EVALUATION REPORT

Model-465

Isotech

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EVALUATION REPORT - 465 THREE ZONE METROLOGY FURNACE

The furnace was set up as per the diagram Fig.1 below. In it was placed the Ceramic equalising block 465-02-06. This block has four pockets, each one 10mm diameter by 450mm deep. Each of the pockets is encapsulated in Aluminium Oxide powder and sealed at the top. This allows the block to be used over the entire temperature range up to 1200°C.

The furnace is primarily aimed at use with Fixed point cells used in conjunction with the ITS-90 fixed points but can also be used for comparison calibration of either PRT or thermocouple thermometers.

Figure 1:

Layout of Internal Pieces for Evaluation

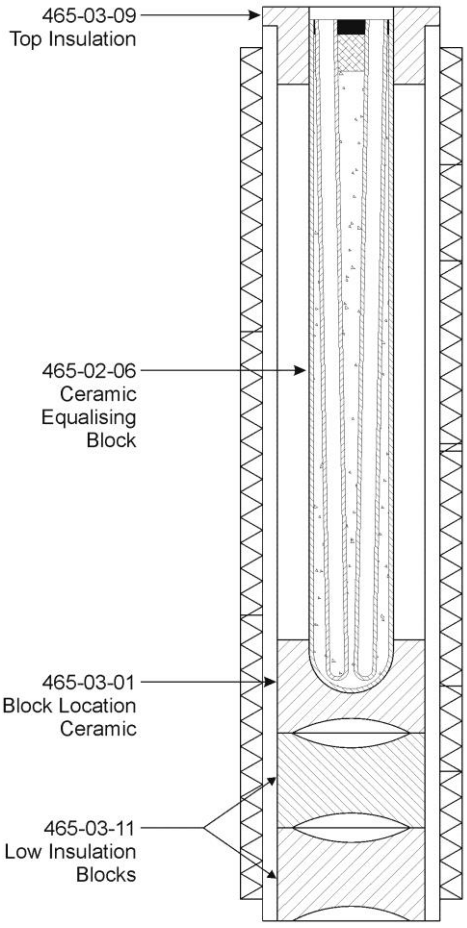

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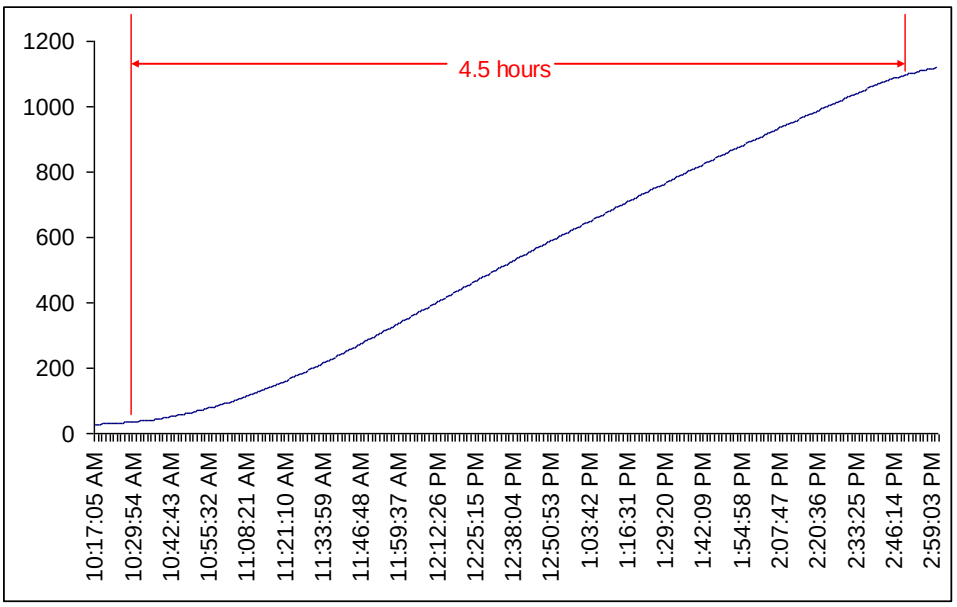
Table of results:

Temperature (°C)	Stability 30 mins	Stability 60 mins	Radial Uniformity	Axial Uniformity	Thermometers used for survey
200	±0.002	± 0.003	0.019	--------	2 x 909L 100Ω
400	±0.001	± 0.003	0.086	--------	2 x 909L 100Ω
600	±0.005	± 0.005	0.129	0.052	2 x 909L 100Ω
800	±0.018	± 0.022	0.095	-------	2 x 1600 (Type R)
1000	±0.036	± 0.039	0.194	-------	2 x 1600 (Type R)
1200	±0.043	± 0.048	0.228	-------	2 x 1600 (Type R)

Heat up and cool down times

Set point ramp rate set to 4.5°C/min
Single 1600 Type R Thermocouple (unsheathed) inside ceramic equalising block.
microK serial number: 08/PO77
Water cooling on the top panel was enabled for the test.

Warm up: Ambient to 1100°C



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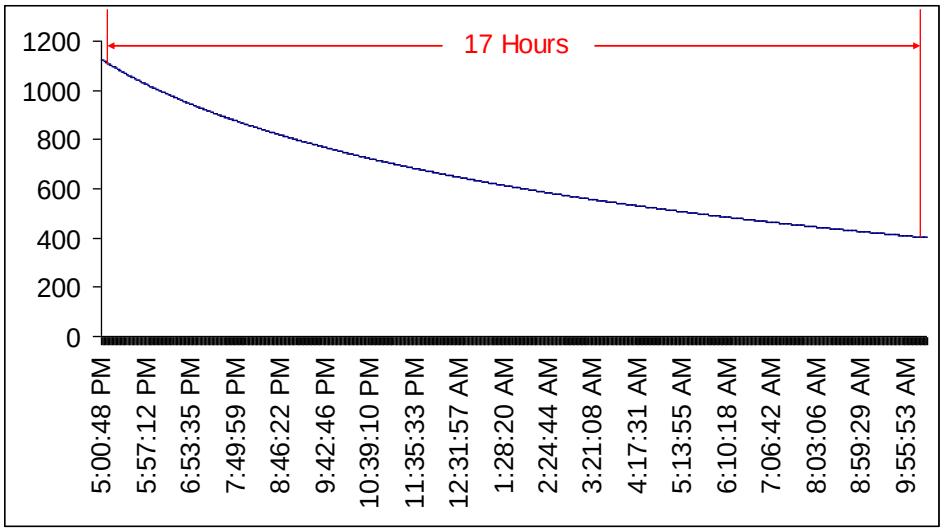
Cool down: 1100°C to 400°C



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