

Press information

KYOCERA sterilisation technology: innovative, affordable, environmentally friendly multilayer substrates for plasma surface treatment

The use of ceramic multilayer substrates for the plasma treatment of surfaces sets new hygiene standards for food packaging

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Corporation is now using its special ceramic multilayer substrate technology for an application involving atmospheric DBD (dielectric barrier discharge) plasma. The plasma pre-treatment of packaging materials is an important processing step, as it modifies the properties of the surface and prepares it to the best possible standard, ready for subsequent treatments. The thermal properties and chemical stability of the multilayer substrates make them particularly suitable for use in the context of food packaging.

Kyocera's plasma technology uses ceramic multilayer substrates that consist of an aluminium oxide compound. Because of the thermal properties and chemical stability of these substrates, they can meet very high requirements. The electrodes in the multilayer substrate are hermetically embedded and are therefore protected. This means they can also be used under difficult conditions, such as in corrosive or underwater environments.

The range of applications for the new substrates is very broad and they can be used efficiently in the packaging industry. One example of this is in the field of industrial surface treatment, whereby the plasma pre-treatment is a preparatory step for other processing steps such as cleaning, etching, bonding, printing, coating or

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painting. Additionally, it can be used for odour control — in the cooker hood of a kitchen area, for instance — and for air purification. The plasma technology can also be used for biological applications such as sterilising food packaging and medical products.

Alongside traditional packaging materials such as plastic, plasma activation is also suitable for use with metals and textiles as well as with all nonpolar materials such as PP, PE and recycled materials. Such materials would otherwise be very difficult to treat without undergoing this targeted modification.

In contrast to standard pre-treatments using chemical primers, plasma activation is a cost-effective, environmentally friendly and time-saving method. Kyocera's technology, with its current range of three geometric design options, facilitates the targeted modification of the packaging's surface. Moreover, there is a high level of flexibility regarding the electrode structure arrangement, which can be customised in line with the customer's requirements.

For more information about Kyocera: www.kyocera.eu

About Kyocera

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 235 subsidiaries (as of March 31, 2016), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the oldest producers of solar energy systems worldwide, with more than 40 years of experience in the industry.

The company is ranked #531 on Forbes magazine's 2016 "Global 2000" listing of the world's largest publicly traded companies.

With a global workforce of over 69,000 employees, Kyocera posted net sales of approximately €11.59 billion in fiscal year 2015/2016. The products marketed by the company in Europe

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include printers, digital copying systems, microelectronic components, and fine ceramic products. The Kyocera Group has two independent companies in the Federal Republic of Germany: Kyocera Fineceramics GmbH in Neuss and Esslingen and Kyocera Document Solutions in Meerbusch.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at approximately €360,000 per prize category).

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