



BARRELLING INFORMATION

BURNISHING

Burnishing is the rubbing together of two surfaces. The smoothing and polishing occurs on the surface that is softer. In automated finishing the burnishing is done by mixing together steel shot or a ceramic media and the material to be polished.

TUMBLING

The mixture of material to be polished and its burnishing media is made to move by tumbling. As the mixture moves on itself the steel shot or ceramic media rubs against the materials to be polished, thus smoothing and polishing.

- Most jewellery makers expect the burnishing process to accomplish too much. Although a microscopic amount of metal is removed when burnishing it won't remove any surface imperfection: it will only smooth and polish what is already there.

- If two pieces of the same metal with different degrees of roughness are burnished the one with the smoother surface will be easier and faster to polish. This is why it is important to prepare the surface properly before burnishing. If an item cannot be burnished within a few hours it would indicate that the surface hasn't been properly prepared. The burnishing cycle time should be between 2 - 6 hours.

- Generally small pieces of jewellery require a longer cycle time than larger heavier pieces. Similarly the use of a smaller size media will increase the cycle time. Sharp edges will burnish faster than round edges and external edges will burnish faster than internal edges.

BARREL BURNISHING

Barrel burnishing is widely used in the jewellery trade and is most effective on small items of irregular shape i.e. chain, identity bracelets and rings, where one would find it difficult to polish on a conventional circular buff. Barrelling is of course also used in many other trades for finishing similar articles. Barrel burnishing, however, will not give a mirror finish on the flat table of a signet ring or other flat surface.

- It might seem that the longer the running time, the more polishing takes place. Running a cycle too long, however, will not polish any further but can also cause the work pieces to darken. As microscopic chips of metal are loosened from the surface they can combine with the oxygen in the air to form oxides. These oxides, which are mostly black, will be redeposited on the work pieces if they are allowed to accumulate by running the cycle too long.
- There is an optimum burnishing cycle time but it depends on many factors: the initial condition of the pieces, the types of machinery being used and the burnishing media. Only by trial and error can you discover the best cycle time for any particular application. Keeping a note of burnishing times in relation to the product will help you arrive at the optimum barrelling period.
- One very important point always to keep in mind is cleanliness. Not only must the work be perfectly clean before going into the burnishing cycle but the burnishing media must be kept clean. (See points 5 & 6 overleaf)
- Prior to using new burnishing shot run it in the machine with a small amount of 'Bright Burnishing Compound' mixed with household ammonia. Run the mixture for half an hour. If the foam is the least bit grey in colour repeat the cycle until the foam is absolutely snowy white. Then rinse the shot in warm water.

TO START THE BURNISHING CYCLE

1. Fill the barrel with steel shot, maximum 1kg
2. Prepare the mixture of 'Bright Burnishing Compound', water and a small amount of ammonia (optional) using 25 gms of compound per 1 litre of water.
3. Fill the barrel with this mixture just level with the steel shot.