

Coval UTC (Ultimate Top Coat)

Gloss, Satin, Matte

Topcoat for Epoxy, Terrazzo, and Stained, Polished or Sealed Concrete Floors and Counters
 Revised 03/2023. Please ensure you reference the latest copy available at www.covaltechnologies.com.

PRODUCT DESCRIPTION:

Coval UTC is a thin film, single component, clear coating designed to protect finished substrates, decorative coatings and dense non-porous stone from surface wear and harsh chemicals. It creates a covalent bond with the coating substrate and is easily and quickly applied with an acetone pump sprayer.

Coval UTC builds an irreversible covalent bond through the available polar groups in epoxies, urethanes, and paints. This prevents moisture, stains, chloride ion penetration, dirt, ice, acids, animal waste, and graffiti damage to the substrate.

RECOMMENDED USES:

Coval UTC is an excellent solution to combat moisture, most stains, mild acids, bird & animal waste, and graffiti on:

- Polished & Densified Concrete
- Epoxy
- Urethane
- Acrylic
- Marble and Granite
- Terrazzo
- Ceramic and Porcelain

THIN FILM COATING:

CAUTION: Coval Coatings should only be applied by experienced coating installers. The best practice is to apply enough coating to “wet-out” the surface averaging 4-5 mil. wet film thickness. If you apply the coating too thick, it will attempt to cross link away from the surface, which may cause fracturing or delamination. Average square foot coverage will be approximately 300 square feet per gallon if the coating is properly applied. Over applying the coating will crack the coating or potentially cause delamination. Coval coatings are specifically designed for the substrates listed in the Technical Data Sheet and should never be applied to substrates not listed without testing.

PRODUCT CHARACTERISTICS:

Properties:

- Color: Clear, or clear to slight amber (depending on temperature and humidity)
- Finish: Gloss, Satin, or Matte
- Vehicle Type: Solvent Base
- Flash Point: (C Penskey-Martens closed cup)
- 9C/15F VOC: Less than 100 g/L
- Weight/Gallon: 7:36 lb/g
- Semi-breathable

Dry Time:

- Drying Time: (@ 77 F, 50% RH): Temperature, humidity, and film thickness dependent. (The higher the temperature and humidity, the faster the dry time).
- Touch: 1-3 hours
- Recoat: Recoats are not recommended, so put the first coat down correctly. If recoating is necessary, wait for a minimum of 24 hours. It may take longer due to cold temperatures and low humidity, always do a test area before recoating. Do not mix Gloss, Satin, or Matte sheens on recoats, without consulting Coval Technical Support.
- Walk on: 8–24 hours
- Full Cure: 7 days

Testing:

ASTM D-4060 Taber Abrasion	<1
ASTM D-3363 Film Hardness, Pencil	9H
ASTM D4541 Adhesion	1700 PSI
ASTM D3359-97 Adhesion	4
ASTM B117-111 Salt Spray Scribed	6

Stain Test:

Staining Agent	Resistance Time (Hours)	Cleaner Required	Staining Agent	Resistance Time (Hours)	Cleaner Required
10% Citric Acid	12	Dry Cloth	Glacial Acetic Acid	12	Dry Cloth
10% Nitric Acid	12	Dry Cloth	Grape Juice	24	Dry Cloth
20% Hydrochloric Acid	6	Dry Cloth	Iodine	6	Dry Cloth
30% Sulfuric Acid	6	Dry Cloth	Lipstick	48+	Dry Cloth
Acetone	48+	Dry Cloth	Methyl Ethyl Ketone	48+	Dry Cloth
Balsamic Vinegar	12	Dry Cloth	Motor Oil	48+	Dry Cloth
Betadine	6	Wet Cloth	Mustard	12	Wet Cloth
Black Crayon	48+	Wet Cloth	Permanent Marker	48+	Solvent
Brake Fluid	48+	Dry Cloth	Picante Sauce	24	Dry Cloth
Brown Shoe Polish	48+	Wet Cloth	Pickle Juice	24	Dry Cloth
Calamine Lotion	48+	Dry Cloth	Red Wine	48+	Dry Cloth
Ketchup	48+	Dry Cloth	Skydrol	48+	Dry Cloth
Chocolate Syrup	48+	Dry Cloth	Sodium Hydroxide	24+	Dry Cloth
Coffee	48+	Dry Cloth	Spray Paint	48+	Solvent
Ethylene Glycol	48+	Dry Cloth	Tea	48+	Dry Cloth
Gasoline	48+	Dry Cloth	Worcestershire Sauce	12	Wet Cloth

Spread Rate:

Recommended Spread Rate per coat:
 Wet mils: 4.0-5.0 per coat
 Dry mils: 0.3-0.6 average

Coverage:

Coverage: 250-350 sq.ft./gal - Coverage will vary depending on the porosity and texture of the substrate, as well as the applicator's method of application. Below are typical coverage rates:

- Polished Concrete and Epoxy: 350 sq.ft. per gallon
- Polished Marble, Granite, Porcelain, Ceramic: 350 sq.ft. per gallon
- Terrazzo: 350 sq.ft. per gallon

APPLICATION INSTRUCTIONS:

Coval UTC, as with most final finishes, is best sprayed on to achieve optimum finish and appearance. UTC is designed for use over the surfaces described in the "Recommended Uses" in this data sheet.

- Use an Acetone Pump Sprayer with a red fan tip (F110-04) for the gloss finish, or a gray cone jet tip (TX-VK8) and brown cone jet tip (TX-VK12) for the Matte or Satin finish.
- *Matte or Satin Finish:* Do not use a fan tip when applying Matte or Satin finishes as this may cause overlap lines. Use a cone jet instead, using a circular motion with at least a 10 percent overlap. Be sure to remove any fine micron filters in the sprayer or the matting agent may cause clogging. It is also recommended to pour the Satin and Matte finishes through a paint screen. If using a five-gallon pail of satin or matte, remove the lid and stir with a high-speed mixer until the matting agent is fully dispersed.
- *All finishes:* **It is not recommended** to use the brass full cone spray tip that is included with a sprayer, as it may result in over-atomizing the coating, which can lead to an "orange peel" surface.
- Maintain consistent 30-33 PSI air pressure during the application by pumping the sprayer regularly and observing consistent droplet sizes. On average repump the sprayer every 100-150 square feet.

APPLICATION INSTRUCTIONS *(continued)*:

- Maintain a consistent distance from the surface of 12-16 inches. With all methods of application, always mask off any adjacent surfaces to protect them from overspray.
- If applying outdoors, make certain the ambient temperature is between 45°F and 105° F, and Relative Humidity (RH) is 90% or lower. Make certain that there is no chance of rain for a minimum of 5 hours after the estimated time of completion of the coating process. Also confirm that there will be no morning dew to the surface, or sprinkler watering before it has had a chance to dry for at least 5 hours.

INDOOR SAFETY: Turn off all pilot lights or open flames in the building, and always wear safety goggles and an OSHA approved respirator.

Surface Preparation, after sweeping and dusting:

IMPORTANT: REMOVE ANY SILICONE

Decontaminate any surface to be coated, removing oils, grease, wax, fatty acids, and other contaminants by using detergents, etching solutions, heavy duty cleaner/degreaser, steam cleaning or chemical cleaning. Remove laitance and concrete dust, making sure the surface will absorb water. Use generally accepted standards for concrete curing of 28 days and not more than three pounds of moisture vapor pressure per 1000 square feet per 24 hours. Be sure the surface is dry to touch.

Previously Sealed Concrete:

UTC is compatible with densifiers and hardeners used after the concrete is placed or during the curing process. Lithium silicate, colloidal silica, sodium silicate, and acrylic emulsions are generally compatible with UTC. DO A TEST AREA in an inconspicuous area of the floor to ensure there is not any issue with the adhesion or curing process. Clean the surface before application.

Painted Surfaces:

If in sound condition, clean the surface of all foreign material. Rinse with fresh water and allow to dry. If the paint is peeling or badly weathered, re-application of the existing paint may be necessary. If re-painting is required, proceed with that process outlined by the paint manufacturer, then apply COVAL UTC, following the paint manufacturer's re-application timetable, and recommended drying time. If re-paint is not necessary, the old paint will require cleaning to the desired appearance before applying the COVAL UTC.

EPOXY:

Spray UTC directly over clean, fully cured Epoxy following the Application Instructions in this document. Follow the manufacturer's specification for re-coat timetable and allow the epoxy to fully cure. Wipe epoxy with Acetone before application and do not sand unless necessary. If sanding is required, it may require two coats of UTC because the first coat will soak in.

Porcelain and Ceramic Tile:

Clean tile and grout until all stains are removed and the surface is dry. Spray the UTC following the application instructions in this Data Sheet.

Test Area:

When using Coval UTC on a new substrate for the first time, clean the area, then test it on a small, inconspicuous area to ensure adhesion and determine that the desired look is achieved. Due to the wide variety of texture and porosity of concrete and masonry surfaces and the various methods of application and environments, different reactions may occur. Once satisfied, work can begin.

There will be a slight enhancement or change in appearance from the natural surface when using Coval with a gloss or satin.

If ever in doubt about a coating, TEST it first.

APPLICATION TYPES:

For *Satin & Matte* finishes: **stir thoroughly the contents** from the bottom of the container with a low-speed drill mixer. This is to re-suspend the matting agents that have settled to the bottom before pouring into the sprayer. Remove all particle filters in the acetone pump sprayer to avoid clogging. Be sure to filter the coating as you pour it into the sprayer to strain out fine particles in the matting agent. Once poured, **re-shake the pump sprayer during application every 10-15 minutes** to re-suspend the matting agents ensuring a consistent finish. *Only use an acetone proof pump sprayer with chemical resistant hoses.* Maintain an adequate PSI to create a consistent flow and finish. Use a gray cone jet tip (TX-VK8) or brown cone jet tip (TX-VK12). Maintain a 12-16" distance from the tip to the object or floor. Use a random circular motion when spraying to avoid lap lines.

For the *Gloss* finish, use a red fan tip (F110-04), and be sure that any overlap of the coating will not create the appearance of lines. This can be an issue on highly reflective floors where a thicker coating in one area will distort the light refraction. Maintain a 12-16" distance from the tip to the object or floor. Use a random circular motion when spraying to avoid lap lines.

All Finishes: Apply 4-5 mils wet film thickness (WFT) and never allow puddling. It is always best to spray on a few mockups to get the feel of putting down this product before attempting an actual project. Be careful not to apply too thick but put down enough to wet out the surface (4-5 mils). Do not allow the product to puddle as this will cause too much surface tension and cause possible cracking or delamination.

MOVE: Do not exceed 15 minutes of wet-edge exposure. When replenishing the coating, quickly refill the sprayer and return to coating on the wet edge within 15 minutes. For larger jobs use multiple applicators to maintain the wet edge.

INTERRUPTION OF WORK:

If you need to stop, use a control or expansion on the floor or clean tape line. Clean the sprayer with acetone and resume work when ready. After 15 minutes, the coating will not re-emulsify or melt into itself if you stop and restart on the wet edge.

CLEAN UP:

Clean tools and flush equipment with acetone at least twice immediately after application. **IMPORTANT:** once the coating is dry, the tools will not clean up with acetone or any other solvent. It is also recommended to remove spray tips and soak them in acetone.

STORAGE:

If excess coating remains in a container, Coval recommends the following:

1. Put a nitrogen or argon blanket on the top of the remaining liquid in the container, **OR**
2. Move the remaining coating to a smaller container with as little air/oxygen in the container as possible. Use only HDPE containers.

Store in a cool, dry location. Do not store solvent-based products in the sun, warm storage area, or in a sun-heated vehicle as overly heated products can turn dark in color and remain tinted when applied.

CARE AND MAINTENANCE:

Wipe up spills as soon as possible. Do not use heavy abrasive pads on auto-scrubbers. A soft brush or white buffing pad is sufficient to remove stains from the surface. Neutral pH cleaners, disinfecting cleaners, and de-greasers will not damage the finish and can be used regularly. Remove paint spills or graffiti with rubbing alcohol and rinse with water. If high traffic areas are showing wear, lightly sand and spray a fresh coat in the worn area.

SAFETY AND ENVIRONMENTAL:

Always wear OSHA approved 1910.134 and ANSI Z88 2 respiratory protection. Fresh air and exhaust should be provided in enclosed work areas. If inhaled, remove affected person to fresh air and call physician immediately if physical difficulties occur. Wear butyl-rubber gloves and other skin protection to avoid contact. In the event of contact with skin, wash skin thoroughly with soap and water. Chemical safety goggles or splash shields are required. Do not wear contacts without eye protection. Immediately flush your eyes with water for 15 minutes after contact and get medical attention. If accidentally swallowed, rinse mouth thoroughly and obtain immediate medical attention. In enclosed areas, make sure to have an observer watching the applicator for any signs of physical distress.

FREQUENTLY ASKED QUESTIONS:

Will Coval protect the surface from stains? Yes. However, this is not an acid/alkali proof coating. It will protect the surface from most normal spills if they are cleaned up in a reasonable time. See the YouTube video “Concrete Coat Stain Test.” https://www.youtube.com/results?search_query=coval+group

Are all Coval coatings Graffiti Proof? Yes. All Coval solvent-based coatings are graffiti proof and can easily be cleaned with a mild solvent such as isopropyl alcohol.

What detergents should I use to clean a floor coated with Coval? A mild off-the-shelf household detergent will clean food spills and dirt. Do not use vinegar as it is highly acidic. Coval makes surfaces very easy to clean and keep clean. Not much mop detergent is needed, if any, if the floor is swept regularly and in good condition.

Will Coval make the surface more slippery? Coval coatings are extremely thin and will follow the topography of the substrate where it is applied. Depending on the surface, the coating will make the surface approximately 1–4% smoother. If your floor was slippery before the coating, it will be slippery after Coval is applied.

How can I make the surface less slippery? An anti-slip polymer can be added to UTC in the sprayer and then sprayed as normal. This is perfect for use in industrial kitchens, bottling, and processing plants where the floors are often wet. Two to three ounces will create a non-slip surface. For raw concrete, Coval recommends putting the non-slip additive in the first coat of UTC and let it dry and put a second coat of UTC without non-slip additive to encapsulate and protect the texture.

Continuously shake the pump sprayer during application to keep the particles suspended, and remove all in-line filters in your sprayer to avoid clogging. A red fan tip in a random spray pattern will work the best.

Does Coval coating yellow over time? No, there is nothing in Coval coatings that will turn yellow.

Will a Coval coating over paint prevent the paint from fading? Yes and no, depending on the chemical backbone of the paint in question. Here is why: When Coval UTC is applied over a painted surface, it will create a barrier between the paint and the outside world. The reason paints fade is because UV light will attack the pigment in the paint, break down that molecule, and then that molecule oxidizes, and this oxidation makes the pigment lose its color. If there is some component in the paint that will turn yellow by UV light, Coval UTC will not prevent that from occurring. Coval UTC will not stop the UV light, but it will stop the oxidation of the paint.

Will Coval stop epoxy from yellowing? No. Coval will not stop UV light from passing through it. So, if the epoxy was going to yellow due to UV light, then it will still yellow with Coval UTC over the top, but UTC will not yellow.

Will my epoxy last longer if it is coated with COVAL? Yes, the UTC coating will stop the Epoxy from oxidizing and chalking. On floating storage tank roofs in Texas, the epoxy typically needs to be stripped and replaced every two years. With Coval over the epoxy it will last 5 – 7 years.

Will Coval revitalize faded paint? Yes. There are two mechanisms that make paint fade. One is that UV light is destroying the pigment and the actual pigment is fading. The second is that this oxidation on the surface is changing the topography of the surface (making the surface rougher) and light is scattering. This also makes the painted surface more faded. Applying Coval will fill in that rough surface and leave a glass-like finish. The coating will appear to have brought the old paint back to life.

What should I do if I apply Coval too thick in one area by mistake? Immediately try to remove the too thick coating with an acetone-soaked cloth. The sooner the coating is removed, the easier it will be to remove it. Once it has been eliminated as much as possible, allow the rest of the area to cure and then reassess from there. Do not try to touch up that area while the surrounding area is curing.

How do I repair a scratch in the coating? This will depend on the nature and depth of the scratch. If it is a small scratch, you may be able to clean the area, use a microfiber cloth and wipe UTC over the scratch. The new coating will fill in the scratch and should be almost invisible. See the YouTube video of repairing a light scratch on a car: <https://www.youtube.com/watch?v=K048c6j0BKU>

How do I repair a large worn area in the coating? You may have to sand or grind that area and repair the underlying surface if it has gone through the coating and damaged the substrate. Once that is repaired, clean the area thoroughly, tape off that section, re-apply the coating by spraying, and immediately remove the tape afterwards.

Will Coval hide scratches in epoxy or urethanes? It will depend on the severity of the scratches. If epoxy is properly sanded to 220 grit with no deep scratches then yes, it will cover these, after cleaning. Coval is extremely thin and clear, so you will see deeper scratches. The Matte and Satin finishes will do a much better job at hiding scratches. Test a small area first to confirm.

How quickly can I drive over a Coval coated floor? Depending on the temperature and humidity of the application location, an auto can typically drive over the coating between 24 – 48 hours. The coating will not reach its full hardness for 5–7 days, but rubber tires will be fine.

FAQs (continued):

Can I add a dye or pigment to Coval? Yes. Several Coval customers add dyes to the coatings. However, adding a dye can often interfere with the crosslinking of the coating so you should conduct tests or contact Coval for recommendations on which dyes, how often to shake it to distribute, and how much to add. *Do not use pigments, only dyes.*

How many coats of Coval should I apply? You only need one coat if the coating lays out and isn't absorbed by the substrate. If the substrate is too porous, then you may need more than one coat. When applying the coating to a floor, use an acetone sprayer and wet out the surface 4-5 mils WFT which will result in 0.4 – 0.6 mil dry film thickness in one coat. When applying on vertical surfaces, particularly non-porous substrates, use an HVLP sprayer and apply the coating at 9-12 PSI with a 1.0 – 1.4 mil tip, wetting out the surface evenly.

How do I remove the coating? On a floor, Coval will need to be ground or sanded off with a 60-grit grinder/sandpaper or diamond impregnated polishing pads. If you are trying to remove the coating from a metal, use abrasion blasting.

What is the best way to install the coatings?

Use a pump sprayer designed for Acetone coatings. Coval also has a sprayer design shared with customers that uses a diaphragm pneumatic pump, with a chemical resistant hose. This allows for constant pressure and continuous spraying and is useful on large floor jobs. To spray, acquire an assortment of spray tips such as: Red fan tip, Grey Cone jet, Red Cone jet, 110 degree fan tip. Use smaller tips for smaller jobs and larger tips for bigger jobs. Read *Application Types* on this data sheet for specific instructions.

Which product should I use over Epoxy, Acrylic or Urethane?

Ultimate Top Coat. Do a small test area first to be sure that the coating will cure and level out properly. Apply at 4-5 wet mil thickness. Some epoxies cure and create microscopic dilutants or plasticizers that will repel the coating. If this happens, a light sand with 220 grit screens will remove them. Be sure to remove any scratch marks before applying either product.

Will the solvent odor linger?

No, if the space is ventilated during and after application the smell will go away in less than an hour. This means night applications will not cause and leave an odor the next morning.

What is the shelf life?

Coval lasts 12 months in a temperature-controlled environment unopened.

How long do the coatings last?

It all depends on the environment. Many floors that have Coval coatings applied have withstood heavy industrial wear for 10 years or more. But like any product, eventually they will start to show wear. With these products, simply clean and re-coat areas that need repairs.

Do you have to sand between coats?

No, simply clean and reapply as needed. The coating covalently bonds to itself and no sanding is required between coats.

How do I remove graffiti?

Isopropyl alcohol will release Sharpie marker ink. Coval recommends acetone to remove spray paint.

What about Decorative Concrete Applications?

Coval Concrete Primer, sprayed before Coval Concrete, blends with acetone dyes. Coval recommends acetone dyes that are UV stable and can be used on exterior concrete. Installers typically combine smaller ratios than the normal 1:1 gallon ratios used with straight acetone dyes. For example, you may achieve a ratio of 2-2.5 gallons of dye per one gallon of Concrete Primer. Make a small batch to be sure the dye matches the color you wish to achieve. The advantage of this system is the primer dries very fast and colors can be layered, and several coats can be installed very quickly. Once the desired color is achieved install the Concrete Primer mixed with the dyes to the concrete surface. Use Coval Concrete as a sealer for decorative applications, do not use UTC.

How easy is clean-up after each application?

Cleanup is simple but do it quickly after finishing the installation. *Be sure to depressurize the sprayer immediately after application and empty out and discard all unused material.* It's especially important to *hold the wand in the air and pull the trigger to let gravity flush out all the coating in the hose and spray wand.* Then dump this out and pour a few inches of acetone in the sprayer. Put the lid on the sprayer and swish acetone all over the walls of the sprayer and pressurize the tank enough to spray the acetone out into a cup, bucket, or other safe area. Repeat this twice and use a rag and acetone to clean the threads on the pump sprayer lid.

FAQs (continued):

How long does it need to dry between coats?

It depends on environmental conditions because the coating is moisture cured and temperature and humidity dependent. Wait a minimum of 24 hours, but be sure to test in a small area to make sure if a second coat was applied, that the second coat bonds and lays down well.

Can I apply the coating in cold weather on cold concrete slabs?

Not recommended. If so, use space heaters in the cold winter months to warm the concrete for several hours. With a small foam brush apply a test area to be sure the coating will level out and cure properly. Get the concrete as close to 60 degrees as possible.

Are the coatings breathable?

Yes, the coatings will allow moisture to evaporate underneath the coating and allow pressurized air to pass through the surface.

Can I apply the coatings over damp concrete?

Never, the surface must be completely dry.

What about broom finish driveways, patios, and sidewalks?

The surface must be sanded first to knock off any weak concrete caused by the broom finish. Using a 32-grit sanding is the easiest way to do this, or a coarse Nylo Grit brush. Coval Primer or a high-solids acrylic is recommended because this will be a very porous surface, and the Primer provides a base to seal the pores. If using Coval Primer, use Coval Concrete instead of Coval UTC.

For polished concrete, what if a guard is already installed?

Do a test area, but lithium silicate and most silicate/siloxane guards and penetrating sealers should be compatible with Coval coatings. Acrylic sealers are compatible as well.

How long should the concrete cure before application?

Coval follows industry standards and states 28 days. Countertop concrete blends with polymer additives have been successfully coated sooner, however, always test first.

Can I use it over natural stone, ceramic, porcelain tile and grout?

Yes, in small areas like countertops Coval coatings can be applied with a foam brush, roller, or square pad applicator. But for larger jobs spray it down with an acetone pump sprayer.