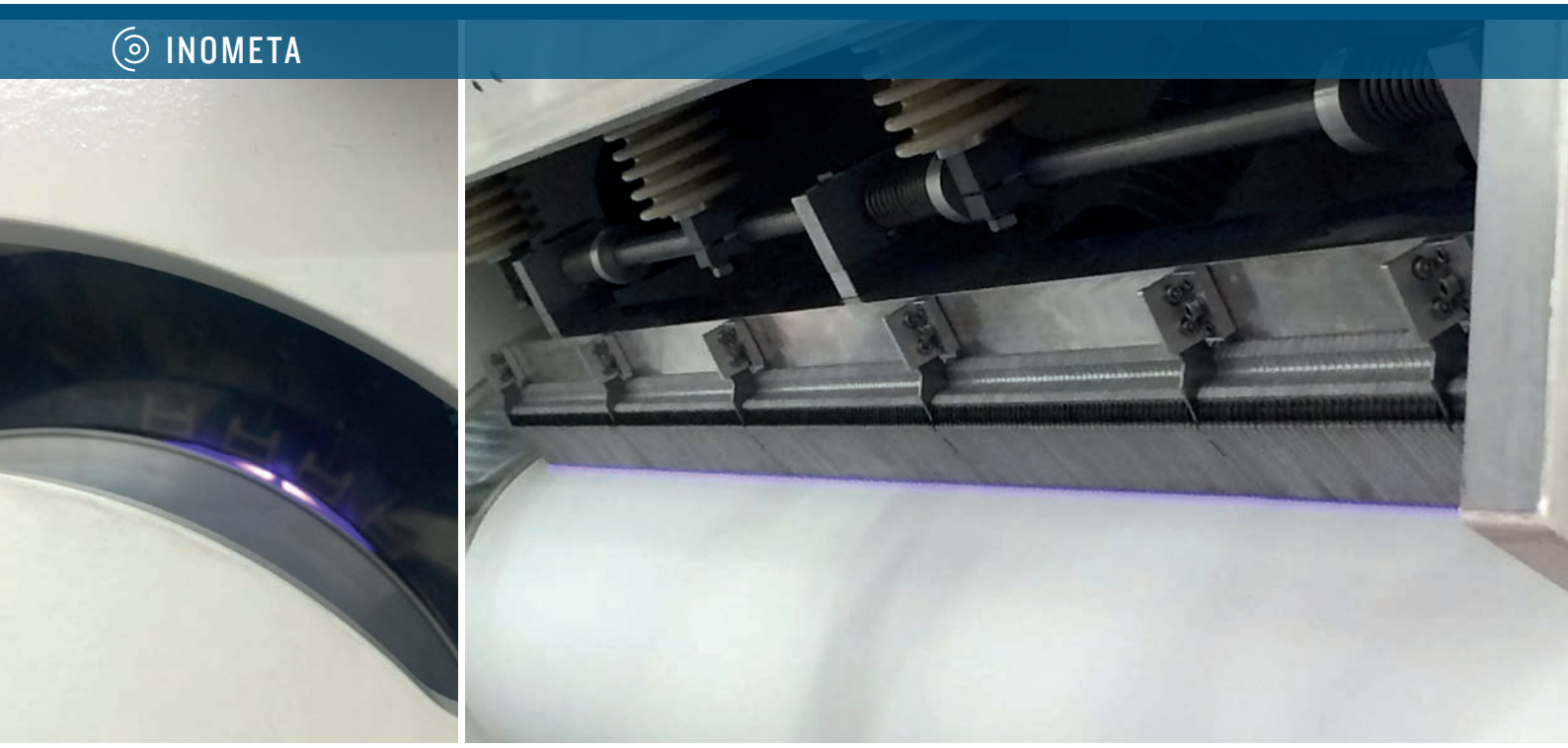
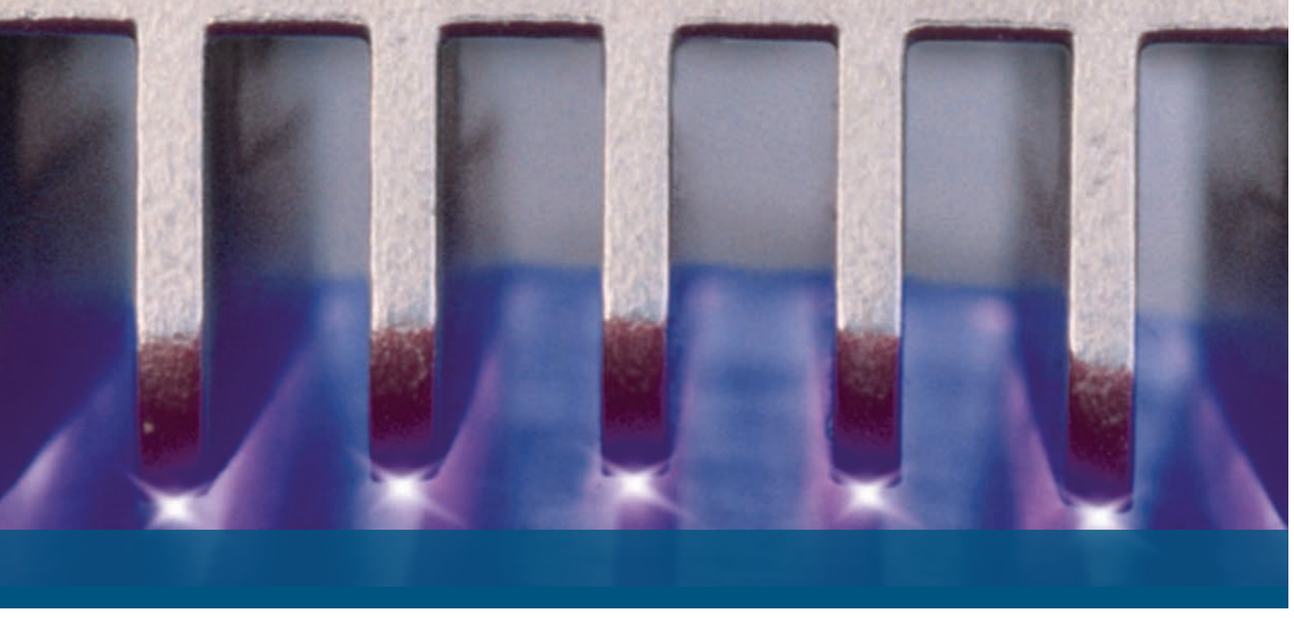
INOMETA




PROTEK ePOWER

# HIGH-PERFORMANCE COATINGS FOR CORONA FUNCTIONAL ROLLERS



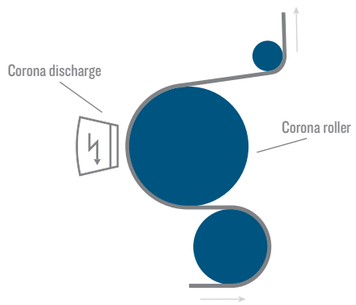
INNOVATIVE SURFACE TREATMENT FOR CORONA APPLICATIONS

# COMBINING ADVANTAGES TO STABILIZE PROCESSES.

**Our high-performance coating for corona functional rollers combines the advantages of a silicone rubber coating with the wear advantages and mechanical strength of a ceramic coating. In this way, you can increase process reliability while reducing the failure rate.**

## Corona Treatment

Plastics have a non-polar, electrically insulating and water-repellent surface. Consequently, wettability with ink, dispersions, adhesives or bonding agents is poor or not possible. To improve wetting behavior, especially for films (e.g. polyethylene, polypropylene and polyester films) and for volumetric bodies, a surface treatment is required. The treatment process can be electrical, chemical or a combination of both. Corona treatment is a technology suited to this purpose. It is an electrical process in which the film web is guided on a roller past a corona electrode. The spark discharges which arise between electrode and roller change the non-polar structure into a polar structure by oxidation. The resulting increase in surface energy or tension at the plastics surface improves the wettability of plastics and other substrates.




Schematic Drawing of the Corona Treatment

## The Tasks Are Great

Corona functional rollers can only partially meet the ever-increasing requirements. Requirements such as ozone resistance, perfect electrical insulation, long-term dielectric strength, excellent uniformity, cut and temperature resistance can only be fulfilled if the material is also adapted.

Different roller types can be used for a corona treatment. Grounded, polished metal rollers, rollers with $Al_2O_3$ coatings or silicone-coated steel rollers do not fully fulfill the requirements. A weakness detrimental to your performance.

The most common problems encountered are wear or even cracks in the coating. An insulation strength which can only be partially adjusted may also be an issue. This means an increase in effort, resulting in higher expenditures.

We have found a way to produce a coating that meets these requirements as well as your demands. We have developed a special process that makes our product extremely robust and long-lasting to help you optimize service life, maximize process reliability and cut costs.

## Innovation: INOMETA Corona Functional Rollers

Our corona functional rollers combine the process reliability of a rubber coating with the mechanical wear resistance of a ceramic coating. The possibility to set the insulation property is a feature that helps you cut costs and reduce the net weight of rollers and is part of our innovative concept. Our development team has designed a layer system which can be customized with a dielectric strength of up to 40 kV.

## Assured Quality

Every single functional roller we produce is submitted to a strict final inspection. This includes, among other things, a professional measurement of dielectric strength.

## Characteristics

- Excellent electrical insulation (adjustable dielectric strength up to 40 kV)
- Excellent temperature resistance up to 30°C
- Attainable surface roughness Rz: 6-12 µm (ground)
- Good installation behavior of the fed material web
- High degree of hardness and wear resistance, as well as a strong scratch resistance
- High resistance against friction and sliding abrasion
- Reliable lasting dimensional stability, no run-in on the web edges
- Homogeneous smooth surface structure
- Easy cleaning capability through an excellent resistance to conventional solvents and cleaning agents
- Perfect treatment result
- Long-term reduction of servicing costs

## Characteristics

- Diameter: up to 1000mm
- Length: up to 6800mm (entire component length)

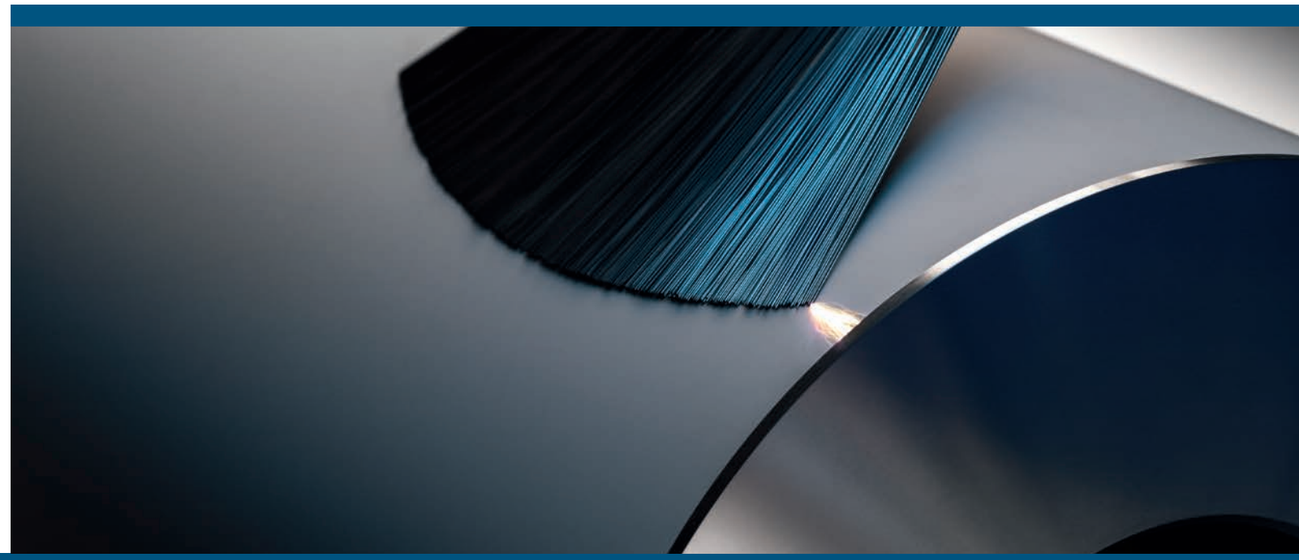


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Image source:
Page 1 - Corona-Closeup, VETAPHONE, 2013

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