



Why use a Heat Treatment Monitoring System ?

Heat treatment of metals for the aerospace, defence, automotive and general engineering industries (in particular the aerospace industry) must be rigorously controlled to ensure the reliability of the parts treated.

BS regulations (BS 2M 54 1991) for monitoring and recording temperature profiles define two categories of heat treatment:

- Category A used by Aerospace/Defence
- Category B only used when no effect on the mechanical properties of the component can take place

Temperature °C	Max. Temperature Tolerance	
	A	B
< 750	±5°C	±10°C
≥ 750 ≤1275	±10°C	±15°C
>1275	±1%	±1.5%

Total Indicating Range	Max. Temp Increment per mm of chart	Max. Interval between chart division	SR100 Max. Range	SR250A Max. Range
< 750°C	±4°C	±10°C	400°C	1000°C
>750°C	±7°C	±10°C	700°C	1750°C

Aerospace industries set the highest standards, with companies such as Rolls Royce, Boeing and Fokker having their own specifications.

Components used by industry often require heat treatment to harden, temper or stress relieve the metal.

The heat treatment specification varies according to the component and final user of the device.

Specifications used by other industries are similar but often allow wider tolerances

Compact 250mm chart recorder – reduces panel size.

Memory card option available on SR250A – allows rapid re-configuration.

The SR250A is suitable for use in harsh industrial environments

– IP65 front panel with stainless steel case.

Proven reliability – over 100 years of process instrumentation experience.

Comprehensive range of products suitable for all monitoring and control requirements.

Why use ABB Instrumentation ?

What ABB Products are Suitable ?

SR250A Strip Chart recorders

- Up to 24 traces with the option to log onto a PCMCIA memory card
- Extensive alarm facilities – alarms can be generated and sent back to the main control unit
- High resolution chart (0.2mm (0.08%)) – ranges up to 1750°C (high accuracy $\pm 0.5^{\circ}\text{C}$ of reading)
- 'Que and Review' facility for ease of chart examination
- Chart zoning to improve readability of traces at similar temperatures
- Traces can change colour or only print when temperatures are outside preset limits
- Option to average the inputs and record the results
- Individual scale adjust to compensate for variations between sensors, when checking reference thermocouples against a master thermocouple
- Clear digital display
- Chart printout includes time, date, batch number
- Maths blocks enable deviation from average temperatures or a master temperature probe to be detected

SR250A Strip Chart recorders

- Up to 12 traces
- Extensive alarm facilities – alarms can be generated and sent back to the main control unit
- High resolution chart (0.2mm (0.08%)) – ranges up to 1750°C (high accuracy $\pm 0.5^{\circ}\text{C}$ of reading)
- Chart printout includes time, date, batch number
- Clear digital display

C355 Universal Controller

- Widest range of control outputs
- Ramp/soak available on standard product

C360

- Dedicated for ramp/soak profile applications

C100

- Ideal for multizone applications

C50

- Over-temperature policeman

Furnace Surveys

- ▶ Surveys are carried out:
 - before new furnaces are used,
 - at 6-monthly intervals for Category A treatments,
 - at 12-monthly intervals for Category B treatments,
 - the number of thermocouples depends on furnace volume,
 - Category A treatments 1 per 0.75m³ minimum of 5,
 - Category B treatments 1 per 1m³ minimum of 5,
 - bath type furnaces, Category A or B operating below 1000°C, surveyed as page 2 or with a minimum of 9 sensors evenly distributed.

ABB has Sales & Customer Support expertise in over 100 countries worldwide

www.abb.com

The Company's policy is one of continuous product improvement and the right is reserved to modify the information contained herein without notice.

Printed in UK (01.06)

© ABB 2006



ABB Limited
Howard Road, St. Neots
Cambridgeshire
PE19 8EU
UK
Tel: +44 (0)1480 475321
Fax: +44 (0)1480 217948

ABB Inc.
125 E. County Line Road
Warminster
PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183