MARTINEAU

l'Objet porteur de Sens

Products and know-how

Passing on emotion through our durable objects with meaning

Contents

Striking

By means of our different presses, we strike our 2D and 3D models in 18 and 9 karat gold, sterling silver, aluminum and all copper metals. Our models are unique, made to measure by our creative and technical teams.

3D models

2D models

Jewelry

Glued stamped pieces

Injection

Injection is used to create varied and complex shapes. Our high-pressure foundry uses zamak. This is a hard-wearing and highly recyclable, predominantly zinc-based alloy.

Key-rings

Bracelets / necklaces

Insignias

Magnets

Laser

The laser engraves to a greater or lesser depth depending on the number of times the process is repeated. It is used to execute motifs on stainless steel plates, cuff links, medals and bracelets, or to personalize commemorative medals with a person's name.

Engraving on medals

Engraving on stainless steel plates (magnets, bookmarks, stamped pieces)

Laser engraving on metal (surface engraving / intaglio)

Rosary manufacture

Traditional artisan methods are still used to produce rosaries. They have been made with the greatest of care by specialist craftsmen known as patenôtriers in Ambert since 1888. The beads (plastic, wood, metal, glass, natural semi-precious stones or gold) are hand-strung on cord or chain. We make the plastic and wooden beads in our workshops.

Strung on cord or chain

Woodworking

We work with several species of wood in our workshops: olive, boxwood, hornbeam, ebony, bubinga and oak. We make beads, rosary crosses, first communion crosses, picture frame easel backs and wooden rods for luxury leather goods.

Crosses, beads, picture frame easel backs, magnets and key-rings

Bead-making

Molding

We make statues, bridges and magnets in polyester resin. First of all, a prototype is designed by sculptors, which is then used by our craftsmen to make a silicone mold. The statues can then be made in large production runs with different finishes. They can also be made using a 3D/360° scan.

Alabaster finish (with or without color)

Light or dark wood finish

Stone finish

Bronze/silver/gold/painted finish

Decoration kits

Quick to set up, these kits are modular and easily adaptable for all your decorations without any sewing. The kits provide an economical and practical solution for attaching medals. Easy to assemble, they are used to attach bars and hanging decorations to uniform jackets without tedious and costly sewing. These products are patented and 100% French made.

Bar mount kit

Medal mount kit

On uniforms

Product packaging

Electroplating

Electroplating consists of depositing a metal coating on the surface of an object using a continuous electric current. The products are immersed in baths containing the dissolved metal, after thorough cleaning and various other preparations. The electro-deposits are varied: gold, silver, palladium, nickel bronze. This equipment, autonomous in terms of decontamination, is subject to authorization from the DREAL (French regional environmental authority).

Electroplating bath lines

Silver plating bath

Brass pieces (before deposit)

Silver-plated pieces (after deposit)

Oxidized pieces before patination

Patination of a piece

Metals and finishes

Metals


Raw aluminum

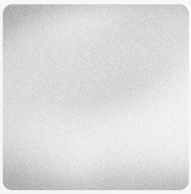

Brass


Zamak


Florentine bronze


Nickel silver


Yellow gold (18 karat and 9 karat)


White gold


Sterling silver

Finishes/Colors


Gold plated 3 micrometers


Shiny gold plate


Matt gold plate


Brass


Bronze


Copper


Matt silver plate


Shiny silver plate


Matt antiqued silver


Shiny antiqued silver


Shiny nickel


Palladium

Coloring

Our ranges of opaque and translucent epoxy resins are applied by hand and fired at low temperatures in our kilns. Each color must be fired separately. There are three possible processes: poured, leveled and wiped resin.

Applying resin

Firing in the kiln

Color chart

Color Chart: opaque resin

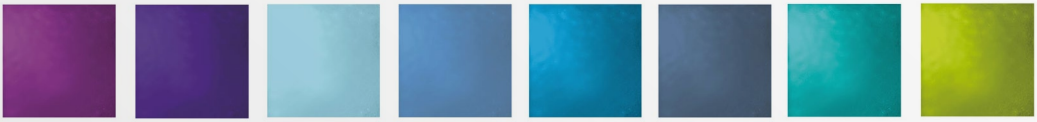
White -04 | Cream -71 | Straw -406 | Yellow -405 | Lime green -406 | Pistachio green -444 | Fluorescent green -106 | Meadow green -109

Dark-green -447 | Turquoise -31 | Sky blue -103 | Mid blue -321 | Nazaire blue -177 | Blue -311 | Periwinkle -450 | Violet -149

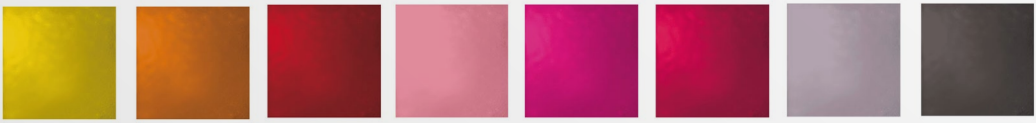
Lilac -411 | Blackcurrant -448 | Fuchsia -432 | Pink -179 | Candy pink -101 | Raspberry -445 | Red -415 | Crimson -11

Orange -20 | Apricot -451 | Sand -414 | Mustard -412 | Caramel -413 | Light gray -402 | Dark gray -401 | Black -03

Color Chart: translucent resin



Mauve -07 | Wisteria -148 | Sky blue -616 | Ocean blue -97 | Blue -01 | Slate blue -257 | Turquoise -404 | Lime green -619



Yellow -09 | Orange -216 | Red -02 | Pink -258 | Fuchsia -78 | Red -407 | Grey -426 | Black -266

Additional colors

Glossary

A

Alloy: metal formed by combining several metal or non-metal elements with a main metal.

Aluminum: a light, malleable white metal.

Annealing: a technique consisting of heating metal to a high temperature in a neutral atmosphere (nitrogen and hydrogen) to bring work-hardened metal back to a workable state.

Antiqued silver: silver-plated finish, oxidized then patinated.

Apron: rim of wire cage cap

B

Base metals: group of metals including aluminum, chrome, copper, tin, iron, nickel, lead and zinc.

Blank: piece of flat metal obtained by punching, which will be shaped with striking.

Block: parallelepiped block used in a zamak injection press.

Bow: ring used to hang an object.

Brass: copper and zinc alloy (Cu Zn 67/33)

Bronze: copper and tin alloy

Buffing: final polish using a cotton material to perfect the shine on a metal piece..

C

Capsule: metal wrapping around the closure of a bottle of champagne or still wine.

Closure: part of a keyring composed of a ring to which keys can be attached.

Computer numerical control (CNC): Processor and software for machining.

Copper: reddish brown colored metal.

Crimping: technique for assembling two pieces by distorting the material.

Cut-outs: Cutting away parts of a product for ornamental and decorative purposes.

D

Density: ratio of metal mass to water mass occupying an equal volume at a temperature of 4°C.

Die: intaglio engraved tempered steel block used for striking medals.

Die press: machine with a wheel used to strike medals.

Disc-cutter: tool with a specific shape for cutting metal

Doming: deposit of transparent resin on a product to give it volume.

E

Electrolysis: chemical decomposition obtained with an electric current.

Electroplating: procedure consisting of depositing by electrolysis a fine coating of metal onto an often metallic substrate, from degreasing to decoration and final drying.

Enclosed striking: punching a blank in an enclosed space to prevent the material from expanding.

Engraving: the action of engraving an image

or text onto a medium by removing material using sharp tools.
Laser engraving, mechanical engraving or chemical engraving

F

Faceting: operation consisting of adding shiny glints to a piece by removing slivers using a diamond tool.

Filing: the action of filing a metal piece with a fine-grained file to level the surface.

Finish: deposit by electroplating or other procedures to give the object its finished appearance.

Florentine bronze: bronze containing 85% copper and 15% oxidized zinc.

G

Gilding: process consisting of coating an object with a thin layer of 24 karat gold by electrolysis.

Gold: yellow metal often used to create precious, durable jewelry. (9 karat (375/1000) or 18 karat (750/1000) gold.) It can be given greater shine with polishing. Color 2N, 3N, or 4N.

Gold plate: base metal coated with a layer of gold (3 micrometers) by electrolysis.

H

Hallmarking: marking a symbol on a metal object.

I

Injection: inserting metal in fusion at 450°C under pressure (zamak) into a mold. On cooling, the metal solidifies and can be removed from the mold.

L

Laminate: material in multiple layers of aluminum and polyethylene plastic used in the capsules.

Lapping: regular surface polishing of metal using a diamond or polycrystalline tool.

Laser: device emitting a powerful pulsed beam of light that can engrave diverse materials.

Lathe: machine used to scale down a sculpted model to the product's true dimensions.

Leveled resin: resin applied then brushed down to emphasize the metal and produce very distinct blocks of color

M

Machining (product): manufacturing a piece by removing matter using sharp tools (burrs, drill bits, etc.).

Machining (tool): removing matter with a sharp tool to give the finished shape greater definition according to a program previously established by the design office.

Mass production cutting: the action of cutting through large quantities of a metal sheets or stris using an automatic machine.

3D modeling: three-dimensional design of model on a computer. The 3-D files created are then sent directly to the machine. This then engraves the dies that will be used for striking or zamak injection.
File formats required for design: .stl / .stp / .jpg (high resolution)

Mold: a hollow shape in which a liquid or paste is placed, which becomes solid on drying and adopts this shape (zamak).

N

Neck label: a laminated hanger placed over the top of the neck of the bottle.

Nickel: shiny, silver-colored white metal.

Nickel silver: copper, zinc and nickel alloy.

O

Obverse: front of medal or other product.

Oxidation: a chemical reaction triggered by oxygen which causes deterioration and discoloration of metals.

P

Palladium: very white precious metal used to decorate jewelry to be worn against the skin.

Patenôtrier: name for rosary makers in France.

Patina: effect of abrasive polishing on an oxidized metal in order to emphasize its reliefs.

Pickling: cleaning a metal object to remove surface oxidation.

Polishing: removing any roughness from an untreated metal piece and giving it a smooth, shiny and uniform finish.

Polyester resin: oil-based resin used to create imitation stone statues with the addition of calcium carbonate.

Precious metals: group of highly stable and therefore non-oxidizable metals such as gold, silver, palladium, rhodium, platinum, etc.

Printing proof: contractual paper document presenting a drawing of the future product. The customer approves it or asks for changes before production is launched.
File formats required for design: .ai / .eps / .pdf / .jpg (high resolution)

Punching: action of cutting blanks from a metal sheet.

R

Resin application: operation through which a colored epoxy resin with an added catalyst is applied to an object, hardening by polymerization when fired.

Resin plaster model: plaster molding from an original piece made in Plastiline (modeling clay). Twice as large as the finished product, this model is cast in resin then carved to the final dimensions using a lathe. Historic traditional technique.

Reverse: back of medal or other product, as opposed to the front or obverse side.

Rhodium-plating: covering the surface of a product with a protective coating of rhodium.

Rhodium: rare, very white, silvery metal with great resistance to corrosion. Protects the products.

S

Sanding: projection of solid particles (corundum, micro-beads or other abrasive minerals) using compressed air to give a metal surface a uniform appearance.

Scan: digitize relief using a scanner, potentially in 3 dimensions.

Silver-gilt: sterling silver covered with a layer of gold (5 micrometers) by an electroplating process.

Silver plating: process consisting of coating an object with a fine layer of silver by electrolysis.

Stainless steel: a corrosion-resistant steel and nickel alloy

Stamp or punch: steel instrument used to mark a metal object with a symbol. Like all manufacturers, Martineau stamps its own hallmark on the back of its pieces.

Stamping: see striking

Stamping dies: male and female dies used to strike a blank.

Sterling silver: shiny white-colored precious metal (925/1000).

Striking: pressing a blank between two steel dies using a die press.

Surface treatment: chemical, mechanical or electrochemical operation used to modify the appearance of the metals.

Surfacing: operation to render a surface flat and even.

T

Tempering: changing the structure of steel by heating in a modified atmosphere furnace then quenching in a control-cooled mineral oil bath.

Tools: all the tools or equipment required to make a product.

Trimming: operation in which surplus metal from the stamping process is trimmed and the contour of the product refined.

Typography: the art of arranging texts with symbols from a writing system (letters, numerals and punctuation).

V

Vectorization: graphics operation by which a raster image (.jpeg, .png) composed of pixels is transformed into curves according to a mathematical formula; this is then called a vectorized file (.ai, .eps). This format can be enlarged ad infinitum without loss of quality.

Z

Zamak: zinc, aluminum, magnesium and copper alloy used for injection under pressure.
Recyclable and recycled according to a program pre-established by the design office.

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