

Specnow Ltd News Release

Friday 7th January 2005

For Immediate Release

HMI boosts brazing at Morgan Advanced Ceramics

Morgan Advanced Ceramics have recently upgraded the Vacuum Brazing facility at their Rugby factory with state of the art HMI.

Faced with new product challenges, Engineering Manager Martin Davidson and Development Engineer Tariq Zaman took a critical look at their 1980s Wentgate furnace. They concluded that it was still in very good order and in principle suitable for the next generation of ceramic to metal brazing applications. However the temperature and vacuum profiles would require modification and the furnace was running with an early Eurotherm temperature controller. Personnel with relevant experience of this unit were no longer available. Morgan found they might have to relearn the programming routine themselves, but instead called on the services of control engineers Specnow Ltd to write and prove new profiles.

Process cycles employed in ceramic brazing are often critical, calling for a high degree of precision in temperature and vacuum levels. On tackling the problem Morgan and Specnow recognised that the existing controls lacked response and flexibility, presenting obstacles to success with the new parts. Morgan was able to make the case for purchase of Specnow's Microlink furnace control package - a Touch Screen SCADA type solution specially designed for Vacuum Furnaces. Specnow stripped out the old instrumentation on site and installed the pre-configured Microlink in less than a week. To minimise outage the work was carried out at the same time as a major furnace service.

Tariq Zaman explained, "We had been trying to modify our historical processes but the old unit proved very user unfriendly. When we wanted to develop a brazing solution we had to carry out a complete run before we could evaluate. The Microlink allows us to modify the cycle while in progress and see the result in the load temperature distribution and vacuum levels immediately at the touch screen. It is an excellent tool for development; after optimising the process we can easily store as many programmes as necessary. The day to day operators can access them later via their own passwords".

Martin Davidson observed a number of operational advantages, "We now have software control of the process with Microlink using the average of 4 or more job thermocouples. This has enabled us to cut the usually long soak times at the critical braze temperature and gives us an extra run per day. We have achieved faster turnaround **and** lower reject rates. Another software feature gives us in-built vacuum leak detection and vacuum pump performance monitoring. This helps us to maintain good vacuum conditions, essential to the success and quality of our production. The user friendliness of the new system is also greatly appreciated: high visibility and ease of operation with the touch screen has given us greater understanding and confidence in the process. Specnow left us completely self sufficient, able to programme, maintain and troubleshoot the entire furnace. Our operators were fully trained in a matter of hours".

In designing Microlink, Specnow used a standard PC and a quality PLC to replace conventional temperature controllers, chart recorders, meters and other redundant components. For the heart of the system software, Specnow chose "DataManager", a proprietary package that can communicate with a large range of instruments and PLCs including Allen Bradley, Mitsubishi, Omron and Siemens.

With the reduced component count there is an increase in machine reliability and focus. The operator has only one system to address and interpret, and quickly becomes proficient. A chart screen shows changes to the program and the operator can zoom in and out of the display. The solution obviates the need for paper rolls. The chart can be printed at any time or exported as a csv file to be opened in Excel as part of a report.

Microlink has been supplied with new furnaces and retrofitted as an upgrade in many parts of Europe. The units are available with options including hot zone uniformity, thermocouple, and vacuum sensor calibration. Specnow has developed a library of friendly screens that are readily adapted to the precise needs of the customer. Modem link and emergency support are available with contract maintenance.

Further information:

Specnow Ltd

8 Hermitage Road

Earith

Cambridgeshire

PE28 3QD

Tel: 01487 740957

Fax: 01487 741409

E mail: info@specnow.com

www.specnow.com



Specnow upgrades original Wentgate 1218 vacuum brazing furnace with state of the art HMI.