

Drop bottom furnace back in production.

June 10, 2008

Boeing Helicopter in Philadelphia idled and removed their indirect gas fired Despatch drop bottom furnace for aluminum heat treat several years ago. After a year in storage it was purchased by Pyrotek in Abbotsford Canada. Bogh Industries surveyed the equipment at the storage site for Pyrotek to determine the status of the equipment. The items found to be in need of repair or replacement was noted and made part of the installation scope of work.

Bogh Industries created new foundation drawings, gas train drawing in compliance with NFPA 86, 2007 edition and a new piping drawing for the furnace. (The quench management system located at Boeing Helicopter did not come with the furnace). American Control and Engineering Service provided the control upgrades.

The startup was completed on 6/6/2008. The furnace passed surveys on the second try with flying colors. Recovery was less than 7 minutes for the control TC and the furnace controls within +/-0.1F on the control TC during soak. The overshoot during recovery was 1.5F from set point.

Bogh Industries provided site supervision and technical expertise during the installation. Startup was done with the participation of American Control on site.

The following upgrades and changes have made this furnace better than new.

- New high resolution direct coupled control motors with proof of high and low fire switches for purge and low fire light off. This prevents back fires in the burner tubes.
- New main gas train in compliance with NFPA 86, 2007 edition.



- New proportionators and individual burner shutoff valves with proof of closure switches. The O₂ and CO levels are extremely linear with these new proportionators and no flame failures were encountered after the setup.
- New flame safeties. Self checkers on the main flames and UV mini peepers on the secondary flames.
- New air solenoid valves for door and hoist operation (The old ones were lost).
- Updated PLC processor and touch screen operator interface.
- Modem interface to both operator interface and PLC for remote trouble shooting and updates.
- New electronic Eurotherm recorder with network capability and NADCAP compliance.



The furnace shown installed at Pyrotek

For more information regarding this project and the capabilities of the furnace contact Ted Croft at Pyrotek, (604) 859-4484 or Bogh Industries (253) 732-8476.