

APPLICATION INFORMATION

Grinding and polishing of electroformed parts

In view of the high price of gold and assuming that the price will continue to rise, gold Jewelry of a type which looks expensive and yet costs relatively little is set to increase its market share in future.

Electroformed parts are ideal for this purpose. With a wall thickness of only 0.1. 0.15 mm, all kinds of shapes can be made. There is no gold wastage as there is with stamping or casting, and there is virtually no need for the goldsmith to carry out any trimming work.

The CF machines from OTEC are ideally suited to finishing this kind of jewelry. The flow-optimized shape of the process container makes the finishing operation Especially gentle. This is particularly important in an application.



Fig. 1 CF 3x18

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In general, the finishing process in the OTEK machines is carried out as follows:

Stage 1: Wet grinding.

Since the initial surface is relatively smooth, an especially fine plastic grinding medium, KX 10 is used.



Fig. 2 Plastic grinding chips, type KX 10

The grains are conical and therefore give a particularly high-quality smooth surface finish.

The processing time is normally 1 - 2 hours in a CF 3x18 machine. A 3 - water/compound mixture is added. The compound used is SC 5, which gives a clean, Bright, shiny surface.

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Stage 2: Dry polishing

In the second stage, the workpieces are dry polished with a special granulate.



Fig. 3 LFP 3 polishing granulate

Conventional granulates such as walnut shell or wood granulates cannot be used for this application, since the workpieces have holes into which the fine debris of abrasive material removed from the granulate may penetrate and from which it cannot subsequently be removed.

The LFP3 polishing granulate is ideal for this purpose. It cannot break and therefore does not give rise to wear debris or fragments. As a polishing paste, P 10 has proved to be ideal. In a CF 3x18 machine, for example, one teaspoonful is added per operation. The processing time is approx. 2 - 3 hours.

The result is brilliantly polished workpieces which often do not need to be finished by hand.

To keep the polishing granulate at optimum efficiency, it is advisable to clean the granulate once a week. To do this, put it into the wet process container for approx. one hour at a speed of 330 rpm and a water flow rate of approx. 20 liters per hour. When the process time has elapsed, the granulate is once again as good as new. It should be dried before it is used again.

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