Bracelet Craft Process Overview

Design	Sketch the bracelet based on customer requirements or designer creativity. Determine the style and size of the bracelet, considering material characteristics and processing techniques.
Material Selection	Choose appropriate metal or gemstone materials. Ensure the bracelet's durability and aesthetics while considering costs and material availability.
Forging Process	Use lost-wax casting or metal casting techniques to create the initial shape of the bracelet, forming its basic structure. Control casting temperature and environment, shaping the metal by hand or mechanically, refining the bracelet's shape and details, and ensuring the metal's
Setting	Embed gemstones into the metal framework of the bracelet to enhance its beauty and value while protecting the stones from damage.
Welding	Connect different parts of the bracelet using high temperatures to ensure structural stability, controlling welding temperature and time.
Polishing	Use sandpaper of varying grits and polishing tools to grind the bracelet's surface, enhancing its luster while avoiding excessive polishing that could damage the metal surface.
Surface Color Treatment Process	The surface treatment of jewelry plays a crucial role in enhancing the bracelet's aesthetics and durability. It not only enhances the decorative effect but also provides an additional protective layer, extending the lifespan of the jewelry.
Engraving Process	Engraving is widely used in bracelet design, allowing for the creation of various shapes, from simple flat designs to complex three-dimensional forms.
Quality Inspection	Inspect the dimensions, shapes, settings, and polishing quality of the bracelet to ensure it meets quality standards, promptly correcting any identified issues.
Cleaning and Packaging	Clean the polishing and plating residues from the bracelet, package it, and prepare it for market sale, ensuring the bracelet remains undamaged during transport and display.

Bracelet Design Process

The design process of the bracelet is a complex procedure that transforms creativity and aesthetics into tangible accessories. It involves several steps from concept conception to the final product

	conception to the final product.
Market Research	Study the target market and consumer preferences to determine design direction and style, considering current trends and target customer demographics.
Design Concept	Develop the bracelet's design theme and style based on research results, forming preliminary ideas while considering the originality and feasibility of the concepts.
Sketching	Translate design concepts into visual sketches to visualize design ideas using professional drawing tools or software

Bracelet Material Pairing Selection Process

The combination of different materials can create unique visual effects and styles, suitable for various occasions. Below is a list distinguishing various bracelet materials (click for more on materials!).

Metal	Characteristics: Includes brass, iron, stainless steel, titanium, etc. Inexpensive and easy to process.
Jade	Characteristics: Warm texture and diverse colors.
Crystal	Characteristics: Transparent or translucent with a high refractive index.
Acrylic	Characteristics: Lightweight, various colors, and inexpensive. Zircon: Characteristics: High hardness and a refractive index similar to diamonds.
Gold	Characteristics: Precious, soft, and resistant to corrosion.
Silver	Characteristics: Good luster, moderately priced, and easy to process.
Aluminum	Characteristics: Lightweight and inexpensive.
Zircon	Characteristics: High hardness and similar refractive index to diamonds

Zircon	diamonds.

Melting Points of Bracelet Metal Materials

Bracelet manufacturers must consider the melting points and suitable forging temperatures when forging various metal bracelets. Below is a temperature list for metal materials.

Material	Melting Point Temperature	Characteristics
Gold	1064.4° C	Soft texture, easy to process
Platinum	1772° C	Rare and corrosion-resistant, high purity
Palladium	1772° C	Rare and corrosion-resistant, high purity
Titanium	1668° C	Lightweight and hard, corrosion-resistant
Tungsten	3422° C	Hard and wear-resistant, exhibits a deep gray luster
Copper	1084.5° C	Easy to process but prone to oxidation
Aluminum	660.4° C	Lightweight and low cost
Iron	1538° C	Common metal, low cost
Brass	950° C	Easy to process, warm color

Bracelet Forging Process

The forging process of the bracelet is a traditional metalworking technique that shapes metal through heating and hammering. In this process, metal craftsmen heat the metal to the appropriate temperature to make it soft and malleable, then repeatedly hammer and shape it using hammers and other tools.

Lost-Wax Casting	Hand-carve a wax model according to the design drawing, then create a mold from refractory materials using this wax model. Melt away the

Lost-wax Casting	wax, leaving a cavity, and finally inject molten metal into this cavity, cooling it to obtain the initial form of the metal bracelet.
Forging	Deform the metal by hammering to form the desired shape. This method can be used to create simple lines or bracelets with unique textures.
Stamping	Use a stamping machine and mold to press metal sheets into the desired shape. This method is suitable for mass production and ensures product consistency.
Drawing	Gradually reduce the diameter of metal wire by passing it through various-sized drawing holes to form long, thin metal strands. These strands can be used to create the body of the bracelet or as decorative elements.
Electroforming	Deposit a layer of metal onto a mold through electrolytic deposition to form the bracelet. This method can create complex and intricate bracelet designs.
3D Printing	Use 3D printing technology to print the bracelet model directly from a digital file, then convert it into the final metal product through lost-wax casting or other methods.

Bracelet inlay technique

The setting process for bracelets involves the technique of adding gemstone settings, which entails securely fastening gemstones into the metal framework of the bracelet. This process requires precise technique and excellent design sense to ensure the safety of the stones and the overall beauty of the bracelet.

Prong Setting	Characteristics: Metal prongs secure the gemstone. Suitable for gemstone types: Various shaped stones. Advantages: Displays the entire stone, excellent fire, easy to clean.
Bezel Setting	Characteristics: Metal surrounds the waist of the gemstone. Suitable for gemstone types: Cabochon or free-form stones. Advantages: Secure and protects the stone's edges; the stone is partially covered by metal.
Channel Setting	Characteristics: Stones are densely set in a row. Suitable for gemstone types: Small stones. Advantages: Overall sparkle, suitable for cluster settings.
Pavé Setting	Characteristics: Small pins secure the stones. Suitable for gemstone types: Small stones. Advantages: Stones are tightly arranged, excellent sparkle effect.
Rail Setting	Characteristics: Metal slots secure the stones. Suitable for gemstone types: Round or oval stones. Advantages: Smooth lines, does not snag on clothing.
	Characteristics: Metal slots press against the stone. Suitable for

Flush Setting	Characteristics: Metal slots press against the stone. Suitable for gemstone types: Small square stones. Advantages: Suitable for cluster settings, neat and attractive.
Glimmer Setting	Characteristics: Small pins secure the stones. Suitable for gemstone types: Small round stones. Advantages: Suitable for cluster settings, excellent sparkle effect.
Mixed Setting	Characteristics: Combines various setting methods. Suitable for gemstone types: Stones of various sizes. Advantages: Flexible combinations.
Claw inlay	Characteristics: Metal prongs hold the gemstone. Suitable Gemstone Types: Various shaped gemstones. Advantages: Displays the entire gemstone, good brilliance, easy to clean.

Bracelet Welding Process

The welding process for bracelets involves using high temperatures to connect metal parts together, forming a complete bracelet without producing cracks or other defects. Welding not only enhances the structural integrity of the bracelet but also creates unique design elements, such as complex patterns and decorations. In this

Flame Welding	Use a gas flame (such as acetylene/oxygen or propane/oxygen mix) to heat the metal to the melting point of the filler material, melting it to fill the gaps between the metals and create a strong bond.
Laser Welding	Utilize a high-energy density laser beam to melt the metal, achieving a very precise welding effect. This method is suitable for welding small or hard-to-reach areas with minimal impact on surrounding materials.
Resistance Welding	Apply current at the metal contact points, relying on the heat generated by resistance to melt the metals and bond them. This method is suitable for joining thin metal sheets or small components, requiring clean, oxidation-free metal surfaces.
Brazing	Use a filler metal (brazing alloy) with a melting point lower than the base metals to join two pieces of metal. Depending on the melting point of the filler, brazing can be classified as hard or soft brazing.
Dip Soldering	A special form of brazing that involves placing the solder at the joint and melting it with a flame to achieve the connection.
Ultrasonic Welding	Utilize frictional heat generated by ultrasonic vibrations to melt the metals, suitable for certain types of metal connections.

Bracelet Polishing Process

The bracelet polishing process is a meticulous procedure aimed at enhancing the shine and smoothness of the surface, whether it’s metal or other materials. Below are the steps involved in the polishing process	
Coarse Polishing	Removes rough surfaces and burrs produced during casting or forging. Effect: Prepares the surface for subsequent polishing.
Intermediate Polishing	Further smoothens the surface by removing marks left from coarse polishing. Effect: Makes the bracelet’s surface smoother.
Fine Polishing	Achieves a high gloss on the metal surface through fine polishing techniques. Effect: Increases the shine and reflective quality of the bracelet.
Final Polishing	Ensures the bracelet’s surface is flawless, completing the polishing process. Effect: Finalizes the bracelet’s appearance, ready for plating or sealing.
Pre-Plating Polishing	Prepares the surface for electroplating, ensuring even adhesion of the plating layer. Effect: Removes grease and impurities for optimal plating results.

Bracelet Surface Color Processing

The surface color processing for bracelets involves techniques to give bracelets various colors and decorative effects. Each coloring method has its own unique outcome. Below are some common color processing techniques:	
Electroplating	Deposits a metal film on the surface via electrolysis. Suitable for Materials: Gold, silver, copper, stainless steel.
Enameling	Involves coating colored glass powder and firing it at high temperatures. Suitable for Materials: Precious metals, copper.
Dyeing	Enhances the color of gemstones or jade. Suitable for Materials: Jade, gemstones.
Brushed Finish	Creates fine linear textures on the metal surface. Suitable for Materials: Gold, silver, stainless steel.
Gold/Silver Plating	Coats the surface with a layer of gold or silver to alter its color. Suitable for Materials: Various metals.

Bluing	Creates color changes through chemical reactions on the metal surface. Suitable for Materials: Copper, silver.
Anodizing	Forms an oxide film on the surface via electrolytic treatment. Suitable for Materials: Aluminum, titanium.
Hand Painting	Uses paint to hand-paint designs on the surface. Suitable for Materials: Resin, ceramics.

Bracelet Engraving Process

The engraving process for bracelets not only enhances their aesthetic appeal but also adds artistic value and personalization. The choice of engraving method depends on the bracelet's design and material characteristics. Below are types of engraving used for bracelets:

Hand Engraving	A traditional technique where artisans use tools to carve intricate patterns and textures by hand. This requires high skill and patience and is often used for custom high-end jewelry.
Machine Engraving	With advancements in technology, machine engraving is widely used in the jewelry industry. Computer-aided design (CAD) and computer numerical control (CNC) machines allow precise replication of complex designs, suitable for mass production.
Laser Engraving	A high-precision engraving technique that uses focused laser beams to create intricate patterns on metal surfaces. This method is ideal for personalized bracelet designs, allowing for detailed engraving on small surfaces.
Sandblasting	Uses high-speed fine sand particles to etch the metal surface, creating a matte or frosted texture. This adds a tactile element to the bracelet's design.
Guilloche	A traditional engraving technique that carves fine lines and patterns on metal, creating an interplay of light and shadow. Commonly seen in luxury jewelry.
Chasing and Repousse	This method involves hammering metal into relief from the reverse side, creating intricate raised or recessed designs. This adds a three-dimensional and artistic element to the bracelet.
Embossing	Uses specialized tools to press patterns into the metal, giving it texture and depth. Ideal for adding unique artistic features to the bracelet.
Texture Carving	Engraves various textures on the metal surface, such as waves, cloud patterns, and bark textures, which can enhance the visual appeal and

Texture Carving	patterns, and bark textures, which can enhance the visual appeal and tactile experience.

The testing process of bracelets

Quality inspection is crucial to ensure that the bracelet meets surface standards, including roughness, glossiness, color consistency, wear resistance, hardness, and corrosion resistance. These aspects are evaluated to guarantee the durability and overall quality of the bracelet.	
Visual Inspection	Color Consistency: Check if the color is uniform and consistent, with no discoloration. Surface Smoothness: Ensure that the bracelet is free of scratches, dents, or other defects.
Gloss Inspection	Brightness and Reflection: Use visual observation or gloss meters to measure the surface gloss, ensuring the bracelet reflects light effectively.
Wear Resistance Test	Scratch Test: Lightly scratch the surface with a tool of a certain hardness to assess its scratch resistance. Abrasion Test: Simulate wear over time to see how the surface holds up under repeated use.
Plating Quality Inspection	Thickness Measurement: Use X-ray fluorescence (XRF) or other methods to measure the thickness of the plating, ensuring it meets the required standard. Adhesion Test: Perform tape tests or other adhesion tests to assess
Surface Treatment Stability Test	Salt Spray Test: Expose the bracelet to a salt mist environment to evaluate its resistance to corrosion. Humidity Test: Simulate high-humidity conditions to check the stability of the bracelet's surface treatment.
Engraving Quality Inspection	Clarity: Ensure that the engraved patterns are clear and the lines are smooth. Depth Consistency: Verify that the engraving depth is even and the design remains intact without flaws.

Cleaning Process for Bracelet

Proper cleaning and maintenance during the manufacturing process are essential to preserve the bracelet's shine and extend its lifespan.	
Ultrasonic Cleaning	Uses an ultrasonic cleaner, where high-frequency sound waves generate tiny bubbles to remove dust, grease, and small particles from the bracelet.
Steam Cleaning	Utilizes steam and cleaning agents to perform a deep clean, ideal for intricate bracelet designs as it reaches difficult-to-access areas.
	Artisans use a polishing cloth and compound to hand-polish the

Hand Polishing	bracelet, removing any surface scratches or stains to restore its luster.
Chemical Cleaning	In some cases, specific chemical cleaners are used to remove stubborn stains or oxidation, though this step must be carefully controlled to avoid damaging the metal or gemstones.
Electrochemical Cleaning	Electrolysis is used to clean the metal surface by removing oxidation and impurities, commonly applied to precious metals.
Heat Treatment Cleaning	Some metals, such as stainless steel, may undergo brief heat treatment to clean the surface and remove oils or oxides.
Water Rinse	In some cases, a simple rinse with water and mild soap is sufficient for cleaning the bracelet. After rinsing, the bracelet should be thoroughly dried.
Final Inspection	After cleaning, each bracelet is subjected to a final visual and physical inspection to ensure no stains or defects remain.
Drying Treatment	The cleaned bracelet must be fully dried to prevent watermarks or moisture damage. Soft cloths or cool air blowers are typically used.
Protective Treatment	In some cases, a light protective coating of oil or wax may be applied to prevent future contamination or wear.

Bracelet Packaging Material Process

Bracelet packaging varies according to target customer segments, usage environments, and price points. Below is a list of common bracelet packaging types:

Classic Jewelry Box	Material: Leather. Style: Classic Style A. Bag Type: Non-woven Bag. Material: Non-woven Fabric. Style: Classic Style A.
Display Box	Material: Acrylic. Style: Display Style B. Bag Type: Transparent Plastic Bag. Material: PVC. Style: Display Style B.
Gift Box	Material: Cardboard. Style: Gift Style C. Bag Type: Gift Paper Bag. Material: Coated Paper. Style: Gift Style C.

Economy Box	Material: Cardboard. Style: Economy Style D. Bag Type: Economy Plastic Bag. Material: Plastic. Style: Economy Style D.
Travel Box	Material: Metal. Style: Travel Style E. Bag Type: Travel Storage Bag. Material: Nylon. Style: Travel Style E.