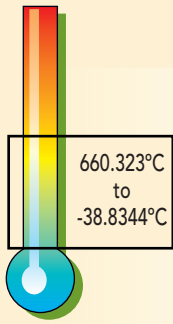


# Metal Clad

## Fixed Point Cells



In the practical world of industrial temperature measurement, a large number of laboratories who normally make comparison calibrations need 1 or 2 fixed points to monitor their Standard Platinum Resistance Thermometers, or would like to calibrate shorter thermometers than the larger cells and apparatus can accept. For this group of users Isothermal Technology Limited have introduced Metal Clad Fixed Point Cells.

The special requirements of immersion depth, plateau duration, etc. required for the calibration of SPRT's may not be necessary in laboratories charged with calibrating industrial resistance thermometers, thermocouples and thermistors, but mobility and cost may be more important. Metal Clad Cells is a name given to another category of cell, being somewhat slimmer, slightly shorter and lower in price than the standard varieties. Metal Clad Cells are built using the same materials, techniques and purity of metal as the larger cells, but the uncertainties associated with them are somewhat larger, not because of the cells but precisely because their properties cannot be measured with SPRTs and transfer thermometers must be employed in qualifying them.

In consequence of their smaller size, small, lighter-weight apparatus (bench-top or cart-mounted furnaces) may be used to melt and freeze the metal in these cells. Sealed cells and associated apparatus, such as the Model 510 - Medusa and Model 580 - Oceanus-6, are available from Isotech.

Metal Clad Fixed Point Cells are available with a UKAS Certificate at an additional cost, see databook 5.

### Features

- Fixed Point Cells and Apparatus for Special Applications
- Shorter for the Calibration of Industrial Sensors
- Economic
- More compact

### Options

510-05-00	Inconel Basket including insulators for use With Medusa 510
426-04-00	Inconel Basket including insulators for use With Oberon 426

### How to Order

ITL M 17724M	Mercury Metal Clad Slim Cell
ITL M 17401M	Gallium Metal Clad Slim Cell
ITL M 17668M	Indium Metal Clad Slim Cell
ITL M 17669M	Tin Metal Clad Slim Cell
ITL M 17671M	Zinc Metal Clad Slim Cell
ITL M 17672M	Aluminium Metal Clad Slim Cell

*Metal Clad Fixed Point Cell shown with an Isotech Semi-Standard Platinum Resistance Thermometer*



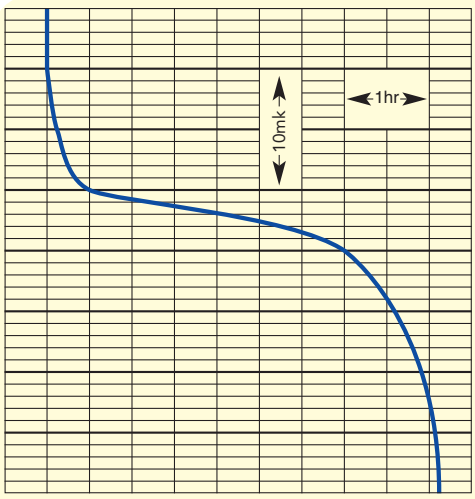
## Metal Clad Cells

Cell	Type	Diameter OD/ ID	Length (mm) Overall / Main Body / Immersed ( $\pm 10$ mm)	Temperature °C	Uncertainty °C	P.O.T.T.S. Apparatus
Mercury	TP	35/10	375/140/130	-38.8344	$\pm 0.001$	Europa-6
Gallium	MP	31/10	200/155/140	29.7646	$\pm 0.001$	Oceanus-6
Indium	MP	42/7.5-8	220/190/140	156.5985	$\pm 0.001$	Medusa
Tin	MP	42/7.5-8	220/190/140	231.928	$\pm 0.002$	Medusa
Zinc	MP	42/7.5-8	220/190/140	419.527	$\pm 0.005$	Medusa
Aluminium	MP	42/7.5-8	220/190/140	660.323	$\pm 0.020$	Oberon

P POINTS ON THE TEMPERATURE SCALE

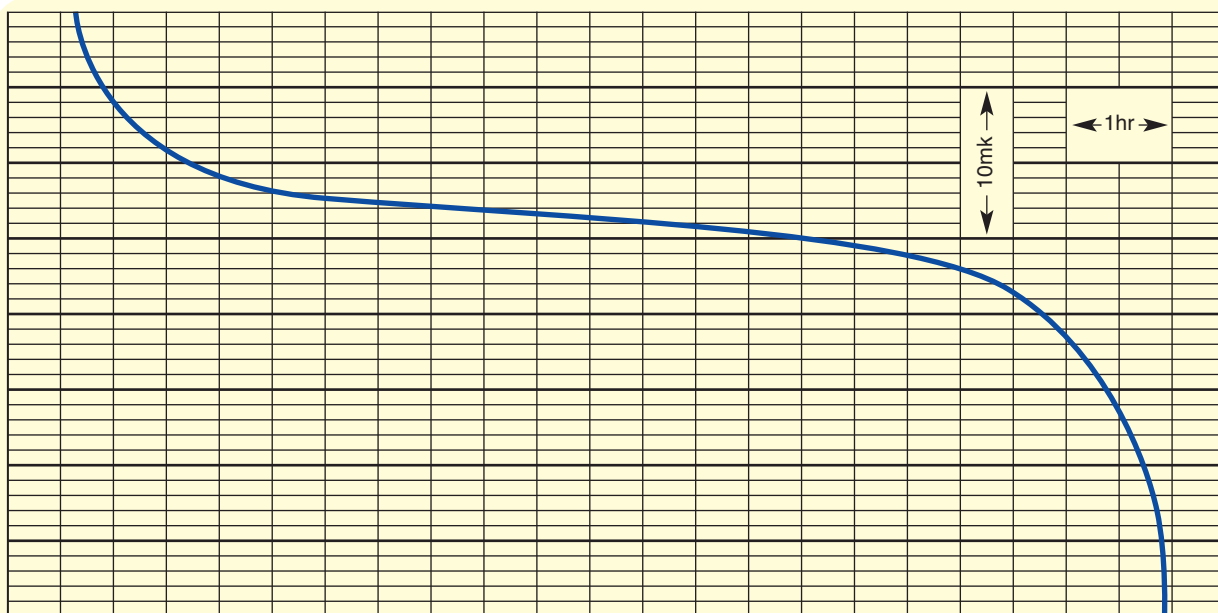
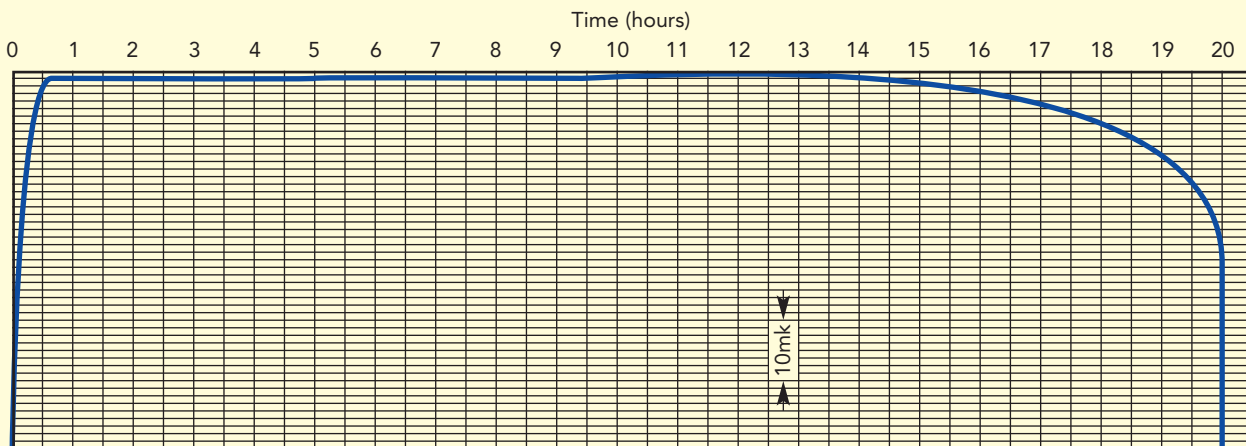
# Metal Clad Cells

## Reference Graphs



Melt of Al94 - ISOTECH's Glass Covered Cell

Zinc Metal Clad Cell Freeze



Melt of Metal Clad Al Cell Al91 after more than 1 year continuous use