



Pre-treatment by Corona

Pre-treatment by Corona is a process to modify plastics, metals, glass and paper surfaces to bond with other materials, e.g. paint or glue. The parts to be treated are placed between the electrodes. By applying a sufficiently high AC voltage forms a discharge between the electrodes, so that the ambient air is ionized and plasma arises.

These ions move back and forth between the electrodes and causes:

- that small craters form in the surface, which are so small that they are visible only under an electron microscope. They cause an enlargement of the surface and therefore a higher adhesion.
- that on impact of high-energy particles long-stranded polymer chains split on the plastic surface. These unsaturated compounds can form a permanent chemical bond with other materials.

Surface Tension

Surface tension of untreated plastics		Surface tension of printing paints		Necessary power at the surface for the adhesion with:	
PTFE Teflon, Silikon	<20 mN/m	Solvent-based printing inks	28-30 mN/m	Solvent-based printing inks	42-50 mN/m
PP Polypropylen	28-30 mN/m	Water-based printing inks	36-40 mN/m	Water-based printing inks	50-56 mN/m
PE Polyethylen	30-32 mN/m	UV-inks	36-40 mN/m	UV-inks	48-56 mN/m
ABS, PC, PS, PUR	33-35 mN/m	Lamination Coatings	36-40 mN/m	Lamination Coatings	46-52 mN/m
PVC Polyvinylchlorid	38-42 mN/m	UV-glues	36-40 mN/m	UV-glues	44-50 mN/m
PET Polyethylenterephthalat	42-44 mN/m	Water-based glues	36-40 mN/m	Water-based glues	48-56 mN/m
PA Polyamid	44-46 mN/m				

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