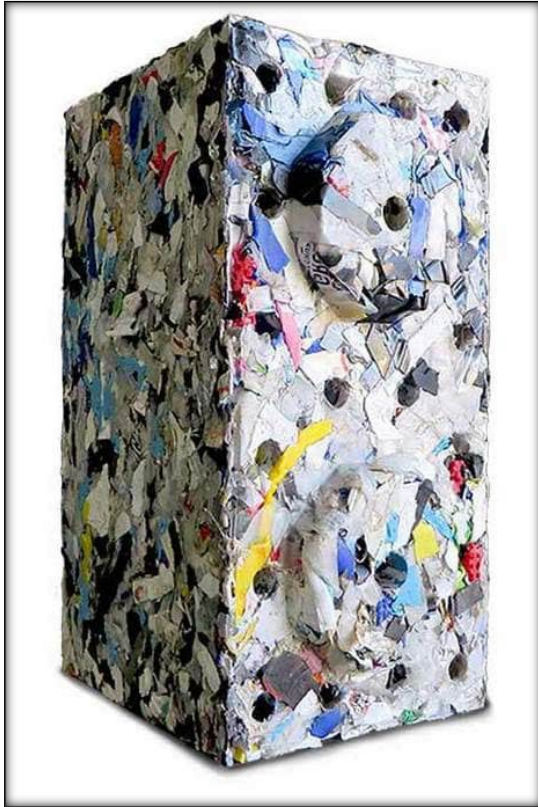


ENVIRONMENTAL PRODUCT DECLARATION

BYFUSION BYBLOCK®

BYFUSION GLOBAL, INC.
CONSTRUCTION-GRADE BUILDING MATERIALS



ByFusion's ByBlock® is the first construction-grade building material comprised entirely from recycled plastic waste. They are ideal for retaining walls, sound walls, sheds, fencing, accent walls, and more.

In 2017, ByFusion Global, Inc. was founded to provide a solution to Earth's plastic waste problem. ByFusion is committed to reshaping our future from a traditional linear model (i.e., take-make-waste) to a model which promotes resource efficiency and circularity. After years of research and development, ByFusion designed a scalable, proprietary system that converts non-recyclable plastic waste into a high-performing, re-usable, construction-grade building material called ByBlock.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

EPD Program and Program Operator Name, Address, Logo, and Website	UL Environment 333 Pfingsten Rd, Northbrook, IL 60062 www.ul.com www.spot.ul.com
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	Program Operator Rules v 2.7 2022
MANUFACTURER NAME AND ADDRESS	ByFusion Global Inc. 1723 W 134th St, Gardena, CA 90249
DECLARATION NUMBER	4790476904.101.1
DECLARED PRODUCT & FUNCTIONAL UNIT OR DECLARED UNIT	ByBlock®, Flat ByBlock®, and Combination ByBlock® 1 m ³
REFERENCE PCR AND VERSION NUMBER	ISO 21930:2017, Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.
DESCRIPTION OF PRODUCT APPLICATION/USE	Insulating Building Material Made from Recycled Plastic
PRODUCT RSL DESCRIPTION (IF APPL.)	N/A
MARKETS OF APPLICABILITY	Residential, Commercial, Municipal, and Infrastructure Construction
DATE OF ISSUE	October 1, 2022
PERIOD OF VALIDITY	5 Years
EPD TYPE	Product-Specific
RANGE OF DATASET VARIABILITY	N/A
EPD SCOPE	Cradle-to-Gate
YEAR(S) OF REPORTED PRIMARY DATA	July 2021-March 2022
LCA SOFTWARE & VERSION NUMBER	SimaPro v9.2
LCI DATABASE(S) & VERSION NUMBER	USLCI; ecoinvent v3.5
LCIA METHODOLOGY & VERSION NUMBER	TRACI 2.1 v4; CML v2 Baseline
The PCR review was conducted by:	International Standards Organization ISO/TC 59/SC 17 standardization@afnor.org
This declaration was independently verified in accordance with ISO 14025: 2006. ☐ INTERNAL ☒ EXTERNAL	Cooper McCollum, UL Environment <i>Cooper McC</i>
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	Sustainable Solutions Corporation
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	James Mellentine, Thrive ESG <i>James H. Mellentine</i>
LIMITATIONS <u>Exclusions:</u> EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. <u>Accuracy of Results:</u> EPDs regularly rely on estimations of impacts; the level of accuracy in estimation of effect differs for any particular product line and reported impact. <u>Comparability:</u> EPDs from different programs may not be comparable. Full conformance with a PCR allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible*. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.	



Product Definition and Information

Product Description

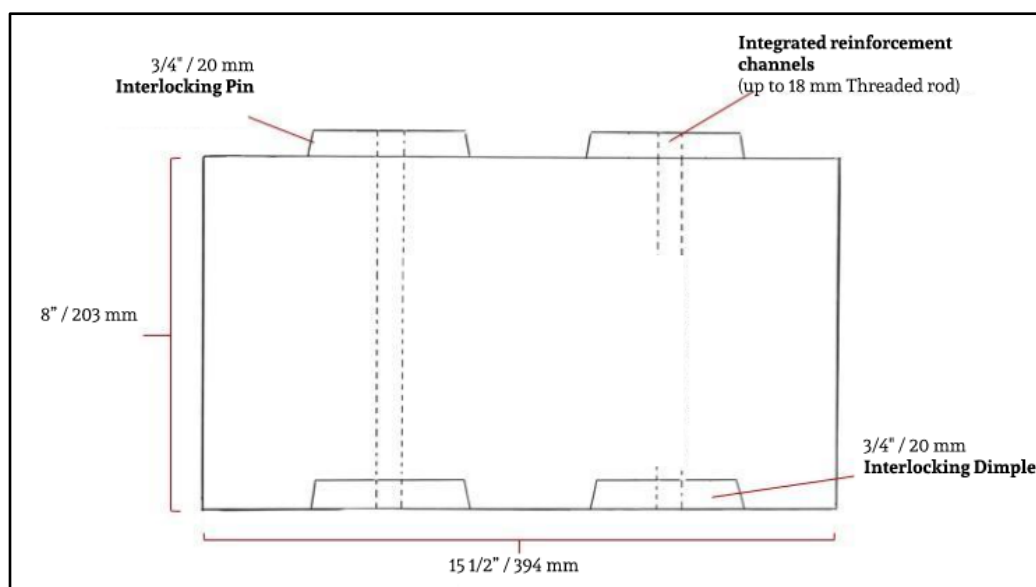
Product Identification

The declared unit of this EPD is 1 m³ of non-recyclable plastic waste (Types 1 - 7) formed into ByBlocks®.

ByBlock® is a multi-purpose, high-performing insulating building material made entirely out of repurposed non-recyclable plastic waste (Types 1 – 7).

A standard ByBlock® (Figure 1) is 16" x 8" x 8⁵/₈" and has top interlocking pins. The total height of ByBlock® includes the pins on top of the product which recess into the ByBlock® from above. Actual exposed/finished height of ByBlock® is 8" with a standard weight of 22 pounds (10 kilograms).

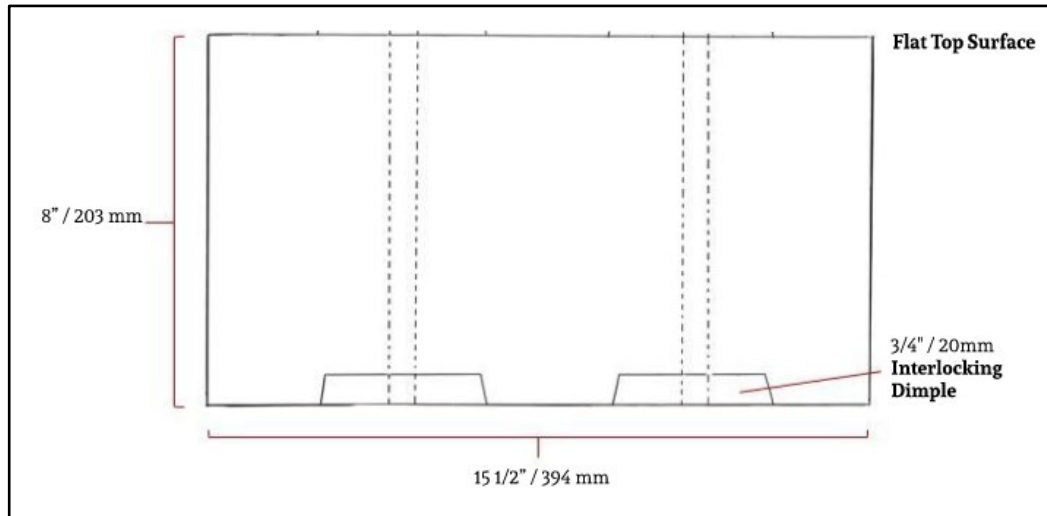
ByBlock® Cross-Section



Flat ByBlock® (Figure 2) are 16" x 8" x 8". Flat ByBlock® is intended to be used for the top course to make finishing easier. Actual exposed/finished height of ByBlock® is 8". Standard weight is 22 pounds (10 kilograms).

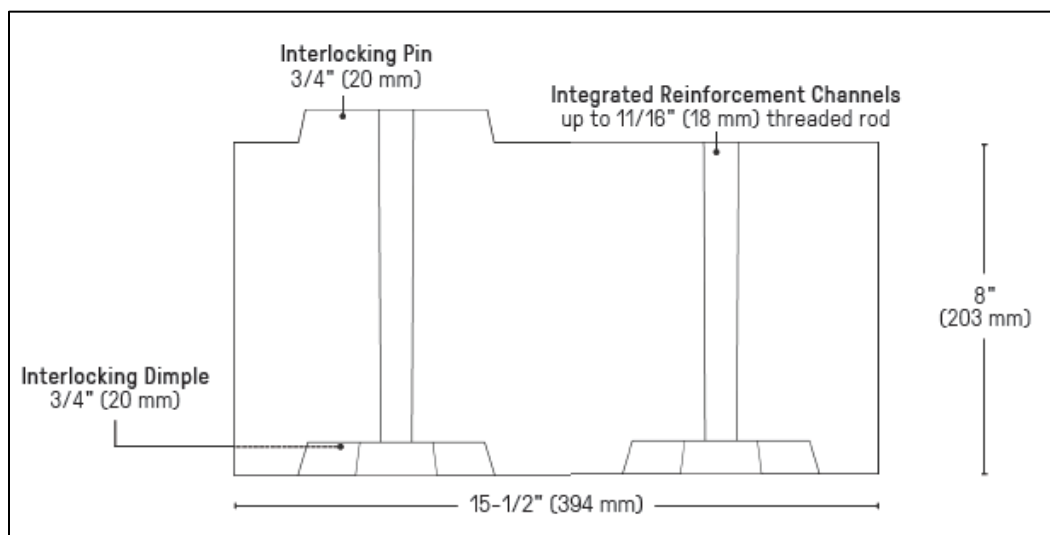


Flat ByBlock® Cross-Section



Combination ByBlock® (Figure 3) are 16" x 8" x 8 5/8" and has top interlocking pins. The total height of Combination ByBlock® includes the pins on top of the product which recess into the ByBlock® from above. Actual exposed/finished height of Combination ByBlock® is 8" with a standard weight of 22 pounds (10 kilograms). The Combination ByBlock® is intended to be used for window openings and step-down walling applications.

Combination ByBlock® Cross-Section



Application

The ByBlock®, Flat ByBlock®, and Combination ByBlock® are reusable, multi-purpose, high performing, reinforceable insulating building materials designed to integrate harmoniously with traditional building materials such as lumber, steel, and cement to meet the structural requirements of the project. The Flat ByBlock® is intended to be used for the top course to make finishing easier. The Combination ByBlock® is intended to be used for window openings and step-down walling applications.

ENVIRONMENTAL PRODUCT DECLARATION



BYFUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

Declaration of Methodological Framework

ISO 14040: 2006 - Environmental management – Life cycle assessment

ISO 14044: 2006 - Environmental management — Life cycle assessment — Requirements and guidelines

ISO 14025: 2006 - Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 21930: 2017 - Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services

Technical Requirements

Standard, single unit un-reinforced 10kg/22lbs ByBlock® offers unique performance and strength.

ByBlocks® are not intended as a sole component of a wall assembly in thermal applications. ByBlocks® are intended to be reinforced using threaded rod (3/8"-5/8" / 10–16 mm) for assembly and added strength†. ByBlocks® can be integrated with other structural building materials such as wood, steel, and concrete depending on the application and as directed by engineering. Refer to the [ByBlock Installation Guide](#) for a more detailed overview.

†Note: the threaded rod is not included in this analysis.

BYFUSION BYBLOCK® PERFORMANCE PARAMETERS

STANDARD	TITLE	PERFORMANCE			CERTIFYING BODY
ASTM C165	COMPRESSION	408 PSI (Single unit not post-tensioned)			ICC ESL - 1255
ASTM E831	THERMAL EXPANSION	TEMP RANGE -30°C to 40°C	CHANGE (mm) 0.89	CLTE [μm/(m·°C)] 61.947	ICC ESL - 1257
ASTM C518-17	THERMAL TRANSMISSION PROPERTIES	R-Value / RSI K-Factor	R - hr·ft²·°F / Btu Btu-in/hr·ft²·°F	1.14 / 0.20 0.86	ICC ESL - 1257
ASTM E90-09	SOUND TRANSMISSION LOSS	STC RATING 21 OITC RATING 15			ICC ESL - 1256
ASTM D1761-12	FASTENER LOADING	FASTENER #10 X 3" SCREW / 2" DEPTH	LOAD DIRECTION WITHDRAWAL SHEAR LOAD	RESULT 202.9 lb _f 270 lb _f	



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

STANDARD	TITLE	PERFORMANCE			CERTIFYING BODY
CDPH STANDARD METHOD V1.2	VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES	PASSED			UL

Properties of Declared Product as Delivered

The EPD for ByFusion's ByBlock®, Flat ByBlock®, and Combination ByBlock® was conducted based on a declared unit of 1 m³. ByFusion's ByBlock®, Flat ByBlock®, and Combination ByBlock® are constructed to standard company dimensions. Customization densities range from 8 kg – 12 kg (16.6 – 26.4 lbs.).

Material Composition

The material composition of the represented block is as follows:

Material	% Composition
Repurposed Plastic Waste	100%

Manufacturing

ByFusion's ByBlock® is currently being manufactured in Gardena, California. After arriving at the facility, plastic waste is placed onto conveyors and transported to a shredder. The shredded plastic moves to a hopper which feeds the plastic into a chamber that gives the ByBlock® its shape. Hydraulic powered compression occurs by utilizing electrically generated steam to sanitize and heat the plastic, condensing it into its final form where it is then packaged and distributed. The Gardena, CA plant is the only location that produces the ByBlock® for ByFusion. The plant produces the ByBlock® with three different dimensions, so allocation was conducted on a mass basis.



ENVIRONMENTAL PRODUCT DECLARATION

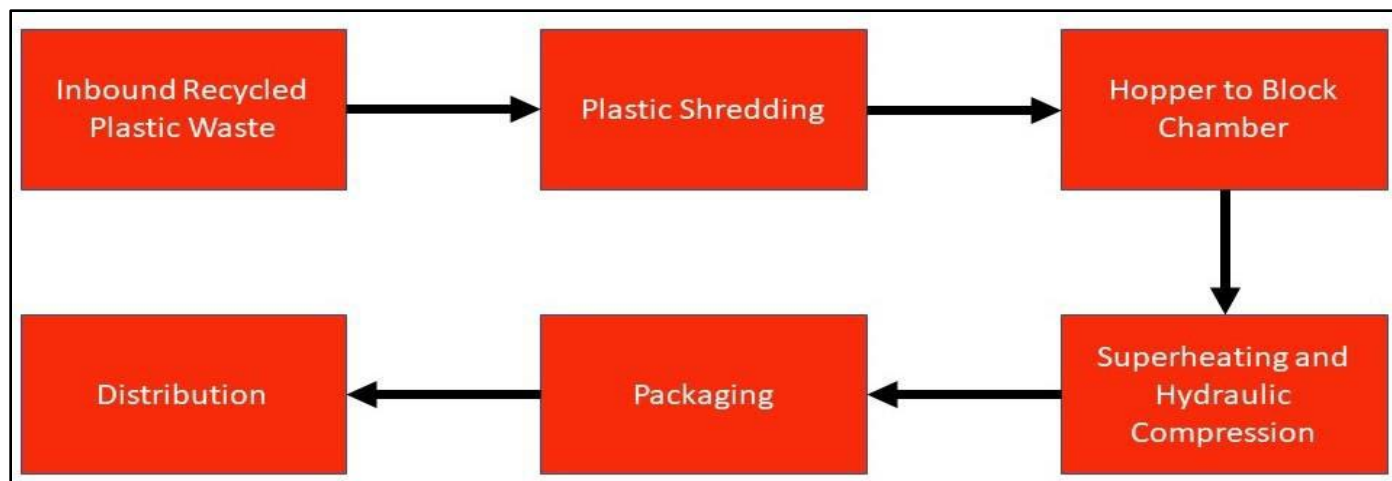


BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017



Packaging

ByFusion uses plastic strapping and cardboard edge protectors for palletizing their products.

Transportation

The raw material transportation utilizes ground transportation methods, primarily by truck.

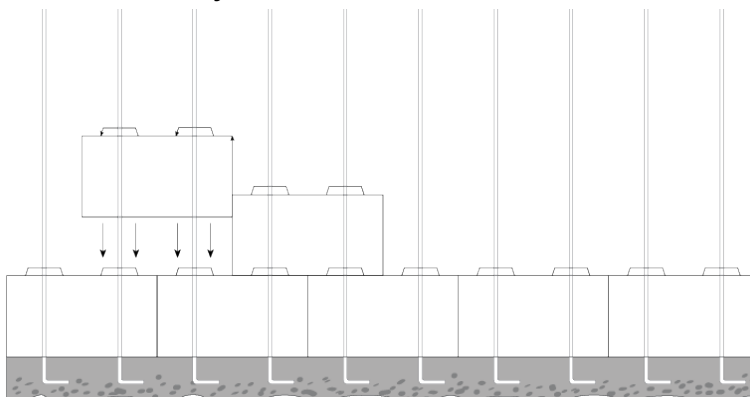
Product Installation

Install ByBlock® as you would any other “brick” type of application – staggering each course. Each ByBlock® must have at least one threaded rod running through it.

Slide the ByBlock® down the threaded rod and into position, continuing the process until the wall unit is at finish height but not exceeding 8’ without guidance from a structural engineer. Use a rubber mallet to tap the ByBlocks® over the threaded rod if needed.

Once wall height is achieved, install the top plate or beam, washers, and lug nuts and tighten to the desired wall height. Post-tensioning will lock ByBlocks® in place and add integrity and strength to the wall unit.

ByBlock® Installation Reference



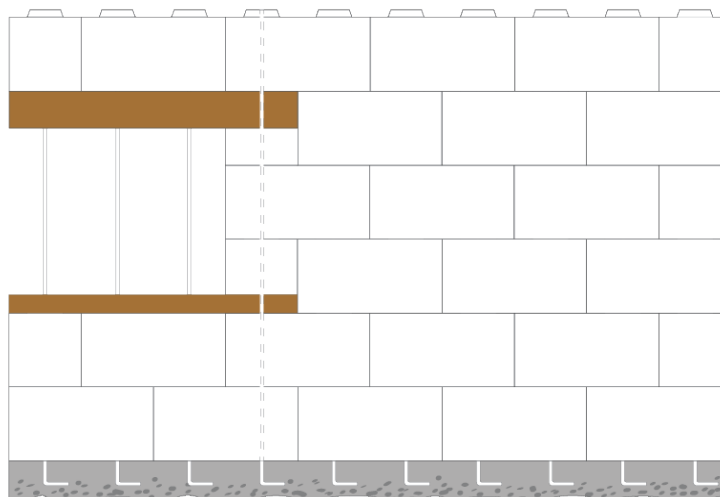
Openings





Window, door, or other openings may require sections of the ByBlock® to be removed to allow for lumber placement. In the instance of a door header, for example, the lumber must extend a minimum of 8" beyond the opening on either side to allow for the threaded rod to pass through the lumber. This will fix the lumber into position within the wall assembly. When installing lumber as a bottom plate of a window opening, a grinder or hacksaw can be used to remove any threaded rod extending beyond the height of the lumber after post-tension has been applied (nuts and washers are to be recessed below the height of the lumber).

Opening Support Example



After achieving the final height, install the top plate over the threaded rods, resting on top of the final course of Flat ByBlock®, and place the washers and nuts on each rod. Using a torque wrench, add post-tension to the desired height.

Jointing

No adhesives, mortars, or solvents are required for jointing. ByBlock® is designed to hold firmly to the blocks above and below, creating one complete unit. The post-tension adds enhanced strength to the system.

Leveling and Setting

A ByBlock® strength is enhanced by compressing ByBlocks® together using post-tension. This process directly connects the footer to the wall assembly's top plate.

For time savings, pre-drill the top plate or beam (metal or wood, depending on the application) to match the measurements of the rods at the footing. It is not uncommon for slight movement in the rods during the installation of the ByBlock®, but the rods need to be fastened in direct vertical alignment with their attachment point in the footing for maximum strength and sizing.

DO NOT over-tighten. Refer to the maximum loads on the threaded rod when in question. Tighten each wall down in equal increments until the ByBlock® wall locks into place and the desired level height is achieved.

Ideal tensioning results in a 1/16" (1-2 mm) compression per ByBlock®. Use a standard carpenter's level to keep the work plumb. If at any time ByBlock® slips out of place, simply knock it back into place using a rubber mallet.

Weep Holes and Vents

Because the material is not bound together with adhesives, there is no need for additional ventilation. The material will allow for some ambient air to pass. For most residential and commercial purposes, most external walls will be covered and finished with an external covering/application which will prevent any water or liquid from penetrating into the internal structure of the ByBlock®, negating the need for weep holes.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

Use

ByBlocks® are designed to integrate harmoniously with traditional building materials such as lumber, steel, and cement to meet the structural requirements of the project; offering excellent dimensional stability, water-resistant properties, and handling loads without cracking or crumbling.

ByBlocks® are best suited for Type 5, General Utility construction applications.

Reference Service Life and Estimated Building Service Life

As this PCR does not cover the product use stage (modules B1-B7), consideration or reporting of the product reference service life is not applicable.

Reuse, Recycling, and Energy Recovery

The ByBlock® is made entirely of non-recyclable plastic materials, and since it is assembled via post-tensioning, ByBlock® can be easily unassembled and reused in another structure or wall, or can be utilized for energy recovery at end-of-life.

Disposal

The ByBlock® is made entirely of non-recyclable plastic materials. and since it is assembled via post-tensioning, ByBlock® can be easily unassembled and reused in another structure or wall, used for energy recovery, repurposed into another ByBlock®, or landfilled at end-of-life.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

Life Cycle Assessment Background Information

Functional or Declared Unit: ByBlock®, Flat ByBlock®, and Combination ByBlock®

The declared unit for the ByBlock®, Flat ByBlock®, and Combination ByBlock® is one cubic meter.

Name	Value	Unit
Declared Unit	1.00E+00	m ³
Density	6.33E+02	kg/m ³
Dimensions	394 x 197 x 203	mm
Manufacturing Location	Gardena, CA	-

System Boundary

This EPD is classified as “cradle-to-gate.” The study system boundary includes the transportation of major inputs to (and within) each activity stage based on logistics data provided and /or assumptions made detailed in the Life Cycle Inventory. Any site-generated energy and purchased electricity is included in the system boundary. The extraction, processing, and delivery of purchased primary fuels, e.g., natural gas and primary fuels used to generate purchased electricity, are also included within the boundaries of the system.

Product Stage		
A1	A2	A3
Raw Materials Supply	Transport	Manufacturing
X	X	X

Estimates and Assumptions

In this study, the following assumptions were made; all the plastic raw materials were sourced from a recycling facility in Boise, ID; recycled plastic bears no burden to the product since it is a by-product of another system. Although transportation impacts for the recycled plastic were considered and included, all transportation was modeled assuming combination trucks using the average US fuel mix.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

Cut-off Criteria

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that, a documented assumption is admissible.

For Hazardous Substances, the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machines, buildings, etc.) were not taken into consideration.

Data Sources

SimaPro v9.2 software was utilized for modeling this study. All process data, including inputs (raw materials, energy, and water) and outputs (emissions, wastewater, solid waste, and final products) are evaluated and modeled to represent each process that contributes to the life cycle of the products.

Additionally, all secondary sources are taken from literature, previous LCI studies, and life cycle databases. The US LCI database (www.nrel.gov/lci) is frequently used in this analysis. When North American data were not available for a product or process, the European ecoinvent LCI database was utilized.

Data Quality

Data used for this study are as current as possible. Datasets used for calculations are within the last 10 years for generic data and within the last calendar year for manufacturer-specific primary data. All datasets are representative of the US.

Period under Review

Primary data for this study were collected for the reference period from July 2021 – March 2022. Primary data includes formulations, manufacturing energy, and water consumption, as well as waste generation. Water treatment chemicals and other ancillary materials are included in the scope of this study.

Allocation

Allocation was conducted per total production by mass at the Gardena, MA facility from July 2021 – March 2022. The manufacturing for all products made at this facility has similar energy, waste, and water input requirements.





Life Cycle Assessment Results

Life Cycle Impact Assessment Results: ByBlock®

This section presents the results of the LCA study including energy, global warming, and other quantified impacts for each of the TRACI and CML impact categories. Results in this section are presented for the ByBlock® construction material product. According to the LCA results, environmental impact between the three products is identical, therefore, for simplicity only one set of impacts will be shown.

TRACI 2.1 Impact Assessment						
Parameter	Parameter	Unit	A1	A2	A3	Total
GWP	Global warming potential	kg CO ₂ -Eq.	0.00E+00	8.05E+01	1.60E+02	2.40E+02
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	0.00E+00	3.07E-09	9.08E-07	9.11E-07
AP Air	Acidification potential for air emissions	kg SO ₂ -Eq.	0.00E+00	4.80E-01	1.31E+00	1.79E+00
EP	Eutrophication potential	kg N-Eq.	0.00E+00	2.68E-02	8.19E-02	1.09E-01
SP	Smog formation potential	kg O ₃ -Eq.	0.00E+00	1.32E+01	7.31E+00	2.05E+01
FFD	Fossil fuel depletion	MJ-surplus	0.00E+00	1.45E+02	3.22E+02	4.67E+02

CML 4.1 Impact Assessment						
Parameter	Parameter	Unit	A1	A2	A3	Total
GWP	Global warming potential	kg CO ₂ -Eq.	0.00E+00	8.07E+01	1.61E+02	2.41E+02
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	0.00E+00	3.04E-09	7.67E-07	7.70E-07
AP Air	Acidification potential for air emissions	kg SO ₂ -Eq.	0.00E+00	3.96E-01	1.50E+00	1.89E+00
EP	Eutrophication potential	kg(PO ₄) ₃ -Eq.	0.00E+00	7.02E-02	5.29E-02	1.23E-01
POCP	Formation potential of tropospheric ozone photochemical oxidants	kg ethane-Eq.	0.00E+00	1.83E-02	3.10E-01	3.28E-01
ADPE	Abiotic depletion potential for non-fossil resources	kg Sb-Eq.	0.00E+00	0.00E+00	5.63E-04	5.63E-04
ADPF	Abiotic depletion potential for fossil resources	MJ	0.00E+00	1.03E+03	2.41E+03	3.45E+03

Life Cycle Inventory Results: ByBlock®

This section presents the LCI results including tracking of resource use, input and output flows, and carbon emissions and removal for the ByBlock® product.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

Resource Use						
Parameter	Parameter	Unit	A1	A2	A3	Total
RPR _E	Renewable Primary energy as energy carrier	MJ, lower calorific value	0.00E+00	0.00E+00	2.94E+01	2.94E+01
RPR _M	Renewable Primary energy resources as material utilization	MJ, lower calorific value	0.00E+00	0.00E+00	2.59E+01	2.59E+01
NRPR _E	Nonrenewable Primary energy as energy carrier	MJ, lower calorific value	0.00E+00	1.03E+03	2.43E+03	3.46E+03
NRPR _M	Nonrenewable Primary energy as material utilization	MJ, lower calorific value	0.00E+00	0.00E+00	1.05E+01	1.05E+01
SM	Use of secondary material	kg	6.33E+02	0.00E+00	0.00E+00	6.33E+02
RSF	Use of renewable secondary fuels	MJ, lower calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	Use of nonrenewable secondary fuels	MJ, lower calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	Energy recovered from disposal of waste	MJ, lower calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	m ³	0.00E+00	0.00E+00	1.90E-01	1.90E-01

Output Flows and Waste Categories						
Parameter	Parameter	Unit	A1	A2	A3	Total
HWD	Hazardous waste disposed	kg	0.00E+00	0.00E+00	2.25E-04	2.25E-04
NHWD	Non-hazardous waste disposed	kg	0.00E+00	0.00E+00	1.23E+02	1.23E+02
HLRW	High-level radioactive waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ILLRW	Intermediate- and low-level radioactive waste disposed	kg	0.00E+00	0.00E+00	5.26E-04	5.26E-04
CRU	Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	Materials for recycling	kg	0.00E+00	0.00E+00	3.16E+00	3.16E+00
MER	Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	Recovered energy exported from product system	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Carbon Emissions and Removals						
Parameter	Parameter	Unit	A1	A2	A3	Total
BCRP	Biogenic Carbon Removal from Product	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP	Biogenic Carbon Emission from Product	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK	Biogenic Carbon Removal from Packaging	kg	0.00E+00	0.00E+00	2.13E+00	2.13E+00
BCEK	Biogenic Carbon Emission from Packaging	kg	0.00E+00	0.00E+00	2.13E+00	2.13E+00
BCEW	Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	Calcination Carbon Emission	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	Calcination Carbon Removal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR	Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00





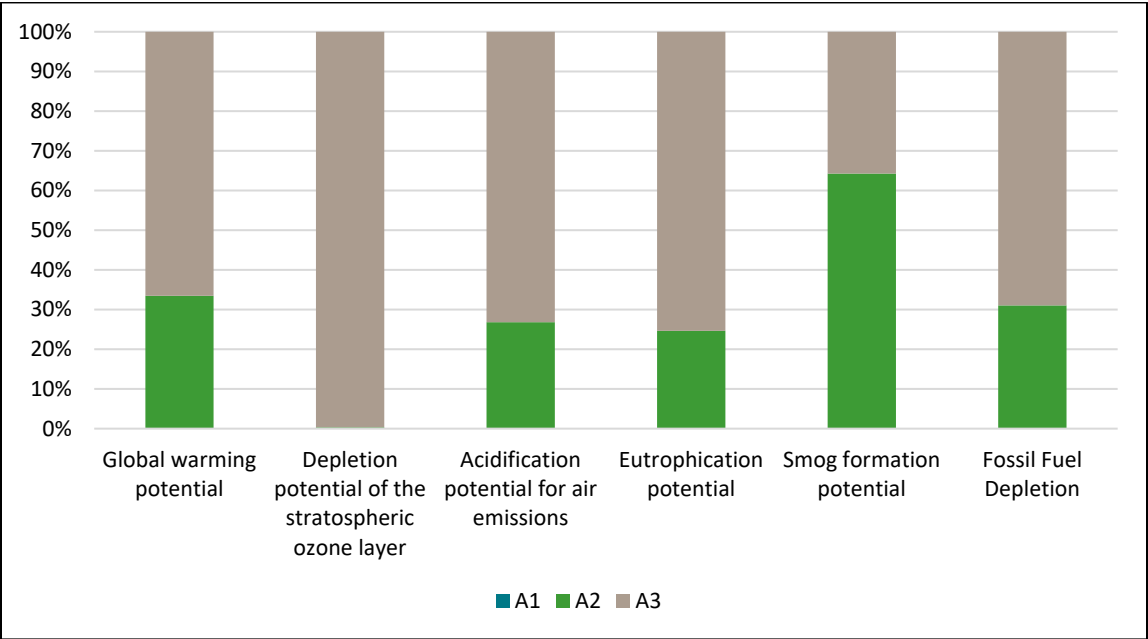
ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

LCA Interpretation

The cradle-to-gate life cycle of ByFusion ByBlock® is driven by the manufacturing stage (A3), while impacts from raw material transportation (A2) are the second largest contributor excluding smog formation potential where raw material transportation is the primary contributor. Raw material sourcing (A1) is negligible in each impact category since the plastic waste raw materials for the ByBlock® are considered a by-product of another system. The greatest driver of impacts in the manufacturing phase was electricity.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

Additional Environmental Information

Environment and Health During Manufacturing

ByFusion is committed to minimizing the environmental impact of construction-grade building materials through the reduction the amount of plastic waste sent to landfill. Employees are aware of ByFusion's environmental roles and responsibilities through training and support from the management team. ByFusion has established procedures to monitor waste streams for compliance with existing recycling programs. Additionally, the company includes human rights, labor practices, and work environment principles in the published code of conduct. The health and safety of employees and contractors is a primary focal point, and ByFusion continually strives for zero injuries by providing extensive training and personal protective gear that meets or exceeds industry standards.

Environment and Health During Installation

There is no harmful emissive potential. No damage to health or impairment is expected under normal use of the product.

Extraordinary Effects

Fire

ByBlock® is a non-combustible building material but is flammable. Since ByBlock® is designed to work with other building materials, fire rating can be achieved by cladding ByBlock® with approved materials such as drywall, stucco, tile, siding, fiber board, fire resistant paint on products.

Water

No danger to the environment can be anticipated due to flooding events.

Mechanical Destruction

No danger to the environment can be anticipated during mechanical destruction.

Environmental Activities and Certifications

ByFusion is committed to zero waste and minimizing the environmental impact of ByBlock® manufacturing. ByBlock® is made entirely from non-recyclable plastic waste - 22 pounds of plastic produce a 22-pound ByBlock®.

Further Information

For more information, please visit <https://www.byfusion.com/>.



ENVIRONMENTAL PRODUCT DECLARATION



BY FUSION

ByBlock®, Flat ByBlock®, and Combination ByBlock®



According to ISO 14025
and ISO 21930:2017

References

- ISO 21930: Sustainability in building construction – Environmental declaration of building products
- EPA, Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI)
- Heijungs R., et al. A. Environmental Life Cycle Assessment of Products: Guide and Backgrounds. CML. Leiden University, Leiden, 1992.
- ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- ISO 14040:2006 Environmental management - Life cycle assessment – Principles and framework
- ISO 14044:2006 Environmental management - Life cycle assessment – Requirements and guidelines
- PRe Sustainability. SimaPro Life Cycle Assessment version 9.2 (software).
- UL Environment, General Program Instructions, v2.5, March 2020.

Contact Information

Study Commissioner



BY FUSION

ByFusion Global Inc.
1723 W. 134th Street
Gardena, CA 90249 USA
<https://www.byfusion.com/>

LCA Practitioner



SustainableSolutions
CORPORATION

Sustainable Solutions Corporation
155 Railroad Plaza, Suite 203
Royersford, PA 19468 USA
(+1) 610 569-1047
info@sustainablesolutionscorporation.com
www.sustainablesolutionscorporation.com

