



WE TREAT ANYTHING

Eltech Engineers Pvt Ltd

www.eltech.in



LEADING MANUFACTURERS OF CORONA TREATMENT SYSTEMS

Corona Treatment Systems

Do You Have Adhesion Problem....We Have solution...

What is Corona Treater ?

Corona treatment system is a very effective way to increase the surface tension of virtually any material. Surface treatment is required for plastic films/fabrics whose normal surface tension is not sufficiently high to permit good wetting by flexo graphic inks. Corona treatment system increases the surface tension of the fabrics respective to inks by inducing molecular changes in the surface of the films. This is done by exposing the air at the material's surface to a high-voltage electrical discharge - a corona. Corona discharge treatment at atmospheric pressure for improving adhesion of various polymer substrate is now standard practice. In the presence of a high voltage discharge in an air gap, free electrons, which are always present in the air, accelerate and ionise the gas. When the electric discharge is very strong, collisions of high velocity electrons with molecules of gas result in no loss in momentum, and electron avalanching occurs. When a plastic part is placed in the discharge path, the electrons generated in the discharge impact the surface with energies 2 to 3 times that necessary to break the molecular bonds on the surface of most substrates. This creates very reactive free radicals. These free radicals in the presence of oxygen can react rapidly to form various chemical functional groups on the substrate surface. Functional groups resulting from this oxidation reaction are the most effective at increasing surface energy and enhancing chemical bonding to the resin matrix. Surface treatment with high voltage discharge modifies only the surface characteristics without affecting material bulk properties

Our Products

- **Laboratory Corona Treater**
- **Sheet Corona Treater**
- **Woven Sacks Printing Corona Treater**
- **Wire Corona Treater**
- **Monolayer Film Plant Corona Treater**
- **Multilayer Film Plant Corona Treater**
- **Extrusion Film Plant Corona Treater**
- **Bottle Corona Treater**
- **Moulded Parts Corona Treater**
- **Label Flexo Corona Treater**

Where are Corona Treatment systems used ?

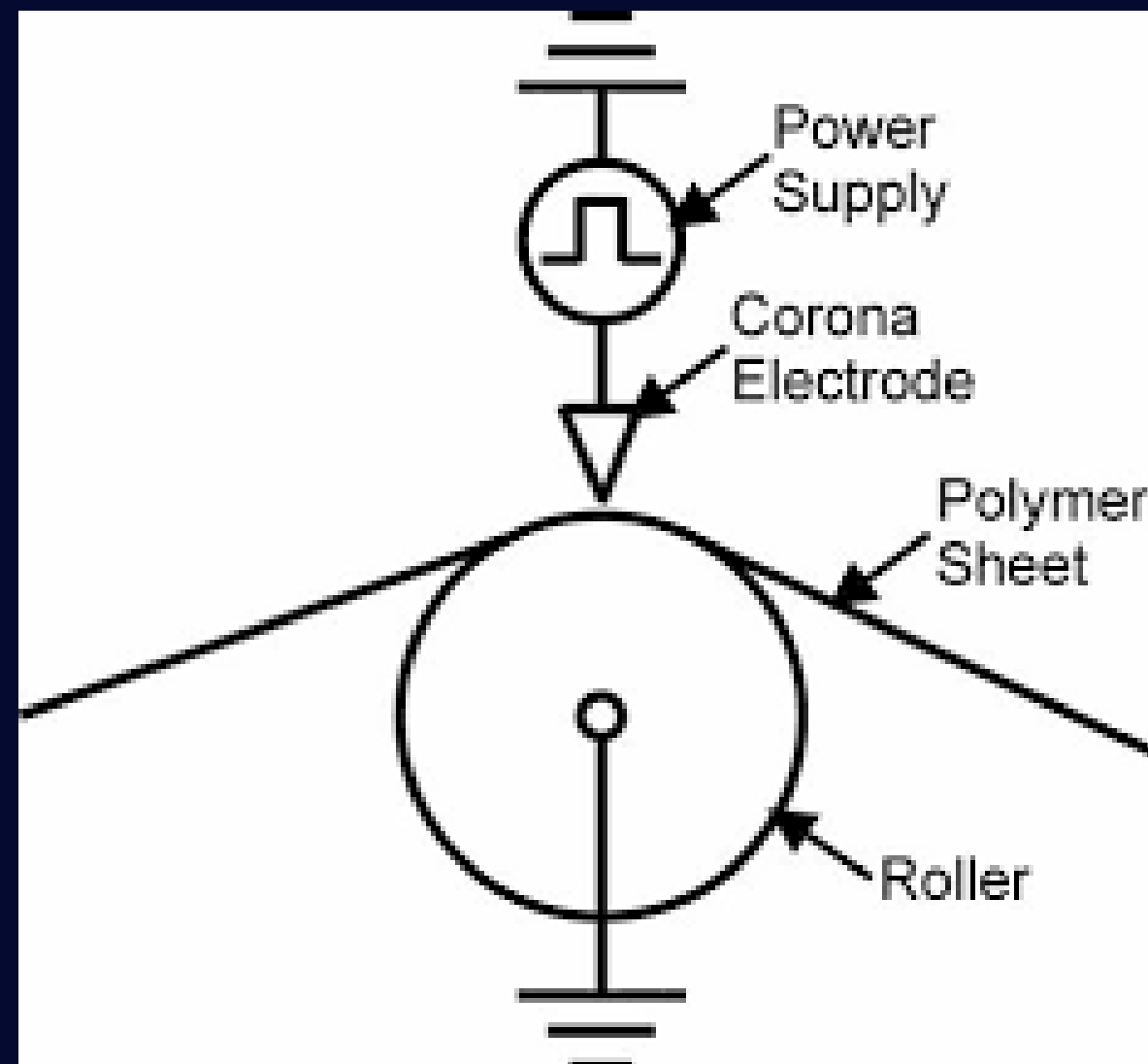
- **Blown Film Extrusion single layer / Multi layer plastic film plants**
- **Woven Sack roll on-line Flexo printing machine**
- **Extrusion / Lamination coating plant for paper**
- **Lamination plant for aluminium foil / plastic film**
- **PVDC coating on PVC film or pharmaceutical applications**
- **Sheet line plant**
- **Gum coating on PTFE coated fiber glass cloth**
- **Plastic moulded parts**
- **Laboratory Corona treatment**
- **Inside treatment of container (Insulated Box)**

Superior , Versatile Surface Treatment Solutions

- Eltech Engineers manufactures a complete line of highly reliable, innovative Corona surface treatment systems. Our systems improve adhesion on a wide array of plastics, composites cardboard , rubber , foam , glass and metal.
- Eltech Engineers system creates powerful bonding for printing, painting, coating, laminating and adhesion applications. Our technology is uniquely designed to treat 2-dimensional films, as well as many other applications requiring Improved surface energy and long-lasting activation.
- Eltech Engineers is a leader in the surface treatment industry because only Eltech provides truly custom design, continual technological advancement, exceptional customer service , and Reliable, long-lived systems made in INDIA.
- Eltech Engineers is your single source for design, manufacture, product handling, installation and service. With more than 25 years of experience, we offer the most advanced, adaptable and Dependable systems worldwide.

See how corona treater works ?

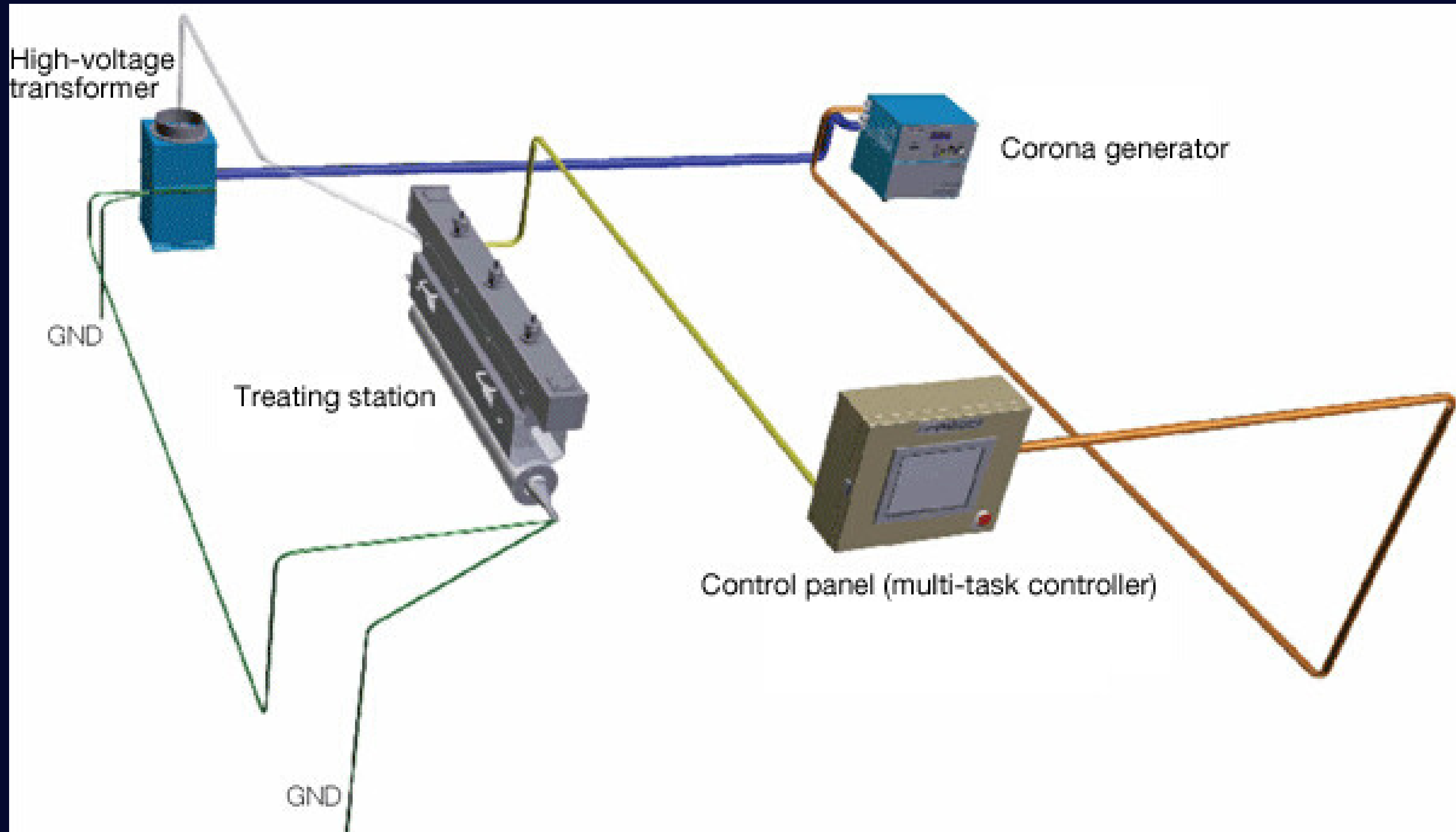
As shown in the diagram the fabric is passed from free roller through the airgap between multisegmented electrode and the silicon roller which generates continuous shower of ionised air called as CORONA. The electrode and electric cover on the roller serves as the electric connection to the stream of ionized air in the airgap.



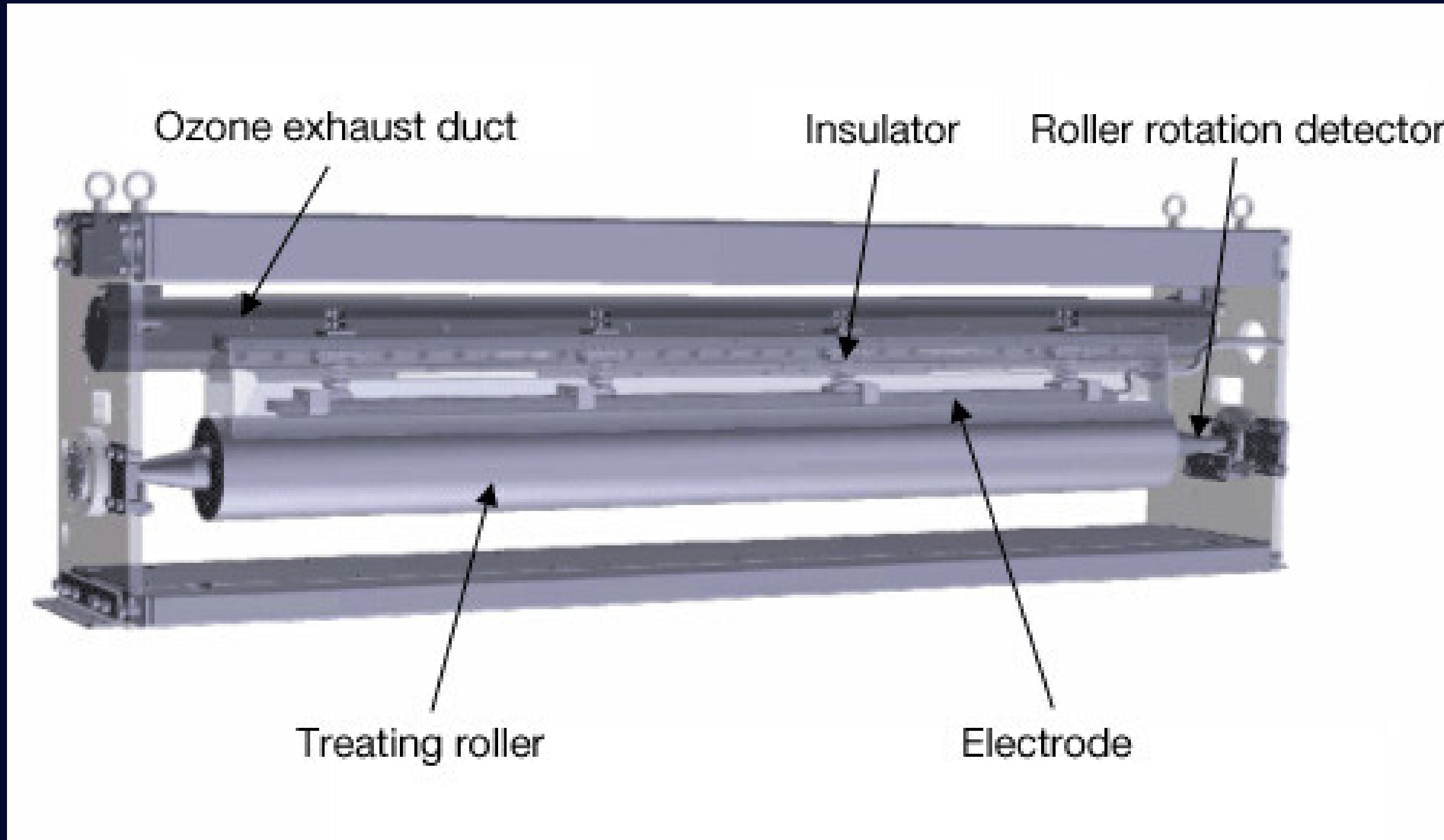
Treat metals and plastic surfaces

Basically, corona treatment was introduced into the industrial market because of its ability to treat metal and plastic surfaces giving it adhesive properties so that any type of printing or bonding could easily take place on a variety of surfaces. To be more precise, corona treatment is used to increase a material's surface tension in an effective way. By treating the material with a high frequency corona discharge, its surface becomes much more impressible to adhesives, inks and coatings. The material that needs treatment is revealed in front of the electronic corona discharge. This results in the breakage of oxygen molecules into an atomic form. The atoms are thus allowed to bond with the molecule ends present in the material that's being treated. Hence, the surface of that material becomes chemically active. Though, one should keep in mind the fact that a surface gone through corona treatment is likely to be debased with the passage of time unless it is coated, bounded in-line or printed on. Debasement depends on storage conditions and the type of material that has been treated. The cost of equipment and power used in treating the surface of a material play an important part in the process. These depend on the speed, responsiveness, width, and number of sides of the material that require treatment.

Configuration of Corona Treater



Basic Structure of Treating Station

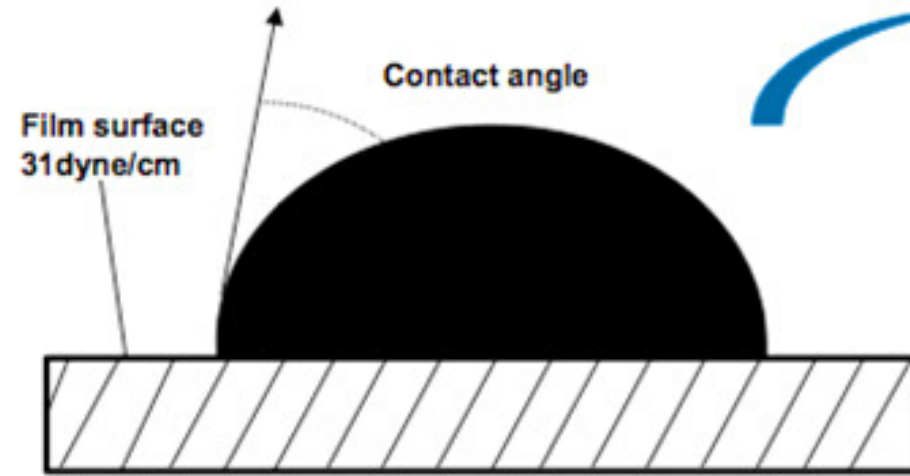


Qualitative Ratings of treatment level of wettability

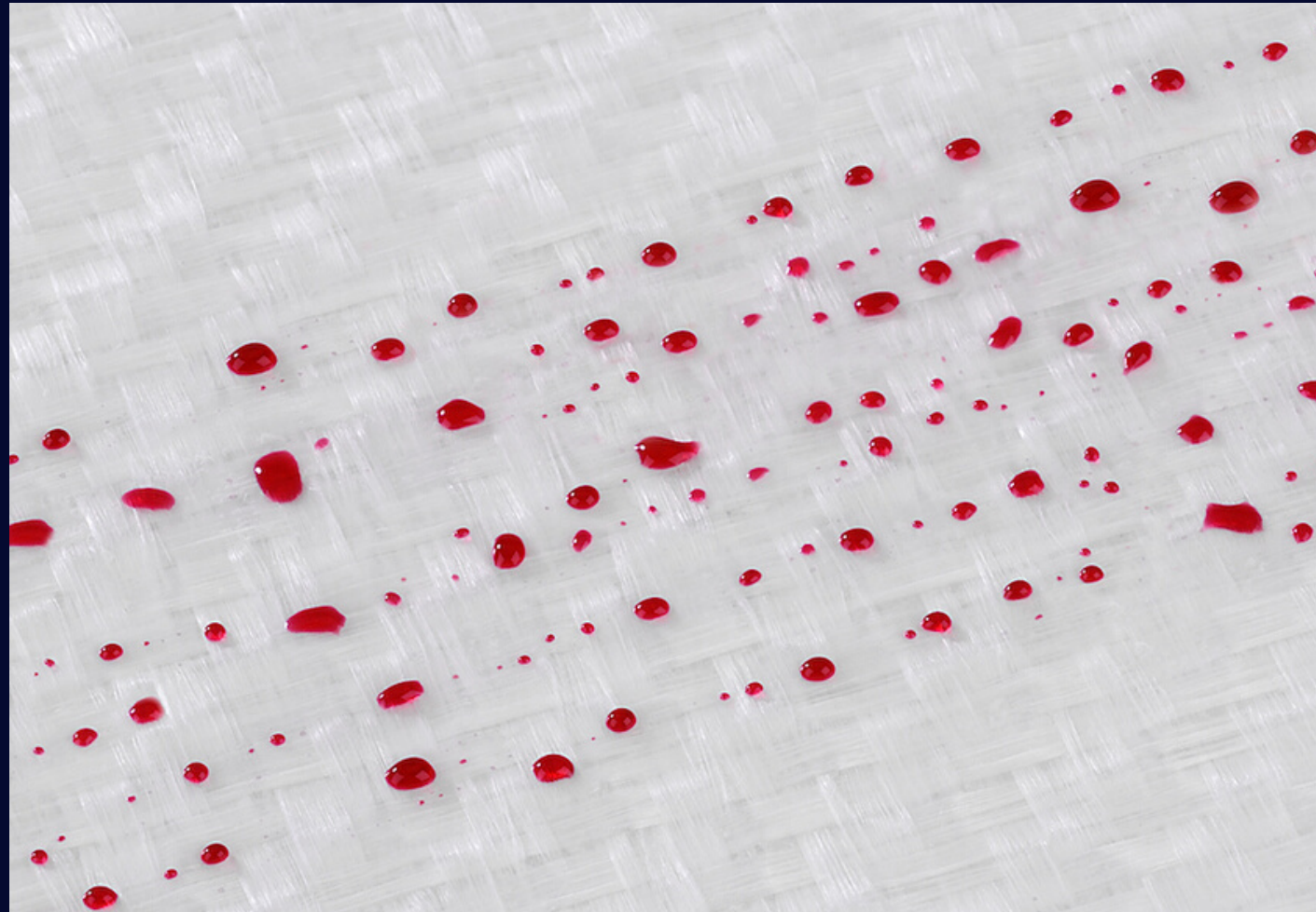
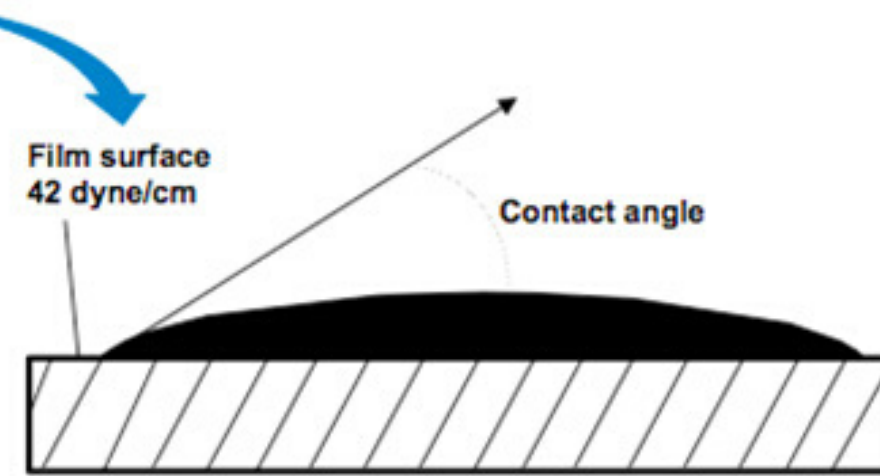
Sr. No.	Treatment level in Dynes / cm	Expected Quality rating in terms of print or coating adhesion
1	Below 32	Very poor printing or coating adhesion
2	34	Poor printing or coating adhesion
3	36	Fairly good printing or coating adhesion.
4	38	Good printing or coating adhesion.
5	40	Very good printing or coating adhesion.
6	42	Excellent printing or coating adhesion.

SURFACE ENERGY

Low surface energy



High surface energy



In case of any query, please be free to call us.

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(AN ISO 9001-2015 AND CE CERTIFIED CO)

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