Coppercoat Antifouling Bottom Paint

Do's and Don'ts (June 17, 2024)

www.CoppercoatUSA.com 321-514-9197 **EST**

STOP! Coppercoat is not like any other anti-fouling paint; it's easy to apply, but very different!
Before starting a Coppercoat application, read this document and watch the application video on our website.
Based on customer suggestions, we regularly update our "Do's & Don'ts" to help you successfully apply and maintain your Coppercoat. Following is a list of the tools you will need to have available in advance, a Project Outline and Timeline, and the Application Details, which are the techniques that work best here, and are a little different than in other, cooler parts for the world.

Tools To Have Available Before Starting Coppercoat Application

- **Appropriate Personal Protective Equipment (PPE); Refer to Precautionary Statements on product main label**
- **Three (3) people are recommended to do a Coppercoat application**
- **A Coppercoat application generally spans about 6 days in the boatyard, plus time to remove the old anti-fouling or apply barrier coating if necessary - review the Preparation Outline**
- **1/8" roller covers, either 1/8" foam roller for epoxy, which gives the smoothest surface or 1/8" mohair; allow 1 roller cover for each 2-3 kits of Coppercoat (change cover when worn out)**
- **A small "cigar" sized foam roller, to roll Coppercoat in small areas, and repairs and touch-ups**
- **A small paint brush, to reach very small areas**
- **A paint tray – which can be washed out with water when finished. NEVER use an aluminum paint tray without a plastic liner; never use aluminum foil as a liner**
- **A clean 1-gallon mixing bucket for mixing whole kits**
- **A small, measured mixing pot for mixing a partial or small batch, such as repairs and touch-ups**
- **A stir stick to mix the Coppercoat (a drill mixer is not necessary; a stick works fine)**
- **Painter's tape and plastic sheeting to make a "rain skirt", and sticks to keep the skirt off the paint**
- **A small knife or scissors to open the copper packages**
- **A "Dual Action" (DA) or "Random Orbital" (RO) Sander with vacuum dust bag and:**
  - **- 80 grit sandpaper to prepare hull; see preparation outline**
    - **-If hull is steel or aluminum with no barrier coat, refer to the preparation outline**
  - **- 320 grit sandpaper to sand Coppercoat prior to launch – see Application Details**
- **Isopropyl alcohol, for thinning; buy in pharmacies such as Walmart (All alcohol referred to is 91%-99% pure). If Isopropyl 91% alcohol is not available, do not thin Coppercoat**
- **DO NOT USE other types or grades of alcohol or Acetone, MEK, or other solvents or oil-based cleaners or thinners; they leave a residue which is incompatible with Coppercoat and will cause problems during and after the application**
- **If you are applying a barrier coating under the Coppercoat, have it and it's associated accessories available (Coppercoat does not require a primer)**
- **Other suggestions: Plastic gloves, a NIOSH approved particle mask, PPE, paper towels, lots of clean rags, a source of water like a sink or hose, a small table to mix Coppercoat on**
- **NOTE: If you are doing a small area (repairs, etc) read the instructions for Repairs and also for Partial Mixing- you will probably need to divide the Coppercoat kits into ¼ batches.**

Preparation and Application Outline

1. **Hull preparation: Whole boat or very large area** (For small areas see "Partial Mixing" and "Repairs" instructions)
   A. New boat or boat that has never had anti-fouling paint applied (mold release wax can be present for years):
      - Remove all mold release wax from the hull. Rinse with water; if the water "beads up", repeat removal and rinse again. When water does not bead up where you have cleaned, dry and proceed to sanding step below.
   B. Existing anti-fouling:
      - Remove all the old anti-fouling; leave existing epoxy barrier coat if there is one. Coppercoat is an epoxy and cannot be applied over traditional anti-fouling paint.

2. Sand the surface with 80-grit sandpaper on a Dual Action (DA) or Random Orbital (RO) sander.
   A. On a steel or aluminum hull that does not already have a barrier coat, sandblast to a 3-mil profile (SP5), remove all dust, make sure surface is clean and dry, then apply an epoxy barrier coating immediately (the same day) following the package directions and 4.C below.
      - If you are applying CK426 as the barrier coat, follow the instructions below (4.B).
   B. Props, shafts and other metal parts: Refer to instructions on page 5

3. Wash hull with water, allow hull to dry.

4. Barrier Coat: Follow direction A, B or C, depending on your situation:
   A. If a new barrier coat is not being applied, proceed to step (5).
   B. If Coppercoat USA CK426 (100% solids & zero VOC's) is being applied as a barrier coat:
      - Apply CK426 to the clean hull, following the CK426 directions, which are in the box and on our website.
      - After CK426 is applied, you have a 24-hour maximum window to apply Coppercoat without sanding the CK426 hard. Just a light sand with 80-grit sandpaper is recommended to remove the high spots. Proceed to step (5) to for Coppercoat application.
   C. If you are applying a solvent based barrier coat of your choice, wait 3 days after its application for the solvents to "gas out".
      - Sand new solvent-based barrier coat very well (a "hard sand") with 80-grit sandpaper on a DA or RO sander to remove all gloss. If not sanded well enough the Coppercoat will smear and will not stick to the surface. (For example, customers have reported this with Inter Protect 2000)
      - Wash the hull with water and dry; proceed to next step (5).

5. **Mix one 1.5-liter kit of Coppercoat at a time** (mix parts A and B, add alcohol thinner if using - see "Thinning" in Application Details for amount; then add the copper); roll it on the hull in 4 thin coats (1/8" roller), all the same day.
   - The application video on www.CoppercoatUSA.com shows very detailed examples; each coat must be applied very thin to keep the Coppercoat from dripping or "sagging".
   - **Always mix all of each of the parts** (unless following the "Partial/Small batch" instructions in "Application Details); Coppercoat is packaged with the correct amount of each part to work – never "save" some of the copper!

6. Allow the Coppercoat to cure for 2-3 days. Move the jack stands/pads to prepare and paint the bare areas. Start sanding the hull, see sanding details.

7. Allow the newly painted areas 2-3 days to cure, then sand those areas.
   - This will make a total of 4-6 days since the application started.

8. Look at the sanding picture that came with your Coppercoat; it shows what a well sanded surface will look like. It is absolutely necessary to sand the Coppercoat to expose copper; that is what makes it "anti-fouling".

Application Details

- ✓ **Never apply Coppercoat over existing traditional anti-fouling paint**
  All of the old anti-fouling must be removed or the Coppercoat will lift the old anti-fouling paint, resulting in the Coppercoat and the old paint peeling off in a short time.

- ✓ **New Coppercoat can be applied over existing Coppercoat, for example for touch up's or repair's;**
  refer to page 5, Partial / small batches and page 6, Repairs and Touch ups
  To touch up or repair damaged Coppercoat you must sand the area well with 80 grit sandpaper on a DA or RO sander,. You must sand off all the green in the area to be repaired or recoated.
  Hull repairs: If you need to make repairs to your hull before applying Coppercoat, use an epoxy product to make the repair. Never use polyester products under the water, they will cause issues.

- ✓ **Barrier Coating**
  Existing barrier coating; if sound, leave it there- barrier coatings are two-part epoxy; sand it as directed below.

  Only apply Coppercoat to a clean and well abraded/sanded surface
  Thoroughly sand the existing or new barrier coat with 80-grit sandpaper on a DA or RO sander (sand the gel coat if there is no barrier coat). If not well sanded, the Coppercoat will slide and smear on the surface. The surface of your barrier coat or gel coat should look dull, not "shiny" or "glossy". The smoother the surface is under the Coppercoat, the smoother the Coppercoat will be, and smooth is what you want for a good application.

  Never clean the hull with a solvent based cleaner before applying Coppercoat
  - Solvents like MEK and Acetone leave a residue that Coppercoat does not stick to.
  - Clean the hull prior to applying Coppercoat by washing with water.

  You cannot "hot coat" Coppercoat over a solvent based epoxy barrier coating, and most are solvent based!
  -This is different from most anti-fouling. If you are applying a new solvent-based barrier coat, wait 2-3 days after the application and sand it well with 80-grit sandpaper on a DA or RO sander (it should be dull, not "shiny") before applying Coppercoat.
  - If there are less than 60% solids in the barrier coat (read label), additional cure time may be required or the solvents in the barrier coat will "gas out" later, resulting in small blisters under the Coppercoat. Call us with any questions.

  Coppercoat can be applied over CK 426 barrier coat within 24 hours without a hard sanding
  Apply Coppercoat when the CK426 has at least cured enough to not come off on your finger when touched and no more than 24 hours after the CK426 was applied. This works because CK426 barrier coat has 100% solids and contains zero VOC's.
  - If it has been more than 24 hours since the CK 426 was applied, it must be sanded well with 80 grit sandpaper on a DA or RO sander prior to applying the Coppercoat anti-fouling.

- ✓ **People needed to apply Coppercoat to an average size boat**
  We recommend 3 people to apply Coppercoat to your hull. One person to mix, and 2 people to roll the Coppercoat. If only 2 people are doing the application, mix half a kit at a time so you don't run out of pot life. Refer to "Partial Mix".

- ✓ **Do not start applying Coppercoat before 9AM or at less than 50°F**
  Do not apply if it will be colder than 50°F within 24 hours of application. Epoxy cure times are based on a 72°F. If its warmer, the cure time and the pot life is shorter. If its colder, the times are longer.
  Coppercoat is moisture sensitive - It is too humid to paint early in the morning; humidity will cause problems with water based Coppercoat.

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- ✓ **Keep the hull dry for 48 hours, tape a plastic "skirt" above the waterline, see pics on www.coppercoatusa.com**
- ✓ Coppercoat will wash off with very little moisture until cured; even if you don't expect rain, unless you are inside a building, make a short "skirt" for your boat with plastic sheeting, painters' tape and sticks to hold it off the hull while the Coppercoat is curing.
  - Remember to plug through-hulls and deck drains to prevent drips and keep all rain, dew, and water off the Coppercoat for 48 hours after applying.
  - Do not run boat systems like AC before or while applying Coppercoat or barrier coating, it will cause condensation.
  - If the skirt gets stuck in the wet Coppercoat, leave it there; it will pull away cleanly after a couple of days.
- ✓ **Clean up Coppercoat with fresh water**
  Until it dries Coppercoat washes off easily with water; wash the rollers, pans, your hands, your clothes and any other place you didn't want it. Once it's dry, it's there for a long time.
- ✓ **Rollers: Use 1/8" nap foam rollers for epoxy or 1/8" mohair rollers – nothing thicker!**
  -Others don't work well; 1/8" foam rollers leave the smoothest surface. Make sure they roll easily on the frame.
  -If the surface of the hull (barrier coat/gel coat) is not sanded enough the foam rollers will slide/smear on the surface.
  -Use a small "cigar" roller or small brush where necessary to get into small areas; be careful to prevent drips.
- ✓ **Mixing – Set up an "assembly line" (see video for example) and work with one kit at a time**
  -Always shake the resin tub (part A) well before opening.
  -When opening the part B bottle, do not allow small bits of the plastic cap lock to fall into the mixing bucket. If you do, you will have white plastic spots on your hull!
  - Partial and small batches: Refer to section titled "Partial / small batches" for the ratio and instructions, page 5.
- ✓ **Thinning Coppercoat with isopropyl alcohol; use the cap from the hardener (part B) bottle for measurement**
  - Thinning is recommended, particularly in warm weather, for a smoother surface, but not absolutely necessary, if you can't get 91% isopropyl alcohol, DO NOT thin with any other product, it will cause problems with Coppercoat.
  - Mix two PART B capfuls of isopropyl alcohol into the part A & B as you mix them together in the bucket, before adding the copper. (Use four capfuls per kit if it is a very warm.) *Do not use the alcohol cap for measuring.
  - Do not add the isopropyl alcohol to the Coppercoat in the roller tray, it will not mix correctly.
- ✓ **Keep the Coppercoat suspended (mixed) in the mixing pot**
  -The copper powder is heavy and settles a little in the epoxy in the mixing pot; stir the Coppercoat a little before you pour it from the mixing pot into the roller pan each time. Do not over mix, it shortens the pot life.
  -Coppercoat has little odor, but we recommend wearing a NIOSH approved particle mask and gloves for mixing.
- ✓ **Coppercoat is applied in four (4) thin coats, all in the same day - see application video**
  - When the 1st coat is dry enough to not come off on your finger when touched, you can roll on the 2nd coat. Apply the 3rd and 4th coat when the one before is dried enough to not come off on your finger; 20-30 min is avg wait time.
  - If you start to roll the next coat and the previous one pulls off on the roller, STOP and wait a few minutes; the previous coat isn't dry enough yet.
  - If you start to apply your first coat of Coppercoat and it slides or "smears", the surface needs more sanding before applying Coppercoat. (The surface should not be glossy or shiny.)
  - If your boat is too large to complete in one day, only paint part of the boat at a time. For example, paint all 4 coats on one side of the hull, or for a catamaran, paint all 4 coats on one hull before starting the next side/hull.
  - Apply the Coppercoat in 4-thin coats as shown in the video (you can see through the first 2 coats); thick coats will cause the copper to run or "sag", creating a rough surface. The goal is to have a smooth surface when the application is done. It can be very difficult to sufficiently sand a rough surface.

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- ✓ **After applying Coppercoat to the hull, keep it dry and wait 2-3 days**
  -Allow the Coppercoat to cure for 2-3 days (depending on air temp) until the Coppercoat has cured enough that you can sand it without the Coppercoat clogging up the sandpaper.
  -Before moving the jack stands/keel pads, sand the area where they will be moved to; see sanding details.
  -Move the jack stands/keel pads to the sanded area; prepare and apply Coppercoat to the bare areas that were under the stands/pads as you did the rest of the hull, mixing small batches (see Partial/Small Batch instructions below) of Coppercoat and sanding the overlap areas by 1" with 80 grit sandpaper on a DA or RO sander before applying Coppercoat. Keep the new Coppercoat dry for 2 days.
  -**Sand the cured Coppercoat** with DA or RO sander, see Sanding Details. Keep dust out of wet Coppercoat.

- ✓ **The newly coated stand/pad areas should be ready to sand after 2-3 days, for a total of 4-6 days since the Coppercoat was applied to the hull.**
  - After those areas have cured for 2-3 days, sand them as you did the rest of the hull.

- ✓ **Sanding Details – sand as soon as possible!**
  Sand the Coppercoat with 320 grit sandpaper on a Dual Action (DA) or Random Orbital (RO) sander several days after the application; if you wait a week or more and the Coppercoat has fully cured it will be much harder to sand!
  - If the Coppercoat "gums up" the sandpaper, give it a little more time to cure. Allow extra time if the weather is cool.
  - Refer to the sanding picture that was included with the Coppercoat shipment or on the website to see examples of how the Coppercoat should appear when sanded enough. Coppercoat must be sanded to expose copper, which is otherwise encapsulated in the epoxy.
  If Coppercoat is not sanded enough, you will **NOT** have an anti-fouling bottom!
  - We recommend that you wear thin rubber or Nitrile gloves, safety glasses and at least a dust mask while sanding.
  - After sanding you can delay the launch indefinitely with no effect on the Coppercoat efficiency.

- ✓ **Partial / small batches of Coppercoat; the mix ratio is 1-part A, to 1-part B, to .8 parts copper, BY VOLUME**
  Do not mix a full kit all at once if your need to get 4 coats out of it.
  In a small, measured mixing pot, mix the resin and hardener together with 5% isopropyl alcohol before adding the copper powder. ALWAYS measure carefully; do not "eyeball" the quantities.
  Example: Mix 3 fluid ounces of part A, plus 3 fluid ounces of part B, and ½ of a part B capful of alcohol, mix; then add 2.4 fluid ounces of the copper powder to make 8.4 fluid ounces of Coppercoat.
  -Be careful when measuring in the copper powder because the liquids will "dome up" when adding the copper powder and it is easy to add too much copper. Stir the Coppercoat gently with a stir stick when adding the copper, and check the levels carefully.

- ✓ **Props, shafts, trim tabs, sail drives and out drives must be sandblasted: Directions for metal parts**
  Before applying Coppercoat to your props, shafts, trim tabs, sail drives and out drives remove all old anti-fouling paint. Sandblast the metal to achieve a 3-mil anchor profile. (Sanding, polishing, etching, etc are not sufficient.) Clean & dry.
  -Apply at least 2 coats of a good epoxy barrier coat immediately, i.e. the same day:
    -If the barrier coat is our CK426, refer to the instructions for applying CK426 prior to Coppercoat.
    -If a solvent based barrier coating is being used, review our instructions for barrier coatings, including allowing the barrier coat to cure completely for 2-3 days before sanding the newly coated metal with 80 grit sandpaper.
  -Apply the Coppercoat in 4 even coats, allow the Coppercoat to cure and remember to sand it before launching.
  -Bronze thru hulls can be hand sanded with 80-grit before applying barrier coat following our barrier coat instructions. Or, if you don't intend to coat them, put painter's tape on the bronze to keep the Coppercoat off.

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- **Repairs and Touch ups**
  To repair damaged or thin Coppercoat, start by sanding the area with 80-grit sandpaper on a DA or RO sander, over-lapping the good Coppercoat by an inch. You must sand off all the "green" until you get to the copper color. Apply epoxy barrier coating (if needed) to repair damaged barrier coat, following our barrier coat instructions. Apply 4 thin coats of Coppercoat, following the application instructions. Mix small partial batches of Coppercoat, (see "Partial / Small batches"). Use a small foam (3"- 4" cigar) roller to make small repairs. Wait 2-3 days before sanding the new Coppercoat to expose the copper.

- **Simple Maintenance**
  Coppercoat repels hard growth but contains no harsh chemicals to kill slime or the grass that grows in some areas; most people find they need to do some cleaning, depending on the conditions where they are boating. Generally, this means wiping the hull with a towel, carpet, squeegee or plastic spreader to remove the slime and grass, while not removing any measurable amount of coating. If the boat is out of the water, pressure wash the hull up close, with 4000 psi- it won't damage the Coppercoat.
  -Coppercoat doesn't "die", regardless of how long it's out of the water.
  -If the boat is in the yard for an extended time, give it a good wash before relaunching to remove dirt and grime.
  -The copper will turn green in the air after being in saltwater, that shows the Coppercoat is working.

- **Trouble Shooting**
  If you are getting barnacles or hard growth on the hull, the most common cause is that the hull was not sanded enough and there is not enough copper exposed. A rough "orange peel" surface, either from repairs to the hull, a rough barrier coat application or drips in the Coppercoat could have made it difficult to sand. The best solution is to sand the surface more, when out of the water. The growth will clean off easily with a strong pressure wash and then the sanding can be done where needed (where there was hard growth).
  -If it's not convenient to pull the boat out of the water, a good method to remove the growth in the water is to scrape the barnacles off with a putty knife and then scrub the area vigorously with a new 3-M type green scrub pad. After a couple of scrubbing's enough copper is usually exposed to prevent future growth.
  -If the hull is not cleaned and it gets a layer of slime/grass you may see hard growth attached to the slime. Clean the bottom and the growth will come off with the slime.
  -If your Coppercoat was applied outside of the US it may have been "scuffed" instead of sanded, which was adequate in cold water, but may not be working when you moved into warmer water. It can now be sanded when it's convenient and you can follow the instructions above in the interim.
  -It is generally not necessary to sand or "refresh" the Coppercoat each season if it was sanded sufficiently after the initial application. If you are not getting hard growth on the Coppercoat, it's working. Enjoy your boat!

Do you have questions about your application? Are you the owner of a boat with Coppercoat and want to know more about maintenance and longevity? Check out our website and e-mail or call us.

321-514-9197

INFO@COPPERCOATUSA.COM