

Technical Data & Application Instruction Sheet
Simix Oxi Seal A/C Cabinet & Coil Protective Coating

Product Name

Simix – Oxi Seal A/C Protective Coating

Manufacturer

Simix Reactive Solutions, LLC
9180 – Prairie Village Drive
Kenosha, WI. 53142

Benefits:

Reduces Salt, Hydrocarbon and other Air Borne Contaminant build up
Extends the usable life of the Air Conditioning Unit
Improves the Overall Efficiency of the Air Conditioning Unit
Dramatically slows down the Oxidation Degradation of the Cabinet and Coil

Product Description:

Reactive Cured Pre-Ceramic Polymer: Water based inorganic hybrid reactive system with proprietary additives that form an irreversible bond when applied to surfaces that have available mineral sites thus becoming a permanent part of the treated surface.

NP – Self Cleaning Technology uses Nano Particle sizes of Titanium Dioxide that are permanently bonded into the Polymer that utilizes the Ultra Violet Rays of the Sun to breakdown airborne Hydro-Carbons, loosen organic materials and to prevent Algae and Mold Growth. Since UV Light is abundant even on cloudy days or in shaded areas, this process works nonstop throughout the day and in most artificially lighted areas. When rain or a light spray of water hits the treated area the water carries away the loosened dirt.

Function and Usage:

Product is designed to adhere molecularly to both plain and painted Aluminum Fins, Copper Tubing, Insulated Tubing, Fan Blades and all Painted Metal Surfaces. Exterior Cabinet should be applied with an applicator pad and then immediately buffed with a Micro Fibers Cloth to polish and create a deep shine.

Cleaning the Unit:

Note: Before cleaning or apply the product you must always pull the breaker so there is no power going to the unit before you begin any work.

Thoroughly clean the areas to be treated with Simix Oxi One All Purpose Cleaner following instructions on the label for mixing. Spray the dissolved cleaner on the unit using a Garden Pump Up Sprayer or any other suitable device and allow the solution to dwell for at least 3 to 5 minutes. Thoroughly rinse the unit inside and out and make sure water freely flows between fins. Repeat the process if there is any blockage in the fins or if you observe oil rainbows in the rinse water.

On brand new units the areas to be treated should be cleaned at least twice to make sure that all of the oils have been removed from the coils that were put on during the manufacturing process.

Dry the unit by turning it back on to eliminate all excess water.

Application procedure:

Outside Unit – Condenser

Note – Always disconnect the power to the unit to be worked on before you clean or coat. Shake the one gallon container for at least 30 seconds before putting the contents into an appropriate sprayer. A Garden Type Pump up or motorized Sprayer with a fan tip can be used on older units of 10 SEER or less. Use of HVLP equipment is recommended to minimize waste and to make sure that you are getting thorough penetration and wetting action on coils deeper than two rows. Pump up the sprayer and begin application starting with the fan and then working from the top of the coil to the bottom in a side to side motion. It is important that the fan spray is directly into the fin openings so that the material will coat both sides of the fin. Make sure you keep the pressure high enough to fully penetrate through the coils. You must thoroughly wet the surface until you see the product beginning to run down the coil as you are spraying and that it is blowing through the other side. Continue until you reach the bottom of the coil. It is important to spray a light coat from the inside of the cabinet onto the coils in order to assure you that you have worked your way into the fin and tube connection. It is also recommended that you then spray the inside of the cabinet in highly corrosive environments in order to extend the life of the cabinet and framing. On the exterior of the unit you can either lightly spray the outside of the cabinet and immediately buff with a micro fibers cloth or apply the product to the cabinet using a wax type applicators pad and then buff with the Micro Fibers Cloth. Now turn on the unit so that any excess material between the fins is blown off and for the curing process to begin. Remember, thin is best. You are not trying to produce a mileage thickness of the coating only molecular thickness. Make sure the unit can run for at least 20 minutes before it shuts off to finish the initial cure. The coating will leave a slight white cast to the treated surfaces that have not been buffed.

On older units that are all ready showing decay and maybe missing some of the fin material, it is recommended that the product be thoroughly wetted onto those surfaces that are badly oxidized. This will help to slow down and or stop the oxidation process helping to extend the life of the unit.

Product coverage rates will vary based on SEER Ratings and size. Using an Airless Electric sprayer, i.e. Wagner HVLP Sprayer with a Fan Tip a typical 2.5 Ton 12 SEER unit will use approximately 24 ounces of material to do the outside unit. On commercial units of 10 tons or greater your coverage rate should be about 5 Tons per quart.

Inside Unit – Evaporator Coil/Air Handler

Note: You must make sure the power is turned off before working on this part of the A/C System. Do not remove the Inspection Panel until you are certain the power is off before you begin cleaning the Evaporator Coil.

Cleaning the Evaporator Coil:

Mix the Oxi One All Purpose Cleaner at the ratio of 1 oz of powder to 1 gallon of Hot Water. If the Coil is Black with Mold and has animal hair and dirt build up on it you should put a rag in the drain to prevent anything from clogging the Drain Line. Using a Shop Vacuum or equivalent attempt to Vacuum off any loose particles before soaking the unit with the prepared cleaner. Using a Garden Pump Up Sprayer with a fan tip begin soaking the Evaporator Coil starting at the top and working to the lower part of the unit making sure you do not over fill the Evaporator drip pan. You should see an almost instant release of the buildup. Allow to soak for 2 – 3 minutes and lightly begin rinsing with a Garden Hose making sure you use a fine spray and do not overload the Evaporator Pan. Vacuum out any water and repeat the application of the cleaner if necessary. If the Coil has not been cleaned in over 5 years it will probably have to be cleaned several times. Once it has been thoroughly cleaned and the water has been vacuumed out unplug the drain hole and rinse with clear water.

Put the Inspection Panel back on and manually turn the fan on to dry the Evaporator Coil with the A/C in the off position. All we want to do is dry the Coil before applying the Protective Coating.

Application Procedure:

As this is usually a tight space to work in you will have to be prepared to use either the Garden Pump Up Sprayer or a small motorized unit. Following directions on the container shake the product for 30 seconds before putting it into the unit you are using to apply. Put a rag back into the drain hole before applying the product. Begin at the top of the coil making sure you have soaked the unit with excess product running down the fins and into the Plugged Drain Pan. After you have completed the application wipe the Evaporator Pan dry of any excess product before removing the Drain Plug. Close up the unit and manually turn the fan on to dry the coating with the A/C in the off position. It is recommended that you run the unit for at least one hour before turning the A/C back on to assure a full cure of the coating.

Things to look for:

During the initial curing phase which takes between 3 – 7 days you may experience an increase in Head Pressure as the solvent water in the material is acting as an Insulator and it must be driven out. Once this process has been completed and the excess solvent water has been driven off you will now be down to less than a Micron in Film Thickness. Head Pressures will decline and generally go down to a level that was less than what was observed before applying the coating.

The coated fan will move more air across the coils and speed up the Heat Exchange process.

The surface is now smoother and no longer has available mineral sites for Salt and other matter to attach to. The more air that you can pull across the coil the more effective the coil will be in dissipating the heat.

It has been observed that once a coil is treated with this product, Air Borne Particulates and hydrocarbons no longer bond as easily as they did prior to the application of the A/C Protective Coating. This is due to the slickness of the surface and the addition of the Self Cleaning Nano Particles of Titanium Dioxide. The ultimate effect of this action is that the unit stays cleaner longer and you will never have to use harsh coil cleaners again to keep the coils clean. Now, a simple water rinse is all that is needed to keep the coils clean. In side by side tests in the field between coated and uncoated units it has been observed that the coated units over a cooling season could save up to 20% or more on energy costs because of this Self Cleaning Process. On large commercial installations that operate for extended periods of time everyday this could result in a pay back from this one phenomenon in less than 90 days.

A typical 10 ton Commercial Unit operating in Florida during the peak cooling season consumes \$300 to \$600 a month in electricity and can cost as much as \$15,000 to replace. The cost of coating the unit will pay for itself during the first cooling season off of the energy savings. Typical Air Conditioning Equipment can last anywhere from 3 – 15 years depending upon the environment. Assuming an uncoated unit that would normally last 10 years, for each year we can extend the life of that unit, we are actually saving the owner \$1,500 (\$15,000 Divided by 10 years) in replacement cost. A unit exposed to a high Salt Air Environment that has a three year life expectancy would save the owner \$5,000 (\$15,000 Divided by 3 years) a year in replacement cost for each year of life extension.

A typical 3 ton Residential Unit operating in Florida during the peak cooling season consumes between \$120 to over \$200 a month in electricity and can cost as much \$5,000.00 to replace. Savings of \$20 to as much as \$60 a month have been shown after Cleaning with Oxi One All Purpose Cleaner and Sealing with the Oxi Seal A/C Protective Coating.

If and when will the unit need to be recoated:

Once the product has been applied and it is fully cured it will have a slight white cast to it. Overtime, this may self polish away and the fins will become shinny. As the white cast leaves we recommend that you spray water on the coils and if it is observed that there is still a beading action the coils are still protected. Once the beading action disappears and the water sheets down the coil it is time to recoat or if during a maintenance period you observe new corrosion take place, recoat immediately. This coating is expected to last between three to seven years or more depending on the environment it is in. Coastal or highly corrosive areas with high levels of Salt or Acid Rain may shorten the life of the coating and it is recommended that the unit be inspected every six months to assure the owner that the coating is still protecting the unit.

Maintenance after application:

Use the Oxi One All Purpose Cleaner at least once or twice a year for a thorough cleaning if the unit is exposed to high levels of grease or salt build up like what happens on the top of a Restaurant or if you are near the ocean. Follow instructions on the label in insure maximum results.

Do not use commercial coil cleaners at anytime after application or other cleaners as they will damage the coating. See warning below.

Under normal operating conditions if you see a build up of particulate matter due to a dry spell or other circumstances, simply rinse with water. Keeping the unit free from debris build up could easily save you 15% or more on your energy bill.

Warning: Do not use acid based cleaners for future cleaning as they will damage the coating.

For MSDS Sheets and other information on the product go to our web site simixsolutions.com to download and print.