



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

MDF Window Board
Staircraft Group Ltd



EPD HUB, HUB-1183

Publishing date 01 March 2024, last updated on 01 March 2024, valid until 01 March 2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Staircraft Group Ltd
Address	Colliery Lane North, Bayton Road Industrial Estate, Exhall, Coventry
Contact details	ben.humphries@staircraftgroup.com
Website	https://staircraftgroup.com/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Ben Humphries
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Window Board
Additional labels	-
Product reference	-
Place of production	Coventry, UK
Period for data	01/06/21 - 31/05/22
Averaging in EPD	Multiple Products
Variation in GWP-fossil for A1-A3	-3.4% to +22.5%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 metre of installed Window Board
Declared unit mass	4.575 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3.56E+00
GWP-total, A1-A3 (kgCO ₂ e)	-1.29E+00
Secondary material, inputs (%)	0.0981
Secondary material, outputs (%)	0.0
Total energy use, A1-A3 (kWh)	48.7
Total water use, A1-A3 (m ³ e)	9.27E-02

Note:

The declared unit was chosen as 1 metre to enable the LCA data established for the fixed size of representative window board chosen in this EPD to be scaled to suit window boards of any length.

PRODUCT AND MANUFACTURER

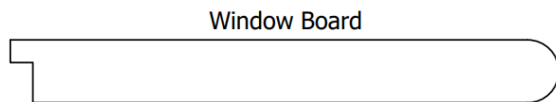
ABOUT THE MANUFACTURER

Staircraft are the world's largest manufacturer of timber staircases, as well as supplying integrated timber floors, internal door-kits and MDF profiles to the UK residential housing sector. We operate from 4 manufacturing sites in the Midlands, covering over 405 000 sq. ft.

Our team are passionate about innovation and sustainability. Using the latest CNC technology our products are designed to minimise waste, and create efficient, hassle-free and safe solutions for tradespeople to install.

PRODUCT DESCRIPTION

Our Window Boards are manufactured from MDF to cover the internal cavity of brick or studwork walls at the base of windows in domestic construction. They are moulded into a standard shape (illustrated below) and are supplied pre-painted in 3.66m lengths, to be cut to size on site to fit the window dimensions.



The reference product used in this EPD is a 3.66m long x 244mm wide x 25mm deep window board, which is the most common product we supply. This is used to derive LCA parameters on a per metre basis in this EPD, so they can be scaled to suit any length of window board used. The primary LCA parameters for the alternative window board configurations we supply are also included in the Annex to this EPD on a per metre basis.

Comprehensive further information can be found on our window boards, as well as other products we manufacture, at <https://staircraftgroup.com>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	-	-
Bio-based materials	100	UK & Ireland

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	1.39
Biogenic carbon content in packaging, kg C	0

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 metre of installed Window Board
Mass per declared unit	4.575 kg
Functional unit	-
Reference service life	60 Years

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for this product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

Our window board manufacturing and supply process is summarised in the flowchart overleaf. MDF boards are procured and shipped to our factory and then stored in racking. The boards are then cut into strips on a rip saw; the number of strips determined by the width of the window board being produced. These strips of MDF are then moulded to their required shape. The moulded pieces are then fladded to smooth the surface prior to painting. Before painting, the strips are pre-heated to aid paint application and drying, then paint is applied to all 4 sides. Once the paint has dried, the strips are fladded again before being pre-heated in preparation for a second coat of paint. Once the second coat has dried, the lengths are then pre-heated for a third and final time before the final coat of paint is applied. Once this has

dried, the completed window boards are packaged together using LDPE film (pack sizes are determined by length dimensions), banded using PET bands and then loaded for dispatch.

Waste minimisation is an integral part of the window board manufacturing process, with the only waste being dust which is bagged and sold to a third party who re-uses it as animal bedding.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to distribution centres or customer sites (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Our window boards are delivered to distribution centres or customer sites using a mixture of vehicle sizes/types depending upon delivery date requirements. Vehicle types and delivery sizes are chosen to optimise load size, fuel efficiency and mileage travelled. Transportation impacts incurred during delivery to site (A4) cover direct fuel exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Site installation (A5) of the window boards can be carried out using rechargeable nailing guns, drills and saws. A 5% site waste assumption has been adopted in this EPD during Stage 5, based on feedback on the use of our 3.66m long window boards in practical application.

PRODUCT USE AND MAINTENANCE (B1-B7)

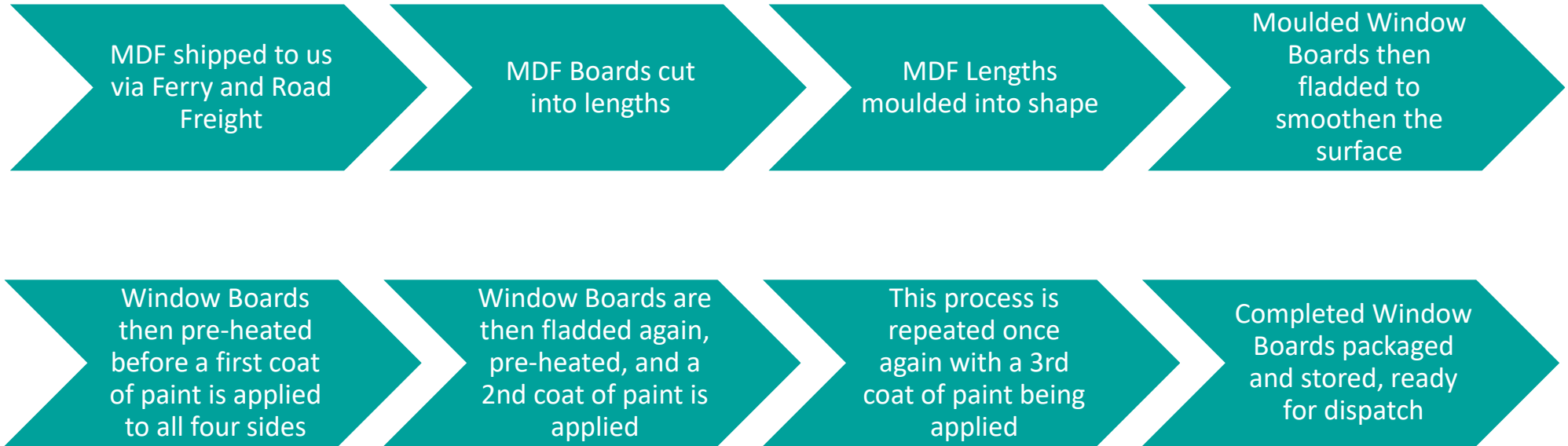
This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Our window boards are installed in single and multi-occupancy dwellings where the end-of-life process for demolition and waste removal/recycling is either unknown or unclear. We have therefore assumed a worse-case scenario whereby the products we have supplied are sent to landfill at the end-of-life.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple Products
Averaging method	Representative product
Variation in GWP-fossil for A1-A3	-3.4% to +22.5%

This EPD is based on a representative product with the highest sales volume. The variation for GWP Fossils for A1 - A3 for this group of products is +22.5% for the highest and -3.4% for the lowest value.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	-2.05E+00	1.64E-03	7.56E-01	-1.29E+00	2.01E-05	2.50E-01	MND	MND	MND	MND	MND	MND	MND	9.19E-04	1.31E-02	0.00E+00	4.80E+00	0.00E+00
GWP – fossil	kg CO ₂ e	2.93E+00	1.64E-03	6.35E-01	3.56E+00	2.01E-05	3.60E-03	MND	MND	MND	MND	MND	MND	MND	9.19E-04	1.31E-02	0.00E+00	7.59E-02	0.00E+00
GWP – biogenic	kg CO ₂ e	-5.09E+00	2.18E-07	1.21E-01	-4.97E+00	0.00E+00	2.46E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	4.72E+00	0.00E+00
GWP – LULUC	kg CO ₂ e	1.09E-01	6.34E-07	5.40E-05	1.09E-01	7.42E-09	2.97E-06	MND	MND	MND	MND	MND	MND	MND	9.15E-08	4.82E-06	0.00E+00	5.68E-05	0.00E+00
Ozone depletion pot.	kg CFC ₁₁ e	3.91E-07	3.70E-10	8.89E-08	4.80E-07	4.62E-12	9.38E-10	MND	MND	MND	MND	MND	MND	MND	1.97E-10	3.00E-09	0.00E+00	1.68E-08	0.00E+00
Acidification potential	mol H ⁺ e	2.63E-02	6.23E-06	3.31E-03	2.96E-02	8.51E-08	2.50E-05	MND	MND	MND	MND	MND	MND	MND	9.55E-06	5.53E-05	0.00E+00	4.51E-04	0.00E+00
EP-freshwater ²⁾	kg Pe	2.03E-05	1.36E-08	4.82E-06	2.51E-05	1.65E-10	5.60E-08	MND	MND	MND	MND	MND	MND	MND	3.05E-09	1.07E-07	0.00E+00	1.06E-06	0.00E+00
EP-marine	kg Ne	6.22E-03	1.69E-06	7.49E-04	6.97E-03	2.53E-08	1.54E-05	MND	MND	MND	MND	MND	MND	MND	4.23E-06	1.64E-05	0.00E+00	2.82E-04	0.00E+00
EP-terrestrial	mol Ne	8.23E-02	1.87E-05	1.21E-02	9.44E-02	2.79E-07	9.16E-05	MND	MND	MND	MND	MND	MND	MND	4.64E-05	1.81E-04	0.00E+00	1.63E-03	0.00E+00
POCP (“smog”) ³⁾	kg NMVOCe	2.24E-02	6.18E-06	2.26E-03	2.46E-02	8.93E-08	3.25E-05	MND	MND	MND	MND	MND	MND	MND	1.28E-05	5.80E-05	0.00E+00	5.79E-04	0.00E+00
ADP-minerals & metals ⁴⁾	kg Sbe	4.27E-05	4.52E-09	4.19E-08	4.28E-05	4.71E-11	1.05E-08	MND	MND	MND	MND	MND	MND	MND	4.66E-10	3.06E-08	0.00E+00	2.24E-07	0.00E+00
ADP-fossil resources	MJ	5.28E+01	2.44E-02	7.28E-01	5.35E+01	3.02E-04	7.01E-02	MND	MND	MND	MND	MND	MND	MND	1.24E-02	1.96E-01	0.00E+00	1.24E+00	0.00E+00
Water use ⁵⁾	m ³ e depr.	3.57E+00	1.09E-04	5.06E-01	4.07E+00	1.35E-06	4.05E-04	MND	MND	MND	MND	MND	MND	MND	3.32E-05	8.77E-04	0.00E+00	9.01E-03	0.00E+00

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	5.55E-07	1.69E-10	2.46E-08	5.80E-07	2.32E-12	5.21E-10	MND	MND	MND	MND	MND	MND	MND	2.56E-10	1.50E-09	0.00E+00	8.70E-09	0.00E+00
Ionizing radiation ⁶⁾	kBq U235e	1.18E-01	1.15E-04	2.02E-01	3.21E-01	1.44E-06	3.38E-04	MND	MND	MND	MND	MND	MND	MND	5.68E-05	9.34E-04	0.00E+00	6.05E-03	0.00E+00
Ecotoxicity (freshwater)	CTUe	8.04E+01	2.21E-02	5.45E+00	8.59E+01	2.72E-04	7.01E-02	MND	MND	MND	MND	MND	MND	MND	7.43E-03	1.76E-01	0.00E+00	1.65E+00	0.00E+00
Human toxicity, cancer	CTUh	9.63E-09	5.69E-13	1.04E-10	9.73E-09	6.67E-15	2.17E-12	MND	MND	MND	MND	MND	MND	MND	2.85E-13	4.33E-12	0.00E+00	4.16E-11	0.00E+00
Human tox. non-cancer	CTUh	6.12E-08	2.12E-11	3.39E-09	6.46E-08	2.69E-13	7.06E-11	MND	MND	MND	MND	MND	MND	MND	5.38E-12	1.75E-10	0.00E+00	1.36E-09	0.00E+00
SQP ⁷⁾	-	5.55E+02	2.44E-02	3.60E-01	5.56E+02	3.48E-04	1.56E-01	MND	MND	MND	MND	MND	MND	MND	1.61E-03	2.26E-01	0.00E+00	2.77E+00	0.00E+00

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1.06E+02	2.80E-04	1.80E+00	1.08E+02	3.40E-06	1.22E-03	MND	MND	MND	MND	MND	MND	MND	7.07E-05	2.21E-03	0.00E+00	2.41E-02	0.00E+00
Renew. PER as material	MJ	3.76E-01	0.00E+00	5.35E-04	3.76E-01	0.00E+00	-5.35E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	-3.76E-01	0.00E+00
Total use of renew. PER	MJ	1.07E+02	2.80E-04	1.80E+00	1.09E+02	3.40E-06	6.89E-04	MND	MND	MND	MND	MND	MND	MND	7.07E-05	2.21E-03	0.00E+00	-3.51E-01	0.00E+00
Non-re. PER as energy	MJ	5.40E+01	2.44E-02	1.31E+01	6.71E+01	3.02E-04	7.01E-02	MND	MND	MND	MND	MND	MND	MND	1.24E-02	1.96E-01	0.00E+00	1.24E+00	0.00E+00
Non-re. PER as material	MJ	3.03E+00	0.00E+00	5.57E-02	3.09E+00	0.00E+00	-2.57E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	-2.83E+00	0.00E+00
Total use of non-re. PER	MJ	5.70E+01	2.44E-02	1.31E+01	7.01E+01	3.02E-04	-1.87E-01	MND	MND	MND	MND	MND	MND	MND	1.24E-02	1.96E-01	0.00E+00	-1.59E+00	0.00E+00
Secondary materials	kg	4.49E-03	7.23E-06	2.37E-04	4.73E-03	8.38E-08	2.42E-05	MND	MND	MND	MND	MND	MND	MND	4.84E-06	5.44E-05	0.00E+00	5.65E-04	0.00E+00
Renew. secondary fuels	MJ	5.69E-05	8.07E-08	5.29E-05	1.10E-04	8.46E-10	8.50E-07	MND	MND	MND	MND	MND	MND	MND	1.58E-08	5.49E-07	0.00E+00	1.65E-05	0.00E+00
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³	8.75E-02	3.07E-06	5.22E-03	9.27E-02	3.91E-08	6.54E-05	MND	MND	MND	MND	MND	MND	MND	7.51E-07	2.54E-05	0.00E+00	1.44E-03	0.00E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	5.09E-02	3.33E-05	8.10E-03	5.91E-02	4.00E-07	1.36E-05	MND	MND	MND	MND	MND	MND	MND	1.66E-05	2.60E-04	0.00E+00	1.41E-02	0.00E+00
Non-hazardous waste	kg	2.03E+00	5.42E-04	2.15E-01	2.25E+00	6.58E-06	2.43E-01	MND	MND	MND	MND	MND	MND	MND	1.16E-04	4.27E-03	0.00E+00	4.62E+00	0.00E+00
Radioactive waste	kg	1.27E-04	1.63E-07	8.19E-05	2.09E-04	2.02E-09	6.88E-08	MND	MND	MND	MND	MND	MND	MND	8.71E-08	1.31E-06	0.00E+00	6.52E-07	0.00E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	2.69E-06	2.69E-06	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

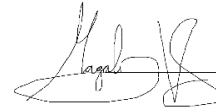
I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

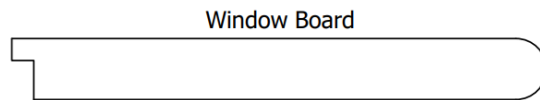
Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

01.03.2024



ANNEX

The LCA parameters of primary importance to specifiers, for the other sizes and shapes of window board we manufacture as alternatives to the reference window board included in the body of this EPD, are given in the table below on a per metre basis, together with an illustration of the profile shape:



Type of Window Board	GWP-Total (kg CO2e per metre installed)			GWP-Fossil (kg CO2e per metre installed)
	Cradle to Gate A1-A3	Cradle to Installation A1-A5	Cradle to Grave A1-C4	A1-A3
25 x 244 x 3660 Window board (reference Window Board)	-1.290	-1.040	3.770	3.560
25 x 294 x 3660 Window board	-1.490	-1.189	4.600	4.360
25 x 219 x 3660 Window board	-0.918	-0.694	3.630	3.440