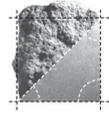


portland stone - naturally



ALBION STONE

# Environmental Product Declaration

Based on ISO 14025, and EN 15804

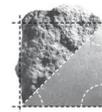
Owner of the declaration	Albion Stone Plc
Publisher	Albion Stone Plc
Declaration number	AS-1-1 v3
Issue Date	03.08.2020
Valid to	03.08.2025

## PRODUCT: Finished Portland Stone

*This declaration is awaiting verification*

[www.albionstone.com](http://www.albionstone.com)

t 01737 771772 e [enquiries@albionstone.com](mailto:enquiries@albionstone.com)



ALBION STONE

## General Information

### Product

Portland stone, finished

### Owner of declaration

Albion Stone Plc. *Contact person:* Jordan Poultney

### Manufacturer

Albion Stone. Nutfield, Surrey, United Kingdom

### Declaration number

AS-1-1

### Place of production

Albion Stone Plc, Easton Street, Portland, Dorset, United Kingdom

### This declaration is based on Product Category Rules:

CEN Standard EN 15804 serve as core PCR requirements on the EPD for Dimension stone for roof wall and floor applications.

### Management systems

Certified ISO 14,001:2015, ISO 9001:2015, BS OHSAS 18001:2007, BES6001

### Declared unit

Production of 1m<sup>2</sup> of 50mm thick finished Portland stone

### Functional unit

Production of 1m<sup>2</sup> of 50mm finished Portland stone, in situ for at least 120 years, reclaimed after end of service

### Issue date

03.08.2020

### Valid to

03.08.2025

### Year of study

2017

### The EPD has been calculated by

Jeff Dudden

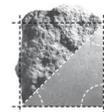
### Comparability

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context

\* The product contains no substances from the REACH candidate list

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ALBION STONE

## Product Description

Portland Stone formed at the end of the Jurassic period, around 145 million years ago when what is now Portland, was much closer to the equator than it is today. A chemical reaction in the warm, shallow seas where Portland stone was forming caused calcium and bicarbonate ions to combine, forming a 'muddy' calcareous precipitate. Minute particles of sand or organic detritus, such as shell fragments, lying on or in suspension close to the sea floor, acted as nuclei which gradually became coated with this fine-grained calcium carbonate.

Over time more calcium carbonate accumulated around these nuclei in concentric layers, forming small calcareous spheres (less than 1mm diameter). Countless billions of these spherical sediments, called 'ooids' or 'ooliths', ultimately became buried and partially cemented together by more calcium carbonate, resulting in the oolitic limestone we now call Portland stone.

The declared product is Portland stone with a typical thickness of 50mm weighted by their production volumes. At the mine, Portland stone is extracted through various methods, and later goes through the manufacturing process of block sawing, cutting, calibration and sizing in order to meet customer requirements on dimensions and finish.

## Placing on the Market

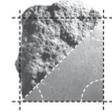
For the placing on the market in the EU/EFTA the Regulation (EU No. 305/2011) applies. The product needs a declaration of performance taking into consideration the BS EN 771-6 - specification for masonry units; part 6: Natural stone masonry units, and the CE marking.

## Application

For the application and use the respective national provisions apply. Portland stone slabs are used for flooring, cladding, stairs, monuments, kitchen tops, cubic building elements and many other applications.

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## System Scope:

Product Stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
Raw Materials	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse recovering recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA

## System Boundary

Type of EPD: Declaration of a product.

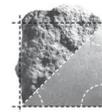
The study is a cradle-to-gate LCA study including:

- Extraction
- Transport to factory
- Processing

The definition includes all the activities associated with the production at the stone manufacturing site and the upstream activities; the mining and processing of raw materials transport on our site and the consumption of any materials or energy resources during any of these production stages.

Some activities are not considered in this study on the basis that their influence on the environmental impact is negligibly small (a concept known as materiality). Such activities include capital equipment, business travel, administration, cleaning services etc.

Portland stone does not use and downstream processing into manufactured products and therefore has not been included in the inventory. This EPD describes the production of 1 square metre of 50mm thickness Portland stone products, other lengths, widths and thicknesses are available to meet the various design specifications and requirements.



# Environmental Performance

(MND = module not declared, MNR=module not relevant, INA= indicator not assessed, AGG=aggregated)

			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO <sub>2</sub> equiv	kg CFC 11 equiv	kg SO <sub>2</sub> equiv	kg (PO <sub>4</sub> ) <sup>3</sup> equiv	kg C <sub>2</sub> H <sub>4</sub> equiv	kg Sb equiv	MJ net calorific value
Product stage	Raw Material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A 1-3	1.55E+01	MND*	2.63E-05	MND	MND	MND	MND

GWP Global Warming potential  
 ODP Ozone depletion potential  
 AP Acidification potential for soil and water  
 EP Eutrophication potential  
 POCP Formation of potential of tropospheric Ozone  
 ADPE Abiotic Depletion Potential elements  
 ADPF Abiotic depletion potential fossil fuels

\* NO CFC used in production/product therefore estimated as de minimus

			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw Material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A 1-3	1.11E+01	0.00	1.11E+01	2.48E+02	0.00	2.48E+02

PERE Use of renewable primary energy excluding renewable primary energy used as raw materials  
 PERM Use of renewable primary energy resources used as raw materials  
 PERT Total use of renewable primary energy resources  
 PENRE Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials  
 PENRM Use of non renewable primary energy resources used as raw materials  
 PENRT Total use of non renewable primary energy resource

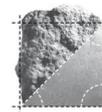
			SM	RSF	NRSF	FW
			kg	MJ	MJ	m <sup>3</sup>
Product stage	Raw Material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A 1-3	0.00	0.00	0.00	5.39E-02

SM Use of secondary material  
 RSF Use of renewable secondary fuel  
 NRSF Use of non renewable secondary fuel  
 FW Net use of fresh water

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw Material supply	A1	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG
	Total (of product stage)	A 1-3	1.94E-01	2.46E-01	0.00

HWD Hazardous waste disposal  
 NHWD Non hazardous waste disposal  
 RWD Radioactive waste disposed





## REFERENCES

BS EN ISO 14021:2001, Environmental labels and declarations—Self declared environmental claims (Type II Environmental labelling)

BS EN ISO 14020:2001. Environmental labels and declarations—General principles

BS EN ISO 14040:2006. Environmental management—life cycle assessment—principles and framework.

BS EN ISO 14044:2006. Environmental management - life cycle assessment—requirements and guidelines.

DEFRA Emission Factors 2017

**BS EN 771-6:** 2011-07, Specification for masonry units - Part 6: natural stone masonry units

**BS EN 1341:** 2013-03, Slabs of natural stone - Requirements and test methods

**BS EN 1342:** 2013-03, Sets of natural stone - Requirements and test methods

**BS EN 1467:** 2012-06, Natural stone - Rough blocks - Specifications

**BS EN 1468:** 2012-06, Natural stone - Rough slabs - Specifications

**BS EN 1469:** 2005-02, Natural stone - Finished products, slabs for claddings - Specifications

**BS EN 12058:** 2005-01, Natural stone - Finished products, slabs for floors and stairs. Specifications

**BS EN 12059:** 2012-03, Natural stone - Dimensional stone work - Specifications

**BS EN 1926:** 2007-03

Natural stone test methods - Determination of uniaxial compressive strength

**BS EN 12372:** 2007-02

Natural stone test methods - Determination of flexural strength under concentrated load

**BS EN 13755:** 2008-08

Natural stone test methods - Determinations of water absorption at atmospheric pressure

**BS EN 14157:** 2005-07

Natural stone test methods - Determination of the abrasion resistance

**BS EN 1936:** 2007-02

Natural stone test methods - Determination of real density and apparent density, and of total and open porosity