ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Xis-tone JC.TGR Type (Glass Partition)
Comany Co., Ltd.

EPD HUB, HUB-5064
Published on 23.01.2026, last updated on 23.01.2026, valid until 22.01.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

一般情報 - GENERAL INFORMATION

メーカー

MANUFACTURER

メーカー名 Manufacturer	Comany Co., Ltd.
住所 Address	1-93 Industrial Park, Komatsu City, Ishikawa Prefecture, Japan
問い合わせ先 Contact details	m-nakagawa@po.comany.co.jp
ウェブサイト Website	https://www.comany.co.jp/

This EPD is intended for business-to-business and/or business-to-consumer communication. 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.

EPD 規格、スコープ、認証機関

EPD STANDARDS, SCOPE AND VERIFICATION

プログラムオペレータ Program operator	EPD Hub, hub@epdhub.com
参照規格 Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
製品カテゴリ Sector	Construction product
EPD カテゴリ Category of EPD	Third party verified EPD
親 EPD 番号 Parent EPD number	-
EPD のスコープ Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD 申請者 EPD author	Miyako Nakagawa
EPD 検証 EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD 検証 EPD verifier	Yazan Badour, as authorized verifier acting for EPD HUB Limited

製品 - PRODUCT

製品名 Product name	Xis-tone JC.TGR Type (Glass Partition)
追加ラベル Additional labels	-
参照製品 Product reference	-
原材料の原産地 Place(s) of raw material origin	Japan
製造地 Place of production	Comany Co., Ltd. Main Factory No. 1 to No. 4
設置場所および使用場所 Place(s) of installation and use	Japan
データ取得年 Period for data	2024/01-2024/12
EPD 平均化 Averaging in EPD	No grouping
A1-A3 の GWP-fossil 変動率 Variation in GWP-fossil for A1-A3 (%)	-
国際貿易商品番号 Global Trade Item Number (GTIN)	-
ノルウェー建築製品データベース Norwegian Building Product Database (NOBB)	-
A1-A3 特定データ（%） A1-A3 Specific data (%)	7. 27

環境影響データ概要 - ENVIRONMENTAL DATA SUMMARY

宣言単位 Declared unit	1 ㎡ of Glass partition
宣言単位あたりの質量 Declared unit mass	52.06 kg
包装の質量 Mass of packaging	0.1455 kg
GWP-fossil, A1-A3 (kgCO2e) GWP-fossil, A1-A3 (kgCO2e)	101
GWP-total, A1-A3 (kgCO2e) GWP-total, A1-A3 (kgCO2e)	102
副資材の投入(%) Secondary material, inputs (%)	0.35
副資材のアウトプット(%) Secondary material, outputs (%)	6.45
エネルギー使用量計, A1-A3 (kWh) Total energy use, A1-A3 (kWh)	345
水使用量計、A1-A3 (m3) Net fresh water use, A1-A3 (m3)	0.67

製品とメーカー-PRODUCT AND MANUFACTURER

メーカーの概要 - ABOUT THE MANUFACTURER

Comany Co., Ltd., a spatial design company that creates new value through partitions, is a comprehensive manufacturer of partitions that maximise the value of spaces. Headquartered in Komatsu City, Ishikawa Prefecture, the company has been consistently handling the manufacturing, sales, design, installation and maintenance of partitions for various settings such as offices, educational and medical facilities, and public spaces since its establishment in 1961.

製品説明 - PRODUCT DESCRIPTION

The Xis-tone JC.TGR Type is a model within the Xis series that particularly balances sound insulation and openness while pursuing spatial comfort and safety. By using glass across the entire surface within aluminum frames and arranging them in a continuous double-glass structure, it achieves higher sound insulation performance while creating bright and open spaces.This continuous structure allows the glass surface to flow uninterrupted, providing a clean design that doesn't obstruct visibility while integrating excellent acoustic insulation, earthquake resistance, and ease of installation at a high level. It is ideal for offices and educational/medical facilities where quietness and safety are essential.Equipped with the highly earthquake-resistant Synchron structure that withstands intensity 7 seismic testing, its safety has been verified through collaborative research with universities. As a member of the Xis series created on the company's 60th anniversary milestone, Xis-tone JC.TGR Type represents the new standard that supports the creation of spaces combining comfort, efficiency, and creativity.

Further information can be found at:
https://www.comany.co.jp/

主な原材料構成 - PRODUCT RAW MATERIAL MAIN COMPOSITION

原材料カテゴリ Raw material category	量、質量 - % Amount, mass- %	原材料源 Material origin
金属 Metals	6.1	Japan
鉱物 Minerals	93.1	Japan
化石原料 Fossil materials	0.8	Japan
バイオマス原料 Bio-based materials	0	-

生物起源 CO2 含有量 - BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

製品の生物起源 CO2 含有量、kg C Biogenic carbon content in product, kg C	-
梱包の生物起源 CO2 含有量、kg C Biogenic carbon content in packaging, kg C	-

機能単位と耐用年数 - FUNCTIONAL UNIT AND SERVICE LIFE

宣言単位 Declared unit	1 ㎡ of Glass partition
宣言単位あたりの質量 Mass per declared unit	52.06 kg
機能単位 Functional unit	-
参照耐用年数 Reference service life	-

化学物質、REACH 高懸念物質 - SUBSTANCES, REACH - VERY HIGH CONCERN

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

製品のライフサイクル - PRODUCT LIFE-CYCLE

システム境界 - 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	ND	ND	ND	ND	ND	ND	ND	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 = ND. Modules not relevant = MNR.

製造と梱包 - 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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

All materials used in the manufacturing of the Xis-tone JC.TGR Type are sourced domestically and delivered to Comany's headquarters factory by truck transportation. The manufacturing process consists of three main processes: cutting, processing, and painting, with aluminum frames being painted after processing.During manufacturing, electricity, heat (gas), and water are used to operate various equipment. Auxiliary materials include items such as paint. The completed products are packaged with plastic film and cardboard before shipment.Metal scraps generated during the processing stage are recycled. Other waste materials undergo either recycling or incineration treatment. It should be noted that the glass used for panels is procured on-site and therefore not included in the factory production process.

輸送と据付 - 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.

Transportation distance and methods from our main factory in Ishikawa Prefecture to the constraction sites throughout Japan (A4) are assumed to be 500km by a truck in all scenarios. Transportation does not cause losses as product is packaged properly. The product will be assembled on-site using tools such as an electric impact driver and aluminum sashes, and it is assumed that 0.297 kWh/m² of electricity will be consumed.Electricity consumption for installation of the system is included based on an assumed scenario for product installation (feedback from our installating teams). Installation losses are estimated at 0.58%.Installation losses is included based on an assumed scenario for product installation (feedback from our installating teams). Packaging wastes are considered in A5 stage. Cardboard wastes:75.8% are assumed to be collected and processed for recycling.The remaining 18.3% are assumed to be incinerated with energy recovery, and the 5.9% are assumed to be landfilled.The scenario is based on the results of a Survey of construction by-products in 2018 published by Japanese Ministry of Land, Infrastructure, Transport and Tourism. Polyethylene film (packaging):The EOL scenario is assumed to be 25% recycled, 57% energy recovery, 10% incinerated and 8% landfilled based on the report published by Japanese Ministry of Environment.

製品使用とメンテナンス - 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.

製品の廃棄・リサイクル段階 - PRODUCT END OF LIFE (C1-C4, D)

In this EPD, end-of-life scenarios are developed for each material categories.
Energy considered for demolition of building (C1) is considered negligible and transportation distance and methods to the treatment facilities (C2) are assumed to be 50km by a truck in all scenarios.

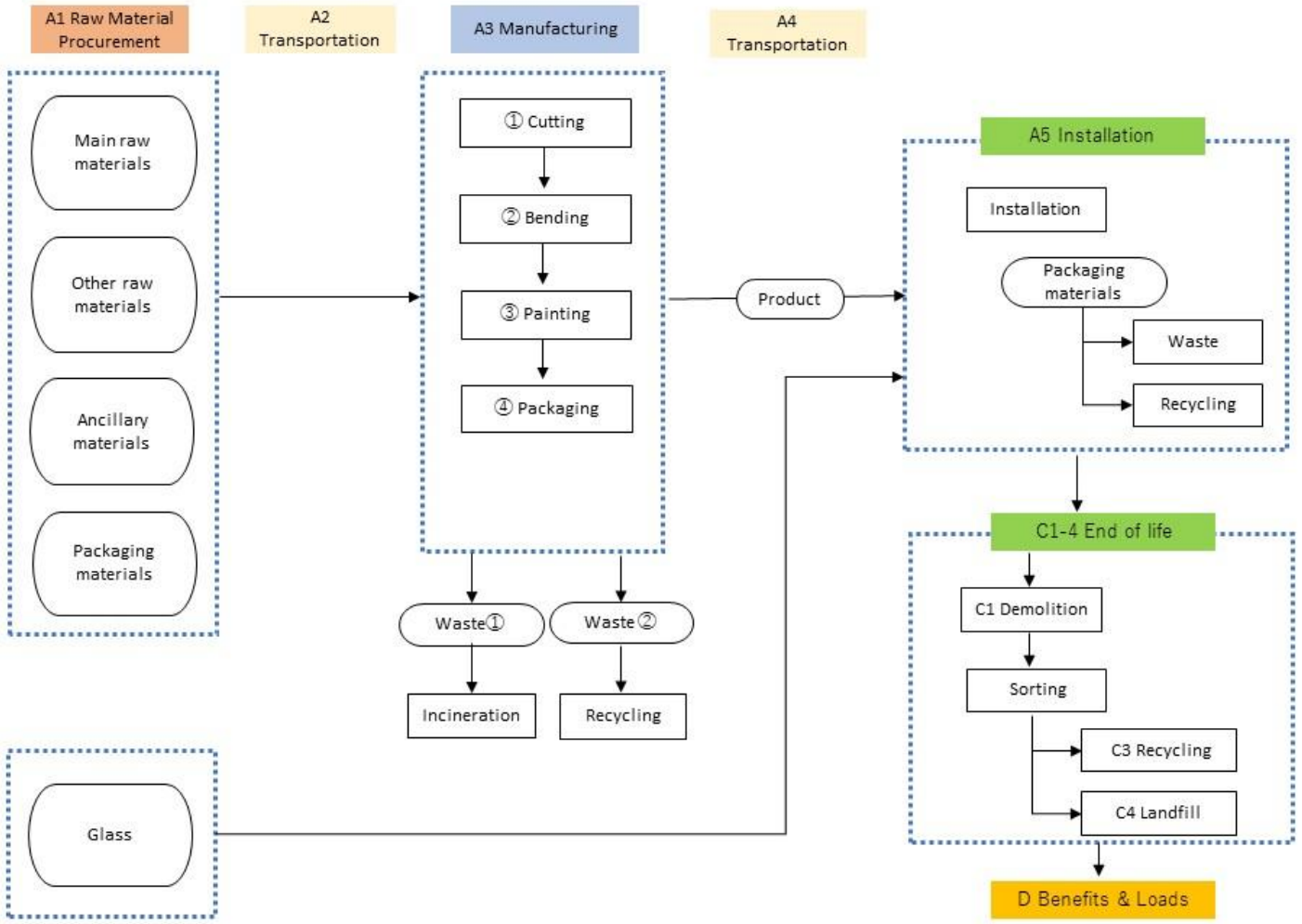
This product scenario(C3-C4) is based on the results of a Survey of construction by-products in 2018 published by the Ministry of Land, Infrastructure and Transport, with the assumption of no material recycled between construction sites.

Steel wastes:
Steel wastes are assumed to be 93.1% recycled and 6.9% landfilled.

Glass waste:
This scenario is based on worst case scenario, considering that 100% of glass is landfilled in the end of life.

Based on EOL scenarios, the benefits and loads are considered in D for cases where there is recycling, reuse and energy recovery.

製造プロセス – SYSTEM DIAGRAM



ライフサイクルアセスメント - LIFE-CYCLE ASSESSMENT

カットオフ基準 - 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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

This EPD includes all raw materials used in the production of the product (excluding auxiliary lubricants), transportation, energy and manufacturing waste, and final product disposal. Lubricants are excluded from the calculation as they account for 0.004% of the product by weight. The use phase is not included as there are no emissions or replacements during use. All processes from raw material procurement and processing, product manufacturing, distribution and installation, and end-of-life disposal of used products are included.

データの検証- VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

配分、推定 - 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:

データタイプ - Data type	配分 - Allocation
原材料 - Raw materials	No allocation
梱包材 - Packaging materials	Allocated by mass or volume
補助材料 - Ancillary materials	Not applicable
製造エネルギーと廃棄物 - Manufacturing energy and waste	Allocated by mass or volume

製品と製造拠点のグループ化 - PRODUCT & MANUFACTURING SITES GROUPING

グループ化の種類 - Type of grouping	No grouping
グループ化方法 - Grouping method	Not applicable
A1-A3 における GWP-fossil の変動率 - Variation in GWP-fossil for A1-A3 (%)	-

This EPD is product and factory specific.

LCA ソフトウェアと参考文献 - LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.10.1 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2’.

環境影響データ - ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

主な環境影響指標 - CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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	9,34E+01	1,64E+00	6,76E+00	1,02E+02	6,56E+00	1,20E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,81E-02	-3,53E-01	-3,88E-01	-3,02E+00
GWP – fossil	kg CO_2e	9,26E+01	1,64E+00	6,76E+00	1,01E+02	6,59E+00	1,20E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,81E-02	9,12E-02	1,56E-03	-3,02E+00
GWP – biogenic	kg CO_2e	8,34E-01	0,00E+00	1,76E-03	8,35E-01	0,00E+00	-1,76E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-4,44E-01	-3,89E-01	0,00E+00
GWP – LULUC	kg CO_2e	4,44E-02	8,54E-04	2,93E-03	4,82E-02	2,91E-03	3,74E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,28E-05	1,07E-04	8,92E-07	-1,80E-05
Ozone depletion pot.	kg CFC_{-11}e	3,32E-06	2,32E-08	1,20E-07	3,46E-06	8,69E-08	2,46E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,09E-10	9,81E-10	4,52E-11	-2,77E-09
Acidification potential	mol H^+e	8,25E-01	3,80E-03	2,58E-02	8,54E-01	1,55E-02	6,40E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,28E-04	9,76E-04	1,11E-05	-1,06E-02
EP-freshwater[2)]	kg Pe	6,85E-03	1,46E-04	1,12E-03	8,11E-03	7,14E-04	1,35E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,24E-06	4,94E-05	1,28E-07	-9,59E-04
EP-marine	kg Ne	1,17E-01	8,09E-04	5,35E-03	1,23E-01	3,46E-03	1,02E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,79E-05	2,17E-04	4,22E-06	-1,58E-03
EP-terrestrial	mol Ne	1,88E+00	8,74E-03	5,69E-02	1,94E+00	3,74E-02	1,45E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,23E-04	2,44E-03	4,61E-05	-2,85E-02
POCP (“smog”)[3)]	kg NMVOCe	3,94E-01	4,87E-03	2,19E-02	4,21E-01	2,04E-02	3,48E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,80E-04	7,20E-04	1,65E-05	-8,19E-03
ADP-minerals & metals[4)]	kg Sbe	2,02E-02	6,90E-06	1,72E-05	2,02E-02	2,23E-05	1,19E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,01E-08	5,38E-06	2,48E-09	-4,75E-05
ADP-fossil resources	MJ	1,10E+03	2,24E+01	9,38E+01	1,22E+03	9,00E+01	1,07E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,00E-01	1,08E+00	3,83E-02	-2,28E+01
Water use[5)]	m^3e depr.	1,90E+01	1,13E-01	9,37E-01	2,01E+01	4,57E-01	1,60E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,92E-03	1,70E-02	1,11E-04	5,09E-01

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.

追加(オプション)の環境影響指標 - ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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	8,65E-06	9,28E-08	1,72E-07	8,92E-06	4,13E-07	6,17E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,70E-09	1,36E-08	2,52E-10	-2,13E-07
Ionizing radiation[6)]	kBq U235e	1,61E+00	2,10E-02	3,44E-01	1,97E+00	7,35E-02	2,67E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,41E-04	3,87E-03	2,41E-05	4,21E-02
Ecotoxicity (freshwater)	CTUe	1,47E+03	4,54E+00	1,25E+01	1,49E+03	1,04E+02	1,84E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,30E-02	6,25E-01	3,21E-03	2,12E+01
Human toxicity, cancer	CTUh	8,24E-08	2,85E-10	1,51E-09	8,42E-08	1,02E-09	6,77E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,88E-12	7,30E-11	2,88E-13	1,55E-09
Human tox. non-cancer	CTUh	1,40E-06	1,35E-08	3,28E-08	1,45E-06	5,24E-08	1,20E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,76E-10	4,66E-09	6,61E-12	2,42E-07
SQP[7)]	-	2,17E+02	9,70E+00	2,01E+01	2,47E+02	4,58E+01	3,10E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,00E-01	2,04E+00	7,54E-02	-1,19E+01

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.

天然資源の利用 - 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	4,19E+01	3,84E-01	5,65E+00	4,79E+01	1,32E+00	5,43E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,68E-03	1,67E-01	3,70E-04	-3,87E+00
Renew. PER as material	MJ	1,83E-01	0,00E+00	0,00E+00	1,83E-01	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-5,49E-02	-1,28E-01	0,00E+00
Total use of renew. PER	MJ	4,21E+01	3,84E-01	5,65E+00	4,81E+01	1,32E+00	5,43E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,68E-03	1,12E-01	-1,28E-01	-3,87E+00
Non-re. PER as energy	MJ	1,09E+03	2,24E+01	7,86E+01	1,19E+03	9,00E+01	5,79E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,00E-01	1,08E+00	3,83E-02	-2,25E+01
Non-re. PER as material	MJ	9,84E+00	0,00E+00	8,15E+00	1,80E+01	0,00E+00	-8,15E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-9,15E+00	-6,85E-01	0,00E+00
Total use of non-re. PER	MJ	1,10E+03	2,24E+01	8,67E+01	1,21E+03	9,00E+01	-2,37E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,00E-01	-8,08E+00	-6,46E-01	-2,25E+01
Secondary materials	kg	1,81E-01	1,16E-02	2,56E-02	2,18E-01	3,77E-02	2,26E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,79E-04	1,25E-03	9,63E-06	2,07E+00
Renew. secondary fuels	MJ	3,35E-02	1,49E-04	5,98E-03	3,97E-02	4,59E-04	2,42E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,27E-06	5,66E-05	1,99E-07	-4,59E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	6,44E-01	3,18E-03	2,33E-02	6,71E-01	1,18E-02	4,95E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,62E-05	4,70E-04	3,98E-05	-1,01E-01

8) PER = Primary energy resources.

廃棄・リサイクル段階 — 廃棄 - 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	8,34E+00	4,47E-02	3,04E-01	8,69E+00	2,02E-01	7,08E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,00E-04	8,40E-03	4,23E-05	-1,85E+00
Non-hazardous waste	kg	7,83E+01	8,70E-01	9,10E+00	8,82E+01	3,97E+00	9,73E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,32E-02	2,36E-01	9,67E-04	4,68E+01
Radioactive waste	kg	9,08E-04	5,15E-06	7,71E-05	9,90E-04	1,80E-05	9,11E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,35E-08	9,51E-07	5,87E-09	9,72E-06

廃棄・リサイクル段階 — 出力フロー - 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	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,34E-12	0,00E+00	1,82E+00	1,82E+00	0,00E+00	7,45E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,36E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	1,22E-20	0,00E+00	0,00E+00	1,22E-20	0,00E+00	7,70E-02	ND	ND	ND	ND	ND	ND	ND	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	2,41E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,60E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,05E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

環境影響 - ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	9,27E+01	1,63E+00	6,73E+00	1,01E+02	6,56E+00	1,20E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,79E-02	9,10E-02	1,55E-03	-3,00E+00
Ozone depletion Pot.	kg CFC_{-11}e	2,89E-06	1,85E-08	9,56E-08	3,00E-06	6,99E-08	2,11E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,27E-10	8,12E-10	3,59E-11	-3,85E-09
Acidification	kg SO_2e	6,43E-01	3,09E-03	2,12E-02	6,67E-01	1,26E-02	5,04E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,48E-05	7,85E-04	8,19E-06	-8,44E-03
Eutrophication	kg PO_4^3e	1,02E-01	7,35E-04	1,06E-02	1,14E-01	2,93E-03	8,21E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,33E-05	1,12E-04	2,60E-06	4,95E-03
POCP (“smog”)	kg C_2H_4e	3,55E-02	2,86E-04	1,83E-03	3,76E-02	1,14E-03	2,91E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,87E-06	4,64E-05	7,74E-07	-1,99E-03
ADP-elements	kg Sbe	2,01E-02	6,70E-06	1,66E-05	2,01E-02	2,17E-05	1,18E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,79E-08	5,36E-06	2,43E-09	-4,74E-05
ADP-fossil	MJ	1,09E+03	2,21E+01	8,88E+01	1,20E+03	8,88E+01	1,03E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,95E-01	1,02E+00	3,79E-02	-2,34E+01

環境影響 - ENVIRONMENTAL IMPACTS – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	9,26E+01	1,64E+00	6,76E+00	1,01E+02	6,60E+00	1,20E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,81E-02	9,13E-02	1,56E-03	-3,02E+

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated in line with the guidance. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

シナリオドキュメント- SCENARIO DOCUMENTATION

製造エネルギーのシナリオドキュメント- MANUFACTURING ENERGY SCENARIO DOCUMENTATION

Scenario parameter	Value
Electricity data source and quality	Market for electricity, medium voltage, Japan, Ecoinvent
Electricity CO2e / kWh	0.68 kg CO_2e / kWh
District heating data source and quality	-
District heating CO2e / kWh	-

A4 輸送のシナリオドキュメント- TRANSPORT SCENARIO DOCUMENTATION A4

Scenario parameter	Value
Vehicle type used for transport	Transport, freight, lorry, all sizes, EURO 6 to generic market for transport, freight, lorry, unspecified
Average transport distance, km	500
Capacity utilization (including empty return) %	50%
Bulk density of transported products	-
Volume capacity utilization factor	1

設置シナリオのドキュメント （設置廃棄物） - INSTALLATION SCENARIO DOCUMENTATION - A5 (INSTALLATION WASTE)

Scenario parameter	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	-
Water use / m^3	-
Other resource use / kg	-
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	Market for electricity, low voltage, Ecoinvent, 0.297 kWh
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	Polyethylene film: 0.135 kg Paperboard: 0.012 kg Steel: 0.021 kg Glass: 0.281 kg
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	% are for recycling, incineration w. energy recovery, landfill respectively. PE film: 25%, 57%, 18% Paperboard: 94.8%, 0%, 5.2% Steal: 93.1%, 0%, 6.9% Glass: 0%, 0%, 100%
Direct emissions to ambient air, soil and water / kg	-

廃棄・リサイクル段階のシナリオドキュメント-End of life scenario documentation

	Value
Collection process – kg collected separately	52.065
Collection process – kg collected with mixed waste	-
Recovery process – kg for re-use	-
Recovery process – kg for recycling	3.355
Recovery process – kg for energy recovery	-
Disposal (total) – kg for final deposition	48.710
Scenario assumptions e.g. transportation	Transported 50 km by lorry

検証報告 - THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

Yazan Badour, as authorized verifier acting for EPD HUB Limited

23.01.2026