Surface modifications sensor

Luminus

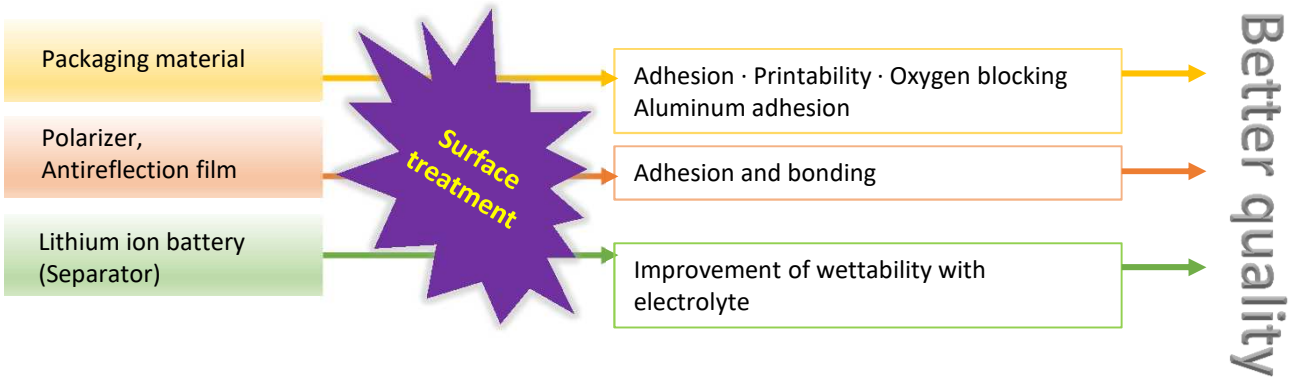
AcroEdge

A new method to inspect surface treatment: Luminus

Plasma treatment, corona treatment, flame treatment, measurement of the surface of EB treated material

Significance of surface treatment

Polymer-functional plastic films are widely used in industrial fields including not only packaging applications and general applications but also high-function products such as information equipment. In recent years, interior decoration of automobiles is also printed for wood graining and other design purposes. For example, in packaging films, surface treatment is performed on film beforehand so that printing can be successfully done. Polarizing plates and antireflection films and the like used for displays of liquid crystal televisions and others are multilayer films, and each film is subjected to electrical treatment such as plasma treatment and corona treatment to activate the surface. We are trying to homogenize the product.

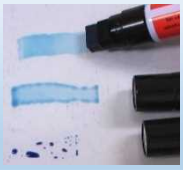


Current surface treatment inspection methodology

Currently at the production site, inspection of surface treatment is by using a reagent pen, a contact angle meter, or the like.

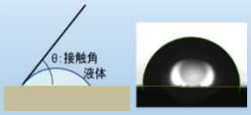
Wet chemical reagent pen

Cut the treated film and judge the extent of treatment by observing its degree of adhesion with the ink of the pen



Contact angle meter

Drop droplets on treated film and measure its contact angle



Problem: In the case of a film production site, the processed film is cut off and inspected. However, when a defect is found, a large number of film have been already processed and the deterioration of the yield is already inevitable using the method above.

Therefore,

Solution: A device was developed to **measure the state of the surface treatment** with no contact with the films and in real time. With the Luminus, you can improve the function of the production process efficiently and quantitatively.

Luminus is a device that numerically quantify the degree of surface modification and promotes reliability, lower cost, and higher speed of measurement results.

Overview of Luminus

controller

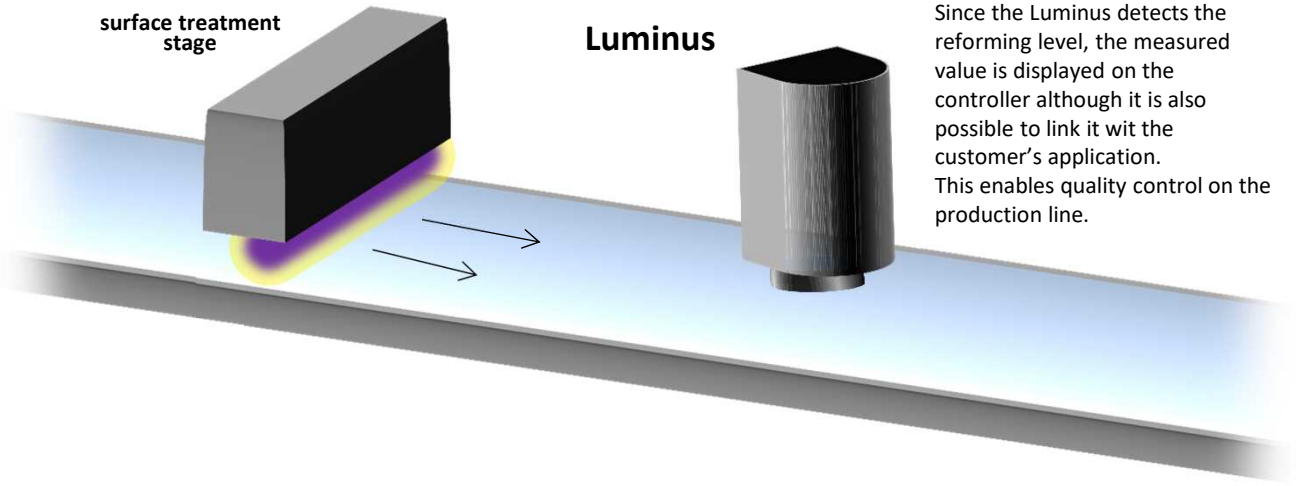
sensor

simple stage

Luminus is basically comprised of a controller, a sensor and a simple stage.

An x-axis stage is attached to the simple stage, which is useful for fine adjustment of sensor height during sensitivity adjustment.
When assembling in the production line, it can be easily installed according to the configuration of the customer's line.

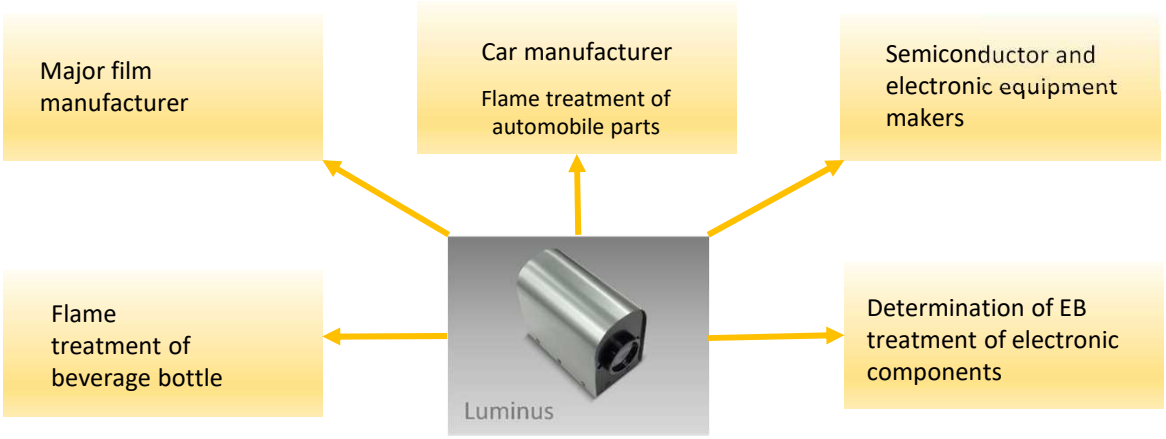
Implementation of Luminus in production line



Since the Luminus detects the reforming level, the measured value is displayed on the controller although it is also possible to link it wit the customer's application.
This enables quality control on the production line.

Emerging applications of Luminus

It can be used not only for plasma treatment and corona treatment but also for flame treatment and measurement of EB treated surface of material.



More information…

Applicable to degradation measurement of polymer material due to outdoor exposure.

Improvement of quality control that expands to a wide range of applications

Luminus can be utilized for reforming inspection after surface treatment in various industrial fields.

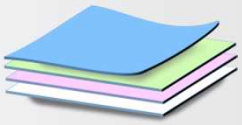
Organic EL, liquid crystal display manufacture

Environment such as solar battery, Energy related materials

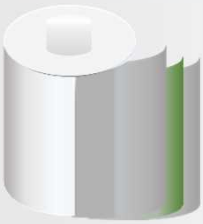
Adhesion, printing, pretreatment of coating

Automotive Interior, Surface treatment of exterior member

High functional film production



High-functional film



Packaging and general industrial applications

Pretreatment in the semiconductor manufacturing process

Feel free to try measuring your samples or renting a demonstration machine at AcroEdge. After surface treatment, please check them personally with your own eyes to see how the reforming can be evaluated.

Please do not hesitate to contact us through our website.

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Issued October 2017