User Instructions

for SpectraMax Dental Zirconia

SpectraMax dental zirconia is manufactured from medical grade yttria stabilized class 5 powder by cold Isostatic pressing. At full density, this zirconia has high strength, excellent biocompatibility and exceptional translucency. Spectra discs can be machined by CNC or manual systems to produce all types of dental restorations.

Frameworks should be constructed to support the porcelain veneer and with a wall thickness not less than 0.5 mm. For bridges the connectors should have the maximum vertical height possible and have a cross sectional area of at least 9mm.
To avoid chipping, make sure the margin is well supported, and that sprues are placed to support any more extreme areas such as deep sides, large shoulder margins etc etc
Bridges over 3 units are contraindicated.

All Zirconia shrinks when sintered and this factor must be entered into your CAM software. The exact shrinkage can be found printed on the disk as the value changes from batch to batch.

Sintering

We recommend adhering to the cycle shown in the table below as closely as possible.

'Natural' cooling is without temperature control in a closed furnace. Do not open the furnace until 80 ºC has been reached to avoid thermal shock to the zirconia and your furnace elements. We recommend slower heating and cooling rates for larger span bridges, particularly when a lingual bar is used for extra support. Singles can be sintered on shorter programs by increasing the temperature ***rise*** and ***cool*** rates and by reducing the hold time to one hour.

Finishing After sintering with diamond burs at under 10,000 rpm. It is recommended to sandblast with 50 micron Al02 at 2-4 bar to clean the frameworks.

Porcelain Veneering is possible with all makes as long as the co-efficient of expansion is between 9.5 x 10-6/ ºC and 10.5 x 10-6/ ºC. A liner is recommended.

Manufacturer:
H.C. Starck Ceramics GmbH, Lorenz-Hutschenreuther-Str. 81, D-951000 Selb

Product Name:
SpectraMax Dental Zirconia

CE 0120

Material	Zirconia
Density (g/cm³)	6.0
Bending Strength (MPa ±100)	600
Young's Modulus (GPa)	210
Translucency (% sample)	49
Radioactivity (Bq/g)	<0.2

	Temp rise/mi	Hold	Temp rise/min	Hold	Temp fall/time	Cooling
Recommended Sintering cycle for all restorations.	5ºC	30 min @900ºC	2.5 ºC	2hrs @ 1460ºC	10ºC/min to 500ºC	Natural

For Further information please contact Bristol CadCam on 01179 773 593