

ZIRCONIA

Tips & Tricks

with Paul Cascone, BE MetE, MS



4 Tips for Preventing Zirconia Fractures

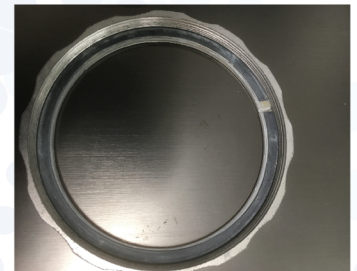
Sintered zirconia can be very strong, but the pre-sintered discs are not. The discs can be fractured internally when placed in the milling machine. Fractures in the disc can result in parts prematurely falling out of the disc during milling or parts having micro-fractures that only show after sintering. **Here are some tips for preventing fractures:**



1) Clean the area where the disc rests after every run so the disc lies flat in the holder. The machine software expects the disc to lie flat in order to mill the parts correctly. If some of your bridges do not fit correctly, an uneven surface may be a possible reason.



2) The inside of the top holder also should be cleaned to ensure the screw threads operate properly. Please take notice of the grommet on the inside of the top ring holder. This grommet presses on the disc so that the pressure is uniformly applied. If the opposite side has not been cleaned, there will be pressure points on portions of the disc where the residual zirconia powder was left. The pressure points may create fine fractures in the disc.



3) Disc holders, as shown here, can also create pressure points when the screws are excessively tightened for the type of zirconia used. Less torque placed on the screws is necessary if the disc does not have a plastic ring.



4) Avoid over-tightening the disc in the machine as excessive pressure will create fractures.

