



# COPPA GUTTA

The UK's No1 Manufacturer of Copper Rainwater Systems

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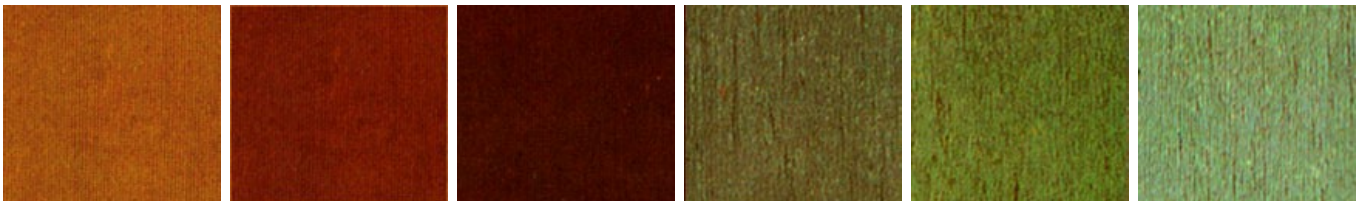
# CHANGING COLOURS OF COPPER

## Patina

Left to age naturally copper guttering will start to mellow within weeks, changing through various shades of brown and bronze until eventually forming a green / blue patina unique to copper. The time taken for the patina process to start depends on the location of your property, local weather conditions, distance from the sea and other forms of acidic pollution.

Eventually copper will always go green and we recommend that you do not coat the copper to try and keep it bright.

## Natural Aging Process



Newly installed

Four Months

Two Years

Seven Years

Ten Years

Twenty Years

Images are an approximate guideline only .

## Verdigris solution

If you don't want to wait years for the patina finish to develop naturally, we can supply a solution that can be applied after installation that will age your copper gutter within a few hours.

Once installation is complete we recommend using a spray applicator to apply our verdigris solution to achieve the best, most natural looking results. Wearing safety glasses, gloves and protective clothing spray the gutter and downpipe with the solution, this will start to work immediately and in approximately 2 hours your copper will have achieved a natural Verdigris patina.

For best results apply the solution on a dry day within a week of installation.



# VIRDIGRIS SOLUTION

## PRODUCT USE

**VERDIGRIS FLUID is supplied in liquid concentrate form and should be diluted with water prior to use. Dilution ratios should be in the range of 20 – 50% of VERDIGRIS FLUID concentrate in clean water.**

**We recommend that a spray application or soft cloth is used to lightly apply the solution to your guttering. The surface of the guttering should be clean, grease free and free from any oxidation. If the gutter has been installed for more than a couple of days, then you may have use a light abrasive prior to applying the solution.**

Smaller articles to be treated may be immersed in a cold solution (at ambient temperature) for a minimum of 5 to 10 minutes then withdrawn and the solution allowed to dry on the surface; it is this drying phase that imparts the greening effect. The longer the drying time, the better the effect. This treatment will produce a light green patina, which may be darkened and made more even by repeating the process, ensuring that the work is thoroughly dried between immersions. Generally, flat even surfaces will require longer immersion times to enable a more concerted penetrative attack of the surface. Leaving components immersed for prolonged periods i.e. 3-4 hours will not cause any problems to either the solution or the articles being treated, but will produce a more even patination with no bare patches. When using on Brass plated articles it is recommended to immerse for 1 minute in a 10% maximum strength solution, this is because the solution attacks the surface of the article therefore care must be taken not to remove too much of the Brass plating. Heating of the solution up to 60-80°C may also have an equivalent effect and sometimes darker effects can be produced by this method, however it has been found that following hot immersion, a cold immersion afterwards to cool down the article being treated will retard the drying time; likewise, a small addition of glycerine will help retard the drying time. A hot article will flash dry too quickly to effect an even patination.

VERDIGRIS FLUID can also be applied by brush, by thickening with 50ccs of glycerine to 950ccs of the solution; this will provide a more even film by reducing runs etc. (Mix thoroughly before use, the solution being applied as often as required). It is essential that metal surfaces are prepared thoroughly before immersion in these solutions, as incomplete pre-treatment will cause loss of adhesion of the finish or a stained or spotty appearance. Parts must be degreased effectively and scale or oxides removed. Flat rolled or polished surfaces will give variable effects; it is better if surfaces are rough scoured prior to treatment to create fissures or entrapment zones, which will act as a key to the coating. The greening effect will become apparent usually after 10 minutes or so, however by this stage the coating is delicate, unstable and will lack adhesion. Usually, after 18 hours the deposit cures to a hard resilient green coating which is adherent enough to accommodate a hand applied wax coating to seal if required.

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## SOLUTION CONTROL

VERDIGRIS FLUID works by a chemical reaction of the solution on the metal surface to create a precipitate deposit. In nature, acidified rainfall creates surface erosion and pitting forming entrapment areas and fissures in which the dissolved copper precipitates out as a dehydration salt on the surface – the typical green/blue deposit. It is advisable to maintain a record of the process time on a new solution and maintain it by careful additions of the concentrate.

## POST TREATMENT

**Our guttering products will not require any additional processes to be completed after the patination has occurred. It is a natural process albeit forced in this instance, and as such it will continue to change slightly over time.**

If the articles are to be 'relieved' using a Brass wire brush; water or a scratch brushing fluid should be used as a lubricant and the articles washed with water afterwards. The finish may also be relieved by polishing with a dry polishing mop if preferred. Under normal circumstances, relieving is not generally practised for these types of finishes. As the finishes provided by VERDIGRIS FLUID patination processes do not have any protective qualities from vigorous abrasives or polishes. Except in the case of exterior locations, it is advisable to protect the surfaces by lacquering, waxing or oiling. Usually, for maintenance guidance notices issued by manufacturers to end users of articles finished with these processes, recommendations for only occasional light waxing using a beeswax based household waxes should be emphasised. Spray waxes are not recommended unless allowed to dry thoroughly on the surface prior to polishing. The solvent and water bases of spray polishes can damage the coating. In conclusion, these post treatment process will also deepen and enhance the colour. In exterior situations, natural atmospheric reaction will of course continue the reaction that the process has initiated.



## VERDIGRIS SOLUTION

### Hazard:

**Eye contact:** Immediately flush the eye with plenty of water. Continue for at least ten minutes and call for immediate medical help.

**Skin contact:** Wash off with plenty of water. Remove any contaminated clothing. If the skin reddens or appears damaged, call for medical aid.

**If swallowed:** Drink plenty of water and call for immediate medical help.

### Handling:

Always wear safety glasses.

Do not allow the acid or a solution of it to come into contact with your skin.

### Disposal:

Small amounts of dilute hydrochloric acid can be flushed down a sink with a large quantity of water, unless local rules prohibit this. Larger amounts should be neutralised before disposal. Concentrated acid should not be flushed down a sink.

**CAUTION** - Handle with care - HYDROCHLORIC ACID

