STONE ITALIANA

ENVIRONMENTAL PRODUCT DECLARATION EPD

Recomposed Quartz cm **1 thickness**
in conformity with ISO 14025:2006 and EN 15804:2014

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CPC 37310 – Bricks, blocks, tiles, and other ceramic goods of siliceous earths
PCR 2012:01, v. 2.33 “Construction products and Construction services”
PCR 2012:01-Sub-PCR-D v. 2.33 “Bricks, blocks, tiles, flagstone of clay and siliceous earths”
Geographical area: Italy
An EPD must provide up-to-date information and may be modified if the situation changes.
Therefore, the validity of the declaration is subject to re-registration
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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 Compay 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 various types of products, mainly used to create kitchen and vanity tops, workbenches, floorings, and wall claddings, as well as customised applications.

THE ANALYSED PRODUCT

The analysed product is made of a composite material whose main ingredient is quartz. The manufacturing process consists in the mixing of inert materials (quartz) of different grain sizes, together with organic dyes and polyester resin (constituting approximately 8-11% of the total). 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 the recomposed quartz physical properties and performance levels beyond those displayed by the original materials.

This EPD refers to thirteen potential families of recomposed quartz products used for a variety of applications such as floorings, wall claddings and customized projects.
Below is a description of each family and a list of the materials needed to produce 1 m^2 of recomposed quartz.

- **FAMILY 1**: products containing quartz, cristobalite, resin, pigments, and additives.
- **FAMILY 2**: products containing quartz, cristobalite, resin, glitter, pigments, and additives.
- **FAMILY 3**: products containing fine-grain quartz, resin, pigments, and additives.
- **FAMILY 4**: products containing medium-grain quartz, resin, pigments, and additives.
- **FAMILY 5**: products containing coarse-grain quartz, resin, pigments, and additives.
- **FAMILY 6**: products containing quartz, silica sands, resin, pigments, and additives. In 2022, we do not produce 1 cm thickness tiles in this family.
- **FAMILY 7**: products containing quartz, mirror glass, resin, pigments, and additives.
- **FAMILY 8**: products containing quartz, mother-of-pearl, resin, pigments, and additives. In 2022, we do not produce 1 cm thickness tiles in this family.
- **FAMILY 9**: products containing quartz, recycled engineered-quartz grit, resin, pigments, and additives. In 2022 we did not produce 1 cm thickness tiles in this family.
- **FAMILY 10**: veined products containing quartz, resin, pigments, and additives. In 2022, we do not produce 1 cm thickness tiles in this family.
- **FAMILY 11**: products containing quartz, recycled street sweepings, resin, pigments, and additives.
- **FAMILY 12**: products containing marble, resin, pigments, and additives.
- **FAMILY 13**: products made of engineered quartz slab fragments and high-performance resins, as well as pigments and additives. In 2022 we did not produce 1 cm thickness tiles in this family.

Recomposed quartz products can be manufactured and sold in different thicknesses: this declaration refers to 1 cm thickness tiles which are packed in crates containing 120 pieces (cm 60x60 size).As required by the document PCR 2012:01 version 2.33, in the products of Stone Italiana there are no substances of high concern SVHC included in the Candidate List of ECHA in concentrations higher than 0.1%. The following table shows the technical characteristics of the products and the reference standards.

Characteristics	Applicable standards	Unit	Declared values	
ENGINEERED QUARTZ Water absorption	EN 14617-1	%	$W_4 \leq 0,05$	
ENGINEERED QUARTZ Flexural strength	EN 14617-2	MPa	$F_4 \geq 40,0$	
ENGINEERED QUARTZ WITH INSERTS Flexural strength	EN 14617-2	MPa	$25,0 \leq F_3 < 40,0$	
ENGINEERED QUARTZ Abrasion resistance	EN 14617-4	mm	$A_4 \leq 29,0$ $33,0 \geq A_3 > 29,0$ (micrograin quartz)	
ENGINEERED QUARTZ Chemical resistance	EN 14617-10	min C_1 max C_4	C_4	
ENGINEERED QUARTZ WITH MOTHER-OF-PEARL AND MARBLE INSERTS Chemical resistance	EN 14617-10	min C_1 max C_4	C_1	
ENGINEERED QUARTZ Fire resistance (flooring)	EN 13501-1	-	A2 fl-s1	
Slipperiness - Gloss - Polished 600 - Grain 2.0 - Rocplan 2.0	EN 14231	SRV	DRY 40-47 38-42 44-56 69-94	WET 3-5 4-7 7-14 35-46
Slipperiness	DIN 51130	R	R9 (Levigato 220 / Honed 220, Grain 2.0) R10 (Rocface 2.0) R12 (Rocplan 2.0)	
Thermal conductivity	EN 12524	W/(mK)	1,28	
Thermal-shock resistance	EN 14617	-	Δm=-0,08%	
Coefficient of linear thermal expansion	EN 14617-11	1/°C	$\alpha = 17\text{-}26 \times 10^{-6}$	
Electrical resistance	EN 14617-13	Ωm Ω	ρ volume > $4*10^{12}$ ρ superficie > $4*10^{12}$	
Impact resistance	EN 14617-9	Joule	2	
Dimensional stability (300 x 300 x 10 mm)	EN 14617-12	mm	Class A	
Dry heat resistance	EN 12722	°C	140°C	
Contact with foodstuffs. Overall migration	UNI EN 1186	mg/dm^2	Distilled water Acetic acid solution 3% Ethanol solution 10% Isooctane Ethanol 95%	0,2 0,3 0,5 0,9 1,3

Regulation (EU) no. 305/2011 stipulates that construction work must be planned and carried out in such a way that the safety of persons and objects is not endangered. Stone Italiana declares that its flooring materials comply with the European harmonized technical standard UNI-EN 15285:2008 concerning "modular tiles for floorings and stairs". The breaking load was calculated by performing a flexure test, which establishes how far the material can be bent before it breaks. The European harmonized technical standard UNI-EN 15285:2008 also lays down the method to use for the abrasion-resistance test (EN 14617-4). Resistance to freezing is not applicable here, as the material is designed for interior use only.

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 m^2 of recomposed quartz

of 1 cm thickness and a total weight of approx. 25 kg

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 2.33 of PCR 2012:01 and EN 15804:2014 standard, the life cycle of the engineered-stone products manufactured by Stone Italiana includes the following stages: extraction of the raw materials, initial processing, transport and construction, divided into Upstream stage (A1), Core stage (A2 e A3) and the delivery, installation and end-of-life phases in the Downstream category (A4, A5, B2, C3, C4).

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 and processing of quartz-based products, the production of auxiliary materials and packaging, and management of the waste produced during the production process (A3).

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

- transportation 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).

Building Assessment information																
Building Life Cycle information																Additional
Production Stage			Construction process stage		Use stage/information on the products performance levels when in use							End-of-life stage				Beyond system boundary
A1-A3			A4-A5		B1-B5					B6-B7		C1-C4				D
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material extraction and production	Inbound transport to the producer	Manufacture	Outbound transport to the construction site	Installation in the building	Use and application of the installed products	Maintenance	Repairs	Replacement	Renovation	Energy employes in the use stage	Water consumption in the operational phase	Destruction/demolition	Transport to waste treatment facility	Waste treatment – reuse, recovery and/or recycle	Disposal	Reuse, recovery and/or recycling potential (3R)
X			X		MND	X	MND						X			MND
cradle-to-gate																
			gate-to-gate													
cradle-to-grave																
cradle-to-cradle																

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 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) 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.

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 analysed.

In accordance with PCR 2012:01 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).

USE AND DISPOSAL OF THE PRODUCT

The use, repair and replacement phases of the quartz products (Step B1 and B3 through B7 of PCR 2012:01 Version 2.33) 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).

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. The recomposed quartz products manufactured by Stone Italiana described in this EPD have been made in compliance with the specifications laid down in PCR 2012:01, version 2.33.

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 the recomposed quartz products manufactured by Stone Italiana, as detailed below, is based on the Life Cycle Assessment (LCA) methodology and has been calculated in accordance with ISO 14040 and 14044 standards, the International EPD® System and PCR 2012:01 vs 2.33. The management and updating of environmental data regarding EPD products are ensured by specific internal procedures of ISO 14001:2015 environmental management system.

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 in PCR 2012:01, in compliance with UNI EN 15804:2014+A1:2013 standards.

ENVIRONMENTAL PARAMETERS OF RECOMPOSED QUARTZ PRODUCTS

The table below shows the impact categories forming the Upstream, Core and Downstream stages (identified by cycle modules A1-A5, B2, C1-C4) of the whole life cycle of 1 m^2 of recomposed quartz products manufactured by Stone Italiana.

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 1

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**52,5**	44,9	0,2	0,2	6,8	0,3	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0658**	0,0606	0,0000	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0369**	0,0366	0,0001	0,0000	0,0000*	0,0001	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**1,38E-06**	1,35E-06	3,04E-09	2,31E-08	0,0000*	5,30E-09	8,09E-10	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0093**	0,0076	0,0001	0,0001	0,0015	0,000041	0,000020	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1699**	0,1334	0,0030	0,0013	0,0312	0,000525	0,000588	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0411**	0,0280	0,0003	0,0001	0,0125	0,000126	0,000105	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0014**	0,00001	0,00000	0,00139	0,0000*	0,000001	2,74E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**720,18**	707,96	2,64	4,62	0,0000*	4,07	0,88	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**45,4**	45,3	0,0	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3715**	0,3715	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**45,37**	45,26	0,03	0,0000*	0,0000*	0,07	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**881,04**	**868,17**	2,8	4,6	0,0000*	4,4	0,9	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**48,70**	48,70	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**929,7**	916,9	2,8	4,6	0,0000*	4,4	0,9	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,40**	0,36	0,0003	0,0004	1,040	0,0006	0,0000	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition.

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**30,89**	5,25	0,07	0,0000*	0,0000*	1,73E-01	2,54E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,6005**	1,6004	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0019**	0,0019	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 2

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**61,5**	46,4	0,2	7,6	6,8	0,4	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0678**	0,0625	0,0001	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0378**	0,0375	0,0001	0,0000*	0,0000*	0,0002	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**2,27E-06**	1,49E-06	3,70E-09	7,70E-07	0,0000*	6,67E-09	1,02E-09	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0118**	0,0081	0,0001	0,0020	0,0015	0,000052	0,000026	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,2155**	0,1384	0,0025	0,0419	0,0312	0,000661	0,000740	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0457**	0,0299	0,0003	0,0027	0,0125	0,000159	0,000132	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil resources	kg Sb eq	**0,0465**	0,00001	0,00000	0,04648	0,0000*	0,000001	3,45E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**902,24**	738,90	3,09	154,00	0,0000*	5,13	1,11	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**46,6**	46,5	0,0	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3706**	0,3706	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**46,61**	46,47	0,04	0,0000*	0,0000*	0,09	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**1065,48**	901,34	3,3	154,0	0,0000*	5,6	1,2	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**50,52**	50,52	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**1116,0**	951,9	3,3	154,0	0,0000*	5,6	1,2	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,43**	0,38	0,0004	0,0000*	1,040	0,0008	0,0001	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition.

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**37,57**	5,27	0,10	0,0000*	0,0000*	2,18E-01	3,20E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,6005**	1,6005	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0019**	0,0019	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 3

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**33,3**	25,5	0,2	0,5	6,8	0,3	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0474**	0,0422	0,0001	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0296**	0,0293	0,0002	0,0000	0,0000*	0,0001	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**6,82E-07**	6,26E-07	3,72E-09	4,62E-08	0,0000*	5,34E-09	8,16E-10	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0066**	0,0048	0,0001	0,0001	0,0015	0,000041	0,000021	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1221**	0,0837	0,0035	0,0025	0,0312	0,000529	0,000592	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0328**	0,0195	0,0004	0,0002	0,0125	0,000127	0,000106	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0028**	0,00001	0,00000	0,00279	0,0000*	0,000001	2,76E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**431,09**	413,62	3,22	9,24	0,0000*	4,10	0,89	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**28,0**	27,9	0,0	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3898**	0,3898	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**28,03**	27,92	0,04	0,0000*	0,0000*	0,07	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**460,44**	442,28	3,5	9,2	0,0000*	4,5	0,9	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**37,03**	37,03	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**497,5**	479,3	3,5	9,2	0,0000*	4,5	0,9	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,30**	0,26	0,0004	0,0004	1,040	0,0006	0,0000	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition.

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**30,61**	4,74	0,08	0,0000*	0,0000*	1,74E-01	2,56E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,5994**	1,5993	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0004**	0,0004	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 4

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**33,1**	25,5	0,2	0,2	6,8	0,3	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0474**	0,0422	0,0001	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0316**	0,0313	0,0001	0,0000	0,0000*	0,0001	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**6,71E-07**	6,38E-07	3,63E-09	2,31E-08	0,0000*	5,30E-09	8,09E-10	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0067**	0,0049	0,0001	0,0001	0,0015	0,000041	0,000020	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1250**	0,0887	0,0028	0,0013	0,0312	0,000525	0,000588	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0336**	0,0204	0,0003	0,0001	0,0125	0,000126	0,000105	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0014**	0,00001	0,00000	0,00139	0,0000*	0,000001	2,74E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**423,44**	410,78	3,07	4,62	0,0000*	4,07	0,88	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**28,8**	28,7	0,0	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,4085**	0,4085	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**28,83**	28,71	0,04	0,0000*	0,0000*	0,07	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**453,85**	440,51	3,3	4,6	0,0000*	4,4	0,9	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**35,27**	35,27	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**489,1**	475,8	3,3	4,6	0,0000*	4,4	0,9	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,31**	0,26	0,0004	0,0004	1,040	0,0006	0,0000	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition.

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**30,49**	4,81	0,10	0,0000*	0,0000*	1,73E-01	2,54E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,5994**	1,5993	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0004**	0,0004	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 5

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**35,2**	24,5	0,3	3,3	6,8	0,3	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0455**	0,0403	0,0001	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0259**	0,0256	0,0002	0,0000	0,0000*	0,0002	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**9,73E-07**	6,32E-07	3,87E-09	3,31E-07	0,0000*	5,86E-09	8,96E-10	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0072**	0,0046	0,0001	0,0009	0,0015	0,000045	0,000023	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1352**	0,0811	0,0036	0,0180	0,0312	0,000581	0,000650	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0323**	0,0180	0,0004	0,0012	0,0125	0,000140	0,000116	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0200**	0,00001	0,00000	0,01999	0,0000*	0,000001	3,03E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**473,97**	398,92	3,34	66,22	0,0000*	4,51	0,97	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**26,9**	26,8	0,0	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3551**	0,3551	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**26,94**	26,81	0,04	0,0000*	0,0000*	0,08	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**504,53**	**428,72**	3,6	66,2	0,0000*	4,9	1,0	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**33,99**	33,99	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**538,5**	462,7	3,6	66,2	0,0000*	4,9	1,0	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,29**	0,25	0,0004	0,0002	1,040	0,0007	0,0001	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition.

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**33,17**	4,78	0,09	0,0000*	0,0000*	1,91E-01	2,81E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,5993**	1,5993	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0004**	0,0004	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 6: in 2022 we did not produce 1 cm thickness

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 7

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**32,6**	24,2	0,3	0,9	6,8	0,3	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0451**	0,0398	0,0001	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0256**	0,0253	0,0002	0,0000	0,0000*	0,0001	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**7,28E-07**	6,24E-07	5,18E-09	9,24E-08	0,0000*	5,42E-09	8,29E-10	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0064**	0,0044	0,0001	0,0002	0,0015	0,000042	0,000021	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1179**	0,0768	0,0037	0,0050	0,0312	0,000537	0,000602	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0309**	0,0174	0,0004	0,0003	0,0125	0,000129	0,000108	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0056**	0,00001	0,00000	0,00558	0,0000*	0,000001	2,80E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**418,17**	390,25	4,36	18,48	0,0000*	4,17	0,90	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**26,7**	26,6	0,1	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3551**	0,3551	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**26,72**	26,59	0,06	0,0000*	0,0000*	0,07	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**450,57**	**421,85**	4,7	18,5	0,0000*	4,6	1,0	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**31,11**	31,11	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**481,7**	453,0	4,7	18,5	0,0000*	4,6	1,0	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,28**	0,24	0,0005	0,0003	1,040	0,0006	0,0000	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**31,11**	4,77	0,14	0,0000*	0,0000*	1,77E-01	2,60E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,5993**	1,5993	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0004**	0,0004	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 8: in 2022 we did not produce 1 cm thickness

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 9: in 2022 we did not produce 1 cm thickness

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 10: in 2022 we did not produce 1 cm thickness

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 11

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**40,2**	24,9	0,4	7,6	6,8	0,4	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0418**	0,0365	0,0001	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0246**	0,0242	0,0002	0,0000*	0,0000*	0,0002	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**1,28E-06**	4,94E-07	6,37E-09	7,70E-07	0,0000*	6,67E-09	1,02E-09	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0080**	0,0043	0,0001	0,0020	0,0015	0,000052	0,000026	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1529**	0,0742	0,0041	0,0419	0,0312	0,000661	0,000740	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0354**	0,0194	0,0005	0,0027	0,0125	0,000159	0,000132	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0465**	0,00001	0,00000	0,04648	0,0000*	0,000001	3,45E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**510,94**	345,39	5,31	154,00	0,0000*	5,13	1,11	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**24,4**	24,2	0,1	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3551**	0,3551	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**24,41**	24,24	0,07	0,0000*	0,0000*	0,09	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**540,33**	**373,79**	5,7	154,0	0,0000*	5,6	1,2	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**28,23**	28,23	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	MJ	**568,6**	402,0	5,7	154,0	0,0000*	5,6	1,2	0,009	0,001	0,003
Use of secondary materials	Kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,24**	0,20	0,0007	0,0000*	1,040	0,0008	0,0001	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	**kg**	**36,88**	4,50	0,18	0,0000*	0,0000*	2,18E-01	3,20E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	**kg**	**1,5992**	1,5992	0,0000	0,0000*	0,0000*	0,00003	0,00001	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	**kg**	**0,0004**	0,0004	0,00000	0,0000*	0,0000*	0,000002	0,000000	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 12

Impact category	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Global warming potential – fossil fuels	kg CO_2 eq	**47,0**	32,0	0,2	7,6	6,8	0,4	0,1	0,0006	0,0021	0,0002
Global warming potential - biogenic CO2eq emissions	kg CO_2 eq	**0,0581**	0,0529	0,0000	0,0000*	0,0000*	0,0001	0,0000	1,86E-07	1,06E-07	0,0051
Global warming potential-land use and land use change	kg CO_2 eq	**0,0411**	0,0408	0,0001	0,0000*	0,0000*	0,0002	0,0000	2,68E-07	4,47E-08	1,04E-07
Depletion potential of the stratospheric ozone layer	kg CFC-11 eq	**1,43E-06**	6,47E-07	2,44E-09	7,70E-07	0,0000*	6,67E-09	1,02E-09	1,04E-11	5,84E-12	2,82E-12
Photochemical ozone creation	kg C_2H_4	**0,0093**	0,0056	0,0001	0,0020	0,0015	0,000052	0,000026	8,07E-08	2,89E-08	0,000001
Acidification potential	kg SO_2 eq	**0,1923**	0,1147	0,0031	0,0419	0,0312	0,000661	0,000740	1,03E-06	1,15E-06	0,000002
Eutrophication potential	kg PO_4^{---} eq	**0,0471**	0,0312	0,0003	0,0027	0,0125	0,000159	0,000132	2,49E-07	1,24E-06	0,000031
Abiotic depletion potential for non-fossil esources	kg Sb eq	**0,0465**	0,00001	0,00000	0,04648	0,0000*	0,000001	3,45E-09	1,87E-09	2,64E-10	3,90E-10
Abiotic depletion potential for fossil resources	MJ	**644,22**	481,79	2,19	154,00	0,0000*	5,13	1,11	0,0080	0,0013	0,0029

Resource consumption	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Use of renewable primary energy resources	MJ	**37,0**	36,9	0,0	0,0000*	0,0000*	0,1	0,0	0,00014	0,00005	0,00015
Use of renewable primary energy resources as raw materials	MJ	**0,3551**	0,3551	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of renewable primary energy resources	**MJ**	**37,03**	36,91	0,02	0,0000*	0,0000*	0,09	0,00	0,00014	0,00005	0,00015
Use of non-renewable primary energy resources	MJ	**695,05**	**531,90**	2,4	154,0	0,0000*	5,6	1,2	0,009	0,001	0,003
Use of non-renewable primary energy resources as raw materials	MJ	**35,33**	35,33	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*	0,0000*
Total consumption of non-renewable primary energy resources	**MJ**	**730,4**	567,2	2,4	154,0	0,0000*	5,6	1,2	0,009	0,001	0,003
Use of secondary materials	kg	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of renewable secondary fuels	MJ	**0,00000***	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*	0,00000*
Use of net fresh water	m^3	**1,33**	0,29	0,0002	0,0000*	1,040	0,0008	0,0001	0,000001	0,000005	0,000003

NOTE: Secondary material consumption refers to the amount of recycled material contained in the composition

Waste production	Unit	Total	A1-A3	A4	A5	B2	C2 product	C4 product	C2 packaging	C3 packaging	C4 packaging
Non-hazardous waste	kg	**38,20**	4,99	0,99	0,0000*	0,0000*	2,18E-01	3,20E+01	3,40E-04	2,25E-04	1,12E-02
Hazardous waste	kg	**1,5999**	1,5995	0,0003	0,0000*	0,0000*	0,00003	0,00003	5,23E-08	8,26E-09	1,34E-08
Radioactive waste	kg	**0,0006**	0,0006	0,00001	0,0000*	0,0000*	0,000002	0,000001	3,27E-09	8,20E-10	2,31E-09

(0,0000*= null value)

Results of the environmental impact of the life cycle of 1 m^2 of recomposed quartz products FAMILY 13: in 2022 we did not produce 1 cm thickness

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. The use of solvents - 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 materials acquisition, we classify the materials acquired according to criteria of environmental sustainability or conservation of natural resources.

VARIATIONS COMPARED TO THE PREVIOUS VERSION

Compared to last year in the 1cm thickness has been added the production of family 12. In addition, in the year 2022 were not produced the families 6, 8, 9, 10 and 13. The results show a greater variation than 10% respect to the last year, this mainly for noticeable changes in the distribution phase and some typos have also been corrected.

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7. Engineered stone product life-cycle assessment, rev.02 March 2024

REFERENCES

Stone Italiana S.p.A.	**Paola Dalla Valle,** paoladv@stoneitaliana.com
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Stone Italiana	http://www.stoneitaliana.com
International EPD® System	http://www.environdec.com

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.

Date of issue: 2021/04/27

Document valid until: 2026/04/26

Geographical area: Italy

Registration number: S-P-03533

CEN EN 15804 standard has been used as the reference PCR	
PCR:	2012:01 Construction products and Construction services; version 2.33 valid until 28/02/2022 PCR 2012:01-Sub-PCR-D "Bricks, blocks, tiles, flagstone of clay and siliceous earths", version 2.33 valid until 28/02/2022 *This PCR refers to the old version of EN 15804 (EN 15804:2012+A1:2013). A new version 2019-12-20 (PCR 2019:14) has been published, which references the new version of EN 15804 (EN 15804:2012+A2:2019). Both PCRs are valid in parallel to allow EPD owners and EPD users to adapt to the new standard.*
PCR review conducted by:	Technical Committee of the International EPD® System (Chairman: Massimo Marino). Email address: info@environdec.com
This declaration was independently verified in accordance with ISO 14025:	☒ EPD process certification ☐ EPD certification
External reviewer:	CSQA Certificazioni Srl, via San Gaetano 74 – Thiene (VI) Italia, tel. +39 0455 313011, e-mail: csqa@csqa.it
Accredited and approved by:	Accredia

SUMMARY

Stone Italiana is today a leading-edge manufacturer of recomposed quartz, marble, and recycled minerals surfaces. Over the years, production has reflected 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 colors and textures, while trying out mixture compositions and grades tailored to the Customer's needs. The catalogue consists of different types of products, mainly used for kitchen and vanity tops, worktops, floors, and walls.

THE PRODUCT

The present environmental declaration refers to recomposed materials based mainly on quartz produced by Stone Italiana. The production process includes the mixing of aggregates with different granulometry, organic dyes and polyester structural resin (about 8%-11%).

The present EPD refers to thirteen categories of recomposed quartz products: CATEGORY 1: with cristobalite; CATEGORY 2: with cristobalite and glitter; CATEGORY 3: with fine size quartz; CATEGORY 4: with medium size quartz; CATEGORY 5: with coarse quartz; CATEGORY 6: with silica sand (not available in cm 1 thickness); CATEGORY 7: with quartz and mirror glass inserts; CATEGORY 8: with quartz and mother-of-pearl inserts (not available in cm 1 thickness); CATEGORY 9: with internally recycled quartz (not available in cm 1 thickness); CATEGORY 10: with quartz and pigmented veins (not available in cm 1 thickness); CATEGORY 11: with street sweeping debris; CATEGORY 12: with marble chips; CATEGORY 13: a reconstructed product with recomposed quartz pieces through high performance resins (not available in cm 1 thickness).

Recomposed quartz products can be produced and sold in different thicknesses: this EPD refers to tiles of 1 cm thickness which are packed in crates containing 120 tiles each (60x60 cm size).

DECLARED UNIT and SYSTEM BOUNDARIES

This study is defined as “cradle to grave” 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 and the product end-of-life (waste treatment and final disposal, except recovery). The use, repair and replacement of the product phases are excluded. For this analysis, the declared unit is 1 m^2 of recomposed quartz in 1 cm thickness with a total weight of about 25 kg.

DIFFERENCES FROM PREVIOUS VERSION: The production of family 12 was added. In addition, families 6, 8, 9, 10, and 13 were not produced in year 2022. The results obtained deviated by more than 10% from the previous year, this was mainly due to consistent changes in the distribution and some production values at the plant.