

**CLARIFICATIONS AND RESPONSES IN THE PRE NID MEETING HELD ON 23RD  
OCTOBER 2013 IN OUR BOARD ROOM FOR THE PROCUREMENT OF HIGH  
TEMPERATURE FURNACE**

File No : PUR/IMP/060/13

Description of Item : HIGH TEMPERATURE FURNACE

**Answers to queries**

**PYROMASTER FURNACES PVT LTD**

**Queries :** *What is the total mass to be heated ?*

**Answer :** The furnace intended is going to be used for the controlled cofiring of several thin and thick ceramic wafers, in bulk quantities. Since these wafers are likely to warp, we plan to use specific kiln furniture (say ceramic shelf made of high temperature stable refractories) to hold the samples. In a typical schedule, minimum three batches of wafers (Total weight = 3 x 500 gms = 1.5 kg) are intended to be fired with highly controlled heating and cooling cycles.

**Queries :** *What is the heating rate + cooling rate required max ?*

**Answer :** Since the ceramic wafers contain several solvents, dispersants, plasticizers and binders, the heating rate should be as small as possible (if possible, 0.1 – 0.5 °C/min) with different rates in different temperature ranges. The cooling is also likely to be as slow as possible. We usually prefer 1°C per minute.

**Queries :** *Is it compulsory to have CE mark + ISO9001 registration ?*

**Answer :** This furnace is for a pilot scale production of ceramic wafers and LTCC tapes. Hence maintaining standards laid down by the industry like uniformity of heating, free of warpage, free of cracking, low rejection rate etc. cannot be compromised. From our past experience of furnaces with CE certification delivered better performances and long durability. Hence we would like to emphasis certain internationally accepted certification criteria like CE, ISO9001 etc for the high temperature furnace intended.

The tender specification stands amended to the extent as given above.

*Stores & Purchase Officer*