

Jewelry & Metal Arts

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Foldforming

Foldforming

Foldforming Tools

Foldforming is a metalworking technique developed by Charles Lewton-Brain, known for creating three-dimensional forms through a combination of folding, forging, annealing, and unfolding metal sheets.

?? Essential Tools for Foldforming:

- **Cross-peen Hammer**
- **Forging Hammers**
- **Anvil or Steel Bench Block**
- **Torch (for annealing metal)**
- **Jeweler's Pliers & Tongs**
- **Pickle Pot & Safety Equipment (gloves, glasses, etc.)**

Foldforming Resources

Foldforming is a metalworking technique developed by Charles Lewton-Brain, known for creating three-dimensional forms through a combination of folding, forging, annealing, and unfolding metal sheets.

?Books and videos

- **Foldforming** by Charles Lewton-Brain (definitive book, considered essential)
- **Metals Technic** by Tim McCreight
 - Contains a chapter on foldforming by Charles Lewton-Brain, alongside other metalsmithing techniques.
- **Rio Grande's Foldforming Videos**
 - [Rio Grande Jewelry Tutorials on YouTube](#)
- **Ganoksin (The Orchid Forum)**
 - [Ganoksin Foldforming Articles](#)
- **Charles Lewton-Brain Official YouTube Channel**
 - [Charles Lewton-Brain YouTube](#)
- **Brain Press (Charles Lewton-Brain's Official Website)**
 - Articles, resources, and book sales:
 - [brainpress.com](#)
- **Interweave Jewelry**
 - Tutorials and project ideas for beginners and advanced artisans:
 - [interweave.com](#)

PMC

PMC

PMC Precious Metal Clay

Requires very clean workspace and toolkits.

Due to the expense of working with Precious Metals - Bronze or copper clay is recommended for starter projects.

Dial Height Gauge

A **dial height gauge** is used in metalworking and precision machining to measure vertical distances from a reference surface—typically a **surface plate**, which is the large, heavy, flat round metal plate it's standing on in the photo.

Primary purposes of the dial height gauge:

1. **Measuring Height:** It measures the height of objects or features with high accuracy.
2. **Scribing lines:** When fitted with a scribe or scriber instead of a dial probe, it can mark precise horizontal lines on a workpiece.
3. **Comparative Measurement:** It can compare the height of different parts or features to ensure uniformity.
4. **Precision Layout Work:** Common in tool and die making, it helps in laying out precision measurements on metal surfaces.

The dial indicator on it allows for highly accurate readings and can detect very small differences in height.



Wire Wrapping

Chasing and Repousse

Chasing and Repousse

Chasing and Repousse Tools

Pitch Pots

Repousse

Chasing

Needs Safety training

Enameling on Copper

Enameling on Copper

Torch Fired Annealing on Copper

Enameling on Copper

Kiln Fired annealing on Copper

Cutting and Forming Copper Sheet Metal

Cutting and forming sheet metal can be done with shears, Disk Cutting tools are for cutting and forming copper Sheet Metal and are often used in jewelry and small metalwork.

Here's a breakdown of how to use some of them on **copper sheet metal**:

Burrlife or Beeswax for lubrication of cutting surface

Steel Block as work surface, not wood.

Heavy Brass Mallet

Disk Cutters, Bevelled end up - the cutting side of the punch is a flat smooth surface.

1. Disk Cutter (circular tool with round holes)

This is used to **punch out perfect circles** of metal.

Steps to use:

1. **Anneal your copper** (heat it to a dull red and let it air cool or quench in water if it's safe—wear gloves).
2. Place your copper sheet between the plates of the disk cutter.
3. Select the punch size that fits the hole.
4. Align the sheet so the desired area is under the hole.
5. Insert the corresponding punch into the hole.
6. Use a **heavy brass mallet** or an **arbor press** to strike the bevelled end of the punch. It will shear the metal and drop a disk through the bottom

?? Proper Usage Tips

- **Insert the Punch Correctly:** Always insert the flat, sharp end of the punch into the corresponding hole of the disc cutter, ensuring it makes direct contact with the metal sheet.
- **Strike the Beveled End:** Use a heavy mallet or hammer to strike the beveled end of the punch. This will drive the sharp end through the metal, creating a clean cut.
- **Avoid Reversing the Punch:** Striking the sharp cutting end can damage both the punch and the disc cutter, leading to poor cuts and potential injury.

Quick Reference: Using Disk Cutters on Copper

- ❑ Anneal copper before cutting (heat to dull red, then cool).
- ❑ Use a heavy mallet or arbor press for clean punches.
- ❑ Lubricate punch tips with Bur Life or beeswax.
- ❑ Always place cutter on a steel block, not wood.
- ❑ Align copper and punch carefully—no tilt.
- ❑ Check punch sharpness regularly.
- ❑ Use correct gauge copper (20–24 gauge ideal).
- ❑ Remove stuck punches gently by flipping and tapping.

Disk Cutter Troubleshooting Guide

Issue	Cause	Solution
Cutter won't pierce copper	Copper is too hard (work-hardened)	Anneal the copper before cutting
Punch doesn't go through	Not enough force used	Use a brass/rawhide mallet or an arbor press
Punch gets stuck	No lubrication / tight fit	Lubricate punch with Bur Life or beeswax
Ragged or uneven cuts	Copper or punch misaligned	Ensure copper is flat and punch is vertical
Noisy, ineffective cut	Cutter not on solid surface	Place on a steel bench block or anvil
Won't cut thicker sheet	Gauge is too high for tool	Use thinner copper or alternative tools
Punch not sharp	Edge dull or damaged	Sharpen or replace punch

Metalsmithing Hammer Use Guide: Steel vs. Brass

? Steel Hammer — When to Use

- **Purpose:** Used when you need precision force or when working directly with metal that can withstand a harder impact.
- **Common Uses:**
 - **Forming & Texturing:** Ideal for shaping metal (e.g., doming, raising, forging).
 - **Texturing Tools:** Used with metal stamps or texturing tools on steel blocks.
 - **Flattening:** Excellent for flattening wire or sheet metal.
 - **Planishing:** Used to smooth metal after forming (with a polished face).
- **Surface Compatibility:**
 - Always used on a steel block or anvil.
 - Suitable for non-ferrous metals (copper, brass, silver, gold) but can leave marks if the face isn't polished.
- **Caution:**
 - Avoid using on delicate or finished pieces — can cause unwanted marks or dents.
 - Never strike steel tools (like chasing tools or stamps) with a steel hammer — risk of chipping tools.

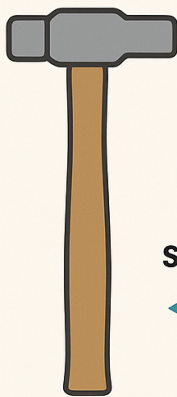
? Brass Hammer — When to Use

- **Purpose:** Used when you need force without damaging tools or delicate surfaces.
- **Common Uses:**
 - **Tool Striking:** Perfect for striking steel tools such as:
 - Metal stamps
 - Chasing tools
 - Center punches
 - **Assembly Work:** Tapping mandrels, dapping punches, bezel setting tools without damaging them.
 - **Adjustments:** Useful when adjusting or bending pieces gently without leaving heavy marks.
- **Surface Compatibility:**
 - Can be used on steel surfaces (blocks, mandrels) without damaging them.
 - Softer than steel so it reduces rebound and reduces risk of chipping tools.
- **Caution:**
 - Not suitable for shaping metal directly — brass is softer and will mushroom or deform over time.
 - Not for texturing or planishing metal sheets.

? Quick Rule of Thumb

Situation	Use Steel Hammer	Use Brass Hammer
Shaping/Flattening Metal	<input type="checkbox"/>	<input type="checkbox"/>
Texturing Directly on Metal	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>
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METALSMITHING HAMMER USE GUIDE: STEEL vs. BRASS



✓ STEEL HAMMER

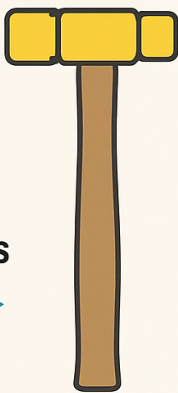
WHEN TO USE

- Forming & texturing
- Texturing tools
- Flattening
- Planishing

⚠️ **Avoid striking steel tools (e.g., stamps, chasing tools)**

Working on
steel surfaces

↔



✓ BRASS HAMMER

WHEN TO USE

- Tool striking
- Assembly work
- Adjustments

⚠️ **No for shaping metal directly**