



MAINTENANCE

Surface Treating Technology

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While the temperature's rising Preventative Maintenance rates are falling

While heat and humidity are on the rise it's more important than ever to protect your corona treater investment with an aggressive preventative maintenance program. (see the article below on heat and humidity)

Enercon is ready to help you start-up, update or mobilize your PM program with a special discounted rate.

For a charge that is 20% below our standard service rate we will make a Preventative Maintenance Visit (PMV) to your plant. During this visit our Field Service Engineer will perform all necessary cleaning and maintenance on all of your Enercon Corona Treating Systems.

Our service engineers are experts at spotting potential problems before they affect your productivity. They'll alert your personnel to any such condition and take corrective action to rectify the potential problem.

But the service engineer's job doesn't stop there. He'll also provide instruction and training



Preventative maintenance rates are 20% less than our standard service rates.

on the best preventative maintenance practices. In addition he'll teach your technicians how to employ the latest troubleshooting and repair techniques.

We encourage you to take advantage of this great program. Call Ted Cox or Paul Reed at 262-255-6070 to discuss the possibilities.

We're ready to go to work for you.

Heat and humidity can produce sticky situations



While you wipe the sweat off your forehead this summer do yourself a favor and think of your corona treater. Heat, humidity and a lack of cleaning are mortal enemies of your treater and they can shut your operation down.

Why is this a lethal combination? Cool air moves across the electrodes maintaining a safe operating temperature. However a dirty station allows the air flow to bring other things with it.

Dust in the air, substrate fragments, moisture and other debris are all carried into the electrode assemblies. Unless you have a regular cleaning schedule they will accumulate, eventually clogging the exhaust path and reducing the air flow rate. Heat will build-up and electrodes can fail.

Excess moisture leads to even more problems. When combined with the ozone generat-

ed by the corona treating process a sticky brown liquid residue can collect in the exhaust chambers and the ductwork.

This residue contains nitric acid and NOx; it is corrosive and a skin irritant. As this residue accumulates it captures additional debris. This accumulation will quickly create an environment conducive to high voltage arcing.

Enercon recently introduced an "easy-clean" hinged electrode assembly. The new assemblies instantly pivot open to allow quick and easy access to the area just behind the electrodes. This is where the most troublesome accumulations occur. Cleaning this area can now be accomplished in a matter of minutes. Standard on all current systems, the new electrode assemblies are retrofittable to older Enercon systems.

If you have any questions on how to maintain your Enercon system call us at 262-255-6070. We look forward to serving you.

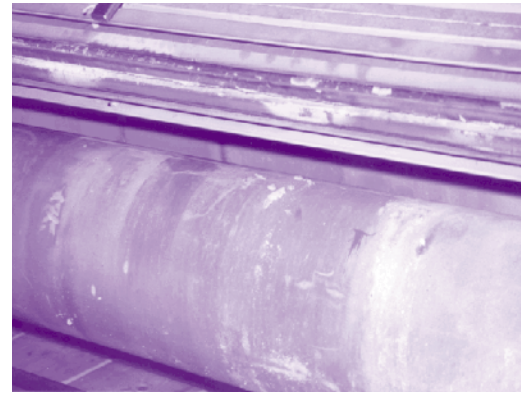
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e Maintenance Tips

It's easy to clean your ground roll

The Ground Roll is a vital component of your Corona Treating System. Defects in the surface of the roll or in the roll covering can lead to backside treatment, pinholed substrates and outright failure of your system. Here again an ounce of up-front preventative maintenance can be worth pounds of downstream cure. Here are a few roll care tips specific to the type of roll or roll covering that you may be using.



When neglected, build-up on a ground roll can lead to backside treatment, pinholed substrates and outright failure of your system.

Bare Aluminum Roll

1. For general cleaning mild soap and water works best.
2. To remove built-up oxidation use a Scotch-Brite™ pad or very fine emery cloth.
3. To remove severe oxidation it may be necessary to turn down the roll face. -CAUTION- The maximum allowable depth for milling the roll face must not exceed .030".
4. Never use a caustic solution.

Hypalon Covered Roll

1. For general cleaning mild soap and water or alcohol (methanol or methyl alcohol) work well.
2. NEVER USE 1,1,1 Trichlorethane, (MEK's), Xylene or similar products.

Silicone Covered Roll

1. For general cleaning mild soap and water work best.
2. NEVER USE 1,1,1 Trichlorethane, (MEK's), Xylene or similar products.

Ceramic Covered Roll

1. To remove light dust and dirt use water with a mild soap and a clean soft cloth. After washing, wipe the surface with isopropyl alcohol to evaporate any remaining moisture.
2. To remove grease and oil use Simple Green® all purpose liquid cleaner with a soft cloth. Again, apply an alcohol wipe after washing.
3. To remove tougher stains scrub with a powdered kitchen cleanser and a Scotch-Brite pad, then wash, rinse and wipe with isopropyl alcohol.
4. NEVER USE strong acidic solutions or any cleaning mechanism that uses metal or conductive material, or power tools of any kind.

Electroless Nickel Plated Roll

1. Any non-caustic cleaner can be used.
2. To remove oxidation use a commercial silver cleaner or tarnish remover.

A Scotch Brite™ pad or very fine emery cloth should be used for cleaning ground rolls.

It's easy to clean your electrode assembly

Earlier we established that a periodic cleaning program was a good thing. Regular cleaning of your corona treating stations will eliminate most problems with them. The station cleaning process is not a difficult one and, if performed on a regular basis, will not take a great deal of time. We suggest that at least monthly you inspect and clean the electrode assemblies, check the assemblies pivot rotation ability, check and clean the surface of the ground roll and the ground brush. At the same time check the electrode air gap and lubricate the bearings.

Electrode Cleaning Procedures

In a perfect world you would make sure that the electrodes in your corona treating system were quick-checked daily for general cleanliness and obvious signs of carbon tracking. This simple 1-minute procedure will identify nominal conditions that, if left uncorrected, might grow into problems of major proportions. For your regularly scheduled periodic cleaning program we recommend the following procedure:

1. Ensure that all system power is turned off and properly tagged.
2. Remove the electrodes from the electrode assembly by:
 - a) Disconnecting the electrode from the high voltage end of the station.
 - b) Pivot the electrode assembly for proper access.
 - c) Loosen the electrode assembly for proper access.
3. Inspect the electrodes, looking for carbon tracks on the mounting tabs, loose tabs, deterioration of the

high voltage wire and general cleanliness.

a) Replace or re-adhere loose or missing mounting tabs with our silicone adhesive (Enercon part no. TS3220) according to the instructions supplied with the adhesive.

b) If your electrodes require replacement of the high voltage wire return them to Enercon for repair. Repair of the high voltage wire is not recommended.

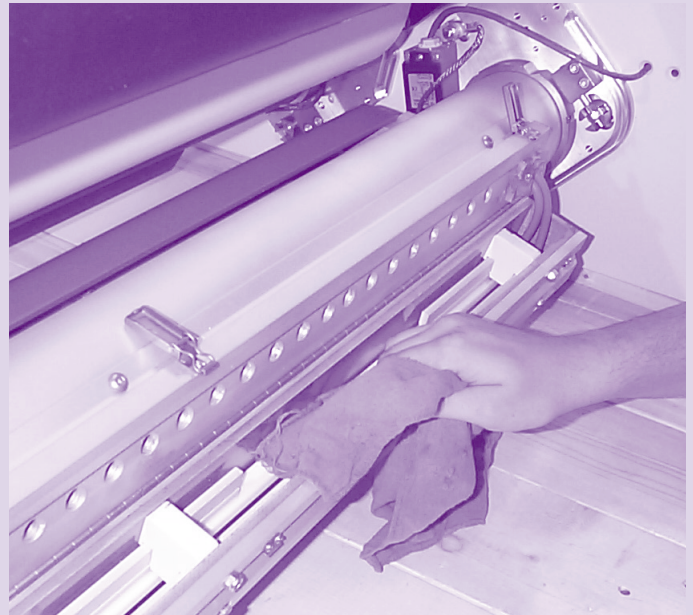
c) Clean the exterior of the electrodes by wiping with an abrasive cleanser and a Scotch-Brite™ pad. Then wipe-down with isopropyl alcohol to remove any remaining residue and evaporate any remaining moisture.

d) Clean the electrode block holders the same way you cleaned the electrodes.

4. Inspect the electrode assembly to insure that all cooling ports are clear and that the insulating shroud is free of carbon tracking.

a) Loosen accumulated residue from the cooling ports with a stiff bristled brush and remove with compressed air or a vacuum. Use a water-dampened sponge to remove any remaining residue. Finally, wipe-down with isopropyl alcohol to evaporate any remaining moisture.

b) To repair the insulating shroud, first remove the bolts that mount the shroud to the outer aluminum housing. Next remove the electrode mounting blocks and the shrouding from the electrode assembly. If car-



Enercon's hinged electrode assembly provides easy access for routine maintenance. This design is retrofittable to older models. Call us for details at 262-255-6070.

bon tracking is minor it can be removed with a file or a Dremel tool. After removal of the carbon tracking the area should be sprayed with Krylon (crystal clear #1301) or an equivalent non-conductive coating. You can now reinstall the shrouding and the electrode mounting blocks. If the carbon tracking is significant the insulating shrouding should be replaced.

5. Inspect the PVC elbow at the high voltage end of the electrode. Be alert for signs of wear or deterioration. Replace as necessary.

6. You are now just about finished. All that's left is to re-install the electrodes and reconnect them at the high voltage end of the station. As a final step be sure to tighten the electrode assembly and pivot it back into the operating position.

Enercon Support Services

Preventative Maintenance

Let our PM Team tune-up your team's operating, maintenance and trouble-shooting techniques.

Receive audit reports with recommendations for your equipment and spare parts inventory.

Global Technical Service

"Hot Line" technical support is available 24/7/365. Prompt, world-wide field service is always at your disposal.

Web Support

Visit our web site www.enerconind.com/treating for the latest interactive trouble-shooting tips, including diagrams and step-by-step instructions.

Free Testing

Use our Corona Treating Laboratory and application expertise to test new materials and applications.

Start-up Assistance

Ensure you're up and running quickly with the assistance of our Applications Specialists Team. Let our Team train yours throughout the entire start-up phase.

Training

Hands-on training courses are available for your personnel free at our factory. Utilize operational models at our testing facility to simulate line conditions.

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e Did you know?

Many customers enjoy the benefits of **PMV**

(on the QT)

Did you ever have a great story to tell, but couldn't share it with anyone because you promised you wouldn't tell?

Well many of our customers have called to let us know how Enercon's Preventative Maintenance Visits have benefitted their productivity and their bottom line.

While we'd love to share their experiences with you we can't. Some of our customer's employ confidentiality agreements with us and many companies value their preventative maintenance programs as one of their competitive weapons.

In respect of their wishes we keep the details of their experiences confi-

idential. What we can tell you is that we guarantee that preventative maintenance programs work..

How do we know? Everyday we're on the phone with customers and in their facilities. In some cases the positive feedback we get is overwhelming.

So whether you need help jump starting your own program or would like us our expert service engineers to stop in and perform maintenance and training programs-give us a call.

Call Ted Cox or Paul Reed at 262-255-6070 to discuss the possibilities.

"We're ready to go to work for you."

Want more information? Fax us this page!
262-255-7784



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**ITS NOT TOO LATE!
REQUEST YOUR FREE MAINTENANCE PLANNER
CALL TODAY - SUPPLIES ARE LIMITED**

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