

CeraTech's ekkomaxx™ Environmental Product Declaration (EPD)


V.2.14

ekkomaxx™ Cement Concrete
 General Use, Fast Drying, Low Heat of Hydration
 28-day Compressive Strength: 6,000 psi

Life Cycle Assessment results (per m³ of concrete)
 Declared Unit: 1m³ of 6,000 PSI ekkomaxx™ cement concrete

CeraTech's EPD table reflects independent quantification from a comprehensive Life Cycle Analysis (LCA) on ekkomaxx™ cement concrete. The LCA assessment is intended to determine critically important environmental measures, based upon natural sciences and considerations to the entire product value chain. Measurements are shown in the table for the most commonly identified, key categories.

Environmental Product Declarations for CeraTech's ekkomaxx™ Cement Concrete Mix.

Environmental Product Declaration Results (Per m ³ of Concrete)	
	
Performance Metrics	
28 Day Compressive Strength	6000 psi
Environmental Metrics	
	SI Units
Total Primary Energy Consumption	1248 MJ
Water (Batch)	0.085 m ³
Water (Process)	0.064 m ³
Climate Change / Global Warming Potential	82.6 kg CO ₂ eq
Ozone Depletion	4.38 x10 ⁻⁶ kg CFC -11 eq
Acidification	0.560 kg SO ₂ eq
Eutrophication	0.200 kg N eq
Photochemical Ozone Creation / Smog	8.82 kg O ₃ eq

* SI Units are shown as International Standard (SI), measurements

NOTES

- “Primary energy is energy embodied in sources which involve human induced extraction or capture, that may include separation from contiguous material, cleaning, or grading, to make the energy available for trade, use, or transformation.”

Credits: www.unstats.un.org/unsd/envaccounting/londongroup/meeting13/LG13_12a

- The average water consumption, not including the batch water in the concrete mix, was taken from PCA R&D Serial No. 3011, Life Cycle Inventory of Portland Cement Concrete (SN3011), and was assumed to be 13 gal/yd³ (65 L/m³). The CeraTech batch water is 143 lv/yd³, and approximately 50% less batch water than s in a comparable concrete mix that uses portland cement concrete.
- Ozone depletion is the destruction of the upper atmospheric layer of ozone gas, caused by substances formed from breakdown of ozone deleting substances.

Source: www.businessdictionary.com/definition/ozone-depletion

- Acidification is the process of being converted into an acid of, or becoming acid. The process by which water bodies: such as rivers, lakes, and other natural features, become affected by excess acid can also be described as acidification.

Source: www.ask.com/questions/what-is-the-definition-of-acidification

- Eutrophication is defined as the gradual increase in the concentration of phosphorus, nitrogen, and other plant nutrients in an aging aquatic ecosystem such as a lake.

Source: www.merriam-webster.com/dictionary/eutrophication

- Photochemical Ozone Creation / Smog: Photochemical smog is a form of pollution that is caused by the reaction of sunlight with other pollutants such as hydrocarbons and nitrogen oxides.

Source: www.ehow.com/facts_5990313_definition-photochemcial-smog.