Surface Treatment with Short-wave UVC Light

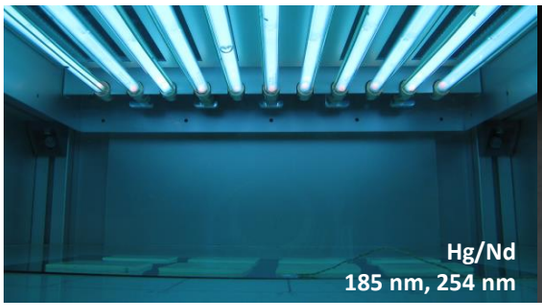
⇒ adhesion improvement, hydrophilization, cleaning, coating

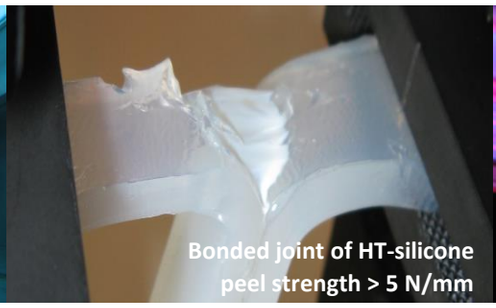
○ for plastics, textiles, fiber reinforced plastics, rubber, silicone, TPE, glass

\+ clean, versatile, energy efficient, economic, robust

INNOVENT
Technology Development

Research Department: Primer and Chemical Surface Treatment


Hg/Nd
185 nm, 254 nm


Bonded joint of HT-silicone
peel strength > 5 N/mm


Xe-Excimer
172 nm

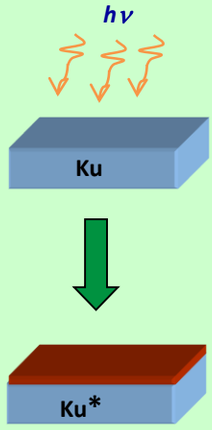
The high photon energy of short-wave UVC light (< 200 nm) is sufficient to break most of the organic chemical bonds. This opens up a lot of possibilities for efficient modification of surfaces for a wide variety of tasks.

Our main focus is the development of efficient process solutions for the improvement of the adhesion or wetting properties of plastic materials, textiles or glass. The treatment with UV light can be performed under atmospheric conditions or in combination with functional precursor chemicals.

A multifunctional and flexible test technology has been established. This technique can be operated with different UV light sources and either as a closed chamber or as an open system in continuous operation.

Previous UVC methods were developed for the surface pretreatment of:

- plastics and elastomers such as polypropylene, polyamide, silicone, fiber reinforced plastics,
- synthetic textiles for composite products with TPE
- glass



Ku = plastics
e. g. PVC, PA, PP, PE, Phylon, EPDM, NBR, TPE, TPU, silicone, . . .

Our range of services:

- UVC process development and parameter optimization
- feasibility studies on UVC surface treatment
- UVC aging tests
- laboratory tests and treatment of pattern parts
- scientific advice on the selection and dimensioning of UVC radiation sources

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