Environmental Product Declaration

Caesarstone Mineral™ Surfaces

EPD®
THE INTERNATIONAL EPD® SYSTEM

caesarstone®

EPD®

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

Caesarstone, Bar Lev production site; Engineered Stone Countertop, Mineral Collection

from Caesarstone Ltd.

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

Programme operator
EPD International AB

EPD registration number
EPD-IES-0016897

Publication date
30-10-2024

Valid until
30-10-2029

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 average results of product group

Product
1001 - Riverlet
1002 - Wyndigo
4001 - Fresh Concrete
4003 - Sleek Concrete
4004 - Raw Concrete
4011 - Cloudburst Concrete
4023 - Topus Concrete
4033 - Rugged Concrete
4043 - Primordia
4044 - Airy Concrete
4130 - Clamshell
5000 - London Grey
5003 - Piatra Grey
5031 - Statuario Maximus
5100 - Vanilla Noir
5110 - Alpine Mist
5112 - Aterra Blanca
5113 - Solenna
5130 - Cosmopolitan White
5131 - Calacatta Nuvo
5133 - Symphony Grey
5140 - Dreamy Carrara
5141 - Frosty Carrina
5143 - White Attica
5151 - Empira White
5171 - Arabetto
5212 - Taj Royale
5310 - Brillianza
5810 - Black Tempal
5820 - Darcrest
6131 - Bianco Drift
6134 - Georgian Bluffs
6270 - Atlantic Salt
6313 - Turbine Grey

General EPD Information

Programme information

Programme
The International EPD® System

Address
EPD International AB
Box 210 60,
SE-100 31 Stockholm
Sweden

Website
www.environdec.com

Email
info@environdec.com

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)

PCR – Construction products 2019 1.3.4,

PCR review was conducted by: PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact

Life Cycle Assessment (LCA)
LCA accountability: Sher Consulting Services, Hadar Oryan

Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

EPD verification by accredited certification body

Third-party verification: Epsten Group, Inc. is an approved certification body accountable for the third-party verification

The certification body is accredited by: A2LA 3142.03

Procedure for follow-up of data during EPD validity involves third party verifier:

○ Yes ◉ No

Procedure for following up the validity of the EPD is at minimum required once a year with the aim of confirming whether the information in the EPD remains valid or if the EPD needs to be updated during its validity period. The follow-up can be organized entirely by the EPD owner or together with the original verifier via an agreement between the two parties. In both approaches, the EPD owner is responsible for the procedure being carried out. If a change that requires an update is identified, the EPD shall be re-verified by a verifier

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.

About *Caesarstone*

With a legacy of leadership spanning over 35 years, we proudly stand as pioneers in our industry.

For the past three decades, we have crafted countertops for millions of homes worldwide, and we consider it a privilege to be part of the daily lives of families in over 50 countries. Since our establishment in 1987, much has changed. Kitchens have transformed, and there is a heightened awareness and concern for the natural environment, material resources, and climate change. As a trusted authority in the industry, we continue to lead by embracing these changes through our customer-centric approach.

Our ongoing commitment to sustainability and the safety of our customers and business partners has driven significant strides in research and development. We are evolving our engineered stone to create the next generation of surfaces. This strategic shift has expanded our product portfolio to include a range of innovative materials and surfaces that support our long-term growth and sustainability strategy. We have implemented a series of initiatives, innovations, and commitments to address the demands of an ever-evolving, sustainable world.

In recent years, we have strategically pivoted to optimize operations and reduce overhead costs. As part of this strategy, we ceased operations at our Sdot Yam site in June and closed our Richmond Hill facility in December. This shift involved transitioning part of our in-house production to Original Equipment Manufacturers (OEMs) primarily based in Asia, including China, India, and Vietnam. Our strategic restructuring has focused on expanding these partnerships to ensure they meet high ESG standards and adhere to our EPD requirements. Our process involves two key stages: vendor selection and ongoing support to enhance their EPD performance, ensuring uniformity and quality across our supply chain.

As a trusted leader in the industry, we are taking the next steps to create new methods and standards to achieve our business and sustainability vision. We are focused on product innovation, environmental performance, ensuring end-to-end safety throughout the entire product lifecycle, and fostering a culture of governance that aims to meet the highest business standards. All of this is accomplished through our community of employees and partners who believe in the human capacity to create something new and extraordinary.

Business *Highlights*

Our Employees
1680 full time employees

Our Reach
+50 countries

Production Sites
2: Israel (Quartz) and **India** (Porcelain)

Models
75 Quartz
37 Porcelain

Revenue in 2023
$565.2M

For full financial information, see our annual report

5310 Brillianza

We care about the planet. *Just like you.*

For us, sustainability is more than a goal. It's a principle.

Aligned with the essence of our time, we hold a steadfast commitment to our planet's well-being. From the selection of materials to manufacturing and end use, we take responsibility for promoting practices that lead to change in our market towards a greener future. It's a core commitment that extends throughout our entire network of valued business partners.

We have established specific guidelines and goals for each of these commitments and are working carefully to meet our targets – a process that demands daily diligence and a collective commitment by all Caesarstone employees to implement our sustainability vision into practice.

5141 Frosty Carrina

Sustainable Development *Goals*

In recognition of our role as a global company, we are committed to working towards the Sustainable Development Goals (SDGs), as defined by the United Nations.

These global goals were established in 2015 as part of the 2030 Agenda for sustainable development, and are designed to achieve a better and more sustainable future for all. The 17 SDGs cover the world's most pressing social, environmental, health, and economic issues, with specific targets for each.

Caesarstone has identified the following *SDG goals* that are most significant and impactful for the company and has implemented a range of policies and actions to work towards these goals:

Ensure healthy lives and promote well-being for all at all ages

We work to ensure a healthy workforce and have created global standards and a training program to ensure the health and safety of our employees, suppliers, and partners. Caesarstone products are certified by GREENGUARD, maintaining stringent standards for air emissions, and our products comply with the HPD Open Standard and the NSF51 standard.

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

We are committed to providing quality, safe local jobs at our locations around the world, and we continue to seek additional growth opportunities. We are committed to recognizing diversity in all its forms and we have clear policies in place banning all forms of discrimination. To improve global resource efficiency in consumption and production, we have incorporated recycled raw materials into a range of our models.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

We are committed to growing our R&D team and investing in research that will enable us to upgrade the technological capabilities of our facilities with an emphasis on sustainability, including reducing our impact on climate change, increasing our use of recycled materials, and developing closed-loop materials and products.

Ensure sustainable consumption and production patterns

Our surfaces are long-lasting and durable, delivering improved lifecycle costs and investment value, with a lifetime warranty. Our products require minimal maintenance and a reduced need for sealants, cleaning materials, or detergents. Our facilities have environmental and quality management certifications, including ISO 14001, ISO 9001, and NSF certification for public health and safety, and we are committed to transparency and provide detailed product information on our product labeling and company website.

Take urgent action to combat climate change and its impacts

We understand the importance of energy efficiency and encourage the transformation to renewable energy as part of our efforts to reduce our impact on climate change. We have a continuous improvement process plan in place to meet our energy and emissions reduction goals. We provide information related to our environmental performance to our employees, stakeholders, and customers through our ESG report and the company website.

Main Accreditations

Caesarstone is ISO 14001 certified, a global standard for environmental protection; ISO 9001 certified, a quality management standard); NSF certification for public health and safety; and has been awarded the respected Greenguard.

ISO 14001: the international standard for establishing an environmental management system to guide working towards meeting environmental goals; monitoring compliance activities; investing in tools for enhancing a quality environment; employee and supplier training; health and safety procedures; and establishing efficient production processes.

Caesarstone is certified with the Environmental Management System in accordance with ISO 14001.
Link to website

Greenguard Gold: Caesarstone surfaces comply with the GREENGUARD GOLD standard (formerly known as GREENGUARD Children & Schools Certification), which evaluates the sensitive nature of school populations combined with the unique building characteristics found in schools and presents the most rigorous product emissions criteria to date.
Link to website

Greenguard: Caesarstone surfaces comply with GREENGUARD certification, which verifies that Caesarstone products meet the most stringent indoor air emission standards.
Link to website

HPD: The Health Product Declaration (HPD)® Open Standard* requires full disclosure of potential chemicals of concern in products by comparing product ingredients to a set of priority hazard lists based on the GreenScreen for Safer Chemicals and additional lists from other government agencies. In 2021, Caesarstone updated its HPD to align with the new HPD v2.3 standard. The HPD covers Caesarstone surfaces.
Link to website

Scientific Certification Systems (SCS): Certified for recycled content. Some of our models are made from pre-consumer recycled raw materials, such as mirror and glass or high-quality reclaimed post-production waste from the fabrication process.
Link to website

NSF51: The International Health and Safety Foundation sanitary standard ensures our working surfaces are safe for use in all food environments. Caesarstone's non-porous surfaces inhibit the growth of mildew and bacteria, thus creating a hygienic surface.
Link to website

Mindful Materials: Caesarstone products are found in the Mindful Materials library, a platform that enables the building industry to obtain information concerning statements and certifications regarding quality and environmental aspects of products.
Link to website

European Food Contact Materials regulations: The European Union has adopted wide-ranging regulation regarding materials that come into contact with food products (Food Contact Materials; FCMs). Caesarstone products abide by the two leading regulations: Regulation (EC) No 1935/2004 and Regulation (EC) No 2023/ 2006 on Good Manufacturing Practices.*

*This is an independent statement based on assessments by Intertek Consumer Goods GmbH, an internationally recognized testing body, in compliance with the regulation's criteria.
Link to website

Nordic Ecolabel: Caesarstone's models are listed in the Building Materials Database for the Nordic Ecolabel.
Link to website

LEED: Developed by the United States Green Building Council (USGBC), LEED Leadership in Energy and Environmental Design is an American accredited certification program for the design, construction, and operation of high-performance green buildings. We are a member of USGBC, and Caesarstone's products can contribute to LEED v3 and LEED v4 projects.

Select Caesarstone models can contribute to the LEED Material & Resources credit, and can be included in the calculation for total recycled content used in a project. Our models also contributes to the Building Product Disclosure and Optimization – Material Ingredients credit, as we have published a Health Product Declaration (HPD) that covers all variations of Caesarstone surfaces.

More information on how Caesarstone contributes to LEED credits can be found here.
Link to Leed website

Declare: Our ingredients are clearly listed on Declare Labels that are verified and approved by an external third-party, for full transparency you can trust about what's exactly inside the majority of our products, which are 100% fit for use in Living Building Challenge (LBC) projects, LEED buildings, and International Living Future Institute (ILFI) initiatives.
Link to website

Red List Declaration: Caesarstone publishes a Red List declaration, self-certifying that none of the materials from the Red List, as detailed on the International Living Future Institute website, is intentionally added to a specific list of Caesarstone models.
Link to website

Product Information

Product Information

Product Name
34 models, engineered stone Countertop, mineral collection, produced in Bar Lev Site.

Product Identification
To the right is a table of the different models, and their final product weight, as sold for the most popular size 20mm.

Product Description
A engineered stone countertop, with the service life of 75 years.

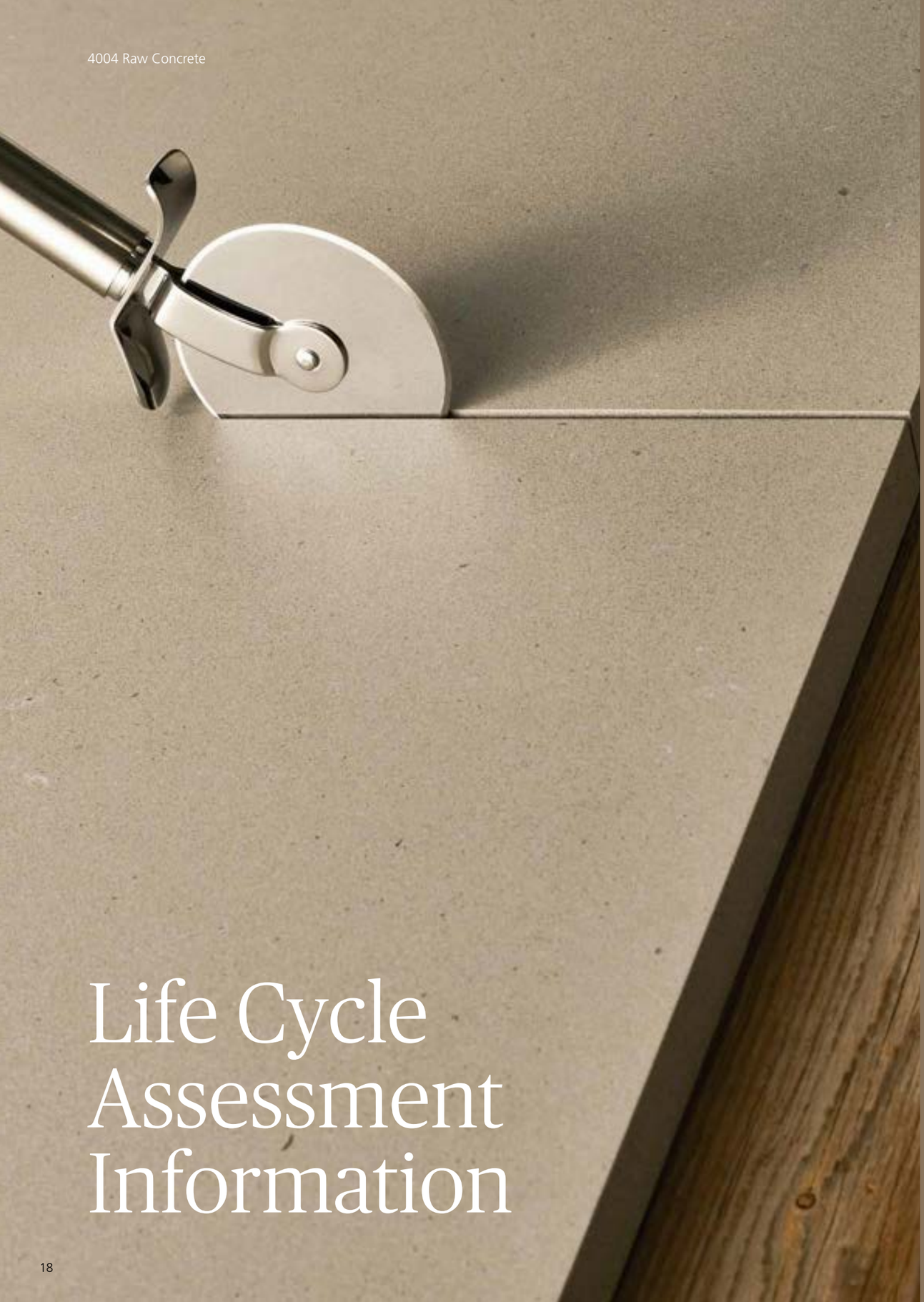
UN CPC Code
The CPC Code 375 is described as Articles of concrete, cement and plaster

Geographical Scope
The production of the Caesarstone countertop takes place in Bar Lev facility in Israel. For raw material production the largest suppliers were calculated, located in countries such as; Turkey, Spain, Portugal, England, China and Israel. Regarding the customer use, each model's transport to customers distance was calculated specificaly, to represent their specific distribution to the following areas; Australia, USA, other areas (Rest of the world), Israel, UK, Canada, and South East Asia.

Target Audience
B2B

Model	Finished Slab Weight (KG)(20mm)
1001	200
1002	200
4001	200
4003	200
4004	200
4011	248.5
4023	248.5
4033	248.5
4043	248.5
4044	248.5
4130	200
5000	200
5003	200
5031	248.5
5100	200
5110	200
5112	248.5
5113	200
5130	200
5131	248.5
5133	200
5140	200
5141	248.5
5143	248.5
5151	248.5
5171	200
5212	200
5810	248.5
5820	200
6131	200
6134	200
6270	200
6313	200
5310	200

Table 3 - Researched models and final product weight in KG, sold for the 20 MM thickness products



Life Cycle Assessment Information

Declared Unit

The study Declared Unit is **one kg of Caesarstone countertop, over one lifetime**[1]. A single countertop is professionally referred to as a "slab". A slab life cycle includes 75 years of use, assuming the product would be used as a countertop in home kitchens, and washrooms, and as the life cycle of the slab is independent of the life of the building[2]. For information on materials please see content information. The unit of one full slab, can range from 135 kg to 298 kg. As such this study researches only 1 kg of each slab, in order to not be affected by weight change due to product size, but rather only components.

1 As follows PCR – Construction products 2019 1.2.4,

2 As written in product declaration

Representation of Models

34 models of Caesarstone countertops are represented in this study. These 34 models are from the "mineral" collection, and contain similar raw materials with slight changes. The PCR of construction products 1.3.4 allows us to present multiple products in one EPD, as the representation will contain the Average results of the product group. The variations between GWP result range up to 15.4% between models. However, their grouping can be justified, as all models belong to the same collection, as all models are made in the same site, all 34 models undergo the same production process and use the same equipment, as well as use the same main raw materials (with variations in percents as seen later on in content table).

Reference service life

75 years as seen in product declaration.

Time representativeness

Data was collected for July - November of 2023.

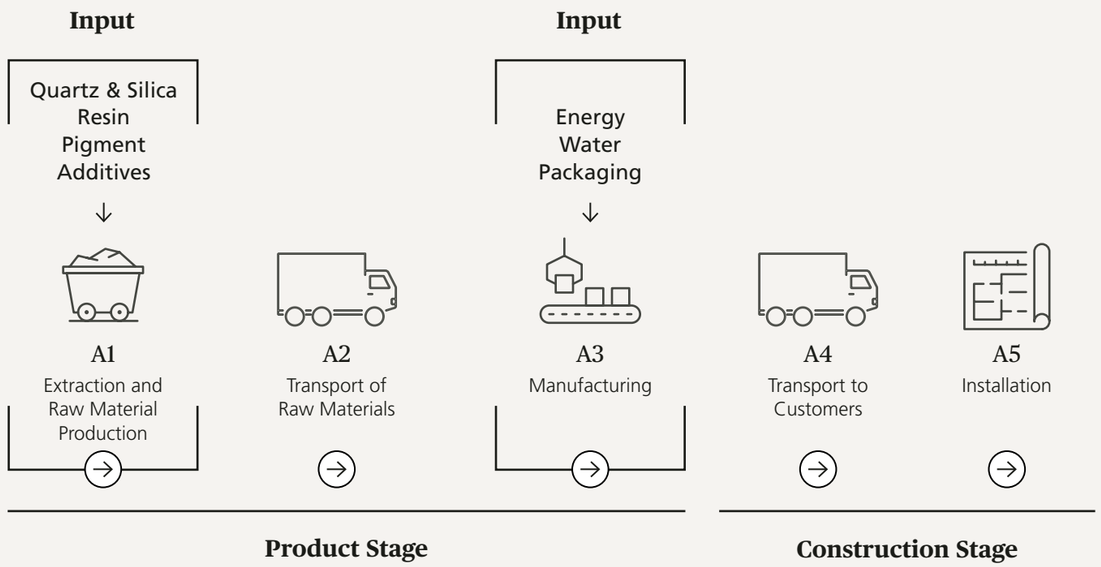
Database(s) and LCA software used

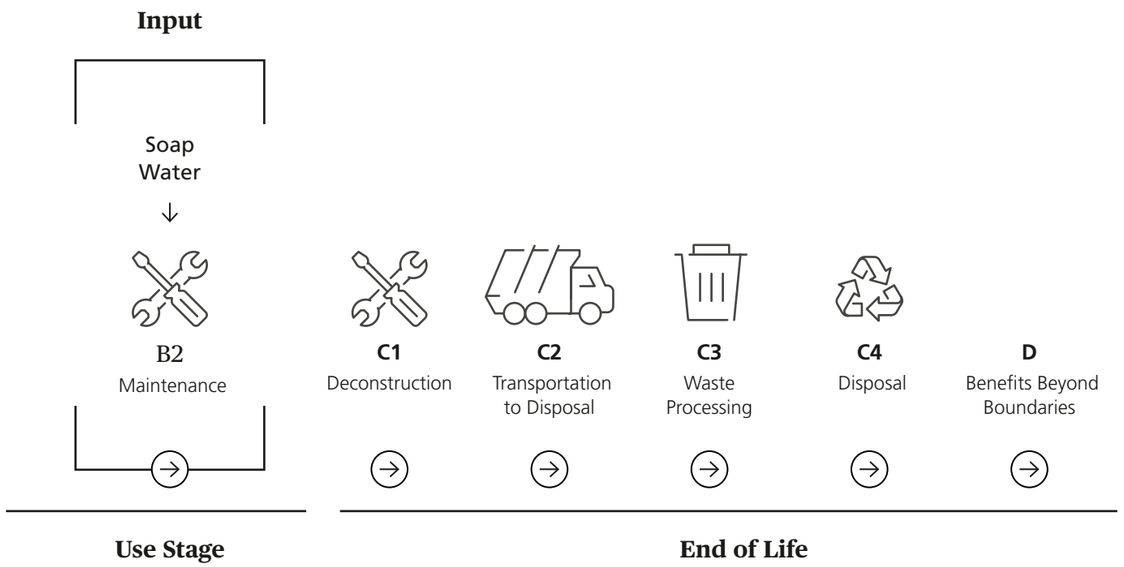
Simapro 9.3, Ecoinvent 3.9

Description of system boundaries

Cradle to gate with options, module C1- C4, module D and optional modules. The following stages are included in this study: Production and transport of raw materials, processing of raw materials into final product, distribution to customers, Installation at customer home and customer maintenance, transport and end of life treatment in landfill.

System Diagram





A1 Depicts the raw material production, from a number of different countries: Turkey, China, Israel, England, Portugal, Spain. Materials include different engineered and natural granulated stone and sand such as – feldspar, quartzite, clear recycled glass, silica sand. Materials also include curating agent and coupling agent, as well as organic and inorganic chemicals used in smaller percentages. For a full list of materials and their variations please see Table 2 -Components of 34 Bar Lev Countertops The amount of raw material needed to produce a final 1 kilogram of each model is different – with raw material amounting to 1.13 kg-1.62 kg.

A2 Describes the shipping and transportation of these materials from production countries to Ashdod Port and to Bar Lev facilities near Carmiel Israel. For measure of distances for transportation of raw materials to Bar Lev facility, the model depicts the shipping distance between the most probable port in each manufacturing country to Ashdod port, and later a road transport made by lorry for 170 km between Ashdod port and bar lev facility, located in Carmiel.

A3 Includes the production of the countertops, in the Bar Lev facility. The process of slab production includes the following main stages: mixing of the raw materials – solids and liquids: materials (quartzite, feldspar, silica sand, glass) as well as addition of the curing and coupling agents, and needed chemicals.

The next phase includes division of the mix into portions. Thereafter, A number of slab models also undergo a process of robot coloring to attain a certain visual pattern.

Later stages include a presser and an oven to harden the mix, and receive a solid product. After cooling, the slab undergoes calibration and polishing process using small stones.

Followed by end stages of product review, such as nylon wrapping of finished product, and storage until transport to customer.

Energy

The energy in this stage includes electricity, LPG and Diesel. The data set used to represent the electricity mix, is an adapted ecoinvent data set, representing Israel grid mix based on 2020.

Electricity Process	Amount	Unit
Israel 2021 Electricity Grid, Self altered data set based on ecoinvent	1	KWH
GWP GHG	0.703	Kg co2e

Waste

A3 Models hazardous waste treated by recycling and landfill. Non hazardous waste is depicted in A3 with transport to recycling of nylon and transport of metal to reuse.

Water Consumption and Waste Water

Caesarstone use water over the production process in a closed circuit, as they have a waste water treatment system on site. Due to this only 0.3% of yearly water is lost throughout the process. Water treatment inputs are also included within the modeling of A3.

Product packaging

Finished product packaging includes 0.012 kg nylon per one functional unit.

A4 Models distribution to global customers as a weighted average, true to July-Nov 2023 data. Shipping data is unique for each model, and includes the shipping to following countries: Australia, USA, other areas (Rest of the world), Israel, UK, Canada, and South East Asia. Additionally, a distance of 1000 km was modeled pertaining to distance from Bar Lev to Ashdod port (ship), travel from destined port to retail, and retail to customer home (lorry).

A5 Includes installation of the countertops in customer homes. The process which occurs here includes fabricators cutting the slab to the specific size of customer needs (with machinery and electricity at very low input), and a type of adhesive/ welding process which also occurs using very low input. These processes occur at customer home/fabricator facilities and thought to include very minor inputs and outputs. For a full countertop, using a circular saw for half an hour of use would consume approximately 0.9 KWH. The total energy consumption during the slab factory manufacturing, totals to 116 kwh. As such, we can see the energy consumption under the installation phase falls under the cut-off criteria, as it is under 1% in relation to total product energy consumption. Therefore the A5 does not depict energy use, and depicts only the disposal of the packaging in which the product arrived, in this case - transport of nylon to recycling facility (cut off method).

B2 Represents the customer maintenance phase. The phase was modeled to include a weekly washing of the surface with water and soap, over 75 years of customer use. The quantities chosen are: 0.0002 m3/year, and 0.05 Kg soap/year for 75 years, divided by 1 kg, our declared unit. . Meaning 0.015 kg of soap per lifetime, and 6.024E-5 m3 of water per life time. Regarding the customer use itself known as B1, no specific inputs or out puts are needed for use of the countertop, as it used as a surface. No inputs or outputs occur in B1.

Regarding stages B3, B4, B5 – the countertops's physical priorities such as hardness, resistance to scratching and stains make repair, replacement or rehabilitation of the countertop unnecessary. Due to this B3,4,5 are not included in studied modules.

Regarding energy and water use in the operational use (B6, B7) there are no energy inputs as energy is not required for product use, therefore B6 is excluded from consideration for this study. Water use (B7) is considered during the maintenance stage, and therefor also not regarded within this study.

C1 process is considered to be 0. This is due to the dismantling of the product before transport and waste treatment. The life cycle of the slab is considered to be independent from the life cycle of the building.

Dismantling of the product is manual, with no material or energy inputs needed for this stage and is therefore is excluded from this study.

C2 models the transportation to landfill facility, with an average 100 km distance.

C3 and C4 model the treatment of the waste and disposal in sanitary landfill. The slab is sent to a sanitary landfill, waste processing before/during this type of disposal does not occur, and therefore C3 is marked as "0" in this study.

D Module D represents benefits from waste treatments occurring in researched scenario and beyond study boundaries. As the countertops are currently fully treated by landfill, there is no recycling/ reusing benefit at end of life that can currently be reported. No benefits and loads exist outside the system boundary, and therefore model D value is 0 throughout the result charts. Full process descriptions exist in Annex.

	End of life
Collection process specified by type	1kg collected with mixed construction waste
Recovery system	0kg for reuse recycling, recovery
Disposal specified by type	1kg sanitary landfill, inert waste
Assumption for scenario development	Transporation modeled as 100km distance, via freight lorry

5110 Vanilla Noir

More Information

Allocation

The study uses mass allocation method, meaning the calculation of inputs and out puts is based on percentage of product out of total production, in weight. Additionally, the allocation method used in this study for all data sets is the "cut off" method. Regarding end of life, this method does not include burdens of the recycling, but rather only transportation to recycling facilities, as it considers the burdens and credit of recycling to the "second" product produced from recycled material. The declared unit for this study is one kilogram as guided by the PCR. No co-product is created during the creation of the Caesarstone slab. During the production "sludge" which is a mixture of water and grounded slab material is produced, however in Bar Lev case this is not a co product but only a waste which undergoes waste treatment. The study allocation method alighnes with principles outlined in ISO 14044 and EN15804.

Cut-off criteria

All stages and processes, have been accounted for. All relevant material and energy inputs have been included. Flows related to services and the use of fixed capital assets have been deemed irrelevant in the foreground data and thus have been excluded. The impact of such exclusion is considered to be of minimal significance. It is important to note that no exclusions have been made based on mass or energy.

Data Quality

A data quality assessment was found to be satisfactory as outlined in the table below. Data for each of the model stages was received directly from Caesarstone, and represents current production and distribution processes in Caesarstone site. Data given represents Caesarstone Bar Lev, July to November of 2023.

Regarding A1 For a small number of substances, there is use of generic LCA data sets. These substances include; Peroxide master item, Silan master item, mixed T.B.C and Styrene, PREMIX 0.1-0.3 20% HI100395 TOSAF. The chosen data sets represent closest found data sets and should accurately depict these processes and materials.

The installation phase was discussed with Caesarstone, and models only the packaging waste. More information on this can be found within the inventory section below.

The Maintenance stage includes washing of the countertops. As this is under customer use, and there was no specific information on this treatment from Caesarstone, the data modeled is based on a an EPD from a Cosentino surface, published in 2019. Cosentino's study modeled one weekly cleaning, with a certain amount of soap and water. The model pertains to 75 years of use and thus was calculated in accordance.

For measure of distances for transportation of raw materials to Bar Lev facility, the model depicts the shipping distance between the most probable port in each manufacturing country to Ashdod port. For shipping distance, a weighted average was calculated.

For measure of transport to customers, besides the shipping, the model depicts a 1000 km of lorry road transport which includes; transport of product from Bar Lev to Ashdod port, transport from destination port to retail, and transport from retail to customer.

For measure of transportation distance at the end of life, the distance from the customer home to the Landfill facility a distance of 100 Kilometer was used.

4 PCR – Construction products 2019
* Dekton, EPD N°. S-P-00916 – version 2 Publication date: 01/10/2016

Assumptions and Limitations

A2 Transport of Raw Materials
Raw Material production locations are based on locations from largest suppliers of each material.

A3 Manufacturing
Energy Consumption: The energy in this stage includes electricity, used from Israel grid, at 0.506 kwh per one Declared unit. The data set used to represent the electricity mix, is an adapted ecoinvent data set, representing Israel grid mix based on 2020. LPG in A3 includes 0.111 kg for the production of one declared unit. Diesel is used for forklifts within factory at an amount of 0.00000069 m3 per one declared unit.

Water Consumption and Waste Water:
Caesarstone use water over the production process in a closed circuit, as they have a waste water treatment system on site. Due to this only 0.3% of yearly water is lost throughout the process

A4 Transport to customers
Models distribution to global customers as a weighted average, true to July-Nov 2023 data. Additionally, a distance of 1000 km was modeled pertaining to distance from Bar Lev to Ashdod port (by ship), travel from destined port to retail, and retail to customer home (lorry).

A5 Installation
Includes installation of the countertops in customer homes. As discussed with Caesarstone the installation inputs and outputs are very low. The process which occurs here includes fabricators cutting the slab to the specific size of customer needs (with machinery and electricity at very low input), and a type of adhesive/ welding process which also occurs using very low input. These processes occur at customer home/ fabricator facilities and thought to include very minor inputs and outputs. for a full countertop, using a circular saw for half an hour of use would consume approximately 0.9 KWH. The total energy consumption during the slab factory manufacturing, totals to 116 kwh. As such, we can see the energy consumption under the installation phase falls under the cut-off criteria, as it is under 1% in relation to total product energy consumption. Therefore the A5 does not depict energy use, and depicts only the disposal of the packaging in which the product arrived, in this case - transport of nylon to recycling facility (cut off method).

B2 Maintenance
The phase was modeled to include a weekly washing of the surface with water and soap, over 75 years of customer use. The quantities chosen are: 0.0002 m3/year, and 0.05 Kg soap/ year for 75 years – divided by 1 kg – our declared unit. Meaning 0.015 kg of soap per lifetime, and 6.024E-5 m3 of water per lifetime. No waste water is modeled as water used in this phase evaporates.

C1 Dismantling
Dismantling of the product is manual, with no material or energy in puts needed for this stage., and is therefore is excluded from this study.

C3 Waste processing
It is assumed that landfill waste does not include substantial processing which involves energy or material inputs which are not already modeled within the C4 ecoinvent process.

D End of life Benefits beyond boundaries
As the countertops are currently fully treated by landfill, there is no recycling / reusing benefit at end of life that can currently be reported

Results
Additional indicators Resource use are calculated based on option b proposed by THE pcr.

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	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	Int	Int	Israel	Int	Int	Int	Int							Int		Int	
Specific data used	5% (a1-a3)					-	-	-	-	-	-	-	-	-	-		-
Variation – products	+6%/-10% GWP GHG					-	-	-	-	-	-	-	-	-	-		-
Variation – sites	1 production site					-	-	-	-	-	-	-	-	-	-		-

Content Information

Material	Range of % in product	Avg % in Product
Quartz, Feldspar and Silica	41-84.3%	77.72
Glass	0-33%	7.97
Resin and Adhesives	8.3-19.1%	11.25
Additives	1.9-5.2%	2.75
Baslat	0-0.44%	0.02
Weight of finished product	1.13-1.62 Kg	217.6

Packaging material	Weight, kg	Weight % vs the product	BIOGENIC MATERIAL, WEIGHT, kg C/kg
Nylon	0.0012	0.12%	0
TOTAL	0.0012	0.12%	0

* The product does not include substances mentioned in the Candidate List of Substances of Very High Concern (SVHC) which exceeds the limits for registration with the European Chemicals Agency (i.e., if the substance constitute more than 0.1% of the weight of the product).

Results of the Environmental Performance Indicators

Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO2 eq.	1.43E+00	3.03E-01	9.59E-02	2.78E-02	0	1.92E-02	0	1.17E-02	0
GWP-biogenic	kg CO2 eq.	-9.72E-03	4.19E-05	7.58E-06	0.00E+00	0	6.48E-06	0	9.72E-03	0
GWP-luluc	kg CO2 eq.	8.07E-04	1.84E-04	1.12E-06	4.81E-02	0	9.90E-06	0	8.58E-06	0
GWP-total	kg CO2 eq.	1.42E+00	3.03E-01	9.59E-02	7.59E-02	0	1.92E-02	0	2.14E-02	0
GWP-GHG	kg CO2 eq.	1.43E+00	3.03E-01	9.59E-02	7.90E-02	0	1.92E-02	0	1.18E-02	0
ODP	kg CFC 11 eq.	8.14E-08	4.54E-09	1.09E-10	1.24E-09	0	2.87E-10	0	2.75E-10	0
AP	mol H+ eq.	7.47E-03	3.97E-03	2.44E-05	3.16E-04	0	6.80E-05	0	8.35E-05	0
EP-freshwater	kg P eq.	3.46E-05	2.25E-06	3.40E-08	5.10E-04	0	1.82E-07	0	1.69E-07	0
EP- Marine	kg N eq.	1.39E-03	1.04E-03	1.12E-05	3.60E-04	0	2.21E-05	0	3.09E-05	0
EP-terrestrial	mol N eq.	1.50E-02	1.15E-02	1.15E-04	1.16E-03	0	2.37E-04	0	3.34E-04	0
POCP	kg NMVOC eq.	5.77E-03	3.37E-03	3.02E-05	1.98E-04	0	9.15E-05	0	1.13E-04	0
ADP-minerals & metals*	kg Sb eq.	8.11E-06	7.21E-07	7.03E-09	2.79E-07	0	6.14E-08	0	2.37E-08	0
ADP-fossil*	MJ	2.38E+01	4.06E+00	2.84E-02	2.93E-01	0	2.70E-01	0	2.54E-01	0
WDP*	m^3	7.75E-01	1.50E-02	4.37E-03	5.52E-02	0	1.20E-03	0	1.07E-02	0

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

Mandatory impact category indicators according to EN 15804

* 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.

** As modules A4,B2, C1-D are part of results, please regard them in any comparison.

*** "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."

Other Environmental Performance Indicators

Indicator	Unit	A1-A3	A4	A5	B2	C1	C2	C3	C4	D
Particulate matter	disease inc.	6.20E-08	1.84E-08	1.69E-10	5.05E-09	0	1.52E-09	0	1.80E-09	0
Ionising radiation*	kBq U-235 eq	1.68E-02	1.24E-03	1.72E-05	6.02E-04	0	9.56E-05	0	1.28E-04	0
Ecotoxicity, freshwater	CTUe	1.97E+01	2.18E+00	1.94E-01	3.46E+00	0	1.51E-01	0	1.12E-01	0
Human toxicity, cancer	CTUh	7.29E-10	1.35E-10	8.64E-12	6.23E-11	0	8.69E-12	0	6.68E-12	0
Human toxicity, non-cancer	CTUh	1.17E-08	2.33E-09	3.00E-10	1.41E-09	0	1.94E-10	0	7.38E-11	0
Land use	Pt	6.24E+00	1.71E+00	1.17E-02	2.80E+00	0	1.61E-01	0	5.80E-01	0

Indicators with More than 10% Range Between Models

Damage category	Percent Change Between Highest and Lowest Result
Acidification	17.1%
Climate change	16.1%
GWP - GHG	15.4%
Climate change - Biogenic	-17.3%
Climate change - Fossil	18.8%
Eutrophication, marine	13.9%
Eutrophication, terrestrial	15.7%
Ozone depletion	30.2%
Photochemical ozone formation	16.4%
Resource use, fossils	19.0%
Resource use, minerals and metals	30.7%
Water use	26.4%
Ionising radiation *	27.1%
Particulate matter	18.8%
Human toxicity, cancer	20.3%
Human toxicity, non-cancer	21.4%
Land use	14.1%
Ecotoxicity, freshwater	25.6%

* This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Data Quality Assessment and Basic Uncertainty Analysis

Indicator	A1	A2
Temporal Representativeness	Very Good	Very Good
Geographical Representativeness	Good	Very Good
Technical Representativeness	Good	Very Good

Table 4 - Data Quality Assessment A1-2

Indicator	A3	A4	A5
Temporal Representativeness	Very Good	Very Good	Very Good
Geographical Representativeness	Very Good	Good	Very Good
Technical Representativeness	Very Good	Very Good	Very Good

Table 5 - Data Quality Assesment A3-5

Indicator	B2	C2	C4	D
Temporal Representativeness	Very Good	Very Good	Very Good	Very Good
Geographical Representativeness	Good	Good	Good	Good
Technical Representativeness	Very Good	Very Good	Very Good	Very Good

Table 6 - DataQuality Assesment B-D

All data adheres to the following:

a) Age < 10 years for generic data
b) Age < 5 years for specific data
c) Specific data based on 1-year average (unless deviations are justified)
d) Time period of 100 years, in case of a landfill scenario: longer if relevant
e) Complies with physical reality of the product as far as possible, in terms of geographical and technological coverage

Results Environmental Performance Indicators including totals

		A1-A3	A4	A5	B2	C1	C2	C3	C4	D	Total
GWP-fossil	kg CO2 eq.	1.43E+00	3.03E-01	9.59E-02	2.78E-02	0	1.92E-02	0	1.17E-02	0	1.89E+00
GWP-biogenic	kg CO2 eq.	-9.72E-03	4.19E-05	7.58E-06	0	0	6.48E-06	0	9.72E-03	0	5.60E-05
GWP-luluc	kg CO2 eq.	8.07E-04	1.84E-04	1.12E-06	4.81E-02	0	9.90E-06	0	8.58E-06	0	4.91E-02
GWP-total	kg CO2 eq.	1.42E+00	3.03E-01	9.59E-02	7.59E-02	0	1.92E-02	0	2.14E-02	0	1.94E+00
GWP-GHG	kg CO2 eq.	1.43E+00	3.03E-01	9.59E-02	7.90E-02	0	1.92E-02	0	1.18E-02	0	1.94E+00
ODP	kg CFC 11 eq.	8.14E-08	4.54E-09	1.09E-10	1.24E-09	0	2.87E-10	0	2.75E-10	0	8.78E-08
AP	mol H+ eq.	7.47E-03	3.97E-03	2.44E-05	3.16E-04	0	6.80E-05	0	8.35E-05	0	1.19E-02
EP-freshwater	kg P eq.	3.46E-05	2.25E-06	3.40E-08	5.10E-04	0	1.82E-07	0	1.69E-07	0	5.47E-04
EP- Marine	kg N eq.	1.39E-03	1.04E-03	1.12E-05	3.60E-04	0	2.21E-05	0	3.09E-05	0	2.86E-03
EP-terrestrial	mol N eq.	1.50E-02	1.15E-02	1.15E-04	1.16E-03	0	2.37E-04	0	3.34E-04	0	2.83E-02
POCP	kg NMVOC eq.	5.77E-03	3.37E-03	3.02E-05	1.98E-04	0	9.15E-05	0	1.13E-04	0	9.57E-03
ADP-minerals & metals*	kg Sb eq.	8.11E-06	7.21E-07	7.03E-09	2.79E-07	0	6.14E-08	0	2.37E-08	0	9.20E-06
ADP-fossil*	MJ	2.38E+01	4.06E+00	2.84E-02	2.93E-01	0	2.70E-01	0	2.54E-01	0	2.87E+01
WDP*	m3	7.75E-01	1.50E-02	4.37E-03	5.52E-02	0	1.20E-03	0	1.07E-02	0	8.62E-01
Particulate matter	disease inc.	6.20E-08	1.84E-08	1.69E-10	5.05E-09	0	1.52E-09	0	1.80E-09	0	8.90E-08
Ionising radiation	kBq U-235 eq	1.68E-02	1.24E-03	1.72E-05	6.02E-04	0	9.56E-05	0	1.28E-04	0	1.89E-02
Ecotoxicity, freshwater	CTUe	1.97E+01	2.18E+00	1.94E-01	3.46E+00	0	1.51E-01	0	1.12E-01	0	2.58E+01
Human toxicity, cancer	CTUh	7.29E-10	1.35E-10	8.64E-12	6.23E-11	0	8.69E-12	0	6.68E-12	0	9.50E-10
Human toxicity, non-cancer	CTUh	1.17E-08	2.33E-09	3.00E-10	1.41E-09	0	1.94E-10	0	7.38E-11	0	1.61E-08
Land use	Pt	6.24E+00	1.71E+00	1.17E-02	2.80E+00	0	1.61E-01	0	5.80E-01	0	1.15E+01

Resource Indicators

Indicator	Sub-indicator	Unit	Total	A1	A2	A3	A4	A5	B2	C1	C2	C3	C4	D
Use of renewable primary energy	Excluding renewable primary energy resources used as raw materials	MJ	2.55E+00	9.95E-01	1.10E-02	1.25E-01	4.39E-02	8.57E-04	1.37E+00	0	3.44E-03	0	4.32E-03	0
	Renewable primary energy resources used as raw materials	MJ	1.42E-01	1.42E-01	0	0	0	0	0	0	0	0	0	0
	Total	MJ	2.70E+00	1.14E+00	1.10E-02	1.25E-01	4.39E-02	8.57E-04	1.37E+00	0	3.44E-03	0	4.32E-03	0
Use of non-renewable primary energy	Excluding non-renewable primary energy resources used as raw materials	MJ	2.44E+01	1.28E+01	1.04E+00	5.81E+00	4.06E+00	2.84E-02	7.39E-02	0	2.71E-01	0	2.54E-01	0
	Non-renewable primary energy resources used as raw materials	MJ	4.40E+00	3.89E+00	0	2.44E-01	0	0	2.71E-01	0	0	0	0	0
	Total	MJ	2.88E+01	1.67E+01	1.04E+00	6.05E+00	4.06E+00	2.84E-02	3.45E-01	0	2.71E-01	0	2.54E-01	0
Use of secondary material		kg	2.05E-01	2.05E-01	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels		MJ	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewables as secondary fuels		MJ	0	0	0	0	0	0	0	0	0	0	0	0
Net use of freshwater		m^3	8.62E-01	7.08E-01	3.76E-03	6.37E-02	1.50E-02	4.37E-03	5.52E-02	0	1.20E-03	0	1.07E-02	0

Waste Indicators

Indicator	Unit	Total	A1	A2	A3	A4	A5	B2	C1	C2	C3	C4	D
Hazardous waste disposed of	Kg	2.41E-03	2.88E-05	6.10E-06	2.34E-03	2.41E-05	1.76E-07	1.58E-06	0	1.74E-06	0	1.26E-06	0
Non hazardous waste disposed of	Kg	1.80E+00	2.25E-01	3.18E-02	3.75E-01	1.34E-01	2.26E-03	1.54E-02	0	1.31E-02	0	1.00E+00	0
Radioactive waste disposed of	Kg	1.24E-05	1.06E-05	1.74E-07	3.77E-07	6.96E-07	1.11E-08	3.92E-07	0	5.48E-08	0	7.79E-08	0

Out-put Flows

Indicator	Unit	Total	A1	A2	A3	A4	A5	B2	C1	C2	C3	C4	D
Components of reuse	Kg	0	0	0	0	0	0	0	0	0	0	0	0
Materials for recycling	Kg	0	0	0	6.87E-04	0	4.00E-02	0	0	0	0	0	0
Exported energy - MJ	MJ	0	0	0	0	0	0	0	0	0	0	0	0
Materials for energy recovery	Kg	0	0	0	0	0	0	0	0	0	0	0	0
7.2.5 information on biogenic content		0	0	0	0	0	0	0	0	0	0	0	0

Biogenic Carbon Content

Indicator	Unit	Total	A1	A2	A3	A4	A5	B2	C1	C2	C3	C4	D
Biogenic carbon content	Kg	0	0	0	0	0	0	0	0	0	0	0	0
Biogenic carbon content in accompanying packaging	Kg	0	0	0	0	0	0	0	0	0	0	0	0

References

General Programme Instructions of the International EPD® System. Version 4.0.

PCR – Construction products 2019 1.3.4, Concrete and concrete elements

EN ISO 14040:2006. Environmental management. Life cycle analysis. Principles and frame of reference.

EN ISO 14025:2010. Labels and environmental declarations. Type III environmental declarations. Principles and procedures.

EN ISO 14044:2006. Environmental management. Life cycle analysis. Requirements and guidelines.

5141 Frosty Carrina
caesarstone®