

Cleaning & Finishing of Cast Restorations

Cleaning Of Cast Restorations

After casting procedure is completed, the casting ring is taken immediately from the casting machine, and thrust or plunged under running cold water into a large mixing rubber bowl. This procedure is called **Quenching**.

Purposes or Benefits of Quenching:

1. To anneal the alloy to provide better working qualities during finishing.
2. Disintegration of the hot investment material when it contacts cold water.



After quenching the cast restoration is cleaned from the remnants of investment material by a sharp hand instrument and a tooth brush.

Then the cast restoration is sandblasted to remove the remaining residues of the investment material. (Sandblast: it is a machine that throws sand and compressed air on the cast restoration to clean it)

The cast restoration is then placed into a pickling solution (a solution made of 50% hydrochloride acid). This procedure is called **Pickling**.

Advantages;

1. It is used to remove oxide from the surface of the metal.
2. It is used to remove any remnant of investment material

The casting restoration is ready now for **finishing procedure**.

Finishing Of the Cast Restoration

1. The sprue is cut by a Carborundum separating disc, sometime we can use cutting pliers or wire cutter but it is not recommended because they generate stress that could lead to distortion of casting. The excess in the cut area were then removed, recontoured and refined with a stones & sand disc to reestablish the proper coronal morphology of the cast restoration.

Remove sprue leaving a little excess for finishing



2. **The next step** is to seat the casting on the die, **prior to seating**, inspect the inner surface of the cast restoration for any nodules, bubbles of the metal that might interfere with seating of the cast restoration on the die (sometime we use magnification). All these irregularities should be removed using a round bur rotating at high speed



3. The cast restoration (crown) is seated on the die. It should seat without any pressure, if there is any interference then the inner surface of the cast restoration is inspected again and relieve any contact areas until complete seating with no pressure is obtain. If the cast restoration is seated with pressure the die will cracked and distorted.



4. After complete seating of the cast restoration on the die, the die with the casting on were transfer to the working cast and slowly adjusts the interproximal relationship to achieve a slight contact with the adjacent teeth and complete seating of die into it position on the working cast.



5. Adjust the occlusal relationship in centric and eccentric relation to relieve any occlusal prematurities. *Occlusion is checked and the occlusal contact reestablished in static as well dynamic relationships to the opposing arch. Articulating paper can be used for this purpose, Be a certain of complete seating of the casting otherwise you might ground out of occlusion*
6. *The axial walls of the cast restoration are smoothed by a rubber wheel bur. The area near the margin of the cast restoration is smoothed by placing the wheel bur parallel to the margin. Afterwards, the occlusal surface is finished with use of small finishing burs.*



■ ***Now the cast restoration is ready to be tried inside the patient's mouth.***

Casting Finishing/Polishing summary

- 1. Contour sprue stump**
- 2. Adjust interproximal contacts**
- 3. Adjust occlusion**
- 4. Clean & polish occlusal grooves**
- 5. Polish axial walls**
 - Protect interproximal contact**
 - Stop 1 mm from margins**