Save time and money with ……

The Barrelling Process using Cousins Material House range of Trommel and Rota Barrelling Machines.

What is the barrelling process?

The process of barrelling is a quick and economical way of polishing small and large quantities of jewellery and components in two stages.
A wide variety of metals can be finished in barrelling machines such as gold, silver, platinum, copper, brass, pewter and bronze.

Tips

Please note platinum is a metal you can use with the first stage of the barrelling process but hand finishing will achieve the best results replacing the second stage process. Cousins supply a large range of mops, compositions and abrasives for the ultimate high mirror finish.

When polishing platinum casts or hand made items use at least three grades of abrasive paper to level the metal and then follow the stages below. Remember platinum is a hard metal so ideally it needs at least three stages of polishing to attain an expert finish.

If you plate over an item you have barrelled the item will not give as high a finish compared to hand finishing; the piece maybe pitted or marks. Please remember barrelling is a burnishing process, it does not remove the surface area like a mop finish does.

Please see links below

Stage 1

Deburring – produces a matt surface, removes marks, scratches and surface defects and can also be used to remove sharp edges.

- Every one litre in your barrel body will take 250g of green cones (B4903);
- Use 5g of PB Cutting Powder (C4904) per litre of water. For added potency add five more grams of PB cutting powder to ensure more abrasive removal of metal;
- Use 5g of barrelling powder to one litre of water (C4365);
- The maximum volume of work should not exceed 100ml per litre of water;
- The efficiency of the barrel is dependent on the ratio of volume of work to the weight;
- Use a measuring jug to gauge this ratio (J32079);

User guide:

Parts needed: Trommel2 barrelling machine or Rota Barrelling Machine
1KG Green Cones (B4903)
Barrelling Powder (C4365)
P B Cutting Powder (C4904)

1. Load compartments with approximately the required amount of Green Cones.
2. Add cold water until the barrel is half full of water.
3. Add right amount of cutting powder plus barrelling powder.
4. Add work to be done. Maximum volume of work should not exceed 100ml. Efficiency of a barrel is dependent on the ratio of volume of work than the weight ratio. Measure the work using a measuring jug.
5. Close barrel securely. Switch on and run between one and four hours depending on the quality of the work and the finish required.
6. Empty the barrel.
7. Wash well in running water.

You may increase the cutting effect by reducing the amount of barrelling powder. Deburring is not necessary on all products. Many may be polished using shot only.

Stage 2

Polishing – produces a semi bright finish on many metals reduces work on polishing wheels and does not damage delicate items.

In barrelling, the pieces and polishing media mix as the barrel drum rotates; the deburring or polishing action is due to the surfaces of the article and media sliding over each other under the pressure exerted by the mass of the media.

Modern barrelling processes involve the use of barrelling compound (C4365) which is mixed with water together with media.

The barrelling compound mixed with water acts as a lubricant between components and the media. It prevents the media from glazing and also keeps the components and tumbling media in good condition.

Barrelling Media:

For effective barrel burnishing it is essential that suitable media be used and that these be maintained in good condition. For the majority of barrel burnishing balls are employed, in conjunction with special shapes to ensure effective burnishing of the surface of components.

- Every one litre barrel body size will take 1KG of steel media shot and shapes;
- Use 50g of barrelling powder to one litre of water;
- The maximum volume of work should not exceed 100ml per litre of water. The efficiency of the barrel is dependent on the ratio of volume of work to the weight ratio.
- Use a measuring jug to gauge this ratio (J32079).

For example:

"Rota Barrel" Barrelling Unit, 6 litre capacity, B4896 is 6ltr.

This unit will hold 6kg of shot and therefore 600ml of work.

User guide:

Parts needed: Trommel2 barrelling machine or Rota Barrelling Machine
2 kg mixed steel shot balls and shapes (See below for full range Barrelling Media)
Barrelling powder

All new shot should be run in the barrel for a maximum of one hour with 50g of barrelling powder per kilo of steel shot and shapes. After the shot and barrel interior have been thoroughly washed, the machine is ready to use.

1. Load compartments with approximately the required amount of barrelling media.
2. Add cold water until barrel is half full of water.
3. Add required amount of barrelling powder.
4. Add work to be done. Maximum volume of work should not exceed 150ml. Efficiency of a barrel is more dependent on the ratio of work to shot the weight ratio. Measure the work using a measuring jug.
5. Close barrel securely. Switch on and run between one and four hours depending on the quality of the work and the finish required.
6. When complete empty the barrel and sieve to separate the finished work and shot.
7. Wash well in running water.

Maintenance – To consistently achieve good results the following points must be observed.

1. Cleanliness is very important, keep the inside of the barrel clear of grease; deposits of lime and barrelling powder build up.
2. Shot must be kept clean and never allowed to oxidise or rust. Always keep shot under a solution of water and barrelling powder. Rusted shot is useless and must be replaced.
3. Do not overload the work content of the barrel, damage may occur.

Do not place Trommel units against a wall, this will block the fan. Do not overload barrel bodies, the unit will stop if overloaded.