

The logo for Metalsmith Acrylic Metal Paint is presented on a grey, scroll-like banner. The word "Metalsmith" is written in a large, elegant, black serif font. Below it, the words "Acrylic Metal Paint" are written in a smaller, bold, black sans-serif font.

Metalsmith

Acrylic Metal Paint

A Badger Air-Brush Co. product.

Metalsmith is an acrylic metal paint product. It is essentially a simple do it yourself process kit that provides artists a limitless range of acrylic metal paint, and an ability to easily age the created metals from new to ancient. The Metalsmith product is composed of two principle mixing components and three, new to ancient, aging bases. You can use the simple mixing recommendations we've provided to create most common metals or, through your own imagination and experimentation, you can easily develop your own metal variations and creations.

The first of the two principle mixing components is Metal-look. It will be in every metal mix, and is the mix component that will give the metal appearance to every metal you create. The second mixing component is a varied selection of Metalsmith Ores: Gold, Bronze Copper, Carbon Iron, Blue, and Red. These are essentially translucent colors that will be used to create the colorations of the various metals you create. To anyone more familiar with classical art and color theory, the basic principle of this kit will not be a mystery. The Gold, Blue, and Red Ores will represent the three primary colors central to every color mix. The Bronze Copper Ore will act as the other staple mixing color of any artist, Burnt Sienna. And finally, to complete the group of Ores, Carbon Iron is used as black would be in any color mixing process.

As you read on, you will realize that Metalsmith is a finishing product that has utility in all scale modeling applications. Regardless of your being a miniature figure artist, a military, railroad, aircraft, or automotive modeller - whether you're painting a finescale sword or gun, airplane fuselage or motorcycle tank – Metalsmith is a product that will enable you to better and more easily make your metals look exactly the same as you think the real life version of your model looks. With Metalsmith Ores and Metal-look, you will be equipped and ready to create pretty much any metal you desire, and with Metalsmith aging bases you can age your metals as desired as well.

We do recommend you read the rest of our instruction to fully understand the Metalsmith product and how it works. For painters not accustomed to color theory and color mixing, we have provided some mixing recommendations for creating many common metals. Where you go from there in your Metalsmith metals creation process is entirely up to you.

Metal-look:

As previously stated Metalsmith Metal-look (ML) is what will give the look of metal to every metal you create, hence, the name Metal-look. It is the integral part of every mix created using the Metalsmith acrylic metal paint process. Note that, although Metal-look is necessary to create any of the metals you will mix, you will not need large amounts of it in many of the metals you will create. As little as a single part of Metal-look in a mix composed of twelve parts may be sufficient to obtain a desired metal finish.

Metal-look is the essential common denominator in every metal mix. Additionally, Metal-look it is our primary covering agent. The greater proportion of Metal-look in our metal mix the deeper coverage our metal will have. However, as previously mentioned, in many of our metals we do not need a notable amount of Metal-look to create them. For instance, in the case of metals like gold and copper the amount of Metal-look is minimal compared to many of the silver based metals. With these metal mixes that require and contain lesser amounts of Metal-look, it may require applying additional layers of the metal mix to build the desired metal finish.

The Ores:

The Ores are coloring agents. By adding Metal-look to them we will be able to create any metal we desire. Silvers will mostly require Carbon Iron Ore (CI), golds will require Gold Ore (G), and coppers and bronze will require varying amounts of Bronze Copper Ore (BC). Additionally, by adding Blue Ore (B) and/or Red Ore (R) we can vary age, wear, weathering, sheen and other effects of our metals.

The translucency of our Ores means we do not need to add large amounts of Metal-look to create our metal. However, the greater proportion of Ore in your mix, the more layers of the mix you will need to apply to achieve the desired depth of your metal. This coverage aspect will not vary much from other available pre-mixed metal paint ranges, in which the golds, coppers and bronzes are always less 'opaque' than silvers. However, unlike other pre-mixed ranges you have a greater ability to adjust the coverage depth of your metals by adjusting your Metal-look/Ore mixes until each metal is exactly as you'd like it to be.

One noteworthy consideration of Metalsmith Ores is that they may bleed through overlying paints. So if you are applying other finishes over your Metalsmith metal finish – to apply a logo, a symbol, or some other decorative design element - it is important to let the Metalsmith finish dry and cure for 48 to 72 hours before applying other media over it. Alternatively, you can seal the Metalsmith finish with a varnish to avoid its bleeding through any media you apply over it. In instances where a Metalsmith metal is the final finish coat applied on your model, the bleed through is obviously not an issue. It is also

not a notable concern when applying media over top of your metal finish to shade it. To many artists any bleed through of the Metalsmith Ore in the metal mix will create a more desirable blend of the desired shade effect.

An additional and notable benefit of the Metalsmith Ores is the three primary color Ore tones: Gold Ore (Yellow), Blue Ore (Blue), and Red Ore (Red). The richness and saturation of the Metalsmith Ores in these three primary colors will allow you to create equally rich and saturated metal colors and effects that are often desired but hard to find, and difficult to create, in other metal effect paint products. With Metalsmith, through your own mixing of Ores and Metal-look (experimenting as much as you like) you can now create pretty much all of your desired metal color effects, and likely even stumble upon others you will enjoy using on your models.

The Aging Bases:

Metalsmith aging bases will serve as a means to vary aging of your Metalsmith metal, but of equal, if not greater, importance it will also serve as an adhesion base for your metal finish - providing a high level of strength and durability for your overlying metal finish.

As mentioned, the amount of Metal-look in your mix will have a direct impact on the covering characteristic of your Metalsmith metals. And as shown in the pictures below, the light to dark tone of your selected Metalsmith Aging Base, coupled with the transparency level of your Metal-look/Ore mix, will have a direct impact on how new or old your metal finish will appear when applied.



Pure Silver. Mix:100% Metal-look / 1 part ML

This picture clearly shows the impact of the different Aging Bases. In this picture we have, from left to right, un-mixed Metal-look, hence our purest silver, over New, Old, and Ancient Aging Base. Although all three are the exact same silver, we can see a clear distinction between the three. When creating and mixing your Metalsmith metals, you will want to consider the impact the Aging Base will have on the overlying metal finish.

This silver, being pure Metal-look has the highest coverage. Let's see what happens when working with a Metalsmith gold mixture in which the Metal-look is only 1/10th of the mix (a Golden Ore and Bronze Copper Ore mix making up the other 9 parts).



Gold 05. Mix:7 parts G/2 parts BC/1 part ML

Since our gold mix has much less covering power than our first example, because of its lesser portioned ratio of Metal-look to the overall mix, the underlying tone of the Aging Base has a much greater impact on the appearance of the overlying metal. To the far left we have our most saturated and brightest gold with New Aging Base. The usage of the Old Aging Base, in the middle, quickly reduces the saturation of our gold, resulting in a more tarnished finish. To the far right, the resulting desaturation of our gold is even greater over Metalsmith Ancient Aging Base, thus providing are most aged metal. You will need to be conscious of your selected Metalsmith Aging Base while mixing your colors. If you want to achieve the brightest newest metal with the highest saturation, New Aging Base will be the key. On the contrary, if you want a darker older metal, depending on to what degree, it would be best to use the Old or Ancient Aging Base.

The Process Begins:

Enough with the instructions and how it works, the only thing we can't teach you is putting the process to use. For those of you accustomed to mixing colors and knowledgeable in color theory, you are free to go and create all the metal colors you want. Now is the end to the incessant frustration that a particular silver or copper is not exactly right. You now have the ability to easily mix your own metal, emphasis on easily, to match **your** exact specifications. You could also throw fun into describing the Metalsmith process as well. We have learned through our product development the possibilities with Metalsmith are limitless and we have had a lot of fun coming to that conclusion. Remember to write down your metal mix recipes - as it will make your life much easier when you want to recreate any of your metals.



For additional information please contact Badger Air-Brush Co., Franklin Park, IL
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For those, less accustomed to color mixing or feeling less adventurous, no worries, we have additional metal mixing information and useful recipes below. The following section will give you some guidelines and direction on how to mix and create silvers, gold, bronze, copper and variations of each. There's also information regarding creating and mixing metal colors. This information is provided primarily as reference for you to incorporate into your own Metalsmith metal finishing process. Each photograph shows the referenced mix over, from left to right, Metalsmith New, Old, and Ancient Aging Base.

Additionally, it will be helpful to know Blue Ore and Gold Ore mixed will make Mineral **Green** Ore, Blue Ore and Red Ore mixed will make Chromium **Purple** Ore, and Red Ore and Gold Ore mixed will make Citrine **Orange** Ore. (Those are all made up ore names of ores known only in and to the Metalsmith artists' world.)

Silver (Aluminum, Pewter, Iron, Steel, etc.):

The silver range is likely the easiest. It is essentially just Metal-look with the gradual addition of Carbon Iron Ore to achieve darker tones of silver metal. You saw in the picture on page 3 how Metal-look looks when applied solely. Here are some other mix examples:



Silver 05. Mix:1 part CI/1 part ML

This mix is Metal-look and Carbon Iron Ore mixed at a 1/1 ratio. The result is a medium range silver that can be used for many metal finish purposes.



Silver 09. Mix:4 parts CI/1 part ML

A ratio of 1 part Metal-look to 4 parts Carbon Iron Ore resulted in the above picture. We now have darker silver, actually nearing black in the example with Ancient Aging Base.

This is all good if our goal is to obtain neutral silver, essentially a metallic grey. But what if we wanted, say, a blue steel?



Silver 11. Mix:2 parts B/1 part CI/8 parts ML

By adding a touch of Blue Ore, we now have a cool silver, closer to steel or chrome. The above picture is a mix of 8 parts Metal-look, 1 part Carbon Iron Ore and 2 parts Blue Ore. You could add more Blue Ore to the mix in order to accentuate it or add more Carbon Iron

Ore to darken it. You could even remove the Carbon Iron Ore to have something lighter.



Silver 14. Mix:1 part B/1 part CI/1 part G/1 part BC/8 parts ML

If you want a more tarnished silver, add some Bronze Copper Ore and Mineral Green Ore. (Do a quick 1/1 mix of Gold Ore and Blue Ore to create Mineral Green Ore.) The above example is composed of 8 parts Metal-look, 1 part Carbon Iron Ore, 2 parts Mineral Green Ore, and 1 part Bronze Copper Ore. Remember, there are no limits. If you want a more bronze appearance to your silver, simply add some Bronze Copper Ore, or Blue Ore or Mineral Green Ore for other varied effects.

Gold:

For gold, our base will be Gold Ore. The Metal-look will be added in small amounts to preserve the gold saturation. Adding too much Metal-look will result in a grey underlying tone not characteristic of true gold.



Gold 02. Mix:7 parts G/1 part ML

The above gold is the result of 7 parts Gold Ore and 1 part Metal-look. This is way too yellow and lacks similarity to true gold. Luckily, we have all the tools to adjust it.



Gold 04. Mix:7 parts G/1 part BC/1 part ML

And voilà! Simply adding 1 part of Bronze Copper Ore to the above mix was sufficient to get that proper gold look. These two examples also clearly show how gold needs to be applied over New Aging Base to achieve true gold saturation. To create a darker gold, add more Bronze Copper Ore to your mix as pictured below, but take care to not drift your metal tone too far - in to a bronze or copper. Carbon Iron Ore could also be added to achieve a less saturated, darker, gold. Alternatively, you can apply the gold mixes over Old or Ancient Aging Base to darken their appearance.



Gold 07. Mix:7 parts G/4 parts BC/1 part ML

Bronze:

To create bronze, although we will still use Gold Ore we rely more on the Bronze Copper Ore to achieve our desired bronze metal.



Bronze 01. Mix:6 parts BC/2 parts G/1 part R/1 part ML

The above color is the result of 2 parts Metal-look, 6 parts Bronze Copper Ore and 2 parts Gold Ore. We need to still use the Gold Ore to lighten our mix. The Red Ore adds the reddish tone of bronze as the Bronze Copper Ore provides our base.

In order to darken your bronze increase the amount of Bronze Copper Ore, add a small amount of Carbon Iron Ore, and/or apply your bronze over Old or Ancient Aging Base.



Bronze 03. Mix:8 parts BC/2 parts G/ 2 parts R/1 part BC/2 parts ML

2 parts Bronze Copper Ore, 1 part Red Ore, and 1 part Carbon Iron Ore have been added to the initial mix to obtain a darker mix. Note that sometimes, you need to adjust the other colors to achieve and keep a proper balanced hue. Simply adding darker color to shade your mix can work but can also alter your tone, hence the extra drop of Red Ore. A touch of Blue Ore can be added in order to obtain a tarnished finish as shown below.



Bronze 05. Mix:6 parts BC/2 parts G/2 parts B/1 part R/2 parts ML

The recipe for the above result is 2 parts Metal-look, 6 parts Bronze Copper Ore, 2 parts Gold Ore, 1 part Red Ore, and 2 parts Blue Ore. Remember that by adding Blue Ore we are not essentially looking to have a blue finish in the hue. We want it to mix with the Gold Ore to obtain Mineral Green Ore. You might have noticed that the coverage of the bronze is deeper than the gold. This is due to a greater ratio of Bronze Copper Ore and Metal-look being used in the bronze metal mix. As a result, the impact of the Aging Base, albeit still present, is less noticeable.

Copper:

Copper will be similar to gold except that Red Ore will be added to obtain the red hue associated with the Copper.



Copper 01. Mix:8 parts G/4 parts R/1 part ML

The light copper above is a mix of 8 parts Gold Ore, 4 parts Red Ore, and 1 part Metal-look. You might find it a bit too close to gold. For a more neutral copper, simply mix equal parts Gold Ore and Red Ore to create Citrine Orange Ore as in the mix shown below.



Copper 03. Mix:6 parts G/6 parts R/1 part ML

For shading and darkening, as with our gold and bronze metals, add a small amount of Bronze Copper Ore or Carbon Iron Ore, or apply the above mixes over Metalsmith Old or Antique Aging Base.

Metallic Colors:

Having three primary colors at our disposal, we can also create just about any metal color we wish. This metal color aspect of the Metalsmith Acrylic Metal Paint process should be appealing to automotive modellers, who might be seeking those cool auto finishes of the '60s & '70s, and can rarely, if ever, find them. With the Metalsmith process they can be easily created. To demonstrate this our last three examples will be quite simple. We added 4 parts of our chosen Ore to 1 part Metal-look. The blue and red metal colors were achieved by adding 1 part Metal-look with the 4 parts Blue Ore and/or Red Ore. The Green metal results from a mix of 1 part Metal-look 2 parts Blue Ore 2 parts Gold Ore.



Blue Metal
Mix:4 B/1 ML



Red Metal
Mix:4 R/1 ML



Green Metal
Mix:2 G/2 B/1 ML

We could also easily create a purple metal with a 1 part Metal-look 2 part Blue Ore 2 part Red Ore mix, or a 1 part Metal-look 2 part Red Ore 2 part Gold Ore mix would give us an orange metal (likely a lighter version of our Coppers created using the same Ores).

Of course as you experiment with different recipes and ingredient mixes, you'll find a wide ranging spectrum of various metal effects and colors you'll want to incorporate in to your model finishing process. As indicated numerous times, there is no limit to the metals and metal colors you can create using the Metalsmith Acrylic Metal Paint process. You are now the master of your metals. You are a Metalsmith, so have at it and have fun!

For additional Metalsmith mix recipes, email customerservice@BadgerAirBrush.com