

1.2.2. ENVIRONMENTAL DECLARATIONS OF CONSTRUCTION PRODUCTS IN ITALY

OERCO2 ONLINE EDUCATIONAL RESOURCE FOR INNOVATIVE STUDY OF CONSTRUCTION MATERIALS LIFE CYCLE

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1. Introduction

The environmental declarations represent a voluntary instrument with the aim to define positive environmental performance of products. Therefore, these declarations are applied to products with low environmental impact, taking into account their whole life cycle.

Standard ISO 14020 – “Environmental labels and declarations - General principles” - identify three types of voluntary environmental labels:

- Type I Environmental Labelling (**UNI EN ISO 14024**). Declarations applied to products which respect predefined environmental requirements and must be certified by external organizations, in order to verify the compliance with standards requirements (e.g. Ecolabel).
- Type II Environmental Labelling (**UNI EN ISO 14021**). Environmental self-declarations that define a specific environmental performance of products (e.g. recyclability, degradability, etc.) and don't need a verification by external organizations.
- Type III Environmental Labelling (**UNI EN ISO 14025**). Environmental products declarations (EPD) that establish information about environmental behavior of products by the certification of a competence authority.

Generally, environmental declarations regard the whole life cycle assessment of products: extraction and selections of raw materials, electrical and water consumptions during the production process, waste management, etc.

In particular, EPD provides qualitative information regarding environmental performance of products. They don't set a minimum acceptance threshold, but guarantee:

- Objectivity | Due to LCA methodology, in order to determine product environmental performances, according to standards **ISO 14040:2006** – “Environmental management – Life cycle assessment – Principles and framework”.
- Comparison | EPD are based on Product Category Rules (PCR) that define common rules to perform a specific declaration for product families. In Italy, these rules are established by the European standard **UNI EN 15804** “Sustainability of construction works – Environmental product declaration – Core rules for the product category of construction works”.
- Reliability | The informations provided must be certificated by competence authority before to be published.

In construction sector, the methodology to define EPD is identified by international standard **ISO 21930:2007** - “Sustainability in building construction – Environmental declaration of building products” - along with standards **ISO 15392:2008** - “Sustainability in building construction – general principles” - which establish the principles that have to be respected in EPD’s definition, in order to determine environmental performance for construction materials.

The environmental product declarations are related to the following legislative framework:

Europe:

- Regulation CPR (UE) 305/2011 - Construction Products Regulation. It contains seven different “essential/key requirements” and one of them is Sustainability. It’s referred to the evaluation of the sustainable use of the resources and environmental impact of construction work. In this framework, when available, the environmental product declaration must be used.
- 2013/179/EU – European Commission Recommendation (April 9th, 2013) on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations. It provides rules to estimate the Product Environmental Footprint (PEF).
- UNI EN 15978:2011 – “Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method”.

Italy

- Decree-Law of April 10th, 2013. “National Action Plan for Green Public Procurement” (PAN GPP). The action plan aims to maximize the GPP (Green Public Procurement) which is classified as an environmental policy instrument able to foster the market development of products with low environmental impact through Public Administration.
- Ministerial Decree 24.12.2015 – “Minimum environmental criteria for the award of design/planning services and works for the new construction, renovation and maintenance of buildings and management of Public Administration sites”.

2. Types of EPDs issued in Italy

The organizations in charge for what concerns the emitting EPDs release with repercussion in Italy are:

- EPD System: it is a global programme born in Sweden for environmental declarations based on ISO 14025 and EN 15804. It performs EPD and PCR for all types of products, included EPDs for construction products, which are fully accessible and it can be seen if they have been made for a particular company in a country (<http://www.environdec.com/it/>).
- EPD Italy: it is an Italian programme for environmental declarations founded by ICMQ, notified body for the verification and certification of environmental declarations for construction products (www.epditaly.it).
- ECO-Platform: The main European Program Managers have formed the ECO-Platform Association, for the EPDs in the construction sector. This Association aims to define harmonized criteria in order to facilitate free circulation of products in Europe. The objective of ECO Platform is the development of verified environmental information about construction products, in particular type III declarations called EPD (Environmental Product Declarations). The added value of EPD under the ECO Platform framework is the possibility to use these declarations in all European but also international markets. ECO Platform is not a program operator. It is a group of them together with LCA operators, industrial associations and other stakeholders working to guarantee a coherent framework for EPD. ICMQ is recognised as Italian founder of Eco-platform (www.eco-platform.org/).
- GBC Italy: although GBC is not a EPD certifying body, it has established procedures for EPDs development to be easily integrated into the environmental certification tools of that agency (GREEN and LEED) in the specific field of construction (<http://www.gbccitalia.org>).

The companies active in Italy which have the aim to verify EPDs into constructions sector are:

- **ICMQ spa** (<http://www.icmq.it/icmq.php> - verification of EPD issued by EPD system and EPD Italy,
- **Certiquality srl** (<http://www.certiquality.it/Home> - verification of EPDs issued by EDP system)
- **SGS Italia S.p.A** (<http://www.sgsgroup.it> - verification of EPDs issued by EPD system).
- **CSQA Certificazioni Srl** (<https://www.csqa.it/> - verification of EPDs issued by EPD system).

- **RINA Services S.p.A.** (<http://www.rina.org/it>).

Moreover, there is the possibility that the EPDs third part verifier is an individual person by International EPD System Technical Committee.

3. Comparative analysis

The construction materials more used in Italy for new buildings realization and restauration activities are:

- Concrete (bearing and not bearing),
- Structural or reinforcement steel,
- Fired clay products (masonry or facing bricks, roof tiles, beam and block floor, pavers)
- insulating materials (organic or mineral wool based),
- ceramic tiles,
- wood for pavers and coverings.

Due to the high importance of these materials and their environmental impact in construction processes, the mayor number of EPDs in Italy construction sector regard these ones.

The following table shows the list of materials for which EPDs are issued in Italy and the relative certification organisms. For instance, the EPDs released by EPD Italy are now referred only to cement, steel and reinforced concrete.

Type of Material	Company	Organism	Available	Validity	Product	Regulation applied	Phases assessed	Verifier
Offshore and Onshore Seamless Structural Solutions	Tenaris Dalmine	EPD Italy/EPD System	YES (PDF)	12/09/2021	Steel	15804/14025	Cradle-gate	ICMQ spa
Flat sheet in fiber cement	Società Italiana Lastre (SIL) S.p.A.	EPD Italy	YES (PDF)	28/02/2020	Fiber cement	15804/14025	Cradle-gate	ICMQ spa

Steel Deformed Bars for Concrete Reinforcement	Ferriera Valsabbia	EPD Italy/EPD System	YES (PDF)	12/04/2021	Steel	15804/14025	Cradle-gate	ICMQ spa
Hot-drawn Reinforcing steel for concrete in bars	Industrie riunite Odolesi i.r.o. s.p.a.	EPD Italy/EPD System	YES (PDF)	12/04/2021	Steel	15804/14025	Cradle-gate	ICMQ spa
Hot-drawn reinforcing steel for Concrete in bars and coils	FERALPI SIDERURGICA S.p.A.	EPD Italy	YES (PDF)	12/04/2021	Steel	15804/14025	Cradle-gate	ICMQ spa
Hot-rolled reinforcing steel for concrete in BARS and coils	Alfa acciai	EPD Italy/EPD System	YES (PDF)	12/04/2021	Steel	15804/14025	Cradle-gate	ICMQ spa
Merchant bars	AFV Beltrame Group	EPD Italy	YES (PDF)	30/09/2020	Steel	15804/14025	Cradle-gate	ICMQ spa
Average italian cement	AITEC Italian Cement Association	EPD system	YES (PDF)	19/16/2018	Cement	15804/14025	Cradle-gate	ICMQ spa
Synthetic waterproofing membrane	IMPER ITALIA S.p.A	EPD system	YES (PDF)	18/06/2020	Polypropylene	15804/14025	Cradle-grave	ICMQ spa
Porcelain stoneware slabs for internal and external walls and floorings	Graniti Fiandre spa	EPD system	YES (PDF)	13/12/2021	Ceramic	15804/14025	Cradle-gate	Individual verifier by International EPD system Technical Committee
PVC-P waterproofing membranes	Mapei Spa	EPD system	YES (PDF)	28/06/2021	PVC	15804/14025	Cradle-gate	Certiquality S.r.l.

Gypsum board, mixed with glass and wood fibres	Saint-Gobain PPC Italia SpA	EPD system	YES (PDF)	23/06/2021	gypsum	15804/14025	Cradle-gate	Individual verifier by International EPD system Technical Committee
Steel encapsulated panels for raised access floor, with gypsum fibreboard core	JVP srl	EPD system	YES (PDF)	23/01/2022	steel	15804/14025	Cradle-gate	SGS Italia S.p.A.
Double skin faced sandwich panels for thermal insulation with a core made of polyurethane	NAV SYSTEM S.p.A.	EPD system	YES (PDF)	02/02/2022	Thermal insulation material	15804/14025	Cradle-gate	Individual verifier by International EPD system Technical Committee
Reinforcement for bituminous membranes made of recycled staple polyester	Global Division Building Materials	EPD system	YES (PDF)	01/07/2017	Membranes bituminous	15804/14025	Cradle-gate	Individual verifier by International EPD system Technical Committee
Cement	Italcementi S.p.A.	EPD system	YES (PDF)	22/12/2018	Cement	15804/14025	Cradle-gate	Certiquality S.r.l.
Secondary raw materials or aggregates of industrial origin	Officina dell'Ambiente S.p.A	EPD system	YES (PDF)	14/03/2019	Raw materials	15804/14025	Cradle-gate	Individual verifier by International EPD system Technical Committee
Expanded Polystyrene Products for Thermal insulation	ISOLCONFORT Srl	EPD system	YES (PDF)	21/05/2018	Insulation materials	15804/14025	Cradle-gate	ICMQ S.p.A.
Concrete with high water	Italcementi S.p.A.	EPD system	YES (PDF)	21/05/2018	Concrete	15804/14025	Cradle-gate	Certiquality S.r.l.

drainage capacities								
Aluminium windows profile	Fresia Alluminio S.p.A.	EPD system	YES (PDF)	18/03/2019	Aluminium	15804/14025	Cradle-gate	Individual verifier by International EPD system Technical Committee
Klassic cement posts	Valente Srl	EPD system	YES (PDF)	09/09/2019	Cement	15804/14025	Cradle-gate	CSQA Certificazioni Srl
Steel posts	Valente Srl	EPD system	YES (PDF)	29/10/2020	Steel	15804/14025	Cradle-gate	CSQA Certificazioni Srl
Thermal insulation coating system	Colorificio San Marco S.p.A.	EPD system	YES (PDF)	14/01/2020	Insulation materials	15804/14025	Cradle-gate	CSQA Certificazioni Srl
Cork-based, natural plasters for thermal and acoustic insulation	Diasen Srl	EPD system	YES (PDF)	24/01/2022	Insulation materials	15804/14025	Cradle-gate	RINA Services S.p.A.
Expanded polystyrene product for thermal insulation	REXPOL Srl	EPD system	YES (PDF)	12/12/2019	Insulation materials	15804/14025	Cradle-gate	Certiquality Srl
Mortar	Mapei S.p.A.	EPD system	YES (PDF)	11/10/2021	Mortar	15804/14025	Cradle-gate	Certiquality Srl
Paint for internal application	Mapei S.p.A.	EPD system	YES (PDF)	02/12/2022	Mortar	15804/14025	Cradle-gate	Certiquality Srl
External thermal insulation composite systems	Mapei S.p.A.	EPD system	YES (PDF)	22/01/2022	Insulation materials	15804/14025	Cradle-gate	Certiquality Srl



4. Bibliography

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