

September 18, 2007

Asahi Glass Succeeded in Development of a Fluorescent Fluorinated Water/Oil-repellent Coating Material

Asahi Glass Co., Ltd.

Asahi Glass Co., Ltd. (Headquarters: Tokyo; President: Masahiro Kadomatsu) has succeeded in development of a fluorescent fluorinated water/oil-repellent coating material. Since this material generates fluorescence when illuminated by a light, inspection of a coated product can be automated to contribute to drastic improvement in efficiency and accuracy of the inspection.

Since the conventional coating process to get the water/oil-repellent feature produces a very thin transparent film when the material is applied, it is not possible to visually inspect the product, making automation of the inspection difficult. When illuminated with light of 360 nm to 430 nm (nm = nanometer. nano = one-billionth) wavelength on a product, this new coating material developed this time emits a turquoise colored light. This characteristic makes it easy to find any defect in the application so that efficiency and accuracy of the inspection can be much improved. Special features of this product are as follows.

- (1) Durability of fluorescence: Both mechanical durability (the color is not easily transferred when the applied part is touched by the customer) and thermal durability (the pigment does not fly off even when heated) are high.
- (2) The contact angles that represent its performance in terms of water/oil repellent are as great as 115° for water (deionized water) and 75° for oil (Lubricating oil).
(These figures were measured one hour after application to a stainless steel base material, treated at 120 degrees Celsius.)
- (3) Can be applied to a wide range of base materials, such as silicon wafers, stainless steel, brass, liquid crystal polymers, etc. Both spin method and dipping method can be used for application.
- (4) Does not contain environmentally antagonistic materials, such as perfluorooctanoic acid (PFOA) or perfluorooctane sulfonic acid (PFOS), and its global warming potential (GWP) is as low as approximately 130.

In the medium-term management plan “*JIKKO-2007*”, the Company positioned both fluorochemicals and specialty chemicals businesses as a growth business of Chemicals Company and declared to focus on product group in which the Company can exhibit advantages. The Company will endeavor to develop products that can contribute to global environmental protection and to improvement in production processes for customers, making the most of technology owned by the Company.

For further information, please contact Shinichi Kawakami, General Manager, Corporate Communications & Investor Relations, Asahi Glass Co., Ltd.
(Person in charge: Hiroyuki Wakasugi; Tel: +81-3-3218-5259; E-mail: info-pr@agc.co.jp)

<Reference>

1. Visibility with Eyes

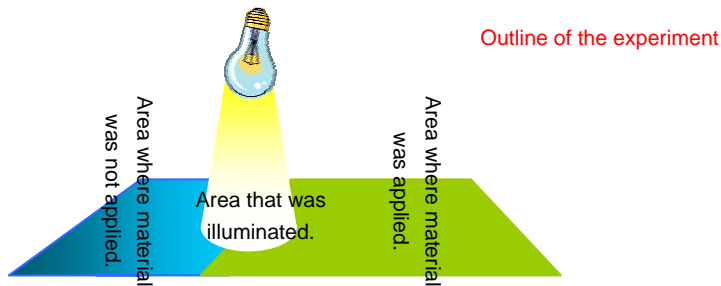


Photo of the illuminated specimen
(under a fluorescent lamp in the room)
UV LED (365 nm) 2 mW/cm²

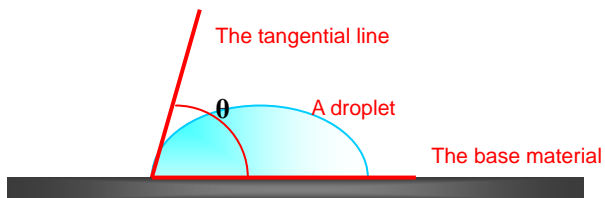


Photo of the illuminated specimen
(under a fluorescent lamp in the room)
UV LED (365 nm) 30 mW/cm²

2. Contact Angle

The contact angle means an angle between the tangential line of a droplet and the surface of the base material (θ indicated in the figure below).

It represents a rough indication of liquid repellency (wetting property) of the base material. The larger the figure is, the stronger the liquid repellency is.



3. Fluorescence

A luminous phenomenon in which a material receives energy by light or other source on the exterior surface to be excited, and thereby emits the received energy in the form of light of a specific wavelength.

4. Spinning Method

A method of applying a coating material over the entire surface of an object by means of the force generated by spinning the object on which the coating material is dropped.

5. Dipping Method

A method of applying a coating material over the entire surface of an object, in which the object is dipped in the coating liquid and then pulled out of the liquid.

6. Global Warming Potential

An indicator that represents the potential influence of each greenhouse gas on global warming, in relation to that of CO₂ which is valued as 1. The lower the figure is, the less influence a gas has on global warming.