

Press release: Plasma technology for better ink adhesion and highest print quality

Relyon plasma GmbH, a subsidiary of TDK Electronics AG, based in Regensburg, Germany, will be presenting the advantages of pre-treatment with plasma technology for all common printing processes at the InPrint in Munich.

Regensburg/Munich. InPrint, the international trade fair for printing technology for industrial manufacturing, will take place in Munich from 12 to 14 November 2019. This year for the first time relyon plasma will present plasma solutions for industrial printing in the new exhibitor pavilion on booth 850b. The scope of applications ranges from the pre-treatment of cables and pipes for subsequent label printing to the preparation of glass surfaces for digital printing and the improvement of bonding processes in additive manufacturing.

Plasma technology and continuous inkjet printing

The interaction between plasma functionalization and printing will be demonstrated live at the InPrint booth together with the partner A-L-F Kennzeichnungstechnik GmbH. Various materials, such as PTFE or aluminium, will be treated on one side with plasma and then printed with the Continuous Inkjet CodeCreator. The difference can be seen with the naked eye. On the untreated side, the individual ink droplets are clearly visible, while on the treated side a homogeneous print image is achieved. This is due to the fact that the plasma treatment has increased the surface energy, which improves the wetting behavior of the surface with ink. The advantages of plasma treatment extend beyond the optical and aesthetic aspects. It also improves the adhesion of the ink to the surface. The test on PTFE clearly shows that the ink can be removed very easily and almost completely on the untreated surface, whereas the print is not damaged on the plasma treated surface. A pull-off test with tape also shows that the ink only peels off on the untreated surface. Thus, both the print result as well as the print quality are considerably improved by a plasma pre-treatment.

Plasma Technology in 3D Printing at the InPrint Conference

At the co-located conference, Corinna Little will give a talk on November 13 at 3 p.m. on plasma technology in 3D printing for improved adhesion. 3D printing as a young technology is constantly on the lookout for improvements and innovations. One is the combination of plasma technology and 3D printing. The handheld piezobrush from relyon plasma GmbH is used as preparation for joining individual parts to large components and for improving adhesion in the fused filament fabrication (fff-fdm) process. This allows up to three times the strength of the bonded joints to be achieved without the use of environmentally harmful chemical primers.

Visitors to booth 850b will get an insight into the wide range of applications of plasma technology in industrial printing.

About relyon plasma GmbH

Relyon plasma GmbH, a subsidiary of TDK Electronics, based in Regensburg, Germany, develops innovative plasma systems. True to the motto "rely on plasma", relyon plasma GmbH is a professional supplier of plasma systems as well as a service provider for individual

customer requirements. Parallel to its own products for plasma treatment for industrial and medical applications, it develops customer-specific, highly efficient process solutions for surface cleaning, surface activation and germ reduction.

Contact:

relyon plasma GmbH
Osterhofener Str. 6
93055 Regensburg/Germany
Andrea Werkmann
+49 941 60098 270
a.werkmann@relyon-plasma.com

Picture credits:



Image 1: Logo InPrint



Image 2: Adhesion test of inkjet printing on untreated and plasma-treated PTFE



Image 3: Continuous Inkjet CodeCreator