

DIFFUSE COPLANAR SURFACE BARRIER DISCHARGE AND ITS APPLICATION FOR IN-LINE PLASMA TREATMENT

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Atmospheric-pressure, non-thermal plasmas have recently received increased attention because of their use in „environmentally friendly“ technology for various industrial applications. The development of atmospheric pressure plasma sources to replace plasma processing in vacuum system is a current trend in industrial plasma engineering.

This paper will report on a novel atmospheric-pressure plasma source, so-called Diffuse Coplanar Surface Barrier Discharge (DCSBD), which is capable of generating visually uniform high-power-density diffuse plasmas in any working gas. Basic physical mechanism and properties of DCSBD will be presented. The results on in-line ambient air plasma polypropylene fabrics activation, nanopowder immobilization onto a polypropylene fabric, glass and aluminium surface cleaning and wood surface treatment will be presented.