ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Isover Standard λ35 (IS35105L435)

Version 1
Date of publication: 2024/01/12
Validity: 5 years
Valid until: 2028/12/29
Scope of the EPD®: Japan

EPD®
THE INTERNATIONAL EPD® SYSTEM

The International EPD® System Programme operator: EPD international AB

Registration number: S-P-12161

Manufacturer address: Akeno, 100 Mukoueno, Chikusei, Ibaraki 300-4522 (Japan)

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

SAINT-GOBAIN

General information

Company information

Manufacturer: MAG-ISOVER
Production plant: Akeno-plant
Management system-related certification: ISO 9001: Quality management systems (JP13/062467) & ISO 14001 - Environment management systems (JP13/071252)
Programme used: EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works – Environmental product declaration - core rules for the product category of construction product and The International EPD® System
PCR identification: PCR 2019:14 version 1.2.5 for Construction products; Complementary PCR (c-PCR-005), 2019-12-20. Thermal insulation products (EN 16783:2017)
Prepared by: IVL Swedish Environmental Research Institute, EPD International Secretariat
UN CPC CODE: 37990 Non-metallic mineral products n.e.c. (including mineral wool, expanded mineral materials, worked mica, articles of mica, non-electrical articles of graphite or other carbon and articles of peat)
Owner of the declaration: MAG-ISOVER
Product name and manufacturer represented: Isover Standard λ35
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EPD® prepared by: Sandra, Perez-Jimenez (Saint-Gobain LCA central team) and Marie-Charlotte, Harquet (Saint-Gobain LCA central team)
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Geographical scope of the EPD®: Japan
EPD® registration number: S-P-12161
Declaration issued: 2024/01/12 valid until: 2028/12/29
Demonstration of verification: an independent verification of the declaration was made, according to ISO 14025:2010. This verification was external and conducted by the following third party based on the PCR mentioned above.

Programme information

PROGRAMME:	The International EPD® System
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CEN standard EN 15804:2012+A2:2019/AC:2021 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction Products, version 1.2.5
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com for a list of members.
President: Claudia A. Peña. University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact - Contact via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006:
☐ EPD process certification ☒ EPD verification
Third party verifier: Marcel Gomez
Marcel Gómez Consultoria Ambiental Tlf 0034 630 64 35 93 - info@marcelgomez.com
Approved by: The International EPD© System
Procedure for follow-up of data during EPD validity involves third part verifier: ☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.
EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804:2012+A2:2019/AC:2021 may not be comparable. For two EPDs to be comparable, they

must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison.. For further information about comparability, see EN 15804:2012+A2:2019/AC:2021 and ISO 14025:2006.

Product description

Product description and description of use

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 m² of mineral wool with a thermal resistance of 3,0 $K.m^2.W^{-1}$ of Isover Standard λ35.

This EPD applies for one specific product coming from one single plant of MAG-ISOVER and is based on the most representative product.

The production site of MAG-ISOVER in Akeno plant uses mineral raw materials, that are late sent to follow melting and fiberizing techniques to produce glass wool. The products obtained come in the form of a "mineral wool mat" consisting of a soft and airy structure.

On Earth, naturally, the best insulator is dry immobile air at 10°C: its thermal conductivity factor, expressed in λ, is 0,025 W/(m.K) (watts per meter Kelvin degree). The thermal conductivity of mineral wool is close to immobile air as its lambda varies from 0,030 W/(m.K) for the most efficient to 0,045 W/(m.K) to the least. With its entangled structure, mineral wool is a porous material that traps the air, making it one of the best insulating materials. The porous and elastic structure of the wool also absorbs noise in the air, knocks and offers acoustic correction inside premises. Mineral wool containing incombustible materials does not fuel fire or propagate flames.

Mineral wool insulation is used in buildings as well as industrial facilities. It ensures a high level of comfort, lowers energy costs, minimizes carbon dioxide (CO_2) emissions, prevents heat loss through pitched roofs, walls, floors, pipes, and boilers, reduces noise pollution and protects homes, and industrial facilities from the risk of fire. Mineral wool products last for the average building's lifetime.

Technical data/physical characteristics:
Thermal resistance of the Product: 3,0 $K.m^2.W^{-1}$ (JIS A 1412-2: Thermal Conductivity)
The thermal conductivity of the mineral wool is: 0,035 W/(m·K) (JIS A 1412-2: Thermal Conductivity)
Reaction to fire: Certification NM-4596(1)
Density: 24 kg/m^3

Declaration of the main product components and/or materials

Description of the main components and/or materials for 1 m^2 of mineral wool with a thermal resistance of 3.0 $K.m^2.W^{-1}$ for the calculation of the EPD®:

PARAMETER	VALUE
Quantity for 1 m² of product	2,52 kg of finished product
Thickness	105 mm

Facing	Glue: 0,004: kg/m² Polyethylene (top+bottom): 0,09 kg/m²
Packaging for the transportation and distribution	Low-density polyethylene (LDPE) film with print: 0,038 kg/m² Polypropylene (PP) band: 0,001 kg/m²
Product used for the Installation	None

Description of the main product components and/or materials:

Product components	Weight (kg)	Post-consumer recycled material weight (%)	Biogenic material, weight- % and kg C/kg
Glass wool	2 -3	81	0 respectively 0
Facing	0,05 - 0,10	0	0 respectively 0
Binder	0,50 - 0,30	0	4 respectively 0,06
Sum	**2,52**		
Packaging materials	**Weight (kg)**	**Weight versus the product (%)**	**Weight biogenic carbon, kg C/kg**
Low-density polyethylene (LDPE) film	0,020 - 0,040	1,5	0
PP band	0,001- 0,003	0,04	0

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.
The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

LCA calculation information

TYPE OF EPD	Cradle to grave and module D (A + B + C + D)
FUNCTIONAL UNIT	Thermal insulation on 1 m² with a thermal resistance of 3,0 K.m²/W with a thickness of 105mm, installed and, with an estimated useful life of 50 years
SYSTEM BOUNDARIES	Cradle to gate with options, modules A4–A5, B1–B7, C1–C4 and module D
REFERENCE SERVICE LIFE (RSL)	The Reference Service Life (RSL) of the insulation product is 50 years. This 50-year value is the amount of time that we recommend our products last for without refurbishment and corresponds to standard building design life.
CUT-OFF RULES	Life Cycle Inventory data for a minimum of 99% of total inflows to the upstream and core module shall be included. Flows related to human activities such as employee transport are excluded. Transportation in-site is excluded The construction of plants, production of machines and transportation systems are excluded
ALLOCATIONS	Allocation criteria are based on mass. The polluter pays and modularity principles have been followed.
GEOGRAPHICAL COVERAGE AND TIME PERIOD	Scope: Japan Data is collected from one production site Akeno-plant located in Japan Data collected for the year 2022 Cradle to grave study
BACKGROUND DATA SOURCE	The databases Gabi 2022 and ecoinvent v.3.6
SOFTWARE	GaBi 10

According to EN 15804:2012+A2:2019/AC:2021, EPDs of construction products may not be comparable if they do not comply with this standard. According to ISO 21930:2017, EPDs might not be comparable if they are from different programmes.

LCA scope

System boundaries (X=included. MND=module not declared)

	PRODUCT STAGE			CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
	Raw material supply	Transport	Manufacturing	Transport	Construction-Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-recovery
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP	JP

Specific data used	>90% GWP- GHG
Variation products	One site one product
Variation sites	One site one product

Life cycle stages

A1-A3, Product stage

Description of the stage: The product stage is subdivided into 3 modules A1, A2 and A3 respectively Raw material supply, Transport to the manufacturer and “Manufacturing”.

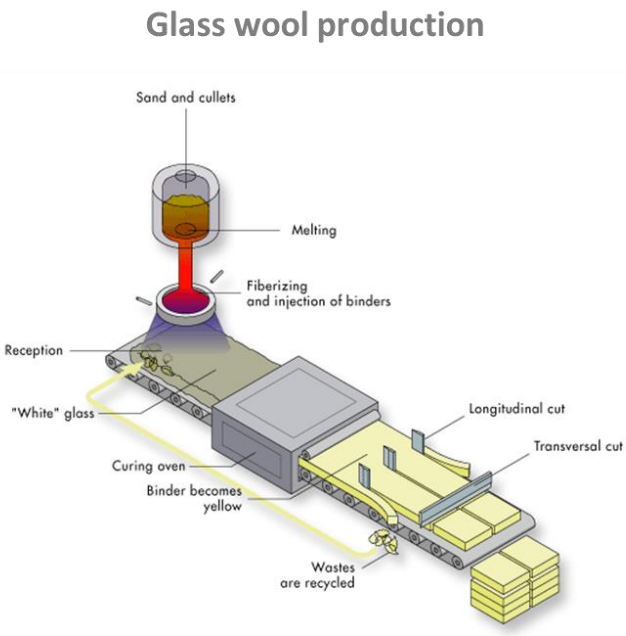
A1, Raw materials supply
This module includes the extraction and transformation of raw materials and packaging.

A2, Transport to the manufacturer
This module includes the transportation of raw materials and packaging to the manufacturing site. The modelling includes road, boat and/or train transportations.

A3, Manufacturing
This module includes the manufacturing of the product and packaging. This module also includes energy consumption and the emissions and wastes generated during manufacturing.

Manufacturing process flow diagram

System diagram:



Manufacturing in detail:

Glass wool is made from high-temperature molten glass that is blown away using centrifugal force to form fine cotton-like fibers.
Then, a binder is sprayed on the material to form it, and the product is heated in an oven.
1. Raw material preparation: Each raw material is weighed, mixed, and put into the melting furnace.
2. Melting: The mixed raw materials are melted in an electric or gas furnace at a high temperature of 1,200~1,400℃.
3. Fiberization: The molten glass is put into a fiberization device and is made into fibers by centrifugal force. After that, a binder (binding agent) is sprayed on it.
4. Forming: The glass wool is dried through an oven and form it to the specified density and thickness.
5. Cutting: The glass wool is cut to the required width.

A4-A5, Construction process stage

Description of the stage: The construction process is divided into 2 modules: A4, Transport to the building site and A5, Installation in the building.

A4, Transport to the building site: This module includes transport from the production gate to the building site. Transport is calculated based on a scenario with the parameters described in the following table.

PARAMETER	VALUE
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc.	Average truck trailer (13 t payload) with a real 3,5 t payload, diesel consumption 29 liters for 100 km
Distance	1441 km by truck 76 km by boat
Capacity utilisation (including empty returns)	100% of the capacity in volume 0% of empty returns
Bulk density of transported products	106 kg/m^3
Volume capacity utilisation factor	1

A5, Installation in the building: this module includes:

Quantification of product losses during installation

No additional accessory was considered for the implementation phase insulation product.

No energy is needed to install the product (manual installation without tool)

PARAMETER	VALUE/DESCRIPTION
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	5 %
Distance	100 km to landfill by truck
Output materials (specified by type) as results of waste processing at the building site e.g., of collection for recycling, for energy recovering, disposal (specified by route)	Packaging wastes are 100% landfilled Glass wool losses are 100 % landfilled

B1-B7, Use stage (excluding potential savings)

Description of the stage: the use stage is divided into the following modules:

- B1: Use
- B2: Maintenance
- B3: Repair
- B4: Replacement
- B5: Refurbishment
- B6: Operational energy use
- B7: Operational water use

Description of the scenarios and additional technical information:
The product has a reference service life of 50 years. It is assumed that the product will last in situ with no requirements for maintenance, repair, replacement, or refurbishment throughout this period. Therefore, it has no impact at this stage.

C1-C4, End of Life Stage

Description of the stage: this stage includes the next modules:

- C1, Deconstruction, demolition: The de-construction and/or dismantling of the product take part of the demolition of the entire building. For this study, the environmental impact is assumed to be very small and can be neglected.
- C2, Transport to waste processing
- C3, Waste processing for reuse, recovery and/or recycling
- C4, Disposal, including provision and all transport, provision of all materials, products and related energy and water use

Description of the scenarios and additional technical information:

PARAMETER	VALUE/DESCRIPTION
Collection process specified by type	The entire product, including any surfacing is collected alongside any mixed construction waste. 2,5 kg of mineral wool (collected with mixed construction waste)
Recovery system specified by type	There is no recovery, recycling or reuse of the product once it has reached its end of life phase.
Disposal specified by type	The product alongside the mixed construction waste from demolishing is landfilled. 2,5 kg of mineral wool are landfilled
Assumptions for scenario development (e.g. transportation)	The product alongside the mixed construction waste from demolishing is landfilled The waste going to landfill is transported 100 km by truck from deconstruction/demolition sites to landfill

D, Reuse/recovery/recycling potential

100% of wastes are landfilled. There is no reuse, nor recovery, nor recycling of this product. Hence, no recycling benefits are reported on stage D.

LCA results

As specified in EN 15804:2012+A2:2019/AC:2021 and the Product-Category Rules, the environmental impacts are declared and reported using the baseline characterization factors from the ILCD. Specific data has been supplied by the plant, and generic data come from GaBi and ecoinvent databases.

All emissions to air, water, and soil, and all materials and energy used have been included.

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.

All the results refer to a functional unit of 1 m^2 of mineral wool with thermal resistance of 3,0 $m^2.K.W^{-1}$ with a thickness of 105 mm.

The following results corresponds to a single product manufactured in a single plant:

Environmental Impacts

Environmental indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY RECYCLING
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Climate Change [kg CO2 eq.]	2,47E+00	8,85E-01	1,49E-01	0	0	0	0	0	0	0	0	1,55E-02	0	5,71E-01	0
Climate Change (fossil) [kg CO2 eq.]	3,00E+00	8,85E-01	1,49E-01	0	0	0	0	0	0	0	0	1,55E-02	0	3,82E-02	0
Climate Change (biogenic) [kg CO2 eq.]	-5,32E-01	0	0	0	0	0	0	0	0	0	0	0	0	5,32E-01	0
Climate Change (land use change) [kg CO2 eq.]	3,49E-03	8,39E-06	1,56E-04	0	0	0	0	0	0	0	0	1,47E-07	0	1,10E-04	0
Ozone depletion [kg CFC-11 eq.]	1,73E-06	1,87E-16	7,45E-08	0	0	0	0	0	0	0	0	3,28E-18	0	1,42E-16	0
Acidification terrestrial and freshwater [Mole of H+ eq.]	1,06E-02	5,65E-03	5,49E-04	0	0	0	0	0	0	0	0	9,21E-05	0	2,74E-04	0
Eutrophication freshwater [kg P eq.]	2,90E-04	1,79E-07	1,25E-05	0	0	0	0	0	0	0	0	3,14E-09	0	6,56E-08	0
Eutrophication marine [kg N eq.]	2,95E-03	2,71E-03	1,84E-04	0	0	0	0	0	0	0	0	4,43E-05	0	7,06E-05	0
Eutrophication terrestrial [Mole of N eq.]	2,72E-02	2,97E-02	1,61E-03	0	0	0	0	0	0	0	0	4,87E-04	0	7,76E-04	0
Photochemical ozone formation - human health [kg NMVOC eq.]	6,00E-03	5,16E-03	3,43E-04	0	0	0	0	0	0	0	0	8,41E-05	0	2,14E-04	0
Resource use, mineral and metals [kg Sb eq.][1]	4,45E-05	9,00E-09	1,91E-06	0	0	0	0	0	0	0	0	1,57E-10	0	3,43E-09	0
Resource use, energy carriers [MJ][1]	4,49E+01	1,20E+01	2,13E+00	0	0	0	0	0	0	0	0	2,09E-01	0	5,01E-01	0
Water deprivation potential [m³ world equiv.][1]	8,91E-01	8,35E-04	3,89E-02	0	0	0	0	0	0	0	0	1,46E-05	0	4,01E-03	0

[1] The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Resources Use

Resources Use indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Use of renewable primary energy (PERE) [MJ]	5,12E+00	3,52E-02	2,24E-01	0	0	0	0	0	0	0	0	6,17E-04	0	6,57E-02	0
Primary energy resources used as raw materials (PERM) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT) [MJ]	5,12E+00	3,52E-02	2,24E-01	0	0	0	0	0	0	0	0	6,17E-04	0	6,57E-02	0
Use of non-renewable primary energy (PENRE) [MJ]	4,00E+01	1,20E+01	1,92E+00	0	0	0	0	0	0	0	0	2,09E-01	0	5,02E-01	0
Non-renewable primary energy resources used as raw materials (PENRM) [MJ]	4,97E+00	0	2,13E-01	0	0	0	0	0	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ]	4,49E+01	1,20E+01	2,13E+00	0	0	0	0	0	0	0	0	2,09E-01	0	5,02E-01	0
Input of secondary material (SM) [kg]	2,14E+00	0	9,20E-02	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	7,17E-23	0	3,08E-24	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	8,42E-22	0	3,62E-23	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m3]	2,33E-02	5,87E-05	1,02E-03	0	0	0	0	0	0	0	0	1,03E-06	0	1,26E-04	0

Waste Category & Output flows

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
Waste Category & Output Flows	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Hazardous waste disposed (HWD) [kg]	1,06E-08	6,13E-10	8,47E-10	0	0	0	0	0	0	0	0	1,07E-11	0	7,65E-09	0
Non-hazardous waste disposed (NHWD) [kg]	1,26E-02	3,87E-04	1,27E-01	0	0	0	0	0	0	0	0	6,77E-06	0	2,52E+00	0
Radioactive waste disposed (RWD) [kg]	3,54E-04	1,95E-06	1,55E-05	0	0	0	0	0	0	0	0	3,41E-08	0	5,70E-06	0
Components for re-use (CRU) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Materials for Recycling (MFR) [kg]	3,89E-02	0	1,67E-03	0	0	0	0	0	0	0	0	0	0	0	0
Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported thermal energy (EET) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Additional voluntary indicators from EN 15804:2012+A2:2019/AC:2021 (according to ISO 21930:2017)

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY RECYCLING
Environmental indicators	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
GWP-GHG [kg CO2 eq.][2]	2,69E-02	2,24E-04	1,16E-03	0	0	0	0	0	0	0	0	3,92E-06	0	1,21E-04	0

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Information on biogenic carbon content

	PRODUCT STAGE
Biogenic Carbon Content	**A1 / A2 / A3**
Biogenic carbon content in product [kg]	1,45E-01
Biogenic carbon content in packaging [kg]	0,00E+00

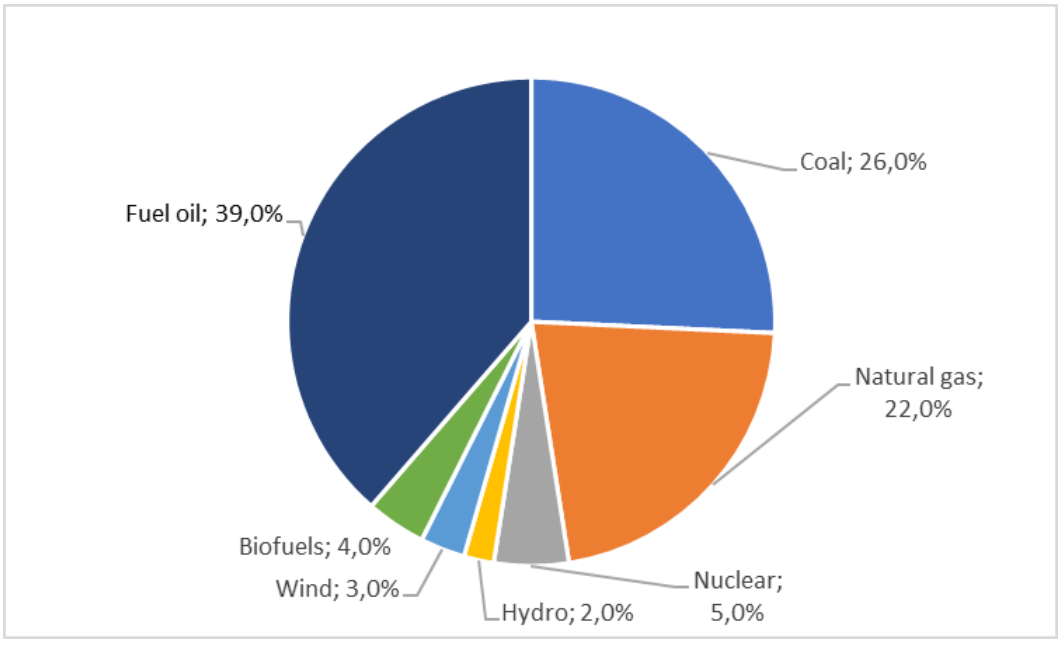
Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2.

The biogenic carbon content in the product, is due to the production of citric acid and maltitol, that are used as part of the binder recipe. On the other hand, there is no biogenic carbon content in packaging, since the product is compressed and packed in low-density polyethylene film and tied up with polypropylene bands.

Additional information:

Electricity information

TYPE OF INFORMATION	DESCRIPTION
Location	Representative of average electricity production in Japan
Geographical representativeness description	Share of energy sources 26,0% Coal 22,0% Natural gas 5,0 % Nuclear 2,0% Hydro 3,0% Wind 4,0% Biofuels 39,0% Fuel oil
Reference year	2021 (Latest year available on IEA)
Type of dataset	Cradle to gate from Thinkstep database
Source	International Energy Agency (IEA)
EN15804+A2 Climate Change (fossil)	0,670 kg of CO_2 eq/kWh



Data quality

Inventory data quality is judged by geographical, temporal, and technological representativeness. To cover these requirements and to ensure reliable results, first-hand industry data crossed with LCA background datasets were used. After evaluating the inventory, according to the defined ranking in the LCA report, the assessment reflects fair inventory data quality for the geographical representation, and good for technological, and very good for temporal representation.

Environmental impacts according to EN 15804:2012 + A1

The following tables presents results of Isover Standard λ35 (IS35105L435) according to EN 15804+A1.

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
Environmental impacts	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Global Warming Potential (GWP) [kg CO2eq.]	2,95E+00	8,78E-01	1,45E-01	0	0	0	0	0	0	0	0	1,53E-02	0	3,75E-02	0
Ozone depletion (ODP) [kg CFC 11eq.]	2,25E-06	2,50E-16	9,69E-08	0	0	0	0	0	0	0	0	4,37E-18	0	1,89E-16	0
Acidification potential (AP) [kg SO2eq.]	8,53E-03	3,90E-03	4,34E-04	0	0	0	0	0	0	0	0	6,36E-05	0	2,20E-04	0
Eutrophication potential (EP) [kg (PO4)3-eq.]	2,91E-03	9,23E-04	1,40E-04	0	0	0	0	0	0	0	0	1,51E-05	0	2,48E-05	0
Photochemical ozone creation (POCP) - [kg Ethylene eq.]	4,48E-04	1,15E-04	2,27E-05	0	0	0	0	0	0	0	0	1,83E-06	0	1,77E-05	0
Abiotic depletion potential for non-fossil resources (ADP-elements) [kg Sb eq.]	1,35E-04	9,28E-09	5,78E-06	0	0	0	0	0	0	0	0	1,62E-10	0	1,32E-08	0
Abiotic depletion potential for fossil resources (ADP-fossil fuels) [MJ]	4,25E+01	1,20E+01	2,03E+00	0	0	0	0	0	0	0	0	2,09E-01	0	4,87E-01	0

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