# Instruction Manual for all Goldie Clay<sup>™</sup> Types



MetalClaySupply.com/Goldie









Goldie Bronze<sup>™</sup> is bronze of a beautiful goldencolor, which is very hard after firing. It comes in three types of powder – SOFT, MID and HARD. SOFT is very soft and is ideal for working with stamps and textures, and to capture fine details. HARD creates a somewhat stiffer clay to work with, and yields the maximum strength – it is ideal for bangles, ring bands, and decorative objects. If you are planning to create a piece which involves fine details and you desire the maximum strength, it is recommended to use MID version (50% SOFT and 50% HARD).

Goldie Bronze<sup>™</sup> is an environmentally friendly product. It contains approximately 90% copper and 10% tin. The binders are organic and non toxic.

Goldie Bronze<sup>™</sup> shrinks by about 8%-11% on firing, depending on the shape and the size of the piece. Dried clay can be ground up to a powder and reconstituted. Goldie Bronze<sup>™</sup> is simple and economical to use.

#### TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about a dozen drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag and wait for 30 minutes.

#### TO USE

• To join elements in Goldie Bronze<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay.

• Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 90°C (195°F) or lower. Higher temperatures may cause cracking, and the creation of steam bubbles.

• Remember to always clean your tools well between using different types of metal clay to avoid cross contamination. The above comment does not apply to metals from the Goldie Metal<sup>™</sup> line, because you can mix them together with Mokume Gane, or other techniques. See ( www.goldieclay.com) FAQ for detailed description. TO FIRE

## • Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") under the pieces. Make sure the pieces are at least 1cm (1/2") apart. Place the open container into a cold kiln and fire at full ramp to 350°C (670°F) and hold for 30 minutes.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") over the pieces, and place back into the kiln. Full ramp to 820°C (1510°F) and hold

for 40 minutes. In the case of large elements, the time should be properly extended to 1 hour.

• Fired pieces can be removed from the kiln hot or cold.

## SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Bronze<sup>™</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Bronze<sup>™</sup> is non toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Bronze<sup>™</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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Goldie Sculptor's Bronze<sup>™</sup> is bronze of a beautiful golden color, which is very hard after firing. It is formulated with long carbo-hydrogen chains in the binder formula to have much greater strength and more resistance to collapse under its own weight than regular bronze clays and is more cohesive when wet and stronger after the first firing step. This allows the artist sculptor to create much larger designs. Another aspect of Sculptor's Bronze is its silky smooth texture and with appropriate hydration it can be thrown on a potter's wheel.

Goldie Sculptor's Bronze TM is well suited for sculptures and larger forms of jewelry. You can shape the wet and dry clay using chisels and other traditional sculptor's tools.

Goldie Sculptor's Bronze<sup>™</sup> is environmentally friendly. It contains approximately 90% copper and 10% tin. The binders are organic and non toxic. The container that the powder comes in is deliberately larger than needed so it can be reused afterwards. Please do your part for the environment and keep the container for future use (non food use only).

Goldie Sculptor's Bronze<sup>™</sup> shrinks by about 9%-14% on firing, depending on the shape and the size of the piece. Dried clay can be ground up to a powder and reconstituted. Goldie Bronze<sup>™</sup> is easy and economical to use.

## TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about numerous drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency. The water does not need to be distilled - tap water is fine.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is

removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

## TO USE

To join elements and repair seams in Goldie Sculptor's Bronze<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay. If you want to join a fired piece to an unfired piece or two fired pieces it is best to use Sherri Haabs PasteMaker<sup>™</sup> to hydrate the clay.

Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 200°F (94°C) or lower. Higher temperatures may cause cracking, and the creation of steam bubbles. Larger pieces can be dried in a kitchen oven as long as 200°F is not exceeded.

Components up to 100 grams will typically dry naturally in 24 hours. Weights in excess of 100 grams should be naturally dried for 2-5 days. A faster method is to use a warming plate allowing the components to dry for 2-5 hours. Large items (above 300g) should be dried for 6-10 hours.

Remember to always clean your tools well between different brands and types of metal clays to avoid cross contamination. This does NOT apply to metals from the Goldie Metal<sup>TM</sup> line because you can mix them together for Mokume Gane and other techniques.

# TO FIRE

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1/2" (1cm) under the pieces. Do not cover with carbon for this step. Make sure the pieces are at least 1/2" (1cm) apart. Place the open container into a cold kiln and fire at full ramp to  $670^{\circ}$ F ( $350^{\circ}$ C) and hold for 30 minutes for pieces up to 100g. Pieces larger than 100g hold for 45 minutes, larger than 200g - 45 minutes, larger than 200g - 1 hour, larger than 300g - 1.5 hours.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1/2" (1cm) over the pieces and place back into the kiln. Do a full ramp to 1525°F (830°C) and hold for 1 hour for pieces up to 100g. In the case of large elements, the time should be properly extended to 1h-30min for 100-200g For elements over 300 grams fire for a minimum of 2 hours for more flat elements and a minimum of 3 hours for more rounded elements.

• Fired pieces can be removed from the kiln hot or cold.

## SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Sculptor's Bronze<sup>TM</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Sculptor's Bronze<sup>TM</sup> is non-toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Sculptor's Bronze<sup>TM</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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GOLDIE SC√LPTOR'S COPPER™

Goldie Sculptor's Copper<sup>™</sup> is copper of a beautiful pure red color. It is formulated with long carbo-hydrogen chains in the binder formula to have much greater strength and more resistance to collapse under its own weight than regular bronze clays and is more cohesive when wet and stronger after the first firing step. This allows the artist sculptor to create much larger designs. Another aspect of Sculptor's Copper is its silky smooth texture and with appropriate hydration it can be thrown on a potter's wheel.

Goldie Sculptor's Copper  $^{TM}$  is well suited for sculptures and larger forms of jewelry. You can shape the wet and dry clay using chisels and other traditional sculptor's tools.

Goldie Sculptor's Copper<sup>™</sup> is environmentally friendly. The powder contains 99,9% of pure dendrite copper. The binders are organic and non toxic.

Goldie Sculptor's Copper<sup>™</sup> shrinks by about 15%-23% on firing, depending on the shape and the size of the piece. Dried clay can be ground up to a powder and reconstituted. Goldie Sculptor's Copper<sup>™</sup> is easy and economical to use.

# TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about numerous drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency. The water does not need to be distilled - tap water is fine.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

# TO USE

Goldie Sculptor's Copper<sup>™</sup> is well suited for sculptures and larger forms of jewellery. You can shape the wet and dry clay using chisels and other traditional sculptor's tools.

To join elements and repair seams in Goldie Sculptor's Copper<sup>TM</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay. If you want to join a fired piece to an unfired piece or two fired pieces it is best to use Sherri Haabs PasteMaker<sup>TM</sup> to hydrate the clay.

Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 200°F (94°C) or lower. Higher temperatures may cause cracking, and the creation of

steam bubbles. Larger pieces can be dried in a kitchen oven as long as 200°F is not exceeded.

Components up to 100 grams will typically dry naturally in 24 hours. Weights in excess of 100 grams should be naturally dried for 2-5 days. A faster method is to use a warming plate allowing the components to dry for 2-5 hours. Large items (above 300g) should be dried for 6-10 hours.

Remember to always clean your tools well between different brands and types of metal clays to avoid cross contamination. This does NOT apply to metals from the Goldie Metal<sup>TM</sup> line because you can mix them together for Mokume Gane and other techniques.

## TO FIRE

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1/2" (1cm) under the pieces. Do not cover with carbon for this step. Make sure the pieces are at least 1/2" (1cm) apart. Place the open container into a cold kiln and fire at full ramp to  $580^{\circ}C(1076^{\circ}F)$  and hold for 30 minutes for pieces up to 100g. Pieces larger than 100g hold for 45 minutes, larger than 200g - 45 minutes, larger than 200g - 1 hour, larger than 300g - 1.5 hours.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1/2" (1cm) over the pieces and place back into the kiln. Do a full ramp to  $960^{\circ}C(1760^{\circ}F)$  and hold for 1 hour 10 min for pieces up to 100g. In the case of large elements, the time should be properly extended to 2h-30min for 100-200g. For elements over 300 grams fire for a minimum of 2 hours for more flat elements and a minimum of 3 hours for more rounded elements.

• Fired pieces can be removed from the kiln hot or cold.

## SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Sculptor's Copper<sup>TM</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Sculptor's Copper<sup>TM</sup> is non-toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Sculptor's Copper<sup>TM</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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Goldie Roman Bronze<sup>™</sup> is bronze of a beautiful golden bronze color, resembling the colors used in times of the Roman Empire. The clay is a bit more grainy, thanks to larger than usual bronze particles. After firing and polishing with a 3M wheel or sandpaper, you can notice tiny bronze speckles that reflect the light and create an interesting sparkling effect.

Goldie Roman Bronze<sup>™</sup> is an environmentally friendly product. It contains approximately 89% copper and 11% tin. The binders are organic and non toxic. Goldie Roman Bronze<sup>™</sup> shrinks by about 10%-12% on firing, depending on the shape and the size of the piece. Dried clay can be ground up to a powder and reconstituted. Goldie Roman Bronze<sup>™</sup> is simple and economical to use.

#### TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about a dozen drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

#### TO USE

• To join elements in Goldie Roman Bronze<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay.

• Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 90°C (195°F) or lower. Higher temperatures may cause cracking, and if steam appears it might create bubbles in the material.

• Remember to always clean your tools well between using different types of metal clay to avoid cross contamination. The above tip does not apply to Goldie Metal<sup>™</sup> line products, because they can be mixed with Mokume Gane or other techniques. See (www.goldieclay.com) FAQ for detailed description.

#### TO FIRE

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") under the pieces. Make sure the pieces are at least 1cm (1/2") apart. Place the open container into a cold kiln and fire at full ramp to 350°C (670°F) and hold for 30 minutes.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") over the pieces, and place back into the kiln.

- Full ramp to 845°C (1560°F) and hold for 1h30min.
- Fired pieces can be removed from the kiln hot or cold.

#### SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Roman Bronze<sup>™</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Roman Bronze<sup>™</sup> is non toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Roman Bronze<sup>™</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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Goldie de la Rosa Bronze<sup>™</sup> is a bronze of a pinkish color, which is very hard after the firing. Goldie de la Rosa Bronze™ is an environmentally friendly product. It contains approximately 94% copper and 6% tin. The binders are organic and non toxic. Goldie de la Rosa Bronze<sup>™</sup> shrinks by about 14-19%(old formula 11%-14%) on firing, depending on the shape and the size of the piece. Dried clay can be ground up to a powder and reconstituted. Goldie de la Rosa Bronze™ is simple and economical to use.

#### TO MIX

• Put the all amount of powder into a jar or bowl.

 Add about a dozen drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

#### **TO USE**

• To join elements in Goldie de la Rosa Bronze<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay.

 Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 90°C (195°F) or lower. Higher temperatures may cause cracking, and if steam appears it might create bubbles in the material.

• Remember to always clean your tools well between using different types of metal clay to avoid cross contamination. The above tip does not apply to Goldie Metal<sup>™</sup> line products, because they can be mixed with Mokume Gane or other techniques. See FAQ for detailed description.

#### **TO FIRE**

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") under the pieces. Make sure the pieces are at least 1cm (1/2") apart. Place the open container into a cold kiln and fire at full ramp to 350°C (670°F) and hold for 30 minutes.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") over the pieces, and place back into the kiln.

• Full ramp to 935°C (1715°F) and hold for 1h20min, (old formula - 1h30min), for pieces above 100g-1h 50min (old formula 2h).

Fired pieces can be removed from the kiln hot or cold.

#### SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie de la Rosa Bronze<sup>™</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie de la Rosa Bronze<sup>™</sup> is non toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie de la Rosa Bronze<sup>™</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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Goldie Copper<sup>M</sup> is a very pure copper clay. The powder contains 99,9% of pure dendrite copper. After firing and removing the patina created in the firing process the metal is very light and has a beautiful color.

Goldie Copper<sup>™</sup> is an environmentally friendly product. The binders are organic and non toxic. Goldie Copper<sup>™</sup> shrinks by about 14-20% (old formula 12%-18%) on firing, depending on the shape and the size of the piece. Dried clay can be ground up to a powder and reconstituted. Goldie Copper<sup>™</sup> is simple and economical to use. TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about a dozen drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

TO USE

• To join elements in Goldie Copper<sup>™</sup> clay mix a little powder with water to make a paste.Elements can also be joined with the water only method in the same way as silver clay.

• Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 90°C (195°F) or lower. Higher temperatures may cause cracking, and if steam appears it might create bubbles in the material.

• Remember to always clean your tools well between using different types of metal clay to avoid cross contamination. The above tip does not apply to Goldie Metal<sup>™</sup> line products, because they can be mixed with Mokume Gane or other techniques. See FAQ (www.goldieclay.com) for detailed description. TO FIRE

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") under the pieces. Make sure the pieces are at least 1cm (1/2") apart. Place the open container into a cold kiln and fire at full ramp to  $580^{\circ}$ C (1080°F) and hold for 30 minutes.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") over the pieces, and place back into the kiln.

• Full ramp to 960°C (1740°F) and hold for 1h 50min (old formula 2 hours).

• Fired pieces can be removed from the kiln hot or cold.

#### SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Copper<sup>™</sup> <sup>™</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Copper<sup>™</sup> is non toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Copper<sup>™</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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Goldie Snow Bronze<sup>™</sup> is a white kind of bronze. White bronzes with over 18% of tin are fragile and easy to break. Snow Bronze is different, despite a high content of tin (21%) it's not easy to break, thanks to large powder particles, which are very strongly connected to each other after burning. The material is smooth after firing, with no traces of particles.

Goldie Snow Bronze<sup>™</sup> is an environmentally friendly product. It contains approximately 79% copper and 21% tin. The binders are organic and non toxic.

Goldie Snow Bronze<sup>™</sup> shrinks by about 16%-30% on firing, depending on the shape and the size of the piece, and the temperature of firing. The temperature depends on the thermal efficiency of the kiln. The smaller kilns – higher temperature. Dried clay can be ground up to a powder and reconstituted. Goldie Snow Bronze<sup>™</sup> is simple and economical to use.

TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about a dozen drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

#### TO USE

• To join elements in Goldie Snow Bronze<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay.

• Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 90°C (195°F) or lower. Higher temperatures may cause cracking, and if steam appears it might create bubbles in the material.

• Remember to always clean your tools well between using different types of metal clay to avoid cross contamination. The above tip does not apply to Goldie Metal<sup>™</sup> line products, because they can be mixed with Mokume Gane or other techniques. See FAQ for detailed description.

#### TO FIRE

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") under the pieces. Make sure the pieces are at least 1cm (1/2") apart. Place the open container into a cold kiln and fire at full ramp to 350°C (670°F) and hold for 30 minutes.

• Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 1cm (1/2") over the pieces, and place back into the kiln.

• Full ramp to 730-760°C (1350-1370°F) and hold for 1h50 min.( The temperature depends on the thermal efficiency of the kiln. The smaller kilns – higher temperature).

• Fired pieces can be removed from the kiln hot or cold.

#### SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Snow Bronze<sup>™</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Snow Bronze<sup>™</sup> is non toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Snow Bronze<sup>™</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

(c) GOLDIE CLAY ART STUDIO



Goldie Lemon Brass<sup>™</sup> has a lovely yellowish color. Goldie Lemon Brass<sup>™</sup> is environmentally friendly. It contains approximately 90% brass, and 10% bronze to stabilize the burning process. The binders are organic and non toxic.

Goldie Lemon Brass<sup>™</sup> shrinks by about 9%-15% on firing, depending on the shape and the size of the piece.

Dried clay can be ground up to a powder and reconstituted. Goldie Bronze<sup>TM</sup> is easy and economical to use.

# TO MIX

• Put the all amount of powder into a jar or bowl.

• Add about numerous drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency. The water does not need to be distilled - tap water is fine.

• Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag or container and wait for 30 minutes.

# TO USE

To join elements and repair seams in Goldie Lemon Brass<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay.

Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 200°F (94°C) or lower. Higher temperatures may cause cracking, and the creation of steam bubbles. Larger pieces can be dried in a kitchen oven as long as 200°F is not exceeded.

Remember to always clean your tools well between different brands and types of metal clays to avoid cross contamination. This does NOT apply to metals from the Goldie Metal<sup>TM</sup> line because you can mix them together for Mokume Gane and other techniques.

# TO FIRE

• Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.

• Lay the pieces in a stainless steel firing container on a layer of activated coconut shell carbon with a minimum depth 1/2" (1cm) under the pieces. Do not cover with carbon for this step. Make sure the pieces are at least 1/2" (1cm) apart. Place the open container into a cold kiln and fire at full ramp to  $580^{\circ}C(1076^{\circ}F)$  and hold for 30 minutes for pieces up to 100g. Clay change color to **dark brown**.

- Carefully remove the container from the kiln and place on a heatproof surface. Fill the container with a layer of activated coconut shell carbon with a minimum depth 5 cm (2in) over the pieces, in order to reduce evaporation of tin, cover the container with a lid, and place back into the kiln. Do a full ramp to 870°C(1598°F) and hold for 2 hours.
- Fired pieces can be removed from the kiln hot or cold.
- After removing the cover, appears white-yellow precipitate from zinc oxide. This is normal and does not cause changes in the properties of coal.

## SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Lemon Brass<sup>TM</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Lemon Brass<sup>TM</sup> is non-toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Lemon Brass<sup>TM</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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Goldie Iron <sup>™</sup> it comes in five types of powder - colors. Goldie Cherry Iron <sup>™</sup> - color silver-cherry, Goldie Red Iron <sup>™</sup> - the color of silver-coppery, Goldie Sunset Iron <sup>™</sup> - color silve-bronze, Goldie White Iron <sup>™</sup> - the color of iron, Goldie Yellow Iron - silver-yellowish color.

The powders, in addition to iron, which is the main component consists of metals such as brass, copper, bronze.

#### TO MIX

• Put the all amount of powder into a jar or bowl.

Add about a dozen drops of water or spray in a little water and mix well with a knife or spoon, adding more water as required, until you get a clay of a plasticine like consistency.
Roll the lump clay out thinly and fold over. Roll again, rolling away from the fold. Repeat this action several times. This is very important to ensure that all the air is removed from the clay and to get a smooth consistency before using. Insert into a plastic bag and wait for 30 minutes.

#### TO USE

• To join elements in Goldie Iron<sup>™</sup> clay mix a little powder with water to make a paste. Elements can also be joined with the water only method in the same way as silver clay.

• Pieces can be dried naturally or by using heat, e.g. on a hotplate or in a dehydrator. Dry at 90°C (195°F) or lower. Higher temperatures may cause cracking, and the creation of steam bubbles.

• Remember to always clean your tools well between using different types of metal clay to avoid cross contamination. The above comment does not apply to metals from the Goldie Metal<sup>™</sup> line, because you can mix them together with Mokume Gane, or other techniques. See (<u>www.goldieclay.com</u>) FAQ for detailed description.

## TO FIRE

- Ensure the clay is completely dry before firing. Any moisture will boil and ruin the piece.
- In the two-stage firing, follow the table:

METAL	1 STAGE	2 STAGE	SHRINKAGE	COMMENTS				
GOLDIE YELLOW IRON™	580°C(1076°F) 30 min	870°C(1598°F) 2h	5-14%	1 stage: clay changes color to dark brown 2 stage: cover the container with a lid (layer of activated coconut shell carbon: minimum depth 5cm ( 2inch ).				
GOLDIE CHERRY IRON™	400°C(752°F) 30 min	960°C(1760°F) 2h	9-17%	activated coconut shell carbon with a minimum depth 1/2" (1cm) unde the pieces. layer of activated coconut shell carbon with a minimum depth 1/2" (1cm)-during the 2nd stage				
GOLDIE SUNSET IRON™	400°C(752°F) 30 min	870°C(1598°F) 1h 30 min	8-16%	activated coconut shell carbon with a minimum depth 1/2" (1cm) under the pieces. layer of activated coconut shell carbon with a minimum depth 1/2" (1cm)-during the 2nd stage				
GOLDIE WHITE IRON™	400°C(752°F) 30 min	870°C(1598°F) 2h	5-11%	activated coconut shell carbon with a minimum depth 1/2" (1cm) under the pieces. layer of activated coconut shell carbon with a minimum depth 1/2" (1cm)-during the 2nd stage				
GOLDIE RED IRON™	400°C(752°F) 30 min	960°C(1760°F) 2h	12-18%	activated coconut shell carbon with a minimum depth 1/2" (1cm) under the pieces. layer of activated coconut shell carbon with a minimum depth 1/2" (1cm)-during the 2nd stage				

• Fired pieces can be removed from the kiln hot or cold.

#### SAFETY PRECAUTIONS

Do not breathe in the powder or ingest Goldie Iron<sup>TM</sup>. Always use the appropriate safety equipment when working with a hot kiln and fire in a well ventilated area. Goldie Iron<sup>TM</sup> is non toxic and does not contain any harmful chemicals. There have been no reports of any allergic reaction to Goldie Iron<sup>TM</sup>, however people with allergies should be aware of the possibility of a reaction and use with care.

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COMMENTS			INTERMEDIATE CONSISTENCY - BETWEEN SOFT AND HARD	Golde Souptor's Bronze <sup>Tw</sup> is well suited for souptures and larger forms of jeweity. You can shape the wet and dry day using chisels and other traditional souptor's tools. I stage: free and function to 590°C (682°F) and hold for 30 minuset, pieces to 1000/45min, above 2000/15, h. 2 stage: hold for 1 hour for pieces up to 100°L, in the case of large elements, the time should be properly extended to 11-30min for 100-200g. For elements over 300 grams fire for a minimum of 2000°C (82°C) and the case of large elements, the time should be properly extended to 11-30min for 100-200g. For elements over 300 grams fire for a minimum of 2000°C (80°C) and the case of large elements, the time should be properly extended to 11-30min for 100-200g. For elements over 300 grams fire for a minimum of 2000°C (80°C) and 80°C (80°C) and 80°	Godie Sculptor's Copper <sup>TM</sup> is well suited for sculptures and larger forms of jeweiry. You can shape the wet and dry day using chisels and other traditional sculptor's tools. Is taken: free full ramp to SBOC (1076°F) and hold for 30 minutes. (pieces to 1009)Above 1009/Above 1009/Above 2009/11, above 2009/11, above 2009/11 above		old formula second stage: 935°C(1715°F)/11.30min	old formula second stage: 960°C(1760°F)/2h	The temperature depens on the thermal efficiency of the kiln. The smaller kilns-higher temperature.	1 stage: clay changes color to dark brown 2 stage: cover the container with a lid (layer of activated coconut shell carbor: minimum depth 5cm (2 inch ).	1 stage: clay changes color to dark brown 2 stage: cover the container with a lid (layer of activated coconut shell carbor: minimum depth 5cm ( 2inch ).					ZE", GOLDIE de la ROSA BRONZE" (NEW FORMULA), GOLDIE ROMAN BRONZE", GOLDIE COPPER" (NEW FORMULA)	۲۰۰۰, GOLDIE SUNSET IRON™, GOLDIE WHITE IRON™, GOLDIE RED IRON™	E BRONZE HARD™, GOLDIE BRONZE SOFT™	FT <sup>w</sup> , GOLDIE WHITE IRON <sup>TM</sup>
SHRINKAGE	8-11%	8-11%	8-11%	8-11%	15-23%	10-12%	14-19%	14-20%	16-30%	9-15%	5-14%	9-17%	8-16%	5-11%	12-18%	SNOW BRON	СНЕВВУ ІВО	PER™, GOLD	E BRONZE SC
PACKAGES	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g *300g *500g	*50g *100g *200g *300g *500g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	*50g *100g *200g	DFT™, GOLDIE	ONTM, GOLDIE	ILPTOR'S COPI	ARD™, GOLDII
2 STAGE	820°C(1508°F)/40min	820°C(1508°F)/40min	820°C(1508°F)/40min	830°C(1526°F)/1-2h	960°C(1760°F)/2h	845°C(1553°F)/1h30min	935°C(1715°F)/1h20min	960°C(1760°F)/1h 50 min	730°C-760°C/1h50min 1346°F-1436°F/1h50min	870°C(1598°F)/2h	870°C(1598°F)/2h	960°C(1760°F)/2h	870°C(1598°F)/1h 30 min	870°C(1598°F)/2h	960°C(1760°F)/2h	ARD <sup>TM</sup> , GOLDIE BRONZE SC	RASS <sup>™</sup> , GOLDIE YELLOW IR	R'S BRONZETM, GOLDIE SCU	aass™, golde Bronze H
1 STAGE	350°C(662°F)/30min	350°C(662°F)/30min	350°C(662°F)/30min	350°C(662°F) 30min-1h30min	580°C(1076°F)/30 min	350°C(662°F)/30min	350°C(662°F)/30min	580°C(1076°F)/30 min	350°C(662°F)/30min	580°C(1076°F)/30 min	580°C(1076°F)/30 min	400°C(752°F)/30 min	400°C(752°F)/30 min	400°C(752°F)/30 min	400°C(752°F)/30 min	6x50g - GOLDIE BRONZE H	6X509 - GOLDIE LEMON B	4x50g - GOLDIE SCULPTO	4x50g - GOLDIE LEMON BF
			MEW	NEW	NEW		MEW	MEW		NEW	NEW	MEW	MEW	MEW	MEW		MEW	MEW	NEW
LOGO	-	jan kan kan kan kan kan kan kan kan kan k	EX.	EX.	R	X	<b>E</b>	H.	X	X			EX.	Fa		EX.	jan kan kan kan kan kan kan kan kan kan k	EX.	S.
METAL	GOLDIE BRONZE HARD <sup>TM</sup>	GOLDIE BRONZE SOFT™	MID GOLDIE BRONZETM	GOLDIE SCULPTOR'S BRONZETM	GOLDIE SCULPTOR'S COPPERTM	GOLDIE ROMAN BRONZETM	GOLDIE de la ROSA BRONZE <sup>TM</sup> NEW FORMULA	GOLDIE COPPER <sup>TM</sup> NEW FORMULA	GOLDIE SNOW BRONZETM	GOLDIE LEMON BRASSTM	GOLDIE YELLOW IRON™	GOLDIE CHERRY IRON™	GOLDIE SUNSET IRON™	GOLDIE WHITE IRON™	GOLDIE RED IRON <sup>TM</sup>	SAMPLER 1	SAMPLER 2	SAMPLER 3	SAMPLER 4

