EPD Optimization Assessment

Product: Porcelain Tile from Crossville®

Manufacturer: Crossville®

Current EPD: Porcelain Tile from Crossville. Crossville®. EPD-IES-0020194 at EPD International. Valid 2/27/2025-2/27/2030.

Reference EPD: Porcelain Tile for U.S. Manufactured Tile Products. EPD 4799963727.101.1 at UL. Valid 4/1/2019-3/31/2025.

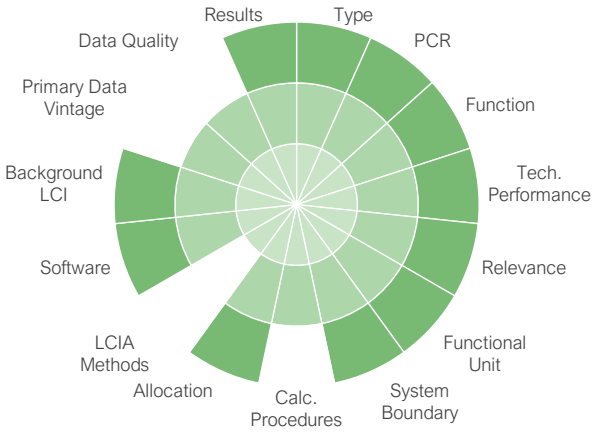
Comparison Type: Current EPD vs Previously Published EPD.

Scope of Comparison: Cradle-to-Gate (A1-A3)

LEED Credit: LEED v4.1 @ 1.5 products (10-20% reduction)

Period of Validity: 2/27/2025-2/27/2030

Comparison Summary

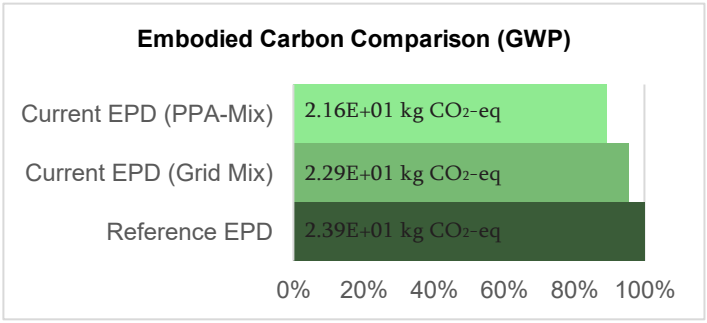


The current EPD was compared to the reference EPD using 15 indicators. A single score of 0 (Not Comparable) or multiple scores of 1 (Problematic for Comparison) would result in the current and reference EPDs not being able to be compared. For this comparison, the current and reference product specific EPD from Crossville meet the criteria for comparability per ISO 14025. One change in Crossville's production beginning between the publication of the two EPDs is that Crossville began purchasing renewable electricity via a Power Purchase Agreement (PPA). The current EPD contains two sets of A1-A3 impact results: one modeled using the regionally appropriate grid electricity mix the other using the renewable electricity mixture purchased per Crossville's PPA. Results for both scenarios are presented herein.

Impacts for 1 m² of Porcelain Tile

Impact Category*	Reference EPD	Current EPD (Grid Mix)	Current EPD (PPA-Mix)
	A1-A3	A1-A3	A1-A3
GWP	2.39E+01	2.29E+01 (4% reduction)	2.16E+01 (11% reduction)
ODP	7.07E-12	3.42E-07	3.42E-07
AP	5.28E-02	5.07E-02	4.91E-02
EP	3.78E-03	3.25E-03	3.08E-03
POCP	7.31E-01	9.52E-01	9.34E-01
ADPf	3.50E+02	3.55E+01	3.55E+01

GWP = Global Warming Potential [kg CO_2 eq], ODP = Ozone Depletion Potential [kg CFC 11-eq], AP = Acidification Potential [kg SO_2 eq], EP = Eutrophication Potential [kg N eq], ADP_f = Abiotic Depletion Potential – Fossil Fuels [MJ surplus energy]
*Note: Distribution/Installation (A4-A5), use phase (B1-B7) and end-of-life (C1-C4) are provided in the EPD but have been excluded from this table for simplicity.



Impact Reduction Sources

The reported environmental impacts of Crossville® Porcelain Tile have decreased between the EPDs published in 2019 and 2025. This reduction is evident in both A1-A3 results using grid mix and PPA-mix electricity sources. Grid-mix reduction (~4% decrease in GWP) is attributable to a lighter average product modeled and an updated methodology for scrap rate modeling. The former represents a shift in Crossville production towards generally lighter and thinner products while the latter represents an increase in data precision. PPA-mix results yield larger GWP reduction (~11%). This is attributable to the substitution of traditionally high-impact electricity sources such as natural gas and coal for renewable electricity sources with lower GWP impacts. Note that the magnitude of this reduction varies depending on the impact category analyzed.

WAP SUSTAINABILITY CONSULTING
#25-101
Valid Feb 27, 2025 to Feb 27, 2030
LCA/EPD OPTIMIZATION
LEED v4.1
Environmental Product Declarations
Option 2 - 10-20% GWP Reduction

Comparability Assessment

Per ISO 14025, "Type III environmental declarations are intended to allow a purchaser or user to compare the environmental performance of products on a life cycle basis. Therefore, comparability of Type III environmental declarations is critical. The information provided for this comparison shall be transparent in order to allow the purchaser or user to understand the limitations of comparability inherent in the Type III environmental declarations." The table below showcases the criteria utilized to determine if the two EPDs are comparable.

Criteria	Score	Description
Product Category		
Product Type	3	The product types are equivalent.
Product Category Rule	3	The same product category rule was followed for both assessments.
Function	3	The function is the same for both products.
Technical Performance	3	It is assumed the technical performance is equivalent between the two products.
Relevant Comparison	3	Equivalent product covered in previous and current EPD.
Scope		
Functional Unit	3	The functional units for both products are equivalent.
System Boundary	3	To minimize assumption bias in this comparison, only A1-A3 is considered for both products.
Calculation Procedures	2	The current EPD utilized some updated calculation procedures in comparison with the previous iteration.
Allocation	3	The same allocation rules were followed.
LCIA Method	1	An update was made to the Part A PCR between the publication of the two EPDs requiring updated LCIA methodologies to be used in the new EPD. The most notable change was the update from TRACI 2.1 GWP (prescribed in v3.2 of the Part A PCR) to IPCC AR5 GWP (prescribed in v4.0 of the Part A PCR).
Data and Results		
Software	3	The LCA model underlaying both EPDs was modeled in Sphera's LCA for Experts (formerly GaBi) software.
Background LCI Data	3	Both EPDs utilized Sphera's Managed LCA Content (MLC) database for secondary LCI data.
Primary Data Vintage	2	The 2019 EPD utilized 2018 data while the updated EPD utilized 2022 data. Both fall within the PCR requirements for primary data.
Data Quality	2	All assumptions are equivalent in the modeling, but the primary data could have different assumptions due to differing decisions made by individuals collecting that data between the two EPDs
Results	3	Results were presented with the same groupings by LCIA indicator.

Based on this comparability assessment, the EPD in question are deemed comparable for the purposes of LEED credit achievement. It is WAP Sustainability's professional opinion that Porcelain Tile manufactured by Crossville® using results generated including their PPA-electricity mix meets the following LEED Materials and Resource Credit, Environmental Product Declaration, Option 2 criteria: GWP Reduction between 10-20% (valued at 1.5 products for LEED v4.1)

Matt Van Duinen
Sustainability Director
WAP Sustainability Consulting, LLC