

Introducing



Cool Surface Technology™

Permanent Photocatalytic Ceramic Clearcoat

Energy efficiency starts on the outside.

SIMIX Sunlight-Reflection Technology makes your building cooler.

The most cost-effective way to reduce energy demand/costs while mitigating climate change emissions



Sustainable, eco-friendly cleaners and coatings that save you time and money



Cool Surface Technology™ – Permanent Photocatalytic Ceramic Clearcoat

SIMIX CST significantly lowers energy costs and extends the life of your roof

SIMIX CST keeps your surface COOL

Our permanent high pH Ceramic Clearcoat contains Potassium and Lithium Silicates and when applied as directed will reflect 100% of the heat producing IR Bandwidth of the sun thus preventing the surface from becoming a generator of heat. This keeps your rooftop cooler and your building cooler, too.

- Stops further decay by reflecting the damaging UV rays of the sun
- 100% Water-based • Zero VOCs • No odor

SIMIX SPOT-ON™ keeps your surface CLEANER longer

SIMIX SPOT-ON™ Technology - Titanium Dioxide (TiO₂) a photocatalyst prevents algae from attaching and neutralizes carbon dioxide and turns it into pure carbon (an essential nutrient for plants and vegetables) and pure oxygen. The water-soluble carbon eventually washes away in the rain, keeping your surface cleaner longer.

SIMIX is active 24/7

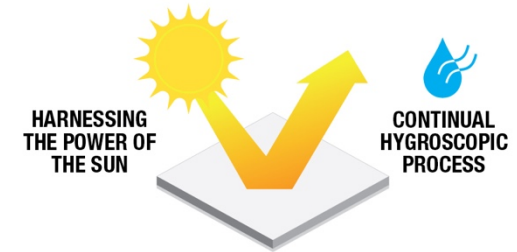
- SIMIX high pH continually breaks down algae, mold, smog and road grime.

SIMIX reflects damaging UV rays

Prolonged UV exposure damages in several ways:

- Accelerates fading • Roofs that are not protected show premature aging, including curling, cupping, blistering and cracking.

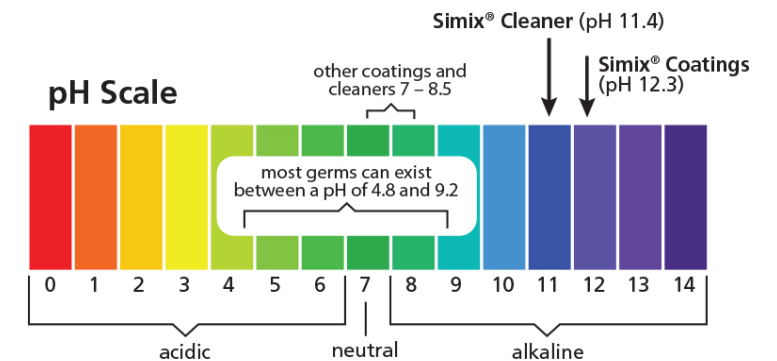
SIMIX SPOT-ON™ Sustainable Photocatalytic Oxidation Technology NEUTRALIZES CARBON DIOXIDE



Titanium Dioxide (TiO₂)

**BREAKS DOWN ALGAE - MOLD - SMOG
ROAD GRIME - TANNIN & OIL STAINS**

***Cools and Keeps Surfaces Cleaner
and Lasting Longer***





Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Roofs & Vertical Surfaces

What is sunlight-reflection?

It is the ability of a material to reflect, and not absorb, solar energy from the sun. Materials with low solar reflectance become hot when exposed to sunlight, which in turn makes it more difficult and more expensive to cool the structure.

Simix CST is hygroscopic?

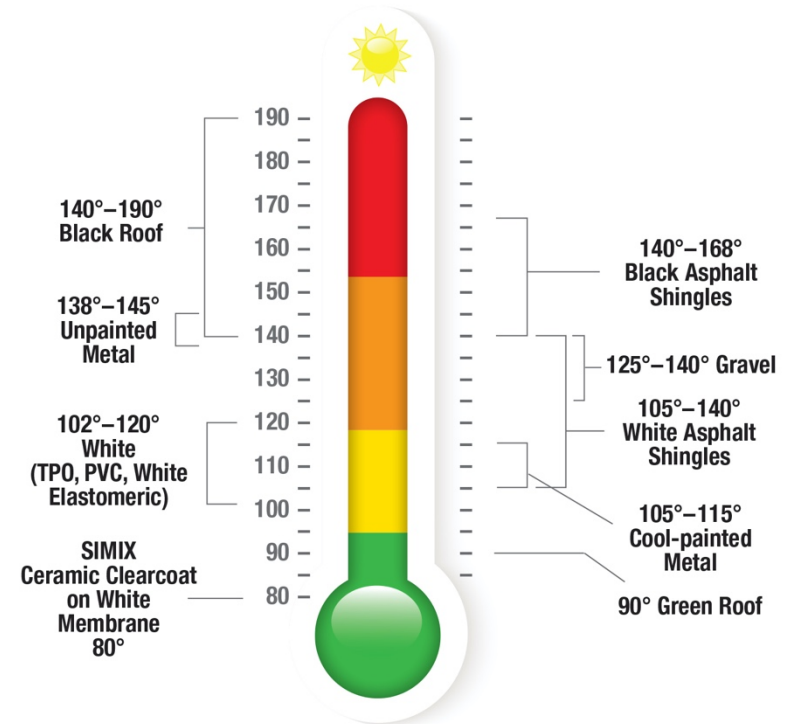
A continual process to attract and adsorb water molecules from the air to the surface. This process draws heat from the surface and also enhances the photocatalytic oxidation technology preventing algae and mold from attaching, eventually washing away keeping the surface cleaner longer.

Cool roofs benefit the environment

- Reduce local air temperature (heat island effect)
- Lower peak electricity demand, which allows for a more stable energy grid
- When you cut the amount of energy you use to cool a building, you reduce carbon emissions



How hot is your roof in the summer?



Surface temperatures on a sunny 90° day

WHITE MEMBRANE (TPO/PVC/EPDM) • ELASTOMERIC • ASPHALT SHINGLE • TILE



Cool Surface Technology™ – Permanent Photocatalytic Ceramic Clearcoat

White Membrane

When both roof and A/C coils are coated you can expect to reduce energy consumption on the hottest days from a low of 25% to upwards of 45%

Reduces Your Energy Bill by 10 – 20%*



Reduces roof & vertical surface temperatures by 40°–76°F

- Reflects solar heat IR band
- Reflects UV bands
- Extends the life of your roof
- Generates clean, fresh air
- Neutralizes carbon dioxide
- Prevents further oxidation
- Lower indoor temperature
- Reduces A/C run time

Before coating air temp 83°F. surface temp 117.3°F
One year later: Air temp 85°F. surface temp 81.8°F



*Savings will vary based on geographical location and temperatures. The hotter the temperature the more the savings.



Reducing urban heat
– One building at a time



Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

White Membrane

When both roof and A/C coils are coated you can expect to reduce energy consumption on the hottest days from a low of 25% to upwards of 45%

Reflects 100% solar IR heat band on all white & light color roofs

Surface temperature on white membrane roof lowered by 74.3°F



Before coating air temp 99°F
Surface temp 154.6°F



After coating air temp 99°F
Surface temp 80.3°F



SIMIX Multi-Surface Cleaner/Degreaser/Sanitizer and SIMIX CST Permanent Photocatalytic Ceramic Coating were used to clean and coat this single-ply membrane rooftop at a Sundance Convenience Store in Lake Havasu, AZ. The air temperature at 9:30 a.m. was 90°F and the roof temperature measured 76.4°F.

At 12:30 p.m. the air temperature measured 99°F, the roof temperature was still a cool 80.3°F.



Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Air Conditioning

When both roof and A/C coils are coated you can expect to reduce energy consumption on the hottest days from a low of 25% to upwards of 45%

Reduces Your Energy Bill by 15 – 20%*

SIMIX CST improves the ability of any new or old unit to produce dramatically colder and fresher air



Waffle House #265, Phoenix Arizona



Waffle House operates 24-7, giving their (4) 5-ton A/C units a constant workout. After they cleaned and coated all condenser and evaporator coils, these older units produced dramatically colder air. Run times were reduced by over 50%, slashing energy use while also improving air quality.



Coats the entire unit including cabinet interior and exterior, fan blades, condensing, evaporator and heat exchange coils

- Prevents salt damage
- Lowers your energy bill
- Add years to the life of your A/C units

The most affordable way to reduce energy consumption and lower carbon footprint

Air temperatures measured during the cleaning and coating process



Return air

Supply air before cleaning

Supply air after cleaning

Supply air after coating

Split results ▶

13.3°

20.4°

45.3°

Industry standard split 18°–22°. SIMIX achieves a difference of 38°– 45.3°

*Savings will vary based on geographical location and temperatures. The hotter the temperature the more the savings.



Cool Surface Technology™ – Permanent Photocatalytic Ceramic Clearcoat

Air Conditioning

What is SIMIX CST?

SIMIX CST Permanent Photocatalytic Ceramic Clearcoat is a non film-forming, super-hard liquid glass that will never yellow, chip, peel or crack. Just like in glass, the primary ingredient in SIMIX is silica (sand), that is mixed with potassium and lithium, which are very conductive. SIMIX CST Permanent Photocatalytic Ceramic Clearcoat conducts heat. It is not an insulator, like all other coil coating products on the market today.



Simix CST is hygroscopic?

A continual process to attract and adsorb water molecules from the air to the surface. This process draws heat from the coils and also enhances the photocatalytic oxidation technology which destroys airborne germs, viruses, odors and generates clean fresh air.

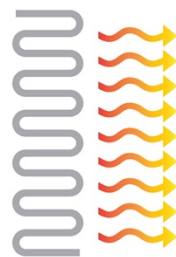
Why do you need SIMIX CST?

Air conditioners start losing efficiency the moment you install them. Tiny gaps are created by the expansion and contraction of the tubes and fins. Airborne corrosive particles and salt ions enter those microscopic gaps, corroding the unit and making it less efficient. SIMIX CST Permanent Photocatalytic Ceramic Clearcoat fills in those microscopic gaps, leaving behind a smoother surface that improves heat transfer.

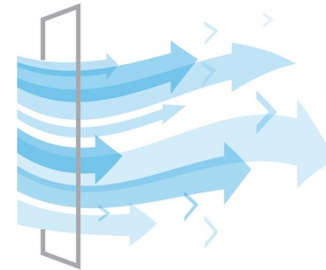
What does SIMIX CST do?



SIMIX CST fills in microscopic gaps between fins and tubes created by salt, air pollution, and expansion and contraction.



SIMIX CST is a conductor. It conducts heat away from the coils.



SIMIX CST allows the fans to pull more air through the condenser and evaporator coils, destroying odors and generating clean, fresh air, indoors and outdoors.

PREVENTS GREASE BUILD-UP • REDUCES PM TIME • IMPROVES AIR QUALITY • PREVENTS SALT DAMAGE



Cool Surface Technology™ – Permanent Photocatalytic Ceramic Clearcoat

It's possible to have healthy buildings that use less energy



Remember that great fresh air smell?
Now you can breathe it again

Reduce sick days



SIMIX CST Improves Indoor Air Quality

Cleaning and coating your evaporator coils destroys airborne germs, viruses, odors and generates clean fresh air.



We used AirAnswers™ to test SIMIX CST at a busy Chicago area diner.
The Result: Air cleaner and fresher than outdoors!

AirAnswers is the only commercially available air sampling device that collects all biological particles including viruses, bacteria, allergens and molds. Samples are analyzed in their ISO certified laboratory by RT-PCR using protocols designed and provided by the Center for Disease Control and Prevention.

Before cleaning and coating

Airborne contaminant		Result on 6/7/21
COVID		Not detected
Grass pollen	High	0.13
Cat allergen*	Medium	0.37
Dog allergen	Low	0.28
Mold allergen	Medium	5.89

After cleaning and coating with SIMIX

	Result 1 week later
	Not detected
	Not detected
Low	0.11
Low	0.20
Medium	4.71

	Result 3 weeks later
	Not detected
	Not detected
Low	0.11
	Not detected
	Not detected

Air quality results were achieved without UV-C light source

*It's not uncommon to see changes in allergens, especially with pet allergens, from run to run. Cat allergen is very tenacious and can stick to cat owner hair, skin, and clothing. Cat owners can easily transfer cat allergen everywhere they go. The higher cat allergen may be due to a cat owner coming into the establishment.



Cool Surface Technology™ – Permanent Photocatalytic Ceramic Clearcoat

Air Conditioning

CASE STUDY

I just wanted to give you an update on my AC Unit. 1st off the brand is Carrier. It's a 3 ton unit with a 2 1/2 ton compressor manufactured in 2015 running 410A refrigerant.

Last July (2021) my wife and I moved into a duplex and within a few days of moving I went up on the roof (heat pump package unit) to clean and coat the system. I first opened up the cabinet and thoroughly cleaned the evaporator coil, inside cabinet and all exposed copper lines. I then proceeded to coat the evaporator coil at a 3:1 mixture using your AC Coating. After the evaporator coil was done, I buttoned up the door and proceeded to clean the condenser coil. Once the condenser coil was clean and dry, I applied the coating to the condenser coil. Testing return temperature before and after the cleaning and coating I saw a temp split. Can't remember the exact numbers but my before split was around 18 degree split and my after was around 41 degree split.

Over this weekend I decided to reclean the unit as it should be done every 6 months and I have slacked on it. I took a before temp of 37.5 degrees out the return with a 73.5 supply (at the filter). Still an amazing split. Way beyond industry standards.

I went up on the roof and opened up the unit. I put gauges on the unit and got a liquid pressure of 354 psi at 94 degrees my unit needed a sub cool of 10. All numbers were great however when I put my hand on the liquid line which would normally be scalding hot, it wasn't. It was actually quite cool to the touch and the vacuum side also know as low side was very cold with no condensation or icing.

Basically Simix Silicate Ceramics with TiO2 is dissipating the heat so fast that the unit just stays cooler which explains the huge temp split over Industry standards. I went ahead and cleaned the unit. Let it dry. Fired it up and got an even lower drop in split. Now at 29.8 degrees. Simix is clearly working. Also to note. My neighbor has a unit and he keeps his house during the day at 75 and lowers to 72 at night as we do and even though I have not cleaned and coating his unit...yet. I did test his split and at 74 degrees at supply, his return was 58 degrees. He lives alone and yet my energy bill has been about 20 dollars a month less than him.

So basically my unit comes on, freezes out the house and shuts down quicker. So it cycles more often with less actual run time which contributes to the lower energy bill.

My thoughts as you move forward would be that before any unit is cleaned and coated, that each unit is dialed in to manufacturers subcool and super heat. Because once cleaned and coated, super heat numbers won't or can't be applied due to Simix eliminating the heat build-up.

CASE STUDY

Simix CST First Year Savings

Tony Hopcraft and his wife Lynda live in St. Augustine, Florida. The high temperatures regularly top 90 degrees for months. They cleaned and coated their air conditioner with Simix in April 2020. Since then, they've been saving money on their energy bill. (The only time they didn't save was when their grandchildren came to stay and kept leaving the doors open!)

It's easy to use Simix Multi-Surface Cleaner and Simix CST Permanent Photocatalytic Ceramic Coating. No special equipment is needed. You just clean the A/C unit with Simix Cleaner and spray on Simix CST Permanent Photocatalytic Ceramic Coating. The air coming out of your air conditioning ducts will be at least 20 degrees cooler instantly.

	Month	Bill Before Simix	Bill After Simix	Savings
AIR CONDITIONING	May	\$166	\$121	\$45
	June	\$225	\$181	\$43
	July	\$223	\$215	\$18*
	August	\$226	\$225	\$1*
	September	\$268	\$215	\$53
HEAT PUMP	October	\$211	\$174	\$37
	November	\$139	\$147	No savings
	December	\$132	\$96	\$36
	January	\$139	\$152	No savings
	February	\$121	\$87	\$36
	March	\$129	\$75	\$54
	April	\$144	\$86	\$58
	TOTALS		\$2,123	\$1,774

*These months were when the grandchildren were staying at the house and demonstrated their inability to close doors properly.

Unit was rinsed on Jan. 14th. Rinsing quarterly will result in even more savings.

First year savings equates to 3,000 kWh (\$360/12 cents per kW).



Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Asphalt Shingle

When both roof and A/C coils are coated you can expect to reduce energy consumption on the hottest days from a low of 25% to upwards of 45%

Reduces Your Energy Bill by 10 – 20%*



Before coating air temp 110°F. surface temp 141.1°F
After coating air temp 112°F. surface temp 97.8°F

Reduces roof & vertical surface temperatures by 30°–55°F

- Reflects solar heat IR band
- Reflects UV bands
- Extends the life of your roof
- Locks in roofing granules
- Neutralizes carbon dioxide
- Prevents further oxidation
- Lower indoor temperature
- Reduces A/C run time



*Savings will vary based on geographical location and temperatures. The hotter the temperature the more the savings.



Reducing urban heat – One building at a time



Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Asphalt Shingle

When both roof and A/C coils are coated you can expect to reduce energy consumption on the hottest days from a low of 25% to upwards of 45%

Reflects 100% solar IR heat band on all white & light color asphalt roofs

Attic temperature was drastically lowered by 29.7°F



Typical dark asphalt shingle surface temperatures range from 140°– 168°.

Shorewood, Minnesota



Air temperature 76°F.
Surface temperature only 97.6°F!

This dark asphalt shingle roof was cleaned first with **Simix Multi-Surface Cleaner** then sprayed with **Simix CST Permanent Photocatalytic Ceramic Clearcoat**. Interior temperatures were lowered resulting in less cooling energy usage/cost while extending the life of the roof.



Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Pool Decks – Concrete - Pavers

Reduces Exterior Surface Temperature by 20°– 40°F

100% Solar Reflectance on All Light to Medium Color Surfaces



Before coating air temp 83°F. surface temp 120.2°F

After coating air temp 85°F. surface temp 83.7°F

SIMIX CST will help all exterior surfaces look better, last longer and stay cooler

- Neutralizes carbon dioxide
- Enhances true color • Prevents further oxidation
- Prevents all automotive fluids from attaching
- High traction coating - Reduce slip and fall
- Reduces salt and freeze-thaw damage
- Prevents algae, mold, and mildew regrowth
- Water-based • Zero VOCs • No odor
- Never use bleach again





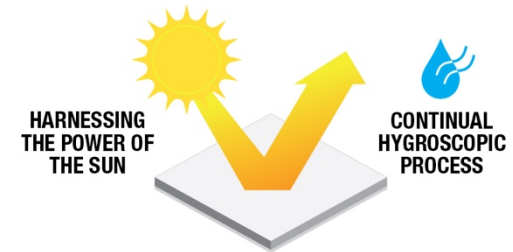
Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Exterior Surfaces

SIMIX CST Significantly Lowers Surface Temperature and Extends the Life of the Surface



SIMIX SPOT-ON™
Sustainable Photocatalytic
Oxidation Technology
NEUTRALIZES CARBON DIOXIDE



Titanium Dioxide (TiO₂)

**BREAKS DOWN ALGAE - MOLD - SMOG
ROAD GRIME - TANNIN & OIL STAINS**

***Cools and Keeps Surfaces Cleaner
and Lasting Longer***



*Reducing urban heat
- One building at a time*



Cool Surface Technology™ - Permanent Photocatalytic Ceramic Clearcoat

Safely removes algae, mold & mildew stains all residential and commercial roofing surfaces



Medium mold coverage – 8 hours of sunlight per day, Jacksonville

Let the sun and rain do the work for you

Simix works with the sun and rain to clean and cool your roof

Photocatalysts in Simix reflect sunlight. This keeps your rooftop cleaner and your building cooler, too.

SIMIX SPOT-ON™ Technology prevents algae from attaching and **neutralizes carbon dioxide** and turns it into pure carbon (an essential nutrient for plants and vegetables) and pure oxygen. The water-soluble carbon eventually washes away in the rain, keeping your surface cleaner longer.



Dark area shows wet surface after being applied.



After 60 days area shows self cleaning in progress

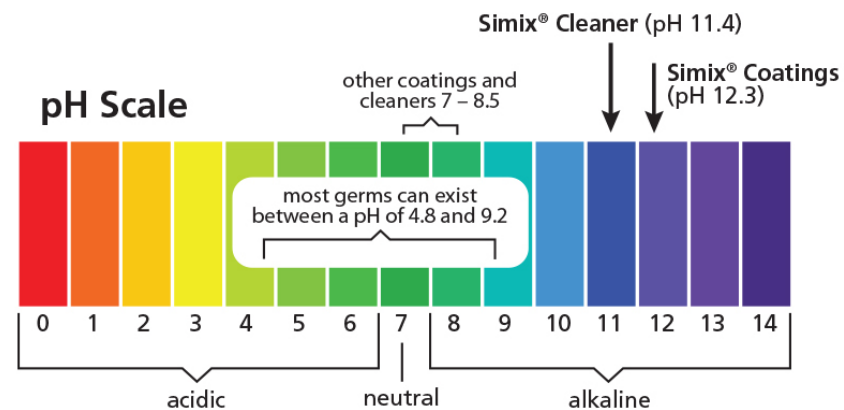


One product for all your cleaning needs



Simix Multi-Surface Cleaner/Degreaser/Sanitizer cleans and sanitizes by removing dirt, grease and microorganisms. Germs live and grow on surfaces that have a pH level between 4.8 and 9.2. While most cleaners are pH neutral, Simix has a safe high pH of 11.4. With Simix, you can easily maintain a clean environment that does not support germ growth.

Our cleaner and coatings bring exceptional Quality, Performance and Value to consumers in an ever changing and challenging market.



SIMIX Multi-Surface Cleaner / Degreaser / Sanitizer

Exterior Surfaces



Black mold and dirt on a single-ply membrane roof are not just ugly, that cost your company lots of money — because that mold and grime traps heat and increases air conditioning costs. A clean and restored rooftop will lower your energy costs and help you meet your sustainability goals.



SIMIX Multi-Surface Cleaner/Degreaser/Sanitizer and SIMIX CST Permanent Photocatalytic Ceramic Coating were used to clean and coat this single-ply membrane rooftop in the Portland, Oregon area.

When both roof and A/C coils are coated you can expect to reduce energy consumption on the hottest days from a low of 25% to upwards of 45%



SIMIX Multi-Surface Cleaner/Degreaser/Sanitizer and SIMIX CST Permanent Photocatalytic Ceramic Coating were used to clean and coat this older units evaporator and condensing coils. It produced colder air and run time was reduced by over 50%, which lowered energy consumption and extended the life of the unit.

SIMIX Multi-Surface Cleaner / Degreaser / Sanitizer

Exterior Surfaces



- Removes roof algae, mold, dirt, grease and oil
- Overspray is not harmful to pets or plants
- Safer and cheaper than bleach
- Eliminates pet urine, oil and grill grease stains



Global progress to decarbonize the economy include a combination of sustainable efforts

SIMIX Sunlight-Reflection Technology

has been assisting in this effort by cooling building surfaces, making A/C systems cool more efficiently and reducing A/C system run times thus reducing energy consumption from a low of 25% to upwards of 45%.



Worldwide Leader in User-Friendly Ceramic Clearcoats

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