



COPPERCOAT® ANTI-FOULING

FOR THE SUCCESSFUL APPLICATION OF COPPERCOAT BY SPRAY, MAKE SURE YOU READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY (Revision: Published Sept 21)

Aquarius Marine Coatings' Coppercoat anti-fouling is based on a water miscible epoxy resin which is heavily loaded with pure grade (99%) fine copper powder. When fully cured, this hard wearing epoxy treatment, which contains no banned compounds and is fully certified by the Health and Safety Executive (No. 7532), forms a durable coating that offers exceptional long term resistance to marine fouling.

Important note: Please do watch the Coppercoat Application video prior to commencing. If you do not have a copy, it can be viewed on-line from the home page of www.coppercoat.com

Surface Preparation: GRP: As is common with all epoxy coatings, it is important that the substrate to be coated is well prepared. All surfaces must be cleaned of all contaminants, including dirt, dust, grease, rust or loose paint. Two-pack epoxy coatings, such as Coppercoat, must be applied to sound and permanent substrates - consequently all surfaces must be cleaned of any previously applied single-pack paint coatings or conventional anti-fouling. The best way to achieve this is to low-pressure slurry blast the hull, though old paint can be removed by hand. Finally, the hull must be abraded to provide a good key for the new epoxy coating. The most efficient method is to use a random orbital electric sander with dust extraction using 60 to 120 grade discs or by wet hand sanding. All old paint residues should be disposed of responsibly. Remove the resulting dust before proceeding with the Coppercoat application - either using a soft brush or cloth. The hull can be washed with fresh water, but ensure this is allowed to dry before proceeding. Under no circumstances clean the hull with any solvents or oil-based products (such as Acetone).

Iron, Steel, Aluminum, Ferro-Cement, and Wood: All can be equally successfully treated with Coppercoat. However, once these substrates have been cleaned, they must be primed with the appropriate epoxy system before proceeding with the Coppercoat application. Full instructions can be obtained from Aquarius Marine Coatings, as can a full range of the necessary epoxy primers.

Mixing: Coppercoat is supplied in three parts; Pack A (resin), Pack B (hardener), and a bag of fine copper powder. Diligently mix Pack A with Pack B in an appropriately sized plastic container, then continue to mix while carefully adding the copper powder. Stir until a fully homogeneous mix is obtained, with all the copper held in suspension. Finally, stir in the Iso-Propanol thinner to achieve the desired consistency (see below). This whole process should take no more than two minutes. During the mixed pot life the copper may settle to the bottom of the mixing bucket - consequently ensure to stir the product regularly to maintain the copper suspension.

Pot Life: The mixed pot life of Coppercoat is approximately 40 minutes at 10 degrees Centigrade, 30 minutes at 20 degrees Centigrade and 20 minutes at 30 degrees Centigrade. Never mix more product than can easily be applied by the workforce available within the time available. To avoid waste we recommend that Coppercoat be mixed one litre unit at a time.

Thinning: Coppercoat should only be thinned with Iso-Propanol (available from Aquarius Marine Coatings). Always add the thinners to the Coppercoat at the start of the mixing process - never add thinners later when the coating thickens as this can adversely affect the curing process. For application by **SPRAY**, it is necessary to thin by approximately 15% to 20%.

Environmental Conditions: Do not attempt to apply Coppercoat if the ambient or hull temperatures are below 8 degrees Centigrade. Coppercoat is water based, so the cure rate is affected by temperature, humidity and air-flow. If Coppercoat is being applied in a controlled environment (i.e. in a shed or tent) ensure adequate ventilation is available. Coppercoat will NOT be readily overcoat-able in a warm, humid and still environment. With the epoxy being water miscible until cured, protect the hull from rain for at least 48 hours (or until hard to the touch).

Application BY SPRAY: Prior to application, please ensure you have watched the application video at the bottom of our homepage - www.coppercoat.com

The product should always be applied directly after mixing. Do not attempt to apply Coppercoat by brush.

Under normal circumstances a minimum of four or five coats are required. Second, third, fourth and/or fifth coats should be applied as soon as the previous coat allows (wet-on-tacky) - i.e. after approximately one hour at 20 degrees Centigrade. To ensure a satisfactory chemical bond between coats, all the required coats must be applied consecutively in a single day. Note: on most boats, by the time the first coat has been completed, the start point is sufficiently cured



to accept the second coat - consequently the application of the Coppercoat system is a continuous one. (Tip - the supplying dealer should ensure that you have sufficient material for a complete treatment. Therefore, simply keep applying the product in thin coats until you have nothing left.)

For application by **SPRAY** the key is to apply it in multiple thin coats - this product is much heavier than conventional paint so you must take care not to apply it too thickly too quickly. It is all too easy to apply too much too soon, which ends in runs and sags, so do take care and do not try to work too fast - do allow the appropriate partial cure time between each coat/pass. It is worthwhile having your spray technician practice with half a litre against an old board or wall and getting the technique correct, before then starting on the boat.

You will need to use a conventional pressure-pot system, with a three-horsepower compressor (minimum), 15 cubic feet per minute and 120psi. For the gun we recommend a DeVilbiss Comp. GTI gun with a TV2 air-cap and a 1.6-1.8 fluid nozzle and needle or a JGA Converse with a 515 air-cap. Other proprietary pressure pot and gun combinations can of course be used and will provide equally as good results. Have as short a line as possible (with few joins), so as not to lose pressure between the compressor and the gun tip. For spraying you will need to thin the product by approximately 15%-20%, using Iso-Propanol alcohol. You will also need this thinner to clean the lines afterwards. The over-coating time when spraying is the same as for a roller application, as the cure rate is the same.

If the vessel to be treated is too large to be painted with all coats in one day by the workforce available, simply treat a manageable sized section - apply all the necessary coats to this section from start to finish in one day, before proceeding with a further section at a later date. If any product is left over after four coats have been applied, continue the application until it is all used - this will ensure that the correct depth of copper is present. It is not unusual for a fifth coat to be needed. Never attempt to apply any individual coat too thickly as this will result in sagging and runs. The full cure is obtained after 5 days, in UK spring/summer conditions. The cure rate will be fastest in warm, dry, breezy conditions and slowest in cool, damp, still conditions. (Tip - if the coating is sufficiently hard that you cannot mark it when poking it with your thumbnail, it is hard enough to withstand the boat being lifted by the crane and launched.)

Re-application: After 10, 15 or even 20 years Coppercoat may need to be re-applied. Firstly, simply sand the surface of the old Coppercoat with 80-180 grit sandpaper to remove any powder like verdigris from the surface. Then wash this sanded surface with plenty of freshwater to remove all dust and any salts. After the hull has been allowed to dry (overnight or longer) a thin layer of Coppercoat resin only (Pack A + Pack B) should be applied, followed by the full new treatment of Coppercoat, comprising of 4/5 coats applied wet on tacky, all in one day.

Burnishing: Treated boats should have the fully cured Coppercoat surface lightly burnished with fine "wet and dry" paper or sanding-pad prior to immersion. This will expose the copper powder and increase the immediate potency of the anti-fouling. This process is particularly beneficial in areas of high fouling. (Tip - we recommend using 400-600 grade paper, "wet & dry", or a Scotchbrite sanding pad and lightly rubbing the surface in a fashion similar to applying polish to a car bonnet.)

Coverage Rate: The effective coverage rate for a finished application is not more than 4 square metres per litre. Therefore, a hull of 40 square metres in area will need at least 11 litres of Coppercoat in total for a complete treatment. Due to general wastage in mixing buckets and overspray it is sensible to allow for an additional 10%-15% of Coppercoat allowing for this wastage.

Shelf Life: 12 months in sealed pots at 20 degrees Centigrade. Shelf life will be shortened if stored in warmer conditions. Keep protected from frost.

Tool Cleaning & Disposal: Face shields and goggles can be cleaned using a damp cloth. Coppercoat can be peeled out of mixing buckets the day after use once fully cured, and then disposed of. Warm water can be used to initially clean spray equipment prior to a final clean through with iso pro thinners. Coppercoat should not be washed off into drains/down sinks.

Maintenance: When correctly applied, this long-life epoxy anti-fouling treatment should continue to deter marine fouling for many years so that the annual chore of repainting, as associated with conventional anti-fouling, is no longer necessary. Damaged areas can be touched-up as required. If, over the months, a slight accumulation of slime does appear, this can be removed by pressure washing or brushing. An annual wash or brush is recommended. Eventually, after many years, the surface may need to be lightly abraded with a fine grade of "wet and dry" paper or a sanding pad to expose fresh copper.

PPE (Personal Protection Equipment): Face shields/goggles and gloves should be worn as skin can be sensitive to epoxy resins. Follow usual good hygiene practices and if any resin comes into contact with skin, wash skin free of any product immediately using soap and warm water. Any splashes to the eyes should be washed immediately with plenty of clean water and medical advice sought. Always read the hazard labels.

**If you are in any doubt over the use or application of Coppercoat, please contact
Aquarius Marine Coatings Ltd for further advice and information.**

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