

Katana(UTML/STML/HTML) #4 calculation example For SPEED sintering schedule parameter

PLEASE NOTE: must choose the 90min zirconia material for speed sintering, NOT a normal 6-7 hrs sintering time material for speed sintering. we don't recommended normal 6-7 hours sintering materials for Speed 90min sintering.

Also, EACH zirconia materials have original firing schedule, please follow the original schedule by transform to Zircom machine schedule

Fast Cycle (Total time = **90 minutes**)

Original program

	Temp.1	increase °C/min	Temp.2	increase °C/min	Temp.3	increase °C/min	Temp.4	Hold time	Decrease °C/min	Temp.5
90min	Room temp	50°C/min	1400°C	4°C/min	1500°C	10°C/min	1560°C	16min	50°C/min	800°C

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Transfer to **Zircom SPEED with Carbon tray** Firing programming calculate example

Step 1 $1400^{\circ}\text{C} - 20^{\circ}\text{C}(\text{room temp}) = 1380^{\circ}\text{C}$
 $1380 \div 50^{\circ}\text{C}/\text{min} = 27.6(28\text{min})$

Thus, **Step 1 1400°C Time 00:28**

Step 2 $1500^{\circ}\text{C} - 1400^{\circ}\text{C} = 100^{\circ}\text{C}$
 $100 \div 4^{\circ}\text{C}/\text{min} = 25(25\text{min})$

Thus, **Step 2 1500°C Time 00:25**

Step 3 $1560^{\circ}\text{C} - 1500^{\circ}\text{C} = 60^{\circ}\text{C}$
 $60 \div 10^{\circ}\text{C}/\text{min} = 6(6\text{min})$

Thus, **Step 3 1560°C Time 00:06**

Step 4 1560°C Hold Time 16min

Step 5 $1560^{\circ}\text{C} - 800^{\circ}\text{C} = 760^{\circ}\text{C}$ Cooling time
 $760 \div 50^{\circ}\text{C}/\text{min} = 15.2(15\text{min})$

Thus, **Step 5 800°C Time 00:15 Table position 3 (eg)** Also, Zircom has auto table down programmed when it reached 400°C

NOTE:Zircom SPEED has both type of trays, Ceramic and Carbon.

As a parameter, **Above 5 hours** sintering use for **Ceramic tray**,

Under 5 hours sintering use for **Carbon tray**.

**KDF do not recommended Speed sintering for regular Zircom machine.
Also, KDF can sell the Speed firing carbon tray for Zircom Speed machine holder only.**

Only Zircom SPEED programing for Very Quick Cooling. Manual page 12

Caution: The quick firing stand and the muffle will be **HOT**.

Be sure use the tong and heat-resistant glove when placing the firing tray
onto the quick firing stand.

**Please ask more detail to the Kanatna (Noritake) company individually.
We KDF have just provide a sample schedule calculation only.**