EcoLeaf
Type III Environmental Declaration (EPD)
Registration number： JR-BW-23001E-A

Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

AGC Inc.

# Magnetron Coated Glass

## Functional unit

1 $m^2$

## System boundary

☐ final products ■ intermediate products

Raw material acquisition-Distribution-Production

## Main specifications of the product

**Products**； T-Sunlux、Planibel Magnetron Low-E
Stopray、Iplus、SUNFORT

**Production sites**；Cikampek Factory（Indonesia）
Samut Prakan Factory（Thailand）

**Specifications**；

Thickness range：3～12mm

Weight：15kg（at thickness＝6.0mm）

**Processing method**；Magnetron enhanced sputtering

**Main application**；

Architectural and Home appliances use

## Company Information

AGC Glass Asia Pacific
https://agc-glassasia.com/contact-us/

| | |
|---|---|
| **Registration#** | JR-BW-23001E-A |
| **PCR number** | PA-171190-BW-01 |
| **PCR name** | Processed glass |
| **Publication date** | 6-Mar-2023 |
| **Verification date** | 17-Feb-2023 |
| **Verification method** | Product-by-product |
| **Verification#** | JV-BW-23001 |
| **Expiration date** | 16-Feb-2028 |
| **PCR review was conducted by:** | |
| **Approval date** | 1-Oct-2023 |
| PCR review panel chair | Ken Yamagishi<br>Sustainable Management Promotion Organization |

## Third party verifier*

Yuki Sakamoto

Independent verification of data & declaration in accordance with ISO14025 and ISO21930

☐internal ■external

*Auditor's name is stated if system certification has been performed.

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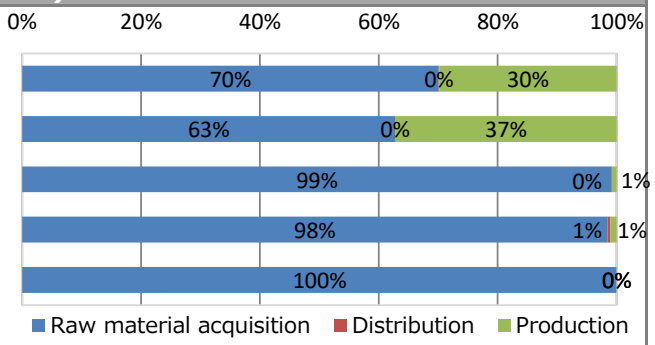
## 1. Results of life cycle impact assessment (LCIA)

| | | |
|---|---|---|
| Global warming IPCC2013 GWP100a | 26 | kg-CO2eq |
| Ozone layer destruction | 0.00010 | g-CFC-11eq |
| Acidification | 0.069 | kg-SO2eq |
| Photochemical ozone | 0.00061 | kg-C2H4eq |
| Eutrophication | 0.000063 | kg-PO43-eq |




| Parameter \ stage | Unit | Total | Raw material acquisition | Distribution | Production |
|---|---|---|---|---|---|
| Global warming IPCC2013 GWP100a | kg-$CO_2$eq | 2.6E+01 | 1.8E+01 | 3.6E-02 | 7.7E+00 |
| Ozone layer destruction | g-CFC-11eq | 1.0E-04 | 6.3E-05 | 3.0E-10 | 3.7E-05 |
| Acidification | kg-$SO_2$eq | 6.9E-02 | 6.8E-02 | 1.0E-05 | 5.5E-04 |
| Photochemical ozone | kg-$C_2H_4$eq | 6.1E-04 | 6.0E-04 | 3.1E-06 | 6.5E-06 |
| Eutrophication | kg-$PO4^{3-}$eq | 6.3E-05 | 6.3E-05 | 2.5E-16 | 5.2E-09 |

## 2. Life cycle inventory analysis (LCI)

| Parameter | | Unit |
|---|---|---|
| Non-renewable material resources | 2.0E+01 | kg |
| Non-renewable energy resources | 3.5E+02 | MJ |
| Renewable material resources | 4.0E+00 | kg |
| Renewable primary energy | 2.0E+01 | MJ |
| Consumption of freshwater | 4.4E-02 | m3 |

## 3. Material composition

| Material | | Unit |
|---|---|---|
| Silica sand | 44.3 | % |
| Soda ash | 13.4 | % |
| Dolomite | 15.4 | % |
| Cullet | 22.7 | % |
| Others | 4.1 | % |

(remark)

Due to rounding, the value in the total field and the total value of the breakdown may differ slightly.

## 4. Waste to disposal

| Parameter | | Unit |
|---|---|---|
| Hazardous waste | 0.00E+00 | kg |
| Non-hazardous waste. | 5.4E-02 | kg |

*Data derived from LCA and not assigned to the impact categories of LCIA

## 5. Additional explanation

The above tables1.2.3.4. shows the calculation result of a representative product with a thickness of 6.0 mm.The range of applicable products is thickness of 3.0/4.0/5.0/6.0/8.0/10.0/12.0 mm.The environmental impact of each is calculated using the following calculation formula according to the Appendix D [Series products of PCR (Processed glass)]

A：Representative product with a thickness of 6.0 mm、B:The thickness of applicable series products(mm)

[Global warming IPCC2013 GWP100a]＝17.6×B／6＋8.01

[Ozone layer destruction]＝3.88E-08×B／6＋6.15*E-08

[Acidification]＝6.80E-02×B／6＋7.16*E-04

[Photochemical ozone]＝5.95E-04×B／6＋1.15*E-05

[Eutrophication]＝6.23E-05×B／6＋4.83*E-08

| Parameter | Unit | Thickness (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 3.0 | 4.0 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 |
| Global warming IPCC2013 GWP100a | kg-$CO_2$eq | 1.7.E+01 | 2.0.E+01 | 2.3.E+01 | 2.6.E+01 | 3.1.E+01 | 3.7.E+01 | 4.3.E+01 |
| Ozone layer destruction | g-CFC-11eq | 8.1.E-08 | 8.7.E-08 | 9.3.E-08 | 1.0.E-07 | 1.1.E-07 | 1.3.E-07 | 1.4.E-07 |
| Acidification | kg-$SO_2$eq | 3.5.E-02 | 4.6.E-02 | 5.7.E-02 | 6.9.E-02 | 9.1.E-02 | 1.1.E-01 | 1.4.E-01 |
| Photochemical ozone | kg-$C_2H_4$eq | 3.1.E-04 | 4.1.E-04 | 5.1.E-04 | 6.1.E-04 | 8.0.E-04 | 1.0.E-03 | 1.2.E-03 |
| Eutrophication | kg-$PO_4^{3-}$eq | 3.1.E-05 | 4.2.E-05 | 5.2.E-05 | 6.2.E-05 | 8.3.E-05 | 1.0.E-04 | 1.2.E-04 |

## 6-1. Supplementary environmental information

The Products are manufactured in ISO14001 certified factories.

## 6-2. Regulated hazardous substances

| Substance | CAS No. | Reference to standards or regulations |
|---|---|---|
| Sulfur dioxide | 7446-09-5 | Industrial Safety and Health Act |
| Cobalt monoxide | 1307-96-6 | Industrial Safety and Health Act |
| Nickel monoxide | 1313-99-1 | Industrial Safety and Health Act |

## 7. Assumptions of secondary data used

We used the IDEA v2.1.3 data

## 8. Remarks

revised 2025/1/17 (JR-BW-23001E-A):revised organization, contact site

- For data quantification, please refer to PCR and Rules on quantification and declaration.
- Comparative assertion is permitted only when Rules on quantification and declaration are satisfied.
  (Reference URL : https://ecoleaf-label.jp/regulation/)