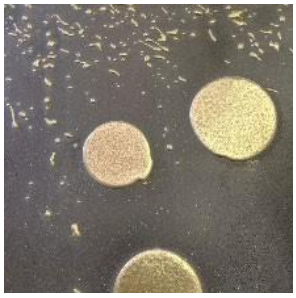
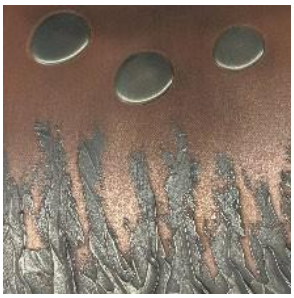
VeroMetal® Aqua

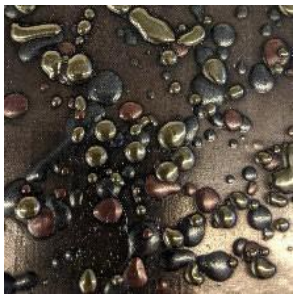
Design freely in metal











About VeroMetal®

VeroMetal is a cold liquid metal that can be applied to practically any surface by spraying, rolling, pouring or with a palette knife or trowel. VeroMetal® *is* real metal with the optical and physical properties of solid metals, including touch and feel:

- Strong, durable, and lightweight
- Preserves contours and details of the original shape (such as wood grain)
- Requires little maintenance
- Does not crack or peel

Create inspired metal finishes by using an array of applications methods: spray, roll, pour, or trowel, to create industrial, rustic, elegant and glossy finishes.

Coat virtually any surface with VeroMetal®: façades, walls, window frames, doors, floors, furniture, construction elements, laminate, melamine, wood, plastic, plaster, fiberglass, lime, pottery, terracotta, cardboard, paper, ceramic, concrete, foam, porcelain, glass, plastic, MDF, stainless steel and more.

Our kits are available in two sizes: Large which covers approximately 140 square feet; and small which covers approximately 30 square feet.

We have two binder systems: solvent which can be used to polish most metals to a mirror finish; and waterborne which can be polished to a high gloss.

Introducing the VeroMetal Aqua Variety Kit

The VeroMetal Aqua Variety Kit was created to provide skilled finishers with the opportunity to test out the application of VeroMetal for their projects. Mixed and applied properly there is enough binder and metal to cover up to three square feet of flat surface for each metal.

This booklet provides guidance on mixing and applying VeroMetal Aqua to achieve desired looks. Please read the instructions before using the product.

Kit components

Component A: Binder

- VeroMetal Aqua Binder (375 grams; 75 grams per metal)

Component B: Metal Powders

- Brass (225 grams)
- Bronze (225 grams)

- Copper (113 grams)
- Gold (150 grams)
- Gunsmoke (225 grams)

The Variety Kit also includes mixing cups and wooden stir sticks for your convenience.

Tool & material requirements for using your Variety Kit

VeroMetal Variety Kit contents

Personal protective equipment

- Dust mask
- Safety glasses
- Latex gloves

Pre-treatment substrates

- Sandpaper grain p100-p180
- Primer for absorbent substrates

Sample surfaces

- Flat panels

Weighing and mixing

- Digital scales, accuracy to 0.1 grams.

Polishing

- Electric hand sanding machine
- Variable speed electrical polisher
- Sandpaper p240, p320, p400, p600, p800, and p1000, , and Trizact 1000, 3000, to 5000
- Steel wool available in the grades 1, 0, 00, 000 and 0000
- Cleaning agent, e.g., Simple Green 15% solution and 85% water and dry microfiber cloth

Storage of Binder and Metals

- Leave desiccant in the jar with the metal powders.
- Close the all jars after use.
- Store the metal at 70°
- Store the binder between 10°C / 50°F - 20°C / 68°F.
- Shake the jar of binder well each time before use.

- Cooling storage (10°C/ 50°Ï) gives the longest shelf life for the binder.

Pretreating substrates

All VeroMetal binders form a very strong connection to the substrate. Proper preparation is therefore essential for this.

Treating substrates

Use techniques such as sanding, brushing, blasting, etc. or primers to make the substrate suitable for all types of VeroMetal. The surface must also be dust-free and sufficiently durable.

Sanding

Sand the surface mechanically or by hand with grain p120 or maximum P180 depending on the type of subsurface. This gives you a flat surface and creates enough roughness to have a good adhesion for VeroMetal. Always round edges slightly to prevent sanding off the layers.

Primers

Prime using a normal primer which is suitable for finishing with a water-based damp proof layer. Primers are used for various reasons:

- The substrate is porous: therefore, the binder will be sucked into the surface. This can lead to the problem

that too little binder remains in the matrix to make a good bond with the metal particles and to provide sufficient adhesion to the substrate.

- Corrosion protection: If the substrate consists of metal, we always use a primer.
- Adhesion Promoter

If the substrate consists of e.g., glass or a certain plastic, we use a primer to get a good adhesion to this surface and it is advisable that the primer is a 2-component product and adhesive to a water-based product.

Treating edges

VeroMetal follows and adheres to all the contours and details of an object. Also, deep notches if applied correctly. Sharp edges should be rounded slightly in advance. This makes it easier to polish the edges. On sharp edges, VeroMetal builds less thickness in the layer, so that when finishing and polishing there is a chance that you will polish through the metal layer.

Removing contaminants

The surface must be completely free of contaminants. Greasiness, dust, and dirt have a negative influence on the adhesion of VeroMetal. It can result in detachment and influence the hardening effect of VeroMetal and ultimately the result.

Mixing and applying VeroMetal

The required quantity for mixing depends on several things: the experience of the processor, the shape of the object, the equipment used and the type of metal. To achieve the best result, it is important that you carefully follow the instructions in this manual.

Each metal has its own mixing ratio. Use the mixing ratios table to measure the correct proportions for the metal powder and binder.

Weighing and mixing the binder and metal powder

Refer to the mixing ratios table for the correct Aqua binder to metal powder ratio for each type of metal. Gently shake or stir the binder before each use. And close the containers after each use when pouring off the product. It is essential to use an accurate scale to measure products by weight, not by volume to produce consistent and reliable results. Relying on measurement by volume will result in poor results. Below is an example using the Bronze metal powder that has a mixing ratio of 3:1, three parts binder to one part metal powder, to cover 1 square foot.

- Binder - Weigh out 25 grams of binder. The Aqua binder needs to be reduced for spraying. Add three (3) to five (5) percent water to the binder weight only. Distilled water is best but tap water can be used as well.
- Metal - Weigh out 75 grams of Bronze metal powder.
- Mix - Stir the metal and the binder together until it goes fully into solution. The mixture should be consistent with no lumps.

Applying VeroMetal Aqua

Application If you want a smooth polish outcome, spray a consistent layer over the entire object at 4 wet mils. If you want texture, you can roll or brush. It is critical to get an even 4 mils across the entire surface regardless of your application technique. This reduces the chance of cutting while polishing the sharper edges. This keeps any fine detailing intact and uses less material.

Drying

Depending on the layer thickness and application, VeroMetal Aqua can be dry within 1 - 12 hours at 20°C / 68°F

Finishing VeroMetal

The VeroMetal binder forms a chemical oxide on the surface, the binder layer. It is necessary to remove it to expose the metal layer. This can be done by blasting, brushing, or sanding.

Removing the binder layer

You must remove the binder layer to expose the metal.

- Lightly sand the surface with 240-grit aluminum oxide and sand enough to remove the binder layer. You can see this when the slightly shiny binder layer becomes matte. Then it is ready for further post- processing. You can achieve a higher polish by continuing to sand at a higher grit from p240 to 5000, depending on what

you want to achieve.

OR

- Treat the details that are difficult to access with sandpaper, bristles, Scotch-Brite™ or steel wool (1-000).

Cleaning and sealing the VeroMetal finish.

Cleaning the polished surface

1. Rub the surface clean with a dry soft cloth.
2. With profiled surfaces, residues will remain in any deeper parts.
3. Remove it with the Simple Green 15% solution and 85% water.
4. Rinse with clean water and dry with a lint-free microfiber cloth.

Sealing the polished surface

The polished and cleaned surface can also be coated with clear lacquers. These can be 2k polyurethane, solvent or water based. Different types of wax and Nano coatings can also be applied. Unsealed surfaces will age naturally. This process is almost impossible to control, as it depends on many factors; is it inside or outside, what are the climatic conditions etc. A non-sealed surface will have the most radiance. Any metal, be it VeroMetal or a solid metal, loses some of its appearance when it is covered with a layer of lacquer. This effect is much less with a wax layer, but wax is also less durable, however it will be easier to maintain than a lacquer layer.

VeroMetal mixing ratios and tables

In this section you can see the mixing ratios of the different metals. Be precise when weighing and mixing the binder with the metal.

Mixing ratios = Aqua Binder: Metal Powder

Metal Type	Mix Ratio
Brass	1:3
Bronze	1:3
Copper	1:1.5
Gold	1:2
Gunsmoke	1:3

Troubleshooting

Binder has thickened

- Shelf life has expired.

VeroMetal Aqua is not dry

- The temperature is too low (too cold).

Cut-throughs

- Sharp edges are not rounded correctly.
- VeroMetal was not applied evenly or at the correct mils.
- Surface was not properly preprocessed.
- Too high speed when polishing.
- Sanding method was too aggressive.

Detachment

- Contamination on the surface.
- VeroMetal is not fully hardened.
- VeroMetal cannot attach to the subsurface. It is not suitable for this.
- Substrate not preprocessed correctly.
- Substrate contains too much moisture (e.g., in concrete or plaster).
- Incorrect primer.

Hard to polish

- Dirty surface polishing discs.
- Did not follow the correct sanding steps.

Uneven polished result

- Metal was not evenly applied.

- Uneven polishing technique used.
- Uneven sanding pattern over the entire surface.
- Used incorrect polishing speed

Sandpaper fills up

- VeroMetal Aqua has not fully hardened (see *VeroMetal is not dry*).

Questions

Do you have any questions? Don't hesitate to contact us!

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