

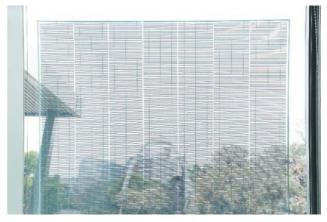
# AGC's ATTOCH<sup>TM</sup> (PV Module Type) Adopted for the First Time in Japan for Kirin Yokohama Beer Village

—As part of Kanagawa prefecture's project to popularize and expand the use of thin film solar cell modules—

**Tokyo, April 27, 2016**—AGC Asahi Glass (AGC) announced that ATTOCH<sup>™</sup> (Glass Integrated Photovoltaic (GIPV) module-type) was first adopted for use in Japan for the tasting room at Kirin Yokohama Beer Village, Yokohama City, Kanagawa Prefecture. ATTOCH is low-emissivity (Low-E) glass for energy-saving window renovations of office buildings and its GIPV module type is equipped with a PV power generation function. The product was installed as part of the project to popularize and expand the use of thin film solar cell modules, promoted by Kanagawa prefecture.



Tasting Room at Kirin Yokohama Beer Village



Example of window with ATTOCHTM (GIPV Module-type) installed

The Japanese government made a cabinet decision in 2015 requiring large buildings with a total floor area of 2,000m<sup>2</sup> or more to comply with "2013 Energy-Saving Standards". With momentum growing to promote energy savings, moves to improve the energy-saving performance of existing buildings through renovations are increasing. At the same time, energy creation, as well as energy savings, are attracting increasing attention.

Kirin Yokohama Beer Village underwent a renovation designed to make it an energy conservation factory as it marked the milestone 90th anniversary of the start of operations. Its tasting room has large-aperture windows and faces southwest, which exposes it to strong sunlight and increases the interior temperature. ATTOCH (GIPV Module-type) was adopted to improve the interior comfort. The product has a heat-shielding function as well as a photovoltaic power-generation function that creates energy, while securing a wide field of view from the windows.

In addition to its energy-saving and energy-creation functions, ATTOCH is highly valued for the following features: 1) ATTOCH can be installed from inside a room, so no scaffolding is required, which reduces the renovation work period and costs; 2) Installing ATTOCH takes only a short time per window, enabling installation work to be done at any time of the day or night without disrupting business operations; and, 3) ATTOCH is a solution against both heat transmission in summer and cold air in winter, and its heat-insulation feature prevents dew condensation, providing interior comfort. By choosing different types of glass, ATTOCH can be equipped with additional functions, such as crime prevention and image projection. The product adopted by Kirin Yokohama Beer Village is equipped with a PV power-generation function.

<Media inquiries>

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# **News Release**

Under its management policy *AGC plus*, the AGC Group is committed to contributing to safety, security, and comfort around the world by developing and providing products that achieve energy savings and bring comfort to people's lives.

### <Reference Information>

#### 1. Project to Popularize and Expand the Use of Thin Film Solar Modules

This project is supported by Kanagawa Prefecture to promote the introduction of renewable energy, centering on sunlight. It was launched in 2014 as part of the Kanagawa Smart Energy Initiatives. The prefectural government solicits proposals for projects installing developed products using thin film solar cell modules to the roofs and walls of buildings, road and railroad embankments, and light-shielding blinds, etc., and provides subsidies to selected projects. Please refer to the following website for details: http://www.pref.kanagawa.jp/cnt/f530151/

## 2. ATTOCH<sup>TM</sup> product details

Product release: October 2012

Product features:

- •<u>ATTOCH provides measures against both heat in summer and cold air in winter</u>
- -Achieve enhanced energy-saving performance throughout the year
- -Prevent unpleasant dew condensation\*
- <u>Reduce installation costs</u>
- -Installation can be done from inside a room, so no scaffolding is needed
- -Installation takes only a short time (30-60 minutes per window)
- -No need to remove or dispose of existing window glass
- •<u>Reduce maintenance costs</u>

-Unlike a heat-shield film, periodic replacement is not needed \*Complete prevention of dew condensation is not guaranteed.

Please refer to the following website for product details: <u>http://www.asahiglassplaza.net/gp-pro/attoch/</u>



ATT CH





#### 3. Product details of SUNJOULE<sup>TM</sup> SUDARE (glass with GIPV modules)

Product release: December 2015 Product fetures:

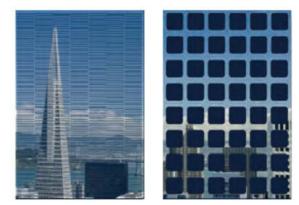
Difference in visibility through solar cell modules

- •<u>Allows natural light into the building, while maintaining power-</u><u>generation efficiency</u>
- -SUDARE cells, which are mono crystal solar cell units arranged in sudare (bamboo-blind)-like rows, ensures both high powergeneration efficiency and visibility (see-through cells with an aperture ratio of about 57%)
- -Solar cell units can be connected in series to achieve both flexibility in design and high power-generation efficiency
- •<u>Offers multiple application possibilities for use in various</u> <u>locations</u>
- -Solar cell modules integrated with double-glazing unit allow natural daylight in and offer durability

Please go to the following website for product details: https://www.asahiglassplaza.net/products/mainglass/sungel/

#### About the AGC Group

AGC Asahi Glass (or also called AGC, Registered Company name: Asahi Glass Co., Ltd., Headquarters: Tokyo, President & CEO: Takuya Shimamura) is the parent company of the AGC Group, a world-leading glass solution provider and supplier of flat, automotive and display glass, chemicals, ceramics and other high-tech materials and components. Based on more than a century of technical innovation, the AGC Group has developed a wide range of cutting-edge products. The AGC Group employs some 50,000 people worldwide and generates annual sales of approximately 1.3 trillion Japanese yen through business in about 30 countries. For more information, please visit www.agc-group.com.



SUNJOULE<sup>TM</sup>SUDARE Standard crystal silicon solar modules

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