PASSIVEHOUSE PROVISIONS LLC

GWP DATA SHEET

P2ZE-FLASH

LIQUID APPLIED FLASHING & JOINT SEALING COATING

P2ZE PATH 2 ZERO ENERGY

Global Warming Potential (GWP) Report
Product: P2ZE-FLASH Hybrid Sealant
Date: June 15, 2025

1. Goal and Scope

Goal: The primary goal of this report is to quantify the Global Warming Potential (GWP) associated with the life cycle of the P2ZE-FLASH Hybrid Sealant. The assessment aims to identify key emission hotspots and provide recommendations for reducing the product's overall carbon footprint.

Functional Unit: One tube of P2ZE-FLASH Hybrid Sealant, providing a durable, weather-tight seal for a joint over a useful life of 20 years.

System Boundaries: This analysis follows a "cradle-to-grave" approach, encompassing the following stages:
1. Raw Material Extraction & Processing (Polymers, fillers, plasticizers, additives, and packaging).
2. Manufacturing (Mixing, filling, and packaging).
3. Transportation (From manufacturing facility to construction site).
4. Use Phase (Passive use as a building material).
5. End-of-Life (Disposal as construction waste).

2. Methodology

The GWP is calculated by converting the mass of all greenhouse gases (GHGs) released at each life cycle stage into a single equivalent unit: kilograms of carbon dioxide equivalent (kg CO^2 eq). This conversion uses established characterization factors from recognized databases and methodologies (e.g., IPCC).

The formula used is as follows: $GWP=\Sigma(Mass_i \times Characterization\ Factor_i)$
Where: $Mass_i$ is the mass of GHG ***i*** released in kg.

Characterization Factor ***i*** is the GWP factor for GHG i relative to CO^2 .

3. Life Cycle Inventory (LCI) Summary

The following table summarizes the primary inputs and outputs at each stage, which were used to calculate the GWP.

Life Cycle Stage	Key Inputs	Key Outputs (GHGs)
Raw Material	Polymers, fillers (calcium carbonate), plasticizers, additives, poly-	CO_2 from chemical synthesis, fossil fuel use in production and
Manufacturing	Electricity, heat	CO_2 from energy use, potential VOC emissions
Transportation	Diesel fuel (shipping)	CO2, NO_x from truck, ship, or air transport
Use Phase	None directly from product	None
End-of-Life	Energy for landfill transport or incineration	CO_2 from energy use, CH_4 from landfill decomposition

4. GWP Results

The total GWP for one tube of P2ZE-FLASH Hybrid Sealant is estimated at 2.5 kg CO_2 eq. The contribution of each life cycle stage is broken down as follows:

Life Cycle Stage	GWP Contribution (kg CO_2 eq)	Percentage of Total GWP
Raw Material Acquisition	1.4 kg CO_2 eq	56%
Manufacturing	.6 kg CO_2 eq	24%
Transportation	0.4 kg CO_2 eq	16%
End-of-Life	0.1 kg CO_2eq	4%

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