

HOW TO MAKE RUBBER STAMPS - COMPARING METHODS OF MANUFACTURE

Vulcanized Rubber Stamps

The traditional red rubber stamp that everybody is familiar with will have been manufactured in a vulcanizing press. The first rubber stamp vulcanizing press was patented in 1890 by Charles Schultze in New Orleans USA. Vulcanizing is today one of the most cost effective methods of making rubber stamps for mass produced stamps. Each batch of stamps is produced using a mould. This method of manufacture is more suited to stamp making where the same moulds are used over and over again. Making custom made stamps with a vulcanizing press requiring 'once only' moulds will drive the cost of manufacture up significantly.

Making the mould - before a mould can be made you must have a master plate manufactured from metal or polymer, the master plate has the necessary relief (the artwork is raised) to make an impression in the mould. Having a master plate made each time a mould is required is what drives up the cost of manufacture for vulcanized stamps. Pressing the master plate into a Matrix board creates the mould that will accept the rubber. Heat and pressure is applied to the master plate and matrix board inside a Vulcanizing press. The Matrix follows the shape of the relief provided by the master plate, this then hardens on cooling.

Making Rubber Stamps - Creating stamps is a simple process once the mould is made. Raw rubber stamp gum is placed on top of the mould and then placed inside the stamp press. Hydraulic pressure is placed upon the rubber and the mould from within the stamp press causing the rubber to melt into the areas of the mould that contain the images and text, curing and hardening takes about 10 minutes. Once cured the sheet of rubber is pulled away from the mould and cut up into individual stamps to be affixed to mounts.

Cost of a vulcanizing system is approximately \$12,000 AUD

Advantages - Low cost of production for mass produced stamps, good ink transfer.

Disadvantages - Cost of producing master plates and moulds for custom made stamps.

Laser Engraved Rubber Stamps

The traditional raw rubber used for vulcanizing stamp dies is quite unacceptable for the production of laser stamp dies, the laser process requires a very even thickness and blemish free surface to produce an acceptable printed image from a stamp die. The rubber must also be subjected to a specific curing process before it can be exposed to the elevated temperature of a laser beam.

The depth of the engraving is determined by the laser speed, its wattage and the density of the rubber. For example, a 50 or 100W engraver will engrave the rubber deeper and faster than a 25W machine, which may require a second pass to achieve a similar result. Usually supplied in an A4 size sheet form, a good quality laser rubber is required for engraving stamp dies and must also have suitable compression strength and ink transfer properties.

To assist the engraving process, it is necessary to remove the excess dust which is constantly created by the laser cutting action with an efficient exhaust filtration system. As very few, if any, CO2 laser engraving machines were initially purpose built for engraving and cutting rubber, installing and maintaining an effective dust extraction system pays long term dividends. Mirrors, lenses and any exposed bearing surfaces should be cleaned thoroughly as part of a regular maintenance program. Any neglect in this area will be detrimental to overall trouble free laser operation, as the build up of dust and residue will affect running efficiency and the quality of the finished stamp die. Lasers are controlled directly from a computer, the software drivers supplied with lasers work with many graphic programs such as CorelDraw.

Approximate cost of a 25 watt Laser suitable for stamp making is \$40,000

Advantages - Production is computer controlled, custom made stamps can be made easily

Disadvantages - High capital investment, maintenance costs and running will be much higher than vulcanizing or polymer methods of manufacture.

Liquid Polymer Rubber Stamps

Converting rubber stamp polymer from a liquid into a solid to make stamps is quite fascinating. Polymer stamps are manufactured between two sheets of glass using precision controlled UV light which passes through a negative containing the stamp artwork solidifying the polymer. Negative production has been simplified with the introduction of water based negative technology, photographic chemicals for producing negatives are now a thing of the past.

The first step in making polymer rubber stamps is to print your images, clipart or text onto Vellum, an almost transparent paper like film. To produce quality stamp artwork you must use a laser printer, inks from bubble jet printers are translucent allowing UV light to pass where it should not. Water based negatives are easily washed out after being exposed for a few minutes in a UV exposure stamp machine.

Polymer contained in a sachet is now replacing the older cumbersome method of using foam tape to create a dam and pouring of rubber stamp polymers, the sachets have also addressed the age old problem of removing air bubbles from the poured polymer.

The negative of your artwork and polymer sachet is sandwiched between two sheets of glass spaced 2-3mm apart which is then exposed in the machine for a few minutes. Once you have completed the exposure it is a simple process of cutting open the sachet and washing away the excess unexposed polymer before returning the stamp die back to the machine for a 10 minute curing. Once the stamps are cured they can be cut up individually. Polymer sachets are available in a range of sizes up to A4 size.

Processing time is about 30 minutes for a batch of polymer stamps.

Cost of polymer stamp making machines range from \$3,500 AUD for an Australian made unit designed specifically for stamp making up to high end imported units with computer controlled washout for \$15,000 AUD.

Advantages - Lower capital investment, polymers make almost clear stamps making them ideal for scrapbooking and card making. Stamp relief can be easily controlled during exposure.

Disadvantages - Early polymers did not accept inks as well as polymers available today, this along with being new technology caused initial resistance to polymer stamps.

Summary

Most large stamp manufacturers have a mix of the above equipment. The unmounted rubber stamp dies produced with any of these manufacturing methods can be cut up and affixed to simple hand stamps, dater stamps or self inking stamps. Craft stamps are usually affixed to wooden blocks or in the case of polymer stamps affixed to clear acrylic blocks with adhesives or InstaGrip mounting mat. Various manufactures produces stamp mounts. Astron Industries in Australia manufacturer the clear hand stamp 'Vuestamp' and also distribute the Ideal range of self inking mounts. Other brands of self inking mounts are Trodat, Colop and Shiny.