purpose of calculating the environmental indicators, the end-of-life scenario assumed the disposal of the product in proper dumps.
In order to implement a selective demolition that does not compromise the possibility of recycling mineral fractions (concrete, terracotta masonry...),it is necessary to adopt techniques for deconstructing and dismantling insulating materials before demolishing load-bearing structures.
An appropriate separation of insulating materials implies a higher cost than traditional demolition. This higher cost must be considered during project planning.
Therefore, in order to draft the "Disassembly/End-of-Life Plan" of a building designed and constructed with the PPG insulation system, this latter can be considered susceptible to selective demolition at the end of its life as it is made of retrievable materials.
It is possible to provide in the "Disassembly/End of Life Plan" a manual or mechanical removal of the insulating layers until the "skeletonization" of the building. Caution: before starting the demolition process, lay down a protective sheet on the ground to prevent the spread of fragments and work in windless conditions.

Hereunder the list of constituent materials of the coat system that can be retrieved, reused, and/or recycled with their EWC codes. It is important to highlight that in the PPG coat system there **is no presence of hazardous substances requiring special treatment.**
It is assumed the presence of treatment/recycling facilities in the area, and that the mechanical separation of components is carried out on-site or off-site. An indication of the EWC code for the components of the coat system is given below.

STRATIGRAPHY Component.	CER	ERC Description	End-of-life scenario	
PUR	17.06.04	*Insulating material free of hazardous substances*	*RETRIEVE*	*Reuse or recovery of energy by waste-to-energy.*
Adhesive/Rasher	17.09.04	*mixed waste from construction and demolition activities other than those referred to in items 17 09 01, 17 09 02 and 17 09 03*		*Waste from demolition of works for which dismantling and selective demolition are not possible, which are sent to plants for the production of recycled aggregates.*

Recycled materials content

For the purpose of complying with the DECREE June 23, 2022 "Minimum Environmental Criteria for the entrusting of the design service of building interventions, for the entrusting of works for building interventions and for the joint entrusting of design and works for building interventions." and ss.mm.ii., with reference to the minimum values of total recycled content (pre-consumption + post-consumption + by-product) required by the decree, PPG makes itself available to provide the means of proof to demonstrate compliance with the criterion verification indications required by the Decree itself.

References

- ✓ AIB, “European Residual Mixes -Results of the calculation of Residual Mixes for the calendar year 2023”
- ✓ Central Product Classification (CPC) Series M No.77, v.2.1. United Nations, New York, 2015.
- ✓ Database Ecoinvent v.3.10 (www.ecoinvent.org).
- ✓ Default list v. 2.0 of environmental impact indicators: the International EPD System (www.environdec.com).
- ✓ ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.
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