ENVIRONMENTAL PRODUCT DECLARATION

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

Laminate worktop 30 mm

Nobia Denmark A/S

EPD HUB, HUB-0689

Publishing date 8 September 2023, last updated date 8 September 2023, valid until 8 September 2028

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Nobia Denmark A/S
Address	Heimdalsvej 8, DK-8850 Bjerringbro
Contact details	info@nobia.com
Website	www.nobia.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	Anna Hokkanen, Nobia Finland Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☐ External verification
EPD verifier	Haiha Nguyen, 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	Laminate worktop 30 mm
Additional labels	HTH, Invita, Marbodal, Novart, Sigdal, Uno Form
Product reference	-
Place of production	Bjerringbro
Period for data	Calendar year 2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	0%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 worktop; 30 mm x 600 mm x 1000 mm
Declared unit mass	11.7 kg
GWP-fossil, A1-A3 (kgCO2e)	1,85E1
GWP-total, A1-A3 (kgCO2e)	-9,9E-1
Secondary material, inputs (%)	1.92
Secondary material, outputs (%)	97.7
Total energy use, A1-A3 (kWh)	146.0
Total water use, A1-A3 (m3e)	2,48E0

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Nobia Denmark A/S is part of the international Nobia Group, a leading kitchen furniture specialist in Europe and one of the largest in the world. High quality worktops are sold around Nordic countries through local Nobia companies.

The Science Based Targets initiative (SBTi) has approved Nobia Abs reduction targets for both direct and indirect CO2 emissions (Scope 1 and 2), to which Nobia Denmark A/S, as part of Nobia, is also committed. The endorsement by the CDP, the UN Global Compact, the World Resources Institute (WRI) and the World Wildlife Fund (WWF) means that our targets are science-based and in line with the Paris Climate Agreement.

PRODUCT DESCRIPTION

This EPD represents a worktop that is installed on top of the floor cabinets. The core of the worktop is made of laminated particleboard with plastic edge banding.

The service life for worktop when used and maintained according to instructions is expected to be 25 years

Further information can be found at www.nobia.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	0,3	EU
Minerals	0	-
Fossil materials	7,7	EU
Bio-based materials	92	EU

BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	4.35
Biogenic carbon content in packaging, kg C	0.48

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 worktop; 30 mm x 600 mm x 1000 mm
Mass per declared unit	11.7 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm) based on list dated 14 June 2023.

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	Deconstr./demol	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 the 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.

Manufacturing includes processing of wood-based boards by gluing, sawing and drilling and edge banding sides. No water is used in the process. Parts are not painted at the factory. Raw materials and worktops are moved with electric forklifts and pallet jacks inside the factory.

Manufacturing waste is from wood processing (from cutting, drilling, and milling), plastic from edge band trimming and packaging (plastic, cardboard and wood pallets).

The energy and related waste have been calculated from the annual production of manufacturing site and then allocated to one product based on annual production amount of worktops.

All Nobia production sites have certified green electricity.

The finished worktop is packed in plastic film, cardboard and on wood pallets before it is loaded into a truck for delivery to the factory hubs and to the customer.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

A4: Since worktops are sold via local country factory hubs, average transportation distance for one worktop to local country hub is calculated based on routes and volume share to each location. The transport distance from the factory in Denmark to Danish market or local country factory hub in Sweden, Norway and Finland to the customer is assumed to be 100 km.

Worktop mass together with packaging mass represents the transported quantity.

A5: Installation of the worktop is done with a few screws and brackets by handheld tools containing rechargeable battery. Installation waste that is considered in module A5 includes packaging plastic, cardboard and waste from the wood pallets. Plastic is recycled and rest is considered to go to incineration with energy recovery to the closest (100km) facility.

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)

C1: Energy and resources consumed for de-construction/demolition of one kitchen cabinet are negligible. Worktop is removed manually by unscrewing the screws with the help of electric hand tools.

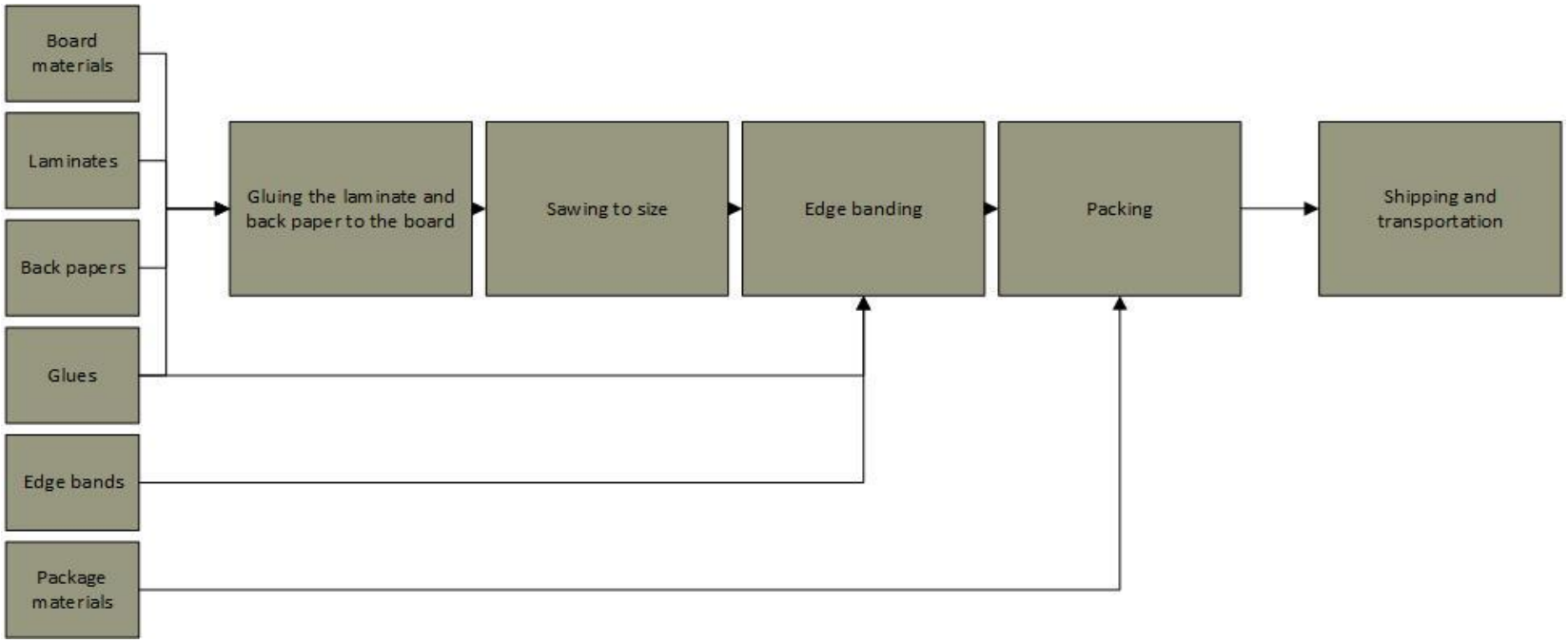
C2: Worktop is transported together with other furniture waste to the closest waste treatment facility, where it can be sorted into relevant waste material streams. 100km is considered to be distance. The figure is based on the average distance and the estimate of the dispersion in the distances of the sorting points.

C3: Even worktop materials are fully recyclable, in this study wood boards are considered to incinerated with energy recovery. Metal parts are recycled.

C4: Plastic and glue components are incinerated 100% with energy recovery. Metal waste is considered to be recycled 100%. The used efficiency of the CHP plant in the calculation was approximately 73% as a whole, of which the efficiency for electricity is 11% and for heat production 62%. Source: (Eriksson, O & Finnveden, G. 2017).

D: Benefits and loads are accounted for all materials where applicable (all except paint waste as it is modelled in C4 because the efficiency of its incineration is considered to be lower than 60%).
Recycling of packaging plastic and metal waste is modelled with accounting the loads due to recycling process and benefits related to the avoided products of corresponding raw materials.
In the similar way - incineration loads are due to incineration process and benefits are calculated as produced electricity and heat - using the heating values of corresponding materials.
The used efficiency of the CHP plant in the calculation was approximately 73% as a whole, of which the efficiency for electricity is 11% and for heat production 62%. Source: (Eriksson, O & Finnveden, G. 2017).

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	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	0%

This EPD is product and factory specific and does not contain average calculations.

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 and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE 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
GWP – total[1)]	kg CO_2e	-4,6E0	1,14E0	2,47E0	-9,9E-1	7,18E-1	2,3E0	MND	MND	MND	MND	MND	MND	MND	1,6E-3	0E0	1,77E1	0E0	-6,64E0
GWP – fossil	kg CO_2e	1,61E1	1,14E0	1,31E0	1,85E1	7,18E-1	2,01E-1	MND	MND	MND	MND	MND	MND	MND	1,59E-3	0E0	2,2E-1	0E0	-4,82E0
GWP – biogenic	kg CO_2e	-2,07E1	0E0	1,05E0	-1,96E1	0E0	2,1E0	MND	MND	MND	MND	MND	MND	MND	9,97E-6	0E0	1,75E1	0E0	-1,82E0
GWP – LULUC	kg CO_2e	2,24E-2	5,81E-4	1,11E-1	1,34E-1	3,39E-4	1,49E-4	MND	MND	MND	MND	MND	MND	MND	3,71E-6	0E0	8,47E-5	0E0	-3,25E-3
Ozone depletion pot.	kg $CFC_{-11}e$	2,46E-6	2,48E-7	1,11E-7	2,82E-6	1,61E-7	1,6E-8	MND	MND	MND	MND	MND	MND	MND	7,93E-11	0E0	1,32E-8	0E0	-2,39E-7
Acidification potential	mol H^+e	9,86E-2	2,12E-2	4,92E-3	1,25E-1	1,08E-2	7,38E-4	MND	MND	MND	MND	MND	MND	MND	8,6E-6	0E0	1,96E-3	0E0	-3,28E-2
EP-freshwater[2)]	kg Pe	3,64E-3	5,83E-6	4,74E-5	3,69E-3	3,95E-6	8,49E-6	MND	MND	MND	MND	MND	MND	MND	1,69E-7	0E0	2,99E-6	0E0	-3,33E-4
EP-marine	kg Ne	2,48E-2	5,41E-3	1,39E-3	3,16E-2	2,79E-3	1,7E-4	MND	MND	MND	MND	MND	MND	MND	1,17E-6	0E0	9,13E-4	0E0	-3,93E-3
EP-terrestrial	mol Ne	2,86E-1	6E-2	1,44E-2	3,6E-1	3,09E-2	1,78E-3	MND	MND	MND	MND	MND	MND	MND	1,33E-5	0E0	9,72E-3	0E0	-4,56E-2
POCP ("smog")[3)]	kg NMVOCe	8,38E-2	1,6E-2	5,11E-3	1,05E-1	8,37E-3	6,93E-4	MND	MND	MND	MND	MND	MND	MND	3,62E-6	0E0	2,41E-3	0E0	-1,34E-2
ADP-minerals & metals[4)]	kg Sbe	1,45E-4	2,05E-6	5,25E-6	1,52E-4	1,39E-6	8,81E-7	MND	MND	MND	MND	MND	MND	MND	3,76E-9	0E0	8,51E-7	0E0	-7,43E-6
ADP-fossil resources	MJ	2,9E2	1,58E1	1,63E1	3,22E2	1,02E1	2,32E0	MND	MND	MND	MND	MND	MND	MND	3,38E-2	0E0	1,64E0	0E0	-7,79E1
Water use[5)]	m^3e depr.	1,55E1	5,93E-2	4,33E0	1,99E1	4,1E-2	6,16E-2	MND	MND	MND	MND	MND	MND	MND	8,71E-4	0E0	7,72E-1	0E0	-1,48E0

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.

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	2,03E2	1,56E-1	2,3E1	2,26E2	1,1E-1	1,95E-1	MND	MND	MND	MND	MND	MND	MND	5,77E-3	0E0	5,4E-2	0E0	-1,32E1
Renew. PER as material	MJ	1,98E2	0E0	-1,12E1	1,87E2	0E0	-1,89E1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-1,62E2	-5,31E0	-3,79E-2
Total use of renew. PER	MJ	4,01E2	1,56E-1	1,18E1	4,13E2	1,1E-1	-1,87E1	MND	MND	MND	MND	MND	MND	MND	5,77E-3	0E0	-1,62E2	-5,31E0	-1,32E1
Non-re. PER as energy	MJ	2,46E2	1,58E1	1,27E1	2,74E2	1,02E1	2,32E0	MND	MND	MND	MND	MND	MND	MND	3,37E-2	0E0	1,64E0	0E0	-7,06E1
Non-re. PER as material	MJ	4,4E1	0E0	2,18E0	4,62E1	0E0	-8,6E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-2,43E1	-1,33E1	-4,7E-2
Total use of non-re. PER	MJ	2,9E2	1,58E1	1,48E1	3,2E2	1,02E1	-6,28E0	MND	MND	MND	MND	MND	MND	MND	3,37E-2	0E0	-2,27E1	-1,33E1	-7,06E1
Secondary materials	kg	2,24E-1	5,4E-3	1,51E-1	3,8E-1	3,34E-3	1,38E-2	MND	MND	MND	MND	MND	MND	MND	2,57E-6	0E0	4,46E-3	0E0	3,23E-1
Renew. secondary fuels	MJ	2,24E1	3,01E-5	5,35E-1	2,29E1	2,09E-5	4,54E-5	MND	MND	MND	MND	MND	MND	MND	1,34E-8	0E0	1,61E-5	0E0	-4,33E-5

Non-ren. secondary fuels	MJ	5,54E-1	0E0	0E0	5,54E-1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	4,54E-1	1,56E-3	2,03E0	2,48E0	1,11E-3	1,37E-3	MND	MND	MND	MND	MND	MND	MND	2,79E-5	0E0	-2,28E-3	0E0	-6,11E-2

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	9,06E-1	1,85E-2	5,64E-2	9,8E-1	1,16E-2	2,81E-2	MND	MND	MND	MND	MND	MND	MND	1,18E-4	0E0	2,85E-3	0E0	-3,37E-1
Non-hazardous waste	kg	2,27E1	2,37E-1	7,77E0	3,08E1	1,63E-1	3,53E-1	MND	MND	MND	MND	MND	MND	MND	7,68E-3	0E0	1,15E1	0E0	-1,81E1
Radioactive waste	kg	6,41E-4	1,1E-4	4,11E-5	7,92E-4	7,13E-5	1,07E-5	MND	MND	MND	MND	MND	MND	MND	2,45E-7	0E0	6,52E-7	0E0	-3,88E-4

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	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	1,75E-2	0E0	1,22E-2	2,97E-2	0E0	1,71E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	4E-2	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	1,83E-1	0E0	0E0	1,83E-1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	8,4E0	0E0	0E0

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.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
08.09.2023