

## ENVIRONMENTAL PRODUCT DECLARATION

# CORIAN® QUARTZ

2 CM & 3 CM THICKNESS



The Corian® Quartz products reviewed in this study come in two thickness options: 2 cm and 3 cm.

CORIAN®  
DESIGN

At DuPont, we lead by example—creating innovative, sustainable solutions while reducing our footprint and supporting communities in which we operate around the world. Corian® Quartz offers architects and designers the right combination of aesthetic and performance capabilities for public space design. Radiantly beautiful, as unique as the natural, quartz crystal within and available in a broad range of colors, Corian® Quartz is also strong and durable. It possesses a signature, beguiling luster attained without extras, sealants, or treatments—perfect for high-traffic areas that demand high-impact design. Timeless, enduring beauty and strength—these are the reasons designers go with Corian® Quartz.

At DuPont, we are innovating so you can achieve sustainable designs without sacrificing durability or beauty.

We have committed to reducing our footprint, and encourage our partners and suppliers to work with us to enhance sustainability through our supply chain and theirs.



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CORIAN® QUARTZ  
QUARTZ SURFACE



According to ISO 14025,  
EN 15804, and ISO 21930:2017

EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE	UL Solutions 333 Pflingsten Rd, Northbrook IL, 60062	www.ul.com www.spot.ul.com
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	Program Operator Rules v 2.7 2022	
MANUFACTURER NAME AND ADDRESS	DuPont Specialty Products 974 Centre Rd Wilmington, DE 19803	
DECLARATION NUMBER	4791388656.101.2	
DECLARED PRODUCT & FUNCTIONAL UNIT OR DECLARED UNIT	One (1) m <sup>2</sup> of quartz countertop surface used for a period of 75 years	
REFERENCE PCR AND VERSION NUMBER	Core PCR: ISO 21930: Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services (ISO, 2017) Guidance: PCR for Residential Countertops, NSF International (2013)	
DESCRIPTION OF PRODUCT APPLICATION/USE	Corian® Quartz (2 cm, 3 cm thickness options)	
PRODUCT RSL DESCRIPTION (IF APPL.)	10 years	
MARKETS OF APPLICABILITY	North America	
DATE OF ISSUE	July 28 <sup>th</sup> , 2024	
PERIOD OF VALIDITY	5 Years	
EPD TYPE	Product-specific	
EPD SCOPE	Cradle to grave	
YEAR(S) OF REPORTED PRIMARY DATA	2022	
LCA SOFTWARE & VERSION NUMBER	Sphera LCA for Experts (fka GaBi) 2023.2	
LCI DATABASE(S) & VERSION NUMBER	Sphera Managed LCA Content (fka GaBi) 10.7.1.28	
LCIA METHODOLOGY & VERSION NUMBER	TRACI 2.1 and IPCC AR5	
The PCR review was conducted by:	International Standards Organization	
	ISO/TC 59/SC 17	
	Standardization@afnor.org	
This declaration was independently verified in accordance with ISO 14025: 2006. <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL	<i>Cooper McCollum</i> Cooper McCollum, UL Solutions	
	Manasa Rao, WAP Sustainability Consulting, LLC	
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:		
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	<i>Jack Geibig</i> Jack Geibig, Ecoform	

## LIMITATIONS

**Exclusions:** EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc.

**Accuracy of Results:** EPDs regularly rely on estimations of impacts; the level of accuracy in estimation of effect differs for any particular product line and reported impact.

**Comparability:** EPDs from different programs may not be comparable. EPDs are comparable only if they comply with ISO 21930, use the same sub-category PCR, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works.

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## 1. Product Definition and Information

### 1.1. Description of Company/Organization

DuPont Specialty Products is a publicly traded premier multi-industrial company based in Wilmington, Delaware, United States of America, that manufactures highly specialized materials. Our passion and proven expertise in science and innovation enable us to partner with customers to create sustainable solutions for the complex challenges facing our world now and into the future. We've matched our leading product portfolios, applications capabilities, and strong customer relationships to five key market pillars: electronics, water, protection, industrial technologies, and next generation automotive. The global megatrends in each of these areas represent opportunity and challenges that will require integrated and sustainable innovations.

Our 23,000 employees working in more than 50 countries across the globe come to work each day with a shared purpose: to empower the world with the essential innovations to thrive. Strong partnerships with customers and suppliers are key to our innovation and growth and to advancing sustainability. Over the past several years, we've deepened and broadened our customer relationships – collaborating with them to address climate, circularity, responsible procurement, and product development based on safe and sustainable by design principles. The integration of performance, quality, and sustainability drives our technology and product pipelines and fuels our growth.

### 1.2. Product Description

#### Product Identification

Corian® Quartz is for the architects, designers, and homeowners who want natural aesthetics without the maintenance. Corian® Quartz (formerly known as Zodiac®) surface brings the best of nature and science to contemporary residential and commercial design. Long-lasting and GREENGUARD and GREENGUARD Gold Certified as a low-emitting material, Corian® Quartz surfaces are a high-performance material, delivering strength and heat and scratch resistance.

Engineered with pure crystals, beaming with diamond-like radiance, Corian® Quartz is visually striking – and utterly unique.

This EPD presents results for the Corian® Quartz 2 cm and 3 cm countertops. This product falls under CSI 12 36 00.

### 1.3. Application

Corian® can be used in residential applications, including kitchens and bathrooms, as well as in commercial applications for both horizontal and vertical installations. Corian® is the ideal choice for public spaces, homes, healthcare and food preparation facilities, hospitality, schools, and offices.

### 1.4. Declaration of Methodological Framework

This LCA follows an attributional approach.

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## 1.5. Technical Requirements

Technical data that describe the assessed product are presented in Table 1.

**Table 1. Technical Data for Corian® Quartz**

CHARACTERISTIC	CORIAN® QUARTZ	TEST METHOD
Bulk density	2.4 g/cm <sup>3</sup>	ASTM C97
Gloss	45 – 50	ANSI Z124
Water absorption	0.12%	ASTM C373
Coefficient of linear thermal expansion	1.4 × 10 <sup>-5</sup> m/m °C	ASTM D696
Flexural strength	> 5,300 psi	ASTM D790
Flexural modulus	5.3 – 5.7 × 10 <sup>6</sup> psi	ASTM D790
Boiling water resistance	None to slight effect	NEMA LD 3-3.5
High temperature resistance	None to slight effect	NEMA LD 3-3.6
Mohs hardness	7	Mohs Hardness Scale
Compressive strength, dry	27,300 psi	ASTM C170
Compressive strength, wet	24,400 psi	ASTM C170
Color fastness	No effect	NEMA LD 3-3.3
Ball impact resistance: Slabs		
No fracture - ½ lb. ball – 2 cm & 3 cm slab	164 in. (no failure at height)	NEMA LD 3-3.8
Wear and cleanability	Pass	CSA B45.5-11 / IAPMO Z124-2011
Stain resistance	Pass	CSA B45.5-11 / IAPMO Z124-2011
Fungal resistance	ASTM rating of 0, no observed growth on product at 100x power	ASTM G21
Bacterial resistance	No observed growth on product at 100x power	ASTM G22
Microbial resistance	Highly resistant to mold growth	UL 2824 (ASTM D6329)
Abrasion resistance	139	ASTM C501
Point impact	Pass	ANSI Z124.6.4.2.1
Static coefficient of friction (as received)	0.89 dry / 0.61 wet	ASTM C1028
Long and short term	< 0.04%	ASTM D570
Moisture expansion	< 0.01%	ASTM C370
Freeze thaw resistance	Unaffected	ASTM C1026
Flammability	Class A	NFPA 101®: Life Safety Code®
Flame spread index (FSI)	FSI = 0 for 3cm, FSI = 5 for 2 cm	ASTM E84, NFPA 255 & UL 723
Smoke developed index (SDI)	SDI = 40 for 3 cm, SDI = 75 for 2 cm	ASTM E84, NFPA 255 & UL 723



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Flame spread value (FSV)	FSV = 0 for 3 cm, FSV = 5 for 2 cm	CAN/ULC-S102
Smoke developed value (SDV)	SDV = 10 for 3 cm, SDV = 40 for 2 cm	CAN/ULC-S102

## 1.6. Properties of Declared Product as Delivered

Corian® Quartz slabs are stacked on wooden A-frames and secured with plastic bands.

## 1.7. Material Composition

The material composition of the product are represented in Table 2.

Table 2. Material Composition for Corian® Quartz

MATERIAL	CORIAN® QUARTZ
Quartz	89.2%
Polyester resin	9.48%
Additives and Pigments	1.15%
Organic peroxide (Catalyst)	0.12%

## 1.8. Manufacturing

Corian® Quartz is produced in Thetford Mines, Quebec. At the production facilities, the raw materials are molded into slabs. They are then polished and packaged before distribution.

## 1.9. Packaging

The packaging used in the shipment of this product is described in Table 3.

Table 3. Packaging Composition for Corian® Quartz

	CORIAN® QUARTZ 2 CM	CORIAN® QUARTZ 3 CM	UNIT
Corrugate	0.12	0.18	kg
A-Frame	1.67	2.50	kg
Strapping	0.004	0.01	kg

## 1.10. Supplier Transportation

The materials are delivered to the manufacturing facility via ocean going ship and truck. Distances were modeled by material and were calculated using the supplier location and the location of manufacturing. The modeled distance for ship is 9,804 km and for truck the modeled distance is 202 km.

## 1.11. Product Installation

The product is transported to the building site and installed. The product is delivered to the customer via truck.



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Transportation averages are calculated based on distances to distribution centers. Apart from this, transport distances to the end user site (an initial visit to measure room and counter dimensions, and a second visit to deliver and install the countertop) have been accounted for. A round trip distance of 150 miles has been assumed for each trip made.

Installation starts with transportation of the slab to a warehouse, distributor, or fabricator. The fabricator is responsible for customizing the slab and the final product is transported to the installation site and installed with Corian® joint adhesive.

The amount of adhesive used was provided by DuPont after conversations with a fabricator for typical sizing scenarios. A countertop is typically constructed front to back from a 762 mm (30") width sheet. Therefore for 1 m<sup>2</sup> of sheet usage, the countertop length is 1.31 m (51.6"). The adhesive used for front drop edge and back covered backsplash is linear with the length of the countertop. One deck seam is assumed for every 3.7 m (144") (typical length of a sheet) and the amount of adhesive consumed is prorated to the length of countertop. Four (4) g of adhesive is consumed for purge for every 50 g of adhesive used (assumed 50 mL cartridge). These assumptions give us a total of 27.1 g of adhesive used for 1 m<sup>2</sup> of countertop.

Based on the PCR for Residential Countertops, a scrap rate of 30% is used during installation to account for custom sizing for each customer.

Installation equipment is required, and the energy needed to operate the tools is included, as are other ancillary installation materials. However, the manufacturing of the installation equipment is not included in the study as these are multi-use tools and the impacts per functional unit are considered negligible. Packaging and installation waste disposal have been modeled as per guidelines in US EPA Municipal Solid Waste (MSW) data as suggested in the NSF Residential Countertops PCR.

## 1.12. Use

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This study contains all of the energy, water and materials related to the use of the product, including cleaning, maintenance, and replacements. Use includes product maintenance, typically cleaning with tap water and a mild soap, over the 10-year timeframe. No sealing or additional maintenance is needed. The amounts of inputs used over the 10-year timeframe.

## 1.13. Reference Service Life and Estimated Building Service Life

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In this study, the reference service life (RSL) of the product is 10 years. After initial installation in a building with an estimated service life (ESL) of 75 years there will be 6.5 replacements needed.

## 1.14. Disposal

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There are no impacts during deconstruction as the product is manually removed via scraping. DuPont countertops are either landfilled (80%) or incinerated (20%) at end-of-life. Table 11 shows the parameters for the end-of-life scenario utilized in the model. All waste has been classified according to regional-specific legislation as laid out in US EPA Municipal Solid Waste (MSW) data as suggested in the NSF Residential Countertops PCR. All pre-treatment required resource inputs and management activities of the disposal site included through the use of secondary GaBi dataset. Distance to end-of-life facilities is assumed to be 100 km.



## 2. Life Cycle Assessment Background Information

### 2.1. Functional or Declared Unit

The functional unit according to the guidance PCR is 1 m<sup>2</sup> of countertop surface used for a period of 75 years. The products under study have a reference service life (RSL) of 10 years. Table 4 below shows additional details related to the functional unit.

Table 4. Functional Unit Details for Corian® Quartz

	CORIAN® QUARTZ 2 CM	CORIAN® QUARTZ 3 CM	UNIT
Reference Flow	48.80	73.20	kg
Mass per functional unit	366	549	kg

### 2.2. System Boundary

This EPD is considered a Cradle-to-Grave study. A summary of the life cycle modules included in this EPD is presented in Table 5 below.

Table 5. Description of the system boundary modules

MODULE NAME	DESCRIPTION	ANALYSIS PERIOD	SUMMARY OF INCLUDED ELEMENTS
A1	Product Stage: Raw Material Supply	2022	Extraction and processing of raw materials and packaging.
A2	Product Stage: Transport	2022	Transportation of materials and packaging to the manufacturing location.
A3	Product Stage: Manufacturing	2022	Manufacturing of products, including energy, water, and material usage and water disposal. Waste generation from manufacturing and disposal.
A4	Construction Process Stage: Transport	2022	Transportation from the manufacturing gate to the construction site, including fuel usage. Storage and warehousing of products.
A5	Construction Process Stage: Installation	2022	Waste disposal and processing of packaging materials. Production, transport, and waste processing and disposal of the lost products and materials due to installation losses. Manufacturing and transport of installation materials. Energy and water used to install the product.
B1	Use Stage: Use	2022	Energy, materials, and water related to the usage of the product, including product operation, and cleaning.
B2	Use Stage: Maintenance	2022	Energy, materials, and water related to the usage of the product, including product maintenance.
B3	Use Stage: Repair	2022	Energy, materials, and water related to the upkeep of the product, including product repair.
B4	Use Stage: Replacement	2022	Energy, materials, and water related to the upkeep of the product, including product replacement.
B5	Use Stage: Refurbishment	2022	Energy, materials, and water related to the upkeep of the product, including product refurbishment.
B6	Operational Energy Use	2022	No operational energy use of building integrated system during product use.
B7	Operational Water	2022	No operational water use of building integrated system during product use.



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MODULE NAME	DESCRIPTION	ANALYSIS PERIOD	SUMMARY OF INCLUDED ELEMENTS
	Use		
C1	EOL: Deconstruction	2022	Energy and materials required for deconstructing the product.
C2	EOL: Transport	2022	Transportation of the product to the end-of-life facility.
C3	EOL: Waste Processing	2022	Waste processing for energy recover, and/or reclamation.
C4	EOL: Disposal	2022	Waste disposal, including all resource inputs and management activities of the disposal site.
D	Benefits beyond system	MND	Module Not Declared

## 2.3. Estimates and Assumptions

For this LCA, value choices and judgements were made that may affect the results. First is the inclusion of overhead energy data due to the inability to sub-meter and isolate manufacturing energy from overhead energy. Next was the usage of secondary datasets from MLC in place of supply chain specific data which was unavailable. Limitations to this LCA have been identified and these include lack of geographically accurate datasets, and considering only known and quantifiable environmental impacts. Due to the assumptions and value choices described, these do not reflect real-life scenarios and can only assess potential environment impacts.

## 2.4. Cut-off Criteria

Material inputs greater than 1% (based on total mass of the final product) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight of the functional unit.

The list of excluded materials and energy inputs include:

- As the tools used during the installation of the product are multi-use tools and can be reused after each installation, the per-declared unit impacts are considered negligible and therefore are not included.

Some material inputs may have been excluded within the MLC datasets used for this project. All MLC datasets have been critically reviewed and conform to the exclusion requirement of the PCR, ISO 21930: Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services.

## 2.5. Data Sources

Primary data were collected by facility personnel and from utility bills and was used for all manufacturing processes. When primary data did not exist, secondary data for raw material production was utilized from GaBi 10.7.1.28, GaBi Database Version 2023.2.

## 2.6. Data Quality



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## Geographical Coverage

The geographical scope of the manufacturing portion of the life cycle is North America (USA and Canada). All primary data were collected from the manufacturer. The geographic coverage of primary data is considered excellent.

The geographical scope of the raw material acquisition is North America, Asia, Europe, and UK. Customer distribution, site installation, and use portions of the life cycle is within the North America.

In selecting secondary data (i.e., MLC Datasets), priority was given to the accuracy and representativeness of the data. When available and deemed of significant quality, country-specific data was used. However, priority was given to technological relevance and accuracy in selecting secondary data. This often led to the substitution of regional and/or global data for country-specific data. The geographical coverage of secondary datasets can be referenced in the dataset references table in the LCA report. Overall geographic data quality is considered good.

## Time Coverage

Primary data were provided by the manufacturer and represent all information for calendar year 2022, Using this data meets the PCR requirements. Time coverage of this primary data is considered excellent.

Data necessary to model cradle-to-gate unit processes were sourced from Sphera's MLC LCI datasets. Time coverage of the MLC datasets varies from approximately 2010 to present. All datasets rely on at least one 1-year average data. Overall time coverage of the datasets is considered good.

## Technological Coverage

Primary data provided by the manufacturer is specific to the technology the company uses in manufacturing their product. It is site-specific and considered of good quality. It is worth noting that the energy and water used in manufacturing the product includes overhead energy such as lighting, heating, and sanitary use of water. Sub-metering was not available to extract process-only energy and water use from the total energy use. Sub-metering would improve the technological coverage of data quality.

Data necessary to model cradle-to-gate unit processes were sourced from MLC LCI datasets. Technological coverage of the datasets is considered good relative to the actual supply chain of the manufacturer. While improved life cycle data from suppliers would improve technological coverage, the use of lower-quality generic datasets does meet the goal of this LCA.

## Completeness

The data included is considered complete. The LCA model included all known material and energy flows, with the exception of what is listed in Section 2.4. As pointed out in that section, no known flows above 1% were excluded and the sum of all excluded flows totals less than 5%, whether evaluated by mass, energy, or potential environmental impact.

## 2.7. Period under Review

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The period under review is calendar year 2022.

## 2.8. Allocation

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General principles of allocation were based on ISO 14040/44. There are no products other than the product under study that are produced as part of the manufacturing processes. Since there are no co-products, no allocation based on co-

products is required.

To derive a per-unit value for manufacturing inputs such as electricity, thermal energy and water, allocation based on total production by mass was adopted. As a default, Sphera’s MLC Managed LCA Content) LCI datasets use a physical basis for allocation.

### 3. Life Cycle Assessment Scenarios<sup>1</sup>

Table 6. Transport to the building site (A4)

NAME	VALUE	UNIT
Fuel type	Diesel	
Liters of fuel	42	l/100km
Vehicle type	Heavy Heavy-duty Diesel Truck / 53,333 lb payload	
Transport distance	2,174	km
Capacity utilization	67	%
Weight of products transported	50.6 – 75.9	kg
Capacity utilization volume factor	1	-

Table 7. Installation into the building (A5) for Corian® Quartz

NAME	CORIAN® QUARTZ 2 CM	CORIAN® QUARTZ 3 CM	UNIT
Adhesive A	0.02	0.02	kg
Adhesive B	0.003	0.003	kg
Product wastage	30	30	%
Waste materials at the construction site before waste processing, generated by product installation	16.4	24.6	kg
Pulp Packaging Waste	1.79	2.68	kg
Plastic Packaging Waste	0.004	0.006	kg
Biogenic carbon contained in packaging	3.01	4.51	kg CO <sub>2</sub>

Table 8. Reference Service Life

NAME	VALUE	UNIT
RSL	10	years
Maintenance	Cleaning daily with soap and water	-

<sup>1</sup> The tables for B1, B3, B5, B6 and B7 are not included as these stages do not involve any flow input or output.

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**Table 9. Maintenance (B2)**

NAME	VALUE	UNIT
Maintenance process information (cite source in report)	Maintenance is taken from DuPont's maintenance guidelines	
Maintenance cycle	3650	Number/ RSL
Maintenance cycle	27,375	Number/ ESL
Water Consumption Source: Tap water	1.10E-02	m <sup>3</sup>
Soap	3.00E-01	kg

**Table 10. Replacement (B4)**

NAME	VALUE	UNIT
Replacement cycle	1	Number/ RSL
Replacement cycle	6.5	Number/ ESL

**Table 11. End of life (C1-C4) for Corian® Quartz**

		CORIAN® QUARTZ 2 CM	CORIAN® QUARTZ 3 CM	UNIT
Assumptions for scenario development		Manual deconstruction: 80% landfill; 20% incineration		
Collection process (specified by type)	Collected separately	0	0	kg
	Collected with mixed construction waste	48.8	73.2	kg
Recovery (specified by type)	Reuse	-	-	kg
	Recycling	-	-	kg
	Landfill	39.1	58.6	kg
	Incineration	9.77	14.6	kg
	Incineration with energy recovery	-	-	kg
	Energy conversion efficiency rate	-	-	-
Disposal (specified by type)	Product or material for final deposition	39.1	58.6	kg
Removals of biogenic carbon (excluding packaging)		0	0	kg



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## 4. Life Cycle Assessment Results

Table 12. Description of the system boundary modules

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	Raw material supply	Transport	Manufacturing	Transport from gate to site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Building Operational Energy Use During Product Use	Building Operational Water Use During Product Use	Deconstruction	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling Potential
<b>Cradle to Grave</b>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MND

MND: Module not declared



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## 4.1. Life Cycle Impact Assessment Results

Table 13. LCIA results for Corian® Quartz, per functional unit - 0% Recycled Content – 2 cm

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
<b>TRACI and IPCC AR5 LCIA Impacts (North America)</b>														
IPCC AR5 GWP [kg CO <sub>2</sub> eq]	2.83E+01	8.90E+00	1.93E+01	0.00E+00	4.91E-01	0.00E+00	5.30E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.94E-03	2.41E+01	8.40E-01
AP [kg SO <sub>2</sub> eq]	1.42E-01	4.06E-02	5.97E-02	0.00E+00	2.14E-03	0.00E+00	1.65E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-05	7.10E-03	4.33E-03
EP [kg N eq]	6.56E-03	3.60E-03	5.39E-03	0.00E+00	1.03E-03	0.00E+00	1.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-06	1.99E-04	6.94E-03
GWP [kg CO <sub>2</sub> eq]	2.74E+01	8.77E+00	1.89E+01	0.00E+00	4.68E-01	0.00E+00	5.19E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.88E-03	2.40E+01	8.16E-01
ODP [kg CFC 11 eq]	1.38E-11	2.27E-14	4.17E-12	0.00E+00	2.66E-08	0.00E+00	1.17E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-17	1.79E-14	4.02E-14
SFP [kg O <sub>3</sub> eq]	1.91E+00	9.40E-01	9.03E-01	0.00E+00	3.24E-02	0.00E+00	2.52E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-04	4.82E-02	7.90E-02
ADPF [MJ]	5.97E+02	1.15E+02	2.23E+02	0.00E+00	1.26E+01	0.00E+00	6.24E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E-02	1.17E+01	1.28E+01
<b>Carbon Emissions and Uptake</b>														
BCRP [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK [kg CO <sub>2</sub> ]	3.01E+00	0.00E+00	9.02E-01	0.00E+00	0.00E+00	0.00E+00	2.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	3.91E+00	0.00E+00	0.00E+00	0.00E+00	2.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

# ENVIRONMENTAL PRODUCT DECLARATION



**CORIAN® QUARTZ**  
QUARTZ SURFACE



According to ISO 14025,  
EN 15804 and ISO 21930:2017

**Table 14: LCIA results for Corian® Quartz, per functional unit - 0% Recycled Content – 3 cm**

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
<b>TRACI and IPCC AR% LCIA Impacts (North America)</b>														
IPCC AR5 GWP [kg CO <sub>2</sub> eq]	4.25E+01	1.33E+01	2.90E+01	0.00E+00	4.91E-01	0.00E+00	7.94E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.90E-03	3.61E+01	1.26E+00
AP [kg SO <sub>2</sub> eq]	2.14E-01	6.09E-02	8.94E-02	0.00E+00	2.14E-03	0.00E+00	2.48E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-05	1.06E-02	6.50E-03
EP [kg N eq]	9.84E-03	5.40E-03	8.09E-03	0.00E+00	1.03E-03	0.00E+00	2.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-06	2.99E-04	1.04E-02
GWP [kg CO <sub>2</sub> eq]	4.11E+01	1.32E+01	2.83E+01	0.00E+00	4.68E-01	0.00E+00	7.79E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.82E-03	3.60E+01	1.22E+00
ODP [kg CFC 11 eq]	2.07E-11	3.41E-14	6.25E-12	0.00E+00	2.66E-08	0.00E+00	1.76E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-17	2.69E-14	6.02E-14
SFP [kg O <sub>3</sub> eq]	2.87E+00	1.41E+00	1.35E+00	0.00E+00	3.24E-02	0.00E+00	3.78E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.74E-04	7.23E-02	1.19E-01
ADPF [MJ]	8.95E+02	1.73E+02	3.34E+02	0.00E+00	1.26E+01	0.00E+00	9.35E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.69E-02	1.75E+01	1.93E+01
<b>Carbon Emissions and Uptake</b>														
BCRP [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK [kg CO <sub>2</sub> ]	4.51E+00	0.00E+00	1.35E+00	0.00E+00	0.00E+00	0.00E+00	3.81E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	5.86E+00	0.00E+00	0.00E+00	0.00E+00	3.81E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR [kg CO <sub>2</sub> ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

# ENVIRONMENTAL PRODUCT DECLARATION



CORIAN® QUARTZ  
QUARTZ SURFACE

According to ISO 14025,  
EN 15804 and ISO 21930:2017

## 4.2. Life Cycle Inventory Results

Table 15: Resource use, waste, and output flow results for Corian® Quartz per functional unit - 0% Recycled Content – 2 cm

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
<b>Resource Use Indicators</b>														
RPR <sub>E</sub> [MJ]	2.76E+02	4.94E+00	8.52E+01	0.00E+00	3.36E+00	0.00E+00	2.40E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-03	6.72E-01	1.53E+00
RPR <sub>M</sub> [MJ]	2.08E+01	0.00E+00	6.24E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRPR <sub>E</sub> [MJ]	5.08E+02	1.24E+02	1.99E+02	0.00E+00	1.27E+01	0.00E+00	5.57E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.50E-02	1.17E+01	1.31E+01
NRPR <sub>M</sub> [MJ]	1.04E+02	0.00E+00	3.11E+01	0.00E+00	0.00E+00	0.00E+00	8.76E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SM [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m³]	7.75E-01	1.69E-02	2.52E-01	0.00E+00	1.25E-01	0.00E+00	7.09E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.52E-06	4.41E-02	1.62E-03
<b>Output Flows and Waste Categories</b>														
HWD [kg]	1.97E-08	3.56E-10	6.32E-09	0.00E+00	1.20E-03	0.00E+00	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-13	4.15E-10	3.26E-10
NHWD [kg]	3.76E+00	1.08E-02	1.38E+01	0.00E+00	4.36E-02	0.00E+00	3.81E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.79E-06	2.11E+00	3.89E+01
HLRW [kg]	2.06E-05	4.22E-07	6.48E-06	0.00E+00	5.23E-07	0.00E+00	1.81E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-10	2.40E-07	1.62E-07
ILLRW [kg]	1.73E-02	3.55E-04	5.45E-03	0.00E+00	4.18E-04	0.00E+00	1.52E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-07	2.05E-04	1.45E-04
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	3.07E+01	0.00E+00	9.21E+00	0.00E+00	0.00E+00	0.00E+00	2.59E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	2.93E+00	0.00E+00	0.00E+00	0.00E+00	8.25E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.77E+00	0.00E+00
EEE [MJ]	0.00E+00	0.00E+00	3.19E-01	0.00E+00	0.00E+00	0.00E+00	2.08E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET [MJ]	0.00E+00	0.00E+00	1.06E-01	0.00E+00	0.00E+00	0.00E+00	6.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

# ENVIRONMENTAL PRODUCT DECLARATION



CORIAN® QUARTZ  
QUARTZ SURFACE



According to ISO 14025,  
EN 15804 and ISO 21930:2017

Table 16: Resource use, waste, and output flow results for Corian® Quartz per functional unit - 0% Recycled Content – 3 cm

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
<b>Resource Use Indicators</b>														
RPR <sub>E</sub> [MJ]	4.14E+02	7.41E+00	1.28E+02	0.00E+00	3.36E+00	0.00E+00	3.59E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.29E-03	1.01E+00	2.30E+00
RPR <sub>M</sub> [MJ]	3.12E+01	0.00E+00	9.36E+00	0.00E+00	0.00E+00	0.00E+00	2.64E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRPR <sub>E</sub> [MJ]	7.62E+02	1.86E+02	2.98E+02	0.00E+00	1.27E+01	0.00E+00	8.34E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.25E-02	1.76E+01	1.96E+01
NRPR <sub>M</sub> [MJ]	1.55E+02	0.00E+00	4.66E+01	0.00E+00	0.00E+00	0.00E+00	1.31E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SM [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m <sup>3</sup> ]	1.16E+00	2.54E-02	3.78E-01	0.00E+00	1.25E-01	0.00E+00	1.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-05	6.61E-02	2.43E-03
<b>Output Flows and Waste Categories</b>														
HWD [kg]	2.96E-08	5.34E-10	9.45E-09	0.00E+00	1.20E-03	0.00E+00	2.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.37E-13	6.22E-10	4.89E-10
NHWD [kg]	5.65E+00	1.62E-02	2.07E+01	0.00E+00	4.36E-02	0.00E+00	5.71E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.18E-06	3.17E+00	5.83E+01
HLRW [kg]	3.09E-05	6.32E-07	9.69E-06	0.00E+00	5.23E-07	0.00E+00	2.72E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-10	3.60E-07	2.43E-07
ILLRW [kg]	2.59E-02	5.32E-04	8.15E-03	0.00E+00	4.18E-04	0.00E+00	2.28E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.36E-07	3.07E-04	2.17E-04
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	4.60E+01	0.00E+00	1.38E+01	0.00E+00	0.00E+00	0.00E+00	3.89E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER [kg]	0.00E+00	0.00E+00	4.39E+00	0.00E+00	0.00E+00	0.00E+00	1.24E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E+01	0.00E+00
EEE [MJ]	0.00E+00	0.00E+00	4.79E-01	0.00E+00	0.00E+00	0.00E+00	3.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET [MJ]	0.00E+00	0.00E+00	1.60E-01	0.00E+00	0.00E+00	0.00E+00	1.04E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



# ENVIRONMENTAL PRODUCT DECLARATION



CORIAN® QUARTZ  
QUARTZ SURFACE



According to ISO 14025,  
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## 5. LCA Interpretation

Over the 75-year life of a building, the greatest contributor to GWP for DuPont's countertop products is replacements (B4). This is mainly because 6.5 replacements are needed to cover the 75 years (ESL) lifetime of the building for these products that have a lifetime (RSL) of 10 years. This is followed by raw material sourcing and extraction (A1-A3).

For the quartz product, most raw material GWP impacts (A1-A3) come from quartz (34%) and polyester (39%). Additives and pigments make up about 5% of impacts. Electricity and natural gas contribute about 5% each to A1-A3 impacts.

The installation is 3% of life cycle GWP, while replacements accounts for 86% of life cycle GWP.

## 6. Additional Environmental Information

### 6.1. Environment and Health During Manufacturing

DuPont meets all federal and state standards related to the Environment and Health during manufacturing. Beyond what is regulated, there are no additional environment and health considerations during the production of goods. Substances that are characterized as hazardous according to Globally Harmonized System are not cut off from the study.

### 6.2. Environment and Health During Installation

The installation instruction that can be found on DuPont's website should be referred to and followed to have proper and safe installation.

### 6.3. Extraordinary Effects

#### Fire

Information on Corian® quartz fire performance and ratings are available at: [https://www.corianquartz.com/IMG/pdf/k28294\\_performance\\_properties\\_of\\_corian\\_quartz.pdf](https://www.corianquartz.com/IMG/pdf/k28294_performance_properties_of_corian_quartz.pdf).

#### Water

Should the product become flooded, the water should be removed through means of extraction and drying and the product should behave as originally intended. There are no environmental impacts associated with the product being flooded.

#### Mechanical Destruction

If the product is mechanically destroyed, it should be disposed of using standard procedures and replaced promptly.

### 6.4. Delayed Emissions

Corian® Quartz is GREENGUARD and GREENGUARD Gold Certified as a low-emitting material. Certifications can be found on our [website](#).



# ENVIRONMENTAL PRODUCT DECLARATION



CORIAN® QUARTZ  
QUARTZ SURFACE



According to ISO 14025,  
EN 15804 and ISO 21930:2017

## 6.5. Environmental Activities and Certifications

Corian® Quartz: The sparkling crystal within Corian® Quartz balances stunning light-play with mesmerizing depth. Long-lasting and GREENGUARD and GREENGUARD Gold Certified as a low-emitting material, Corian® Quartz surfaces are a high-performance material, delivering strength, and heat and scratch resistance. When properly cleaned Corian® Quartz does not promote the growth of mold and mildew. Corian® Quartz may help contribute to U.S. Green Building Council (USGBC) LEED® points. All colors of Corian® Quartz are NSF/ANSI Standard 51 Certified for the strictest level – Food Zone.

## 6.6. Further Information

Additional information, including product details and company information, can be found at [www.dupont.com](http://www.dupont.com).

## 7. Acronyms

Table 17: LCIA Indicators

ABBREVIATION	PARAMETER	UNIT
<b>TRACI 2.1</b>		
AP	Acidification potential of soil and water	kg SO <sub>2</sub> eq
EP	Eutrophication potential	kg N eq
GWP	Global warming potential (100 years, includes biogenic CO <sub>2</sub> )	kg CO <sub>2</sub> eq
ODP	Depletion of stratospheric ozone layer	kg CFC 11 eq
ADPF	Depletion of non-renewable fossil fuels	MJ, surplus energy
SFP	Smog formation potential	kg O <sub>3</sub> eq
<b>IPCC AR5</b>		
IPCC AR5 GWP	Global warming potential (100 years, includes biogenic CO <sub>2</sub> )	kg CO <sub>2</sub> eq

Table 18: Biogenic Carbon Indicators

ABBREVIATION	PARAMETER	UNIT
BCRP	Biogenic Carbon Removal from Product	[kg CO <sub>2</sub> ]
BCEP	Biogenic Carbon Emission from Product	[kg CO <sub>2</sub> ]
BCRK	Biogenic Carbon Removal from Packaging	[kg CO <sub>2</sub> ]
BCEK	Biogenic Carbon Emission from Packaging	[kg CO <sub>2</sub> ]
BCEW	Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	[kg CO <sub>2</sub> ]
CCE	Calcination Carbon Emissions	[kg CO <sub>2</sub> ]
CCR	Carbonation Carbon Removals	[kg CO <sub>2</sub> ]
CWNR	Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	[kg CO <sub>2</sub> ]



# ENVIRONMENTAL PRODUCT DECLARATION



CORIAN® QUARTZ  
QUARTZ SURFACE



According to ISO 14025,  
EN 15804 and ISO 21930:2017

Table 19: Resource Use, Waste, and Output Flow Indicators

ABBREVIATION	PARAMETER	UNIT
<b>Resource Use Parameters</b>		
RPR <sub>E</sub>	Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ, net calorific value (LHV)
RPR <sub>M</sub>	Use of renewable primary energy resources used as raw materials	MJ, net calorific value
NRPR <sub>E</sub>	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ, net calorific value
NRPR <sub>M</sub>	Use of non-renewable primary energy resources used as raw materials	MJ, net calorific value
SM	Use of secondary materials	kg
RSF	Use of renewable secondary fuels	MJ, net calorific value
NRSF	Use of non-renewable secondary fuels	MJ, net calorific value
RE	Recovered energy	MJ, net calorific value
FW	Net use of fresh water	m <sup>3</sup>
<b>Waste Parameters and Output Flows</b>		
HWD	Disposed-of-hazardous waste	kg
NHWD	Disposed-of non-hazardous waste	kg
HLRW	High-level radioactive waste, conditioned, to final repository	kg
ILLRW	Intermediate- and low-level radioactive waste, conditioned, to final repository	kg
CRU	Components for reuse	kg
MR	Materials for recycling	kg
MER	Materials for energy recovery	kg
EEE	Exported electrical energy	MJ
EET	Exported thermal energy	MJ





## 8. References

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