



**Fraunhofer**  
**Institut**  
**Fertigungstechnik**  
**Materialforschung**

Atmospheric Pressure  
Plasma Technology  
AP Plasma Technology

Process Development

There is growing interest in using AP plasmas in industrial applications. Using the potential-free Plasma-Treat® technology available at IFAM, any desired materials – even metals – with any profile can be processed at atmospheric pressure with defined plasmas.

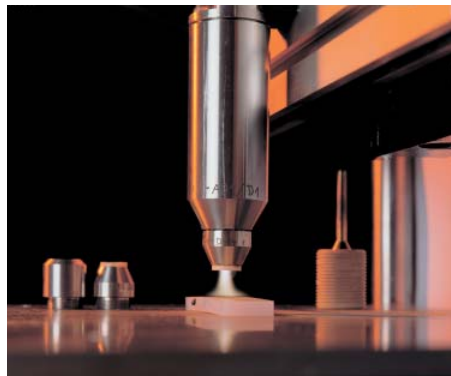
In close co-operation with industrial partners, the following work is being undertaken at IFAM:

- fundamental research on AP plasma technology
- new applications are being developed
- processes for industrial applications are being developed
- the tools required for generating plasma are being optimised and adapted for special applications

**Example applications:**

- Cleaning/activation of plastics which are difficult to bond/lacquer
- Hydrophilic and hydrophobic surfaces having long-term stability
- Deposition of functional layers

Piece goods and web materials can be processed.



AP plasma nozzle

**Technology:**  
**Gas phase process**  
**AP process**

**Advantages of the technology:**

- Can be incorporated inline
- Can be incorporated into existing production lines
- Customised applications
- Suitable for robot technology
- Low space requirements

**Efficiency:**

- High level of process safety
- No special requirements for safety and work protection
- Low energy requirements
- Use of attractively priced, readily available and harmless process gases
- No post-treatments necessary
- Can be completely automated

**Compatibility with the environment:**

- No process materials required
- High level of workplace safety
- Compliance with health and safety regulations without additional equipment
- Replaces environmentally harmful processes
- No problematic waste

**We offer:**

- Consultancy
- Prototype samples
- Process development
- Design of production lines and plants
- Technology transfer

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