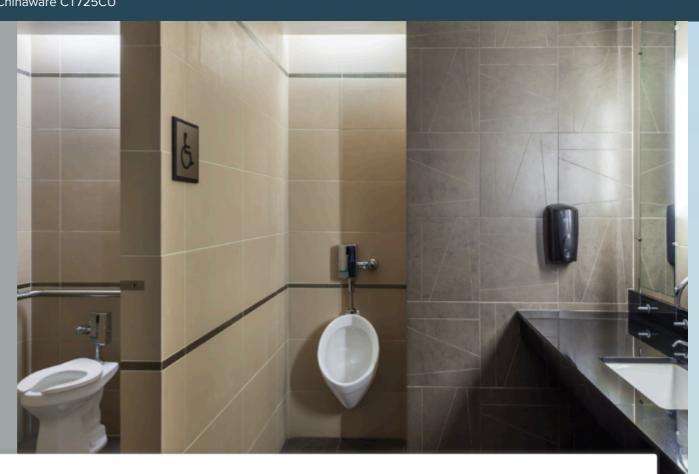
SM Transparency Catalog ► TOTO Showroom ► Chinaware CT725CU

TOTO<sub>®</sub>

## TOTO<sub>®</sub>

## 1.0-1.28 GPF **Commercial Floor-Mounted Toilet** CT725CU(F)(G)(X)



### Performance dashboard



#### **Features & functionality**

Ultra High efficiency, 1.0 GPF / 3.8 LPF and 1.28 GPF / 4.8 LPF, flushometer toilet

A sustainable, high-performance TORNADO FLUSH® system

Design for use with TOTO ultra low-flow EcoPower® flushometer valve

ADA compliant

Floor-Mounted Toilet

### Visit TOTO for more product specifications:

1.0 - 1.28 GPF Commercial Floor-Mounted Toilet, CT725CU

MasterFormat® 22 42 13

#### **Environment & materials**

#### Improved by:

Saves 38% and 20% more water than standard 1.6gpf toilets

#### Certification & rating systems:

Contributes to earning credits in LEED®

Declare™ label, LBC Red list free

See LCA, interpretation & rating systems

See materials, interpretation & rating systems



### SM Transparency Report (EPD)™ + Material Health Overview™

**EPD** 3rd-party reviewed

Transparency Report (EPD)

3rd-party verified

**LCA** 

Validity: 06/24/2024 - 06/24/2029 TOTO - 20240624 - 001

**MATERIAL HEALTH** 

Material evaluation

**Self-declared** 



This environmental product declaration (EPD) was externally verified by Jack Geibig (Ecoform) on behalf of NSF according to ISO 14044; ISO 21930:2017; SM Part A: LCA calculation rules and report requirements, 2023; SM Part B: Commercial Toilets; and ISO 14025:2006.

In accordance with ISO 14044 and the referenced PCR, the life cycle assessment was conducted by Sustainable Minds and critically reviewed by Jack Geibig (Ecoform) on behalf of NSF.

**Ecoform, LLC** 11903 Black Road

Knoxville, TN 37932 (865) 850-1883

**NSF** International

P.O Box 130140 789 N.Dixboro Road Ann Arbor, MI 48105, USA

734 769 8010

Certified **Environmental** 

#### **SUMMARY**

Reference PCR

Regions; system boundaries

North America; Cradle-to-grave

**Functional unit** 

One commercial toilet in an average commercial environment

LCIA methodology; LCA software; LCI database

TRACI 2.1; SimaPro Analyst 9.5; ecoinvent and USLCI databases

**Public LCA** 

LCA background report of TOTO sanitary ceramic products - Chinaware CT725 & CT728, 2024

#### **TOTO USA**

1155 Southern Road Morrow, GA 30260

Contact us

Sustainable Minds®

## LCA results & interpretation

Chinaware CT725CU

LCA results & interpretation

### Scope and summary

Cradle to gate Cradle to gate with options Cradle to grave

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#### **Functional unit** One commercial toilet in an average commercial environment. The expected

service life (ESL) of a building is 75 years, and all use stage activity and impacts are accounted for in that full ESL period. The reference service life (RSL) of the toilet is 30 years, which is an industry-accepted average lifespan based on the economic lifespan of the product. Maintenance

### Regular cleaning is assumed to use 1.69 fl oz (50mL) of a 1% sodium lauryl

The use of 50mL/day over 260days/year for 75 years gives a total of 975L of solution. Using a density of 1.01kg/L for a 1% SLS solution, 985kg of solution will be needed over the course of 75 years. Therefore, 9.8kg of SLS plus 975kg of water were included in the model. Replacement

sulfate (SLS) solution daily for 75 years, which is building estimated service life.

### modules considered, over the building's ESL of 75 years. Electrical and other

hardware components, especially related to rubber for watertight connections and moving parts, require replacement earlier than the 30-year RSL. Manufacturing data Manufacturing data has been collected and compiled for TOTO Vietnam and

An additional 1.5 products are included as replacements, with all life cycle

**PART** 

TOTO Indonesia. Data reporting period: 2023.

Material composition greater than 1% by weight

**MATERIAL** 

Product	Ceramic	93%
Packaging	Corrugated board	4%
Product	Brass spud nut and washers	1%
Other	Misc components	2%
Total impacts by	life cycle stage [mPts/func unit]	



PRODUCTION

Ceramic parts production

together with brass parts

2.63E-06

3.66E-01

1.30E-06

1.88E-05

6.14E+01

1.32E+02

### All life cycle stages

What's causing the greatest impacts

replacements module [B4] is highly dominant in all categories because of the necessity to consider an additional 1.5 products as replacements. All life cycle modules are considered throughout the estimated service life (ESL) of the building, which is 75 years. The production stage [A1-A3] itself is slightly significant but does not dominate in any impact category. Additionally, the processes associated with dismantling the product and final waste treatment during the end-of-life stage do not have a significant impact. **Production stage [A1-A3]** 

The use stage [B1-B7] dominates the results for all impact categories. The

brass parts together with the injection molding process have dominant contributions to the ozone depletion, non-carcinogenics, and eutrophication impact categories. The remaining parts and processes contribute between 4% and 23% of the overall impacts in the rest of the categories. The entire production stage itself accounts for 18% of the global warming potential impact category. Construction stage [A4-A5] Installation of the product dominates impacts in the construction stage.

The ceramic parts dominate all impact categories in the production stage

except for ozone depletion, non-carcinogenics, and eutrophication. The

most, and this stage contributes to approximately 3% of the total global warming potential impacts throughout the product's life cycle. Use stage [B1-B7] Product replacements dominate impacts in the use stage. The use stage

itself dominates all impact categories (>75%) due to the consideration of an

Transportation by truck for delivery to the installation site contributes the

## additional 1.5 products as replacements.

%WT.

End-of-life stage [C1-C4] The transportation to landfill dominates impacts in the end-of-life stage. Transportation and the processes for dismantling the product contribute to a relatively low portion of global warming potential (~0.2%) but account for

### approximately 14% of smog formation.

How we're making it greener

consumption in the use phase

**TOTO PeoplePlanetWater**<sup>™</sup> programs improving environmental performance Dual-Max®, E-Max®, Tornado Flush™, 1G®, and EcoPower® reduce water

- Modular packing methods increase the fill rate of a trailer, cutting down on the number of trips needed 100% of post-industrial ceramic waste is recycled
- See how we make it greener

Energy efficiency programs optimize the firing process

**END OF LIFE** 

9.44E-01

8.53E-08

5.71E-01

2.49E-08

2.25E-07

4.26E+00

3.52E+00

½ product

1 product

2 points

.5 points

.75 points

1 point

1.5 products

Transport to waste

processing and disposal

3.60E+02

1.42E-05

3.61E+00

6.13E-06

7.62E-05

2.82E+02

7.06E+02

Building product disclosure and optimization

Cleaning agent and water

used during maintenance

and embedded energy

lr	npacts per toilet	7.38 mPts	1.81 mPts	34.8 mPts	1.20 mPts
SM Single Score					
Information modules: Included (X)   Excluded (MND)*		NILHE	CORRE		
			(X) B7 Operational water use		
			(X) B6 Operational energy use		
				(X) B5 Refurbishment	
			(X) B4 Replacement	(X) C4 Disposal	
		(X) A3 Manufacturing		(X) B3 Repair	(X) C3 Waste processing
		(X) A2 Transportation	(X) A5 Construction/ Installation	(X) B2 Maintenance	(X) C2 Transportation
	(X) A1 Raw materials	(X) A4 Transportation/ Delivery	(X) B1 Use	(X) C1 Deconstruction/ Demolition	

CONSTRUCTION

### Materials or processes contributing >20% to total impacts in each life cycle

LIFE CYCLE STAGE

stage	and injection molding process.	or consumer and disposal of packaging.	used to treat cleaning water.	of material flows transported to a landfill.			
TRACI v2.1 results per functional unit							
LIFE CYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE			

Transportation of the

product to installation site

#### **Impact category** Unit **Global warming** kg CO<sub>2</sub> eq 8.06E+01

kg CFC-11 eq

kg SO<sub>2</sub> eq

**Ecological damage** 

**Ozone depletion** 

Impact category

**Carcinogenics** 

**Acidification** 

Eutrophication	kg N eq	?	6.90E-02	2.89E-02	3.89E-01	3.63E-02
Human health o	lamage					
Impact category	Unit					
Smog	kg O <sub>3</sub> eq	?	6.97E+00	1.52E+01	9.37E+01	2.03E+01
Respiratory effects	kg PM <sub>25</sub> eq	?	2.62E-02	5.78E-03	1.46E-01	6.12E-03

1.25E+01

6.34E-08

4.58E-01

#### **Non-carcinogenics** CTU<sub>h</sub> **Ecotoxicity CTU** Fossil fuel depletion **MJ** surplus

**Additional environmental information** 

Unit

CTU<sub>h</sub>

References	Rating systems
LCA Background Report  LCA background report of TOTO sanitary ceramic products, 2024; SimaPro  Apply of O.E. accimulator 2. Industry data 2.0, and U.S. El 2.2 databases: TDACI.	The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental

1.71E-07

1.59E-06

3.03E+01

2.20E+01

#### ISO 14025, "Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services"

# ISO 21930:2017, "Sustainability in Building Construction — Environmental

tab@sustainableminds.com.

Declaration of Building Products" serves as the core PCR along with Sustainable Minds Part A. SM Part A: LCA calculation rules and report requirements, version 2023

Analyst 9.5; ecoinvent v3, Industry data 2.0, and US-EI 2.2 databases; TRACI

SM Part B: Commercial toilets, v3.0 March, 2024. PCR review conducted by Jack Geibig, Chair (Ecoform) Jgeibig@ecoform.com; Hugues Imbeault-Tétreault, ing., M.Sc.A. (Groupe

AGÉCO); Rebe Feraldi, LCACP, CLAR (Pacific Northwest National Laboratory).

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products

August, 2023. PCR review conducted by the Sustainable Minds TAB,

#### on a life cycle basis. They are designed to present information transparently to make the limitations of comparability more understandable. Environmental declarations of products that conform to the same PCR and include the same life cycle stages, but are made by different manufacturers, may not sufficiently align to support direct comparisons. They therefore cannot be

**Download PDF** SM Transparency Report/EPD

EPD meets all comparability requirements stated in ISO 14025:2006. However, differences in certain assumptions, data quality, and variability between LCA data sets may still exist. Any EPD comparison must be carried out at the building level per ISO 21930 guidelines, use the same subcategory PCR where applicable, include all relevant information modules, be limited to EPDs applying a functional unit, and be based on equivalent scenarios with respect to the context of construction works. Some LCA impact categories and inventory items are still under development and can have high levels of uncertainty. To promote uniform guidance on the data collection, calculation, and reporting of results, the ACLCA methodology (ACLCA 2019) was used.

used as comparative assertions unless the conditions as defined in ISO 14025 Section 6.7.2. 'Requirements for Comparability' are satisfied. In order to support comparative assertions, this

### **Environmental product declarations** Industry-wide (generic) EPD

performance.

Product-specific Type III EPD 1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1

LEED BD+C: New Construction | v4 - LEED v4

**Environmental product declarations** 

Building product disclosure and optimization

#### Collaborative for High Performance Schools National Criteria **MW C5.1 – Environmental Product Declarations**

Industry-wide (generic) EPD

✓ Product-specific Type III EPD

**▼** Third-party certified type III EPD

**Materials and resources** 

Industry-average EPD

✓ Product-specific EPD

**Green Globes for New Construction and Sustainable Interiors** 

# NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell

**BREEAM New Construction 2018** Mat 02 - Environmental impacts from construction products

**Environmental Product Declarations (EPD)** 

Multi-product specific EPD

# TOTO - 20240624 - 001

**EPD** 

3rd-party reviewed

3rd-party verified

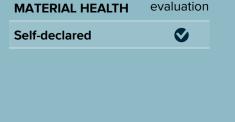
declaration (EPD) was externally SM Part B: Commercial toilets, v3.0 Morrow, GA 30260 verified by Jack Geibig (Ecoform) on Regions; system boundaries behalf of NSF according to ISO North America; Cradle-to-grave 14044; ISO 21930:2017; SM Part A:

commercial environment

**SUMMARY** 

**Reference PCR** 

**Functional unit** 



Validity: 06/24/2024 - 06/24/2029

Transparency Report (EPD)

LCA

Ø

Material

requirements, 2023; SM Part B: **Commercial Toilets; and ISO** 14025:2006. In accordance with ISO 14044 and the referenced PCR, the life cycle assessment was conducted by Sustainable Minds and critically reviewed by Jack Geibig (Ecoform) on behalf of NSF.

SM Transparency Report (EPD)™ + Material Health Overview™

This environmental product

LCA calculation rules and report

P.O Box 130140 789 N.Dixboro Road Ann Arbor, MI 48105, USA 734 769 8010

LCIA methodology; LCA software; LCI database

TRACI 2.1; SimaPro Analyst 9.5;

ecoinvent and USLCI databases

One commercial toilet in an average

**TOTO USA** 

1155 Southern Road

Contact us

Ecoform, LLC 11903 Black Road Knoxville, TN 37932 (865) 850-1883 **NSF** International

Certified

**Environmental Product Declaration** © 2024 | The SM Transparency Report [EPD]\*\* Program is operated by Sustainable Minds\* (www.sustainableminds.com) | Privacy policy SM Transparency Catalog ► TOTO Showroom ► Chinaware CT725CU

Chinaware CT725CU

Fairburn, GA

### **EPD** additional content

**EPD** additional content

### Data

collecting production data from the Vietnam and Indonesia locations. All unit processes were modeled using primary data. Secondary data sources include those available in ecoinvent and USLCI databases. Literature data was used to fill any data gaps to complete the inventory. In the manufacturing of the products, secondary materials such as scrap metals

Background This product-average plant-average declaration was created by

incorporated in the manufacturing of the primary products but were not considered due to a lack of background data in the LCA model. Allocation Allocations of multi-input and multi-output processes follow a mass-

based approach in the collected data, which is the most appropriate for the unit

and metal bars used to hold the primary products in place were partially

processes modeled. Allocation approaches in the background data follow the ecoinvent methodology. No co-product allocations were made in the model. Cut-off criteria for the inclusion of mass and energy flows are 1% of renewable primary resource (energy) usage, 1% nonrenewable primary resource (energy)

usage, 1% of the total mass input of that unit process, and 1% of environmental

impacts. The total of neglected input flows per module does not exceed 5% of energy usage, mass, and environmental impacts. The only exceptions to these criteria are substances with hazardous and toxic properties, which must be listed even when the given process unit is under the cut-off criterion of 1% of the total mass. Non-ceramic parts in toilets include the spud nut and washer. All parts with a weight of >1% weight of all parts (excluding ceramic and packaging materials) are included in the LCA model; no substances considered to be hazardous or

>99.0wt% of the finished product after cut-off, including the ceramic and packaging materials. **Data quality assessment Precision:** The precision of the data is considered high. Product engineers provided detailed bills of materials, and facility managers provided utility information for the manufacturing facilities. The raw material transportation

toxic according to local regulations are present in the product. A check was

performed to ensure that the completeness of the overall material use is

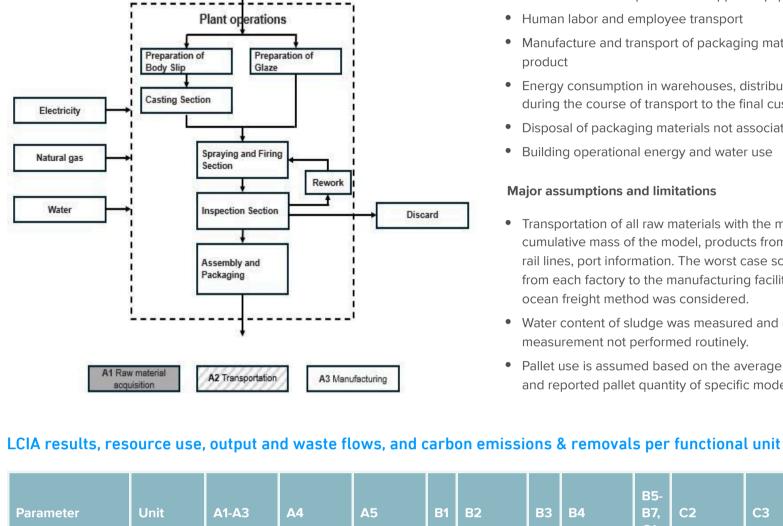
#### distances were calculated based on the raw material manufacturers' addresses, extracted from the relevant SDS's. Proxy datasets were utilized in the LCA

model when secondary data were not available, as shown in Appendix A in the published LCA background report. Completeness: The data included is consider complete. The LCA model included all known material and energy flows. 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.

materials provided by the product engineers were developed for multiple internal departments use and are maintained regularly. The LCA practitioner also cross-referenced the installation documents and other relevant information to ensure consistency. Furthermore, modeling assumptions were consistent across the model, with preference given towards SimaPro data, where available.

Consistency: The consistency of the model is considered high. The bills of

Flow diagram Raw materials Transportation



### Distribution [A4]

Scenarios and additional technical information

### **Plant location**

Distance (port of Savannah to plant)	406 km
Vehicle type	Diesel truck

In 2023, outbound shipments of CT725 from Fairburn were transported an

average of 947 miles (1,524 km) by diesel truck and an average of 1,114 miles

(1,793 km) by rail. The quantity transported by truck is 95%, and by rail 5%. Installation [A5] A 0.15kg wax ring was accounted for in this study. These are necessary for

## creating a seal between the toilet outlet and drain line.

Use stage [B1-B5] The toilets are assumed to have a useful life of 30 years. As a result, an

#### additional 1.5 products are included as replacements, with all life cycle modules considered, over the building's ESL of 75 years.

End-of-life stage [C1-C4] The model reflects the assumptions that toilets are 100% landfilled. The

product is assumed to be transported 100 km via truck to final disposal.

### However, it should be noted that many of the associated metal and plastic

ceramic materials can be recycled as aggregate in several applications, although this is not currently common practice. Secondary materials, including

that case, and no credits for material recovery are given.

components follow the waste scenarios as listed in the table below. TOTO

shredded and sorted metal waste, are valuable goods that lose their status as

waste after the sorting process. No additional waste processing is needed in

**Potential waste** 

**Potential waste** 

Vitreous china

plumbing fixture

Material scenario - Landfill scenario - Recycling Brass, zinc 70.5% 29.5% Ceramic 0.00% 100% Corrugated board, paper 33.5% 66.5%

Product information		
SBR, EPDM rubber, silicone rubber, ABS, POM	15.0%	85.0%
Pallet	14.5%	85.5%

### Major system boundary exclusions Construction of major capital equipment

CT725CU(F)(G)(X)

Maintenance and operation of support equipment Human labor and employee transport • Manufacture and transport of packaging materials not associated with final

• Energy consumption in warehouses, distribution centers, and retail facilities

during the course of transport to the final customer Disposal of packaging materials not associated with final product

Major assumptions and limitations

Construction of water and wastewater infrastructure

Building operational energy and water use

B45.1

Certifications:

IAPMO(cUPC)

 Transportation of all raw materials with the mass above 1% of the cumulative mass of the model, products from vendors, is estimate based on rail lines, port information. The worst case scenario of the furthest distance

from each factory to the manufacturing facility to transport kaolin with

• Water content of sludge was measured and reported; however, this

measurement not performed routinely. Pallet use is assumed based on the average numbers per unit of product

and reported pallet quantity of specific models.

ocean freight method was considered.

Parameter	Unit	A1-A3	A4	A5	B1	B2	В3	B4	B5- B7, C1	C2	C3	C4	Total
LCIA results													
Ozone depletion	kg CFC-11	2.63E-06	3.48E-08	2.86E-08	0	2.48E-06	0	1.17E-05	0	6.34E-10	5.75E-09	7.89E-08	1.70E-0
Clabal warmina	eq kg CO2	0.065+04	1.105   01	7505.04	0	2.065+04	0	2 205 102	0	2.605.04	1.055.01	4.705.04	4 5 4 5 1 6
Global warming	eq	8.06E+01	1.18E+01	7.59E-01	0	3.96E+01	0	3.20E+02	0	3.60E-01	1.05E-01	4.79E-01	4.54E+0
Smog	kg O3 eq kg SO2	6.97E+00	5.15E+00	1.01E+01	0	1.94E+00	0	9.18E+01	0	5.73E-02	1.01E+01	1.01E+01	1.36E+0
Acidification	eq	3.66E-01	1.74E-01	2.84E-01	0	2.24E-01	0	3.39E+00	0	1.99E-03	2.84E-01	2.85E-01	5.01E+0
Eutrophication	kg N eq kg PM2.5	6.90E-02	1.00E-02	1.89E-02	0	2.49E-02	0	3.65E-01	0	1.29E-04	1.80E-02	1.82E-02	5.24E-0
Respiratory effects	eq	2.62E-02	2.80E-03	2.98E-03	0	1.89E-02	0	1.28E-01	0	3.10E-05	2.99E-03	3.10E-03	1.85E-0
Additional environ													
Carcinogenics Non	CTUh	1.30E-06	1.62E-07	9.16E-09	0	7.87E-07	0	5.35E-06	0	4.97E-09	9.85E-09	1.01E-08	7.63E-0
carcinogenics	CTUh	1.88E-05	1.51E-06	8.51E-08	0	7.73E-06	0	6.85E-05	0	4.64E-08	8.72E-08	9.17E-08	9.69E-0
Ecotoxicity	CTUe	6.14E+01	1.18E+01	7.59E-01	0	3.96E+01	0	3.20E+02	0	3.60E-01	1.05E-01	4.79E-01	4.35E+
Fossil fuel depletion	MJ surplus	1.32E+02	2.07E+01	1.32E+00	0	1.09E+02	0	5.97E+02	0	6.35E-01	1.10E+00	1.78E+00	8.64E+
Resource use indic	ators												
Renewable primary energy used as energy carrier (fuel)	MJ, LHV	1.14E+02	-2.46E+01	-2.39E+01	0	4.74E+01	0	3.47E+02	0	-2.43E+01	-3.21E+01	-2.49E+01	3.79E+0
Renewable orimary resources with energy content used as material	MJ, LHV	1.28E+02	2.49E+01	2.49E+01	0	2.49E+01	0	4.27E+02	0	2.44E+01	3.22E+01	2.49E+01	7.11E+0
Total use of renewable primary resources with energy content	MJ, LHV	2.42E+02	3.23E-01	1.02E+00	0	7.23E+01	0	7.74E+02	0	1.03E-02	1.96E-02	3.37E-02	1.09E+0
Non-renewable orimary resources used as an energy carrier (fuel)	MJ, LHV	1.24E+03	1.56E+02	8.84E+00	0	1.00E+03	0	5.49E+03	0	3.53E+00	8.27E+00	1.23E+01	7.92E+0
Non-renewable orimary resources with energy content used as material	MJ, LHV	6.77E+00	1.32E+00	1.32E+00	0	1.32E+00	0	2.00E+01	0	1.32E+00	0	1.32E+00	3.34E+0
Total use of non- renewable orimary resources with energy content	MJ, LHV	1.25E+03	1.57E+02	1.02E+01	0	1.00E+03	0	5.51E+03	0	4.84E+00	8.27E+00	1.36E+01	7.95E+0
Secondary materials	kg	0	0	0	0	0	0	0	0	0	0	0	0
Renewable	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0
secondary fuels  Non-renewable				_		_				_	_		
secondary fuels	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0
Recovered energy	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh	m3	6.13E-04	1.40E-03	1.03E-02	0	8.37E-04	0	1.09E-02	0	4.25E-04	9.22E-03	4.81E-04	3.42E-0
water resources  Output flows and v													
Hazardous waste	kg	7.49E-03	0	0	0	0	0	0	0	0	0	0	7.49E-0
disposed	Ng	7.436-03	O	O		O	O	O	U	O .	O	O	7. <del>4</del> 3L-0
Non-hazardous waste disposed High-level	kg	1.37E+01	1.20E+00	1.43E+00	0	2.93E+01	0	1.05E+02	0	5.40E-01	0	2.37E+01	1.75E+0
adioactive waste, conditioned, to inal repository ntermediate- and	kg	2.78E-03	4.21E-05	2.02E-04	0	3.81E-03	0	1.38E-02	0	9.43E-07	1.15E-05	4.01E-06	2.07E-0
ow-level radioactive waste, conditioned, to final repository	kg	1.76E-05	2.70E-07	9.98E-08	0	8.86E- 06	0	6.61E-05	0	9.02E-09	2.75E-08	2.24E-08	9.30E-0
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0	0	0
Materials for	kg	0	0	0	0	2.93E+01	0	4.49E+01	0	2.20E-01	2.20E-01	2.20E-01	7.49E+(
recycling  Materials for													
energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy	MJ, LHV	0	0	0	0	0	0	0	0	0	0	0	0
Carbon emissions a Biogenic Carbon Removal from Product	and removal	<b>s</b> 0	0	0	0	0	0	0	0	0	0	0	0
Biogenic Carbon Emission from Product	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0
Biogenic Carbon Removal from Packaging	kg CO2	1.43E+00	0	0	0	0	0	0	0	0	0	0	1.43E+0
Biogenic Carbon Emission from Packaging	kg CO2	0	0	1.43E+00	0	0	0	0	0	0	0	0	1.43E+0
Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in	kg CO2	0	0	0	0	0	0	0	0	0	0	0	0
Processes Calcination	ka CO2	0	0	0	0	0	0	0	0	0	0	0	0

3rd-party reviewed

Transparency Report (EPD)

Carbonation

Carbon Emissions

Carbon Removals Carbon Emissions from Combustion of Waste from Renewable and

Non-Renewable Sources used in Production Processes

kg CO2

kg CO2

kg CO2

0

0

0

LCA

behalf of NSF according to ISO

0

0

0

0

0

0

0

0 0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

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0

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0

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0

#### 3rd-party verified

Validity: 06/24/2024 - 06/24/2029 TOTO - 20240624 - 001

Material evaluation **MATERIAL HEALTH** 

Self-declared



14044; ISO 21930:2017; SM Part A: LCA calculation rules and report requirements, 2023; SM Part B: **Commercial Toilets; and ISO** 14025:2006.

In accordance with ISO 14044 and the referenced PCR, the life cycle assessment was conducted by Sustainable Minds and critically reviewed by Jack Geibig (Ecoform) on behalf of NSF. Ecoform, LLC 11903 Black Road Knoxville, TN 37932 (865) 850-1883 **NSF** International

P.O Box 130140 789 N.Dixboro Road Ann Arbor, MI 48105, USA

Certified

www.nsf.org

734 769 8010



Regions; system boundaries North America; Cradle-to-grave

#### Functional unit

One commercial toilet in an average commercial environment

LCIA methodology; LCA software; LCI database

TRACI 2.1; SimaPro Analyst 9.5; ecoinvent and USLCI databases

#### **Public LCA**

Contact us

Chinaware CT725CU

### LCA & material health results & interpretation

Sustainable Minds®

Transparency Report (EPD)

Material health

### **Evaluation programs**

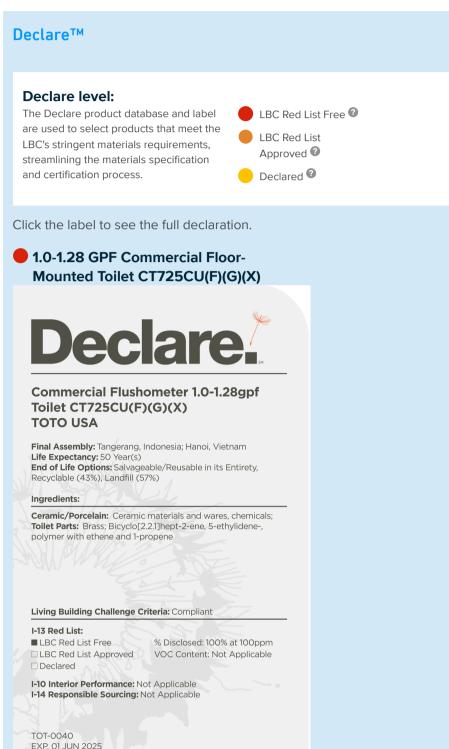
#### **Declare**

Declare labels are issued to products disclosing ingredient inventory, sourcing, and end of life options. Declare labels are based on the Manufacturers Guide to Declare, administered by the International Living Future Institute.

#### How it works

Material ingredients are inventoried and screened against the Living Building Challenge (LBC) Red List which represents the 'worst in class' materials, chemicals, and elements known to pose serious risks to human health and the greater ecosystem.

#### Assessment scope and results



### What's in this product and why

#### **Declare level**

'Red List Free' is awarded to products when no materials on the Living Building Challenge's Red List are in the product.

#### **Red List materials**

No Red List materials are present in the toilet.

#### Where it goes at the end of its life

TOTO encourages consumers to recycle their used toilet and toilet parts. Contact your local municipality for recycling programs.

### How we're making it healthier

This commercial floor-mounted toilet is designed to be used with the **TOTO EcoPower® Toilet Flush Valve.** The EcoPower technology enables the flush valve to operate off the energy grid, and it requires no routine battery replacement. This technology helps to reduce pollution and hazardous waste, thereby mitigating human health impacts.

See how we make it greener

### References

Original Issue Date: 2024

### **Declare**

COMMERCIAL FLUSHOMETER 1.0-1.28GPF TOILET CT725CU(F)(G)(X)

INTERNATIONAL LIVING FUTURE INSTITUTE™ living-future.org/declare

## Manufacturer's Guide to Declare

A comprehensive guide providing information about the program, the assessment methodology, how to submit material data to obtain a Declare label and how they are used to meet the Health & Happiness and Materials Petals of the Living Building Challenge.

## **Rating systems**

Credit value options

1. Reporting

1. Reporting

LEED BD+C: New Construction | v4 - LEED v4 Building product disclosure and optimization

2. Optimization

**Material Ingredients** 

1 product each

1 product each

3. Supply Chain Optimization

LEED BD+C: New Construction | v4.1 - LEED v4.1 Materials and resources

**Material Ingredients** 

Credit value options

2. Optimization 3. Supply Chain Optimization

**Living Building Challenge** Materials petals imperatives

✓ 10. Red List Free 
✓ 12. Responsible Industry 
✓ 13. Living Economy Sourcing

WELL Building Standard®

Air and Mind Features

**X07** Materials Transparency

**X08** Materials Optimization

Prescriptive Approach

Collaborative for High Performance Schools National

**EQ C7.1 Material Health Disclosures** 

Performance Approach 2 points

2 points

## SM Transparency Report (EPD)™ + Material Health Overview™

**LCA** 3rd-party reviewed

3rd-party verified Validity: 06/24/2024 - 06/24/2029 TOTO - 20240624 - 001

Transparency Report (EPD)

Material **MATERIAL HEALTH** evaluation **Self-declared** 

This environmental product declaration (EPD) was externally verified by Jack Geibig (Ecoform) on behalf of NSF according to ISO 14044; ISO 21930:2017; SM Part A: LCA calculation rules and report requirements, 2023; SM Part B: **Commercial Toilets; and ISO** 14025:2006.

In accordance with ISO 14044 and the referenced PCR, the life cycle assessment was conducted by Sustainable Minds and critically reviewed by Jack Geibig (Ecoform)

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**SUMMARY** 

**Reference PCR** 

Regions; system boundaries North America; Cradle-to-grave

**Functional unit** 

One commercial toilet in an average commercial environment

LCIA methodology; LCA software;

LCI database

TRACI 2.1; SimaPro Analyst 9.5; ecoinvent and USLCI databases

**Public LCA** 

LCA background report of TOTO sanitary ceramic products - Chinaware CT725 & CT728, 2024

### **TOTO USA** 1155 Southern Road Morrow, GA 30260

Contact us

Chinaware CT725CU

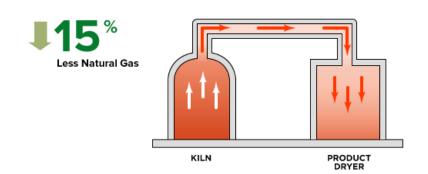
SM Transparency Catalog ► TOTO Showroom ► Chinaware CT725CU

### How we make it greener

Collapse all

### PRODUCTION

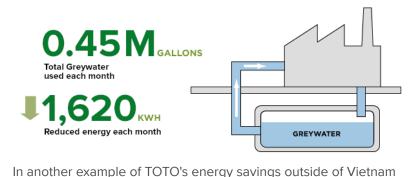




Waste heat from the kilns is routed to the product dryer. This reduces 15% natural gas consumption.



TOTO is taking additional steps at its other facilities, outside of Vietnam, Indonesia, and India, to reduce potential environmental impacts. For example, TOTO's Morrow plant matches 100% of its electricity usage through Georgia Power Simple Solar and helps grow solar energy. 14 million kilowatt hours of green energy helps reduce 18.5 million pounds of carbon dioxide equivalents each year.



and Indonesia, 0.45 million gallons per month of greywater is used in TOTO Morrow's operations. 1,620 of kWh in energy per month is reduced due to less potable water.



65% of all cardboard used is 100% recycled content.

### CONSTRUCTION









One-piece toilets are shipped with every other toilet upside down, increasing the fill rate of a truck trailer and cutting transportation cost in half.





SmartWay® Transport Partner.

UPS parcel shipments are carbon neutral. TOTO is a registered

## USE





The dual flush system reduces water in the use phase.



flushing systems, such as Tornado Flush™ and Siphon Jet Flush, reinforce TOTO's performance reputation while offering an additional water savings of 20% and 38% respectively.

Max flushing system, the 1.28 GPF E-Max and 1.0 GPF ultra-low

#### **SUMMARY** LCA This environmental product

declaration (EPD) was externally

SM Transparency Report (EPD)™ + Material Health Overview™



Material **MATERIAL HEALTH** evaluation

Self-declared

verified by Jack Geibig (Ecoform) on behalf of NSF according to ISO 14044; ISO 21930:2017; SM Part A: LCA calculation rules and report requirements, 2023; SM Part B: **Commercial Toilets; and ISO** 14025:2006. In accordance with ISO 14044 and the referenced PCR, the life cycle assessment was conducted by

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Ann Arbor, MI 48105, USA 734 769 8010

### Reference PCR SM Part B: Commercial toilets, v3.0

North America; Cradle-to-grave

**Functional unit** One commercial toilet in an average

Regions; system boundaries

commercial environment

LCIA methodology; LCA software; LCI database

TRACI 2.1; SimaPro Analyst 9.5; ecoinvent and USLCI databases **Public LCA** 

# Contact us

**TOTO USA** 

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