



sales@aluminium-jewellery-supplies.co.uk

# WORKING WITH PRE-ANODISED ALUMINIUM

Pre-anodised aluminium is a great material to work with. It is easy to cut, shape, colour and finish.

## HANDLING

The main advantage of pre-anodised aluminium is its' relative softness compared to other metals, which makes it a very workable material. The unsealed, pre-anodised coatings can be easily stained, so avoid contact with oil and grease (especially from fingers). This contamination will prevent / inhibit the subsequent colouring process. The sheet should be handled with care using suitable clean gloves. Once your items have been sealed they can be touched.

Consider colouring and sealing before cutting and shaping your designs.

## COLOURING

The aluminium dyes are supplied as powders or concentrated liquids. These dyes should be diluted to the required strength with water. Tap water can be used, however distilled or de-ionised water will give better results especially in hard water areas. These diluted dyes can be applied by brush, stencil, stamp etc. Your designs may also be immersed in the dye solutions.

Warming the dye will give stronger colours and reduce the immersion time. Pale colours are better produced from dilute dye solution rather than short immersion times in stronger ones. Dye solutions can be reused but they should be stored, when not in use, in sealed containers and out of direct sunlight. Dyes can be mixed to create other colours. The dyes are 'fixed' into the anodised film by sealing; this is achieved by boiling them in clean deionised or distilled water or by steaming for 30 – 40 minutes. **The anodised metal must be sealed or your design will fade.**

Aluminium inks are supplied ready to use, have a thicker consistency than dye and are ideal for screen printing. Permanent ink pens can also be used to add extra detail. The inks also need to be sealed using the same process. After sealing any excess ink can be removed with a suitable solvent.

## RESISTS

Clear ink, resist wax, candle wax, or even wax crayon can be used as a resist, this stops the pores of the aluminium from accepting colour. The wax will be removed from the part's surface during sealing process but the ink will not.

## CUTTING AND SHAPING

Draw out your designs full size. This will make it easier to transfer your ideas to the metal. Cut out the template and draw around it with a pencil or metal scribe. If you need to hold the sheet to cut or shape it, ensure that it is held firmly between two clean, soft, plastic or wooden blocks in the clamp or vice. Roughly cut out the design with a saw or tin snips and file it to the required shape. Remove any sharp edges with a fine abrasive paper. If you are producing small items it may be easier to drill any holes before the parts are cut out. Use a centre punch to mark the position as this will help to keep the drill in position. Parts can be bent or formed but this may cause very small cracks in the surface – this could become a feature of your design.



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## JOINING

There are two main ways in which anodised aluminium parts can be joined. The first is by riveting. Drill a hole in each piece, insert a short length of tube and round over the edges using a punch or hammer. These rivets can be a feature of your design. The second way is to use a suitable adhesive of which there are many available. Experiment with the different types to find which one is suitable for your application but please note that some adhesives will fail if they are applied before the sealing process.

## POLISHING AND TEXTURING

Anodised film is harder than the aluminium underneath it but it is very thin (only a few thousandths of a millimetre thick) so polishing or burnishing can remove this anodised film.

Texturing can be produced by controlled hammer blows, shaped punches can also be used. Other texturing methods may be used - have fun experimenting!

You will find that working with aluminium is a continual process of small steps especially when colouring. You might make a few marks with a yellow dye, and after it has dried make a few more in blue, (those over the yellow will go green) after adding a detail with a wax crayon you could immerse it in a dye bath and even dip it in a second one. When you have finished seal it in boiling water and your design is permanent. Now cut, shape and form your parts.

If you wish to develop your skills further, there are a number of top-class designers who run workshops and courses locally to you. Please check the designers' information on our website.

**So savour the designs and colours as they evolve, and enjoy...**