



## GC Initial IQ

# Press-over-Metal and Press-over-Zircon Troubleshooting Tips and Tricks

Pressing pressure should be at 4.0 bars. This also aids in the time and temperature of the melt to press properly and minimize the force during the pressing process that could cause a cracked ring.

Spruing – Sprued crowns or bridges should be at a 30 degree angle away from the heat center of the ring. Eight gauge sprues are used to sprue both single units and bridges. Bridges are sprued with a runner bar with no internal sharp angles. Bridges should have a T bar on the lingual to stabilize the bridge during pressing. Before attaching the sprued units to the ring base, you should weigh the ring base by itself, then attach crowns or bridges and again weigh to find what the weight difference is. This will give you the proper weight for the amount of ingots to be used.

Waxes should be residue free and only used with electric waxers.

Clear all tips of waxing units that have any carbon buildup as this can cause pitting or insufficient presses. No plastic sprues should be used.

Bridgework should have a hollow pontic to aid in equal cooling with the abutments. To aid this process, a slow cool may be advisable to gain continued success after the press has been completed. Slow cooling 7-15 minutes, depending on the size of the bridge, as this allows the alloy and ceramic to cool together to achieve successful presses.

After bench setting multipress investment for 20 minutes, it is important to lightly scrape or grind the top of the investment to allow gasses to escape during burnout and pressing. Make sure the scraped surface remains perpendicular to the side of the ring.

Cracking of the pressed ceramics at the time of pressing and after deinvesting are normally caused by the following:

- Insufficient temperature – ceramic will not reach proper coefficient if temperature is not high enough. Make sure pressing oven is calibrated as well as your burnout oven.
- Cooled to quickly – allow to bench cool to touch normally; 30-40 minutes will be adequate. Remember that the larger the mass of metal and ceramic, it is necessary to slow cool after the press is completed.
- Improper opaque application that has voids an/or was not fired to maturity.

Cracked rings are often caused by too low of a burnout temperature. A bright orange glowing appearance of the ring should be visible at the 850° centigrade temperature that is needed for heat saturation for successful pressings. Calibrate burnout ovens!

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Sandblast at 3 bars (50-60 lbs.) to thoroughly clean pressed units with 100-150 micron aluminous oxide @ a 45° angle to the surface. Steam clean before pastes are to be applied and fired.

Plunger should fit passively in the access hole of the ring. \* *Note the following:*

*If plunger fit is too tight, the press ring may crack. It can also cause too much backpressure and cause the oven to not finish the press and abort the program causing a half pressed unit.*

Above parameters are guidelines for successful presses with the IQ system and should be followed for success. The table for your pressing parameters is a combined effort of several of your peers in the lab industry, and is results of many hours of research to give your laboratory success and Profit.

Most Important : The first opaque is a wash bake, with a very light dusting of Fluo crystals. **DO NOT** allow the crystals to pile up in any areas of the crown or bridges. Bake to a high shine and apply the second opaque, filling in between the Fluo crystals and modifying as needed.

*Note: If you have too many crystals applied in any one area, it may cause the opaque to be pushed off during the press.*

When additional rings are being used in the burnout oven, an additional 15 minutes should be added to the time for one ring. For example: 200 gr ring in Burnout at 60 minutes + 1 additional ring (15 minutes ) = 75 minutes of burnout at 850° centigrade.

