Application of DCSBD discharge for aluminium surface

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Aluminium is a widely used material for many applications such as automobile industry, microelectronics, aerospace field and many others. For temporary corrosion protection or lubrication sheet metals are coated by organic oils. This coatings need to be removed in advance of further metal manufacturing processes. Usually cleaning is performed in wet alkaline or acid baths so these chemical treatments are not environmental. Therefore the non-equilibrium atmospheric-pressure plasma treatment seems to be a suitable alternative to the wet chemical methods. Another advantage of this environmental safe treatment could be the activation of material surface.

The presented experimental results show the activation, cleaning of aluminium sheets using so-called Diffuse Coplanar Surface Barrier Discharge (DCSBD) and making a superhydrophobic surface on aluminum.