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Notes for the Safe and Effective Use of the Infinity ZR Sintering Furnace

Thank you for purchasing the Infinity ZR Furnace. With proper use, this furnace will perform your sintering needs dependably and consistently.

Safety First: For a full list of safety precautions, please read the opening Safety section of your Operator's Manual.

- **It is always safest to keep the door closed until the furnace has cooled to near room temperature (ideally when the display reads "LO").**
 - In addition to preventing discomfort and potentially serious burns, opening the door at elevated temperatures (above 200°C) can thermal shock the trays, which may cause them to crack or break.
- **Whenever the muffle door is open, swing it open all the way.** The door insulation is somewhat fragile and this will prevent accidental contact.

To make the most translucent zirconia possible:

- Translucency is everyone's goal when sintering zirconia. To ensure that the sintering furnace produces the most translucent zirconia possible, do the following:
 - **Fire the zirconia at a slow ramp rate, especially above 900°C.** Example: range between 2°C/min. and 10°C/min. A slow ramp rate below 900°C seems to have little impact on the esthetic outcome of small units in the sintering process but is recommended for larger or complex pieces.
 - **Always vent your sintering trays.** Zirconia seems to be more translucent when the sintering tray is vented and not sealed tight. It is not necessary to uncover the tray, merely allow some degree of venting.
 - **Use high purity zirconia beads.** Unlike alumina beads, they do not outgas and interfere with the esthetic appearance of the sintered zirconia. Use a single layer of beads only.
 - **Do not exceed 1550°C as a final sintering temperature.** Temperatures in excess of 1550°C may only increase translucency a minor amount, but there is a high potential for surface degradation in vivo and a subsequent significant reduction in strength.