STONE ITALIANA

ENVIRONMENTAL PRODUCT DECLARATION EPD

Cosmolite® **cm 1,2** based on mining mineral oxides
in conformity with ISO 14025:2006 and EN 15804:2012+ A2:2019/AC:2021

Programme: The International EPD® System
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CPC 37310 – Bricks, blocks, tiles and other ceramic goods of siliceous earths
PCR 2019:14 version 1.3.2 “Construction products”

Geographical area: Global
An EPD has to provide up-to-date information and may be modified if the situation changes.
Therefore, the validity of the declaration is subject to re-registration
and republication on **www.environdec.com**

EPD®

ECO PLATFORM EPD VERIFIED

COMPANY AND PRODUCT DESCRIPTION

THE COMPANY

Stone Italiana was founded in Zimella, in the province of Verona, in 1979 and is currently one of the most innovative Company in the field of recomposed quartz, marble and recycled minerals materials, manufacturing slabs in a variety of formats and thicknesses to ensure that they can be applied to a wide range of uses. Over time, our products have reflected the changing attitudes towards and ways of using stone. We like to think that, at Stone Italiana, we rework a number of qualities found in nature: uniqueness, originality and variety. However, we don't just stop at nature – we go beyond it by creating products with enhanced performance levels for an ever-more-demanding market.
Stone Italiana explores possibilities in every area of production, from aesthetics to performance enhancement. We work hard to improve the mechanical strength of our slabs while keeping their thickness and weight as low as possible; we try out new colour schemes and textures and produce tailor-made combinations of materials and grain sizes. We export our know-how, history and materials to over 80 Countries around the world. The international market pushes us to engage in ongoing research, trend-scouting and product renewal. This process is fuelled not only by our own team but also receives priceless input from our relationships with our customers, partners, architects, designers and suppliers.
The Company has two production facilities: the original site in Zimella (Verona) and the second one in Villesse (Gorizia). Our catalogue boasts different types of products, mainly used to create kitchen and vanity tops, workbenches, floorings and wall coverings, as well as customised applications.

THE ANALYSED PRODUCT

COSMOLITE® is a New Materia, made of 100% pre-consumer recycled minerals and a polymer binder constituting around 8-10% of the composition. The manufacturing process involves mixing together recycled minerals from different sources and of different grain sizes, with organic dyes and a polyester resin. This resin not only binds the materials together but also gives the finished product an added edge when it comes to resistance to bending, impacts and water absorption, and, in more general terms, gives COSMOLITE® physical properties and performance levels beyond those displayed by the original materials. COSMOLITE® products can be used for various applications, such as kitchen and vanity tops or customised projects.

COSMOLITE® is an hi-tech material designed by Stone Italiana to offer the world of design a new option in terms of both aesthetics and content. The slabs present an innovative look but their main innovation is in the composition – inert materials other than quartz 100% derived from pre-consumer recycling. These materials make the slabs easy to work and handle, as demanded by fabricators. This striking, almost hypnotic material is designed for all those who know how to apply surfaces in kitchen spaces, bathrooms and larger spaces requiring high-level technical performances, and for all those who look to the future by building environmentally sustainable constructions. Ten different colour combinations are available, all with the same striking texture. COSMOLITE® is the symbol of a corporate vision which is ever more strongly focused on environmental issues and transparency. This EPD refers to 1,2 cm thickness slabs. The products are packaged in stands (wooden and steel), for which the best-selling solution in 2022, i.e. the one containing 15 units, was considered.

As required by PCR 2019:14, it is hereby declared that no substances of high SVHC concern covered by ECHA's Candidate List are present in Stone Italiana's products in concentrations greater than 0.1%. The following table shows the technical characteristics of the products and the reference standards.

Characteristics	Applicable standards	Unit	Declared values
Water absorption	EN 14617-1	%	Class W_4
Flexural strength	EN 14617-2	MPa	Class F_4
Abrasion resistance	EN 14617-4	mm	Class A_4
Chemical resistance	EN 14617-10	min C_1 max C_4	C_4
Resistance to dry heat	EN 12722	C°	180 C°
Contact with foodstuffs. Overall migration	UNI EN 1186	mg/dm^2	Distilled water 0,2 Acetic Acid solution 3% 0,3 Ethanol solution 10% 0,5 Isooctane 0,9 Ethanol 95% 1,3

DECLARED UNIT

The LCA used as the basis for this EPD is a “cradle to grave” analysis. The calculations of material and energy flows have been calculated based on the following functional unit:

1 m² of COSMOLITE®

of 12 mm thickness and a total weight of approx. 30kg

in accordance with ISO 15804, a useful life time of 40 years was estimated.

DECLARATION OF CONTENTS

Below are the percentages of materials contained in the product and its packaging, declared in accordance with PCR 2019:14

Product components	Weight, kg	Post-consumer recycled material, %
Polymers	0,1	0,0
Inerts	0,9	0,0
Pigments	0,01	0,0
Other	0,0004	0,0
TOTAL	1,00	0,0
Packaging	**Weight, kg**	**Post-consumer recycled material, %**
Steel	0,8	0,0
Wood	0,2	0,0
TOTAL	1,00	0,0

It is specified that the product covered by this EPD, in the thickness of 1,2 cm, contains **90% PRE-CONSUMER** recycled inerts.

SYSTEM BOUNDARIES

System boundaries determine the life-cycle stages to be included in the LCA and what kind of 'inbound' or 'outbound' data can be omitted. In accordance with version 1.3.2 of PCR 2019:14 and EN 15804:2012+A2:2019/AC:2021 standard, the life cycle of COSMOLITE® includes the extraction of raw materials and production cycle, transport and manufacturing, divided into the phases of Upstream (A1) and Core (A2 and A3) and delivery, installation and end-of-life phases in the Downstream category (A4, A5, B2, C3, C4) ,recycling potential (D).

The **Upstream** (A1) stage comprises material-acquisition activities, broken down as follows:

- extraction and initial processing of the raw materials and processes to recycle any secondary materials deriving from a previous product system (excepting processes which form part of waste treatment processes in the previous product system);
- generation of electricity from primary energy sources, including the extraction, refinement and distribution of the same;
- energy recovery from secondary fuels (excepting processes which form part of waste treatment processes in the previous product system).

The **Core** stage comprises the following processes:

- external and internal transport to the processes forming part of the Core stage (A2);
- the manufacturing of the products, the production of auxiliary materials and packaging and management of the waste produced during the production process (A3).

The **Downstream** stage comprises the following processes:

- transport of the object of study to the building site (A4);
- installation of the object of study in the building (A5);
- maintenance of the object of study (B2);
- demolition of the object of study (C1);

transport to waste treatment facility (C2);

- waste treatment - Reuse, recovery and recycling (C3);
- disposal (C4).

	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	ND	X	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	TR, IT	TR, IT	IT	GLO	GLO	-	GLO	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Share of specific data	>90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%*			-	-	-	-	-	-	-	-	-	-	-	-	-	-

*il prodotto oggetto di studio è realizzato esclusivamente presso lo stabilimento di Zimella (Italia)

DATA QUALITY, CUT-OFF CRITERIA AND EXCLUSIONS

The inventory analysis - concerning the consumption of raw materials and electricity, the manufacture of the products and the associated waste -, was performed using specific information provided by Stone Italiana. All specific data provided by Stone Italiana refer to the last year (2022) and are related to Zimella site.

Primary data were also used regarding the production processes for certain raw materials and auxiliary materials used to manufacture the products, as well as selected data obtained from international data banks (in particular, Ecoinvent 3.9.1) for other raw materials, for electricity generation and distribution processes, for means of transport and for the waste treatment processes associated with the manufacture of the products. The data relating to ground-transport distances were calculated using the Google Maps online distance calculator and sea-transport distances using Sea-Rates.

The data were processed using SimaPro 9.5 software.
Given the above, the quality of the data used can be considered very good. The datasets used in the model refer to cutting discs, rollers, and an auxiliary material for the water treatment process. The relevance of proxy data on the calculations was assessed, resulting in less than 1% for all the products and across all the impact categories analyzed.

In accordance with PCR 2019:14 and the cut-off rule, flows representing less than 1% of the total inventory were excluded. More specifically, the following were not considered in the calculations:

- the packaging of raw and auxiliary materials;
- the consumption of natural gas to heat the offices;
- the consumption of sanitary water;
- workers' journeys to and from their place of work and the construction of the facilities and the machinery used, as these factors are not directly related to the product (PCR).

Electricity mix: the elctricity used in the production process (phase A1-A3) was modelled considering the mix of the supply company for the period considered. The GWP-GHG of the electricity mix is equal to 0,167 kg CO2 eq/kWh.

USE AND DISPOSAL OF THE PRODUCT

The use, repair and replacement phases of COSMOLITE® (Step B1 and B3 through B7 of PCR 2019:14 version 1.3.2) were not considered in this life cycle analysis. Impacts associated with selective demolition/deconstruction are negligible (C1). In addition, for product end-of-life, recovery (C3) is not considered, while for packaging, recovery (C3) and disposal (C4) rates are derived from statistical data. For both the end-of-life of packaging and the end-of-life of the product, transport to the treatment/recovery plant has been considered (C2). Recycling of the product in the construction of road bottoms has been assumed, following processing operations once it becomes waste (D).

COMPARISON OF EPDs WITHIN THE SAME PRODUCT CATEGORY

This EPD meets the requirements of ISO 14025 and EN 15804 standards. EPDs within the same product category but produced as part of different programmes cannot be compared with each other. Construction-product EPDs can be compared with each other only if they meet the comparability criteria laid down in EN 15804 standard. COSMOLITE® products manufactured by Stone Italiana described in this EPD have been made in compliance with the specifications laid down in PCR 2019:14 versione 1.3.2.

EPD VALIDITY

This EPD refers to the geographical area of Italy and is valid for 5 years following the date of approval.

ENVIRONMENTAL PERFORMANCE

The environmental performance of COSMOLITE® products made by Stone Italiana is based on the Life-Cycle Assessment (LCA) methodology and calculated in compliance with ISO 14040 and 14044 standards, the International EPD® System and PCR 2019:14. Dedicated procedures within our ISO 14001:2015-compliant environmental management system ensure that the environmental data concerning our EPD products are effectively managed and updated.

ASSESSMENT METHOD

The calculation method employed in the LCA underlying this EPD is the method described in the document entitled "GPI for the International EPD® System" (version 4.0), while the characterization factors used to convert the data derived from the analysis of the life-cycle inventory into impact categories are described and updated at https://www.environdec.com/resources/indicators.

ENVIRONMENTAL PARAMETERS OF COSMOLITE®

The table below shows the impact categories forming the Upstream, Core and Downstream stages (identified by cycle modules A1-A5, B2, C1-C4, D) of the whole life cycle of 1 m2 of COSMOLITE® manufactured by Stone Italiana.

Results of the environmental impact of the life cycle of 1 m2 of COSMOLITE® based on mineral oxides from mining and processing

Impact category	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
Global warming potential - fossil	kg CO_2 eq	25,3	0,16	0,050	6,27	0,00	0,3528	0,00	0,0408	-0,1242
Global warming potential - biogenic	kg CO_2 eq	0,6691	0,0001	0,1277	0,0000*	0,00	0,0003	0,00	0,0000	-0,0001
Global warming potential - land use and transformation	kg CO_2 eq	0,0271	0,0001	0,000	0,544	0,00	0,00016	0,00	0,00000	-0,0007
Global warming potential - TOTAL	kg CO_2 eq	26,0	0,16	0,178	6,82	0,00	0,3533	0,00	0,0408	0,0000
Acidification	mol H+ eq	0,0872	0,0027	0,0001	0,0401	0,00	0,000729	0,00	0,000379	-0,0002
Freshwater eutrophication	kg P eq	0,0037	0,0000	0,0000	0,0027	0,00	0,000024	0,00	0,000001	-0,0019
Marine eutrophication	kg N eq	0,0173	0,0007	0,0001	0,0089	0,00	0,000181	0,00	0,000173	-0,0006
Terrestrial eutrophication	mol N eq	0,1761	0,0075	0,0002	0,0000*	0,00	0,001834	0,00	0,001875	0,0000
Photochemical ozone creation	kg NMVOC eq	0,1133	0,0022	0,0001	0,0000*	0,00	0,001140	0,00	0,000561	0,0000
Ozone layer depletion	kg CFC11 eq	0,000001	0,0000000	0,0000	0,0000*	0,00	0,000000	0,00	0,000000	-1,5818
Depletion of elemental abiotic resources*	kg Sb eq	0,00001	0,00000	0,0000	0,0001	0,00	0,000001	0,00	0,000000	-0,2133
Fossil abiotic resource depletion*	MJ	464,7572	2,1696	0,2136	141,4400	0,00	4,974616	0,00	0,524258	-1,3470
Water scarcity*	m^3	66,2469	0,0069	0,0214	7,4360	0,00	0,018884	0,00	0,000723	-0,2347

*Results of this environmental impact indicator should be used with caution as uncertainties in the results are high and experience with the indicator is limited.

Resource consumption	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
Consumption of primary renewable energy resources	MJ	28,7	0,0254	0,0043	20,8	0,00	0,0870	0,00	0,0023	-0,1374
Consumption of primary renewable energy resources as raw material	MJ	2,9447	0,0000*	0,0000*	5,63	0,00	0,0000*	0,00	0,0000*	0,0000*
Total Consumption of primary renewable energy resources	**MJ**	31,62	0,03	0,00	26,42	0,00	0,09	0,00	0,00	-0,1374
Consumption of non-renewable primary energy resources	MJ	461,2	2,2	0,1866	141,96	0,00	4,975	0,00	0,524	-1,582
Consumption of primary non-renewable energy resources as raw material	MJ	3,54	0,0000*	0,0000*	4,84E+01	0,00	0,0000*	0,00	0,0000*	0,0000*
Total consumption of primary non-renewable energy resources	**MJ**	464,7	2,2	0,2	190,3	0,00	5,0	0,00	0,5	-1,6
Secondary material consumption	kg	0,00	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Consumption of renewable secondary fuels	MJ	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of non-renewable secondary fuels	MJ	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Consumption of water	m^3	1,57	0,0002	0,0005	0,0000*	0,00000*	0,0007	0,00000*	0,0000	-0,0052

(0,0000*= null value)

Waste production	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
Non-hazardous waste	kg	5,04	0,06	0,15	0,0000*	0,00	0,2055	0,00	15,09	-0,0055
Hazardous waste	kg	1,5993	0,0000	0,00	0,0000*	0,00	0,00003	0,00	0,00000	0,00000
Radioactive waste	kg	0,0004	0,00000	0,00	0,0000*	0,00	0,000002	0,00	0,000000	0,00000

(0,0000*= null value)

	Unità	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
GWP-GHG	kg CO2 eq	25,60	0,16	0,11	6,27	0,00	0,35	0,00	0,04	-0,12

		A1-A3	A4	A5	B2	C1	C2	C3	C4	D
Components for re-use	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Materials for recycling	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Materials for energy recovery	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Exported electrical energy	MJ	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Exported thermal energy	MJ	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Note that the results of modules A1-A3 should be considered together with the results of module C. No liability is accepted if the modules are considered separately.
Estimated impact results are only relative statements, which do not indicate impact category endpoints, threshold exceedances, margins of safety, and/or risks.

OTHER ENVIRONMENTAL INFORMATION

STONE ITALIANA has been certified ISO 14001 since 2012 (certificate no. 30700767 UM15 issued by DQS Italia S.r.l.). Through our Management System, we plan, implement and monitor the following activities designed to benefit the environment both inside and outside our facilities:

- ongoing commitment to detecting substances which could endanger human health by identifying all the hazardous materials released into the environment during the processes to produce semi-finished and finished products. Our solvents' use as part of our production processes is within the limits set for air emissions and air quality, both during the production process and when the product is used by the end consumer. No toxic metal components are used;
- strong focus on the reduction and monitoring of VOC (Volatile Organic Compounds) emissions: the emissions are identified and initiatives are implemented and upheld in order to reduce emissions both at the production stage and in the finished product;
- monitoring and management of emissions as laid down by the applicable legislation;
- acquisition of substances with reduced VOC content;
- chemical analyses in the workplace and clinical analyses carried out on workers;
- use of renewable resources rather than non-renewable resources;
- continual focus on using materials with recycled content: Stone Italiana has an ongoing commitment to searching for ways to reuse waste materials from production processes in order to create new, innovative materials for countertops, floorings and wall coverings;
- recycling: initiatives are put in place to facilitate the recycling of the products;
- labelling, certification and life-cycle assessment of all products and materials;
- as regards raw-material acquisition, we classify the materials acquired according to criteria of environmental sustainability or conservation of natural resources.

VARIATIONS COMPARED TO THE PREVIOUS VERSION

This version represents the first publication.

BIBLIOGRAPHY

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2. ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines for life cycle assessment (LCA)
3. General Programme Instructions for Environmental Product Declarations, version 4.0 dated 2021/03/29
4. PCR 2019:14: Construction products; version 1.3.2, valida fino al 20/12/2024
5. EN15804:2012+A1:2013 Sustainability of Construction Works – Environmental Product Declarations – Core Rules for the Product Category of Construction Products
6. Engineered stone product life-cycle assessment, rev.02 March 2024

REFERENCES

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CPC 37310 – Bricks, blocks, tiles and other ceramic goods of siliceous earths

EPDs within the same product category but referring to different programs cannot be compared.
The owner of the EPD has sole ownership and responsibility for the EPD.

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CEN EN 15804 standard has been used as the reference PCR	
PCR:	2019:14 Construction products; version 1.3.2
PCR review conducted by:	Technical Committee of the International EPD® System (Chairman: Claudia A. Peña, University of Concepción, Chile). The review committee can be contacted through the secretariat (www.environdec.com/contact). Email address: info@environdec.com
Life Cycle Assessment (LCA)	Study conducted by Ambiente Italia s.r.l.
Third-party verification:	☒ EPD process certification* ☐ EPD certification *For EPD process certification, an accredited certification body certifies and reviews the management process and verifies EPDs published periodically. For details on the procedure for third-party verification of EPDs, see the GPI.
Conducted by:	CSQA Certificazioni Srl, via San Gaetano 74 – Thiene (VI) Italy, tel. +39 0455 313011, e-mail: csqa@csqa.it
Accredited and approved by:	Accredia
The procedure for data follow-up during EPD validity involves a third-party verifier:	☐ YES* ☒ No

SUMMARY

Stone Italiana is today a leading-edge manufacturer of recomposed quartz, marble and recycled minerals surfaces. Over the years, the production has been a reflection of a new way of perceiving and using stone, something much like a semantic revolution. Stone Italiana has rediscovered qualities which are found in nature, such as uniqueness, non-repeatability and variety, never trying to imitate it. Rather, it has drawn inspiration from it to develop brand new materials that offer improved performance to an ever more discerning market. Stone Italiana has an on-going commitment to producing surfaces with enhanced mechanical strength, reduced thickness, weight and always experimenting with new colours and textures, while trying out mixture compositions and grades tailored to the Customers' needs. The catalogue consists of different types of products, mainly used for kitchen and vanity tops, worktops, cut-to-size items, floors and walls.

THE PRODUCT

The present environmental declaration refers to **COSMOLITE® Materia Nuova, a recomposed material based on 100% pre-consumer mining mineral oxides.** The production process includes the mixing of aggregates with different granulometry and nature, organic dyes and polyester structural resin (about 8-10%).

COSMOLITE® is produced and sold in slabs, in different colours; **this EPD refers to products of cm 1.2 thickness**, packed in A-frame trestles containing 15 slabs/each.

DECLARED UNIT AND SYSTEM BOUNDARIES

This study is defined as "cradle-to-grave, with module D" because it considers the following phases: extraction of natural resources, production and transport of the semifinished products, manufacture of the product and its packaging, the outbound logistic, the product end-of-life (waste treatment and final disposal) and the benefits and loads beyond the system boundary related to recycling. Use, repair and replacement of the product phases are excluded. **For this analysis, the declared unit is 1 m^2 of COSMOLITE® product, 12 mm thick with a total weight of about 30 kg.**

Differences from previous version: This version represents the first publication.