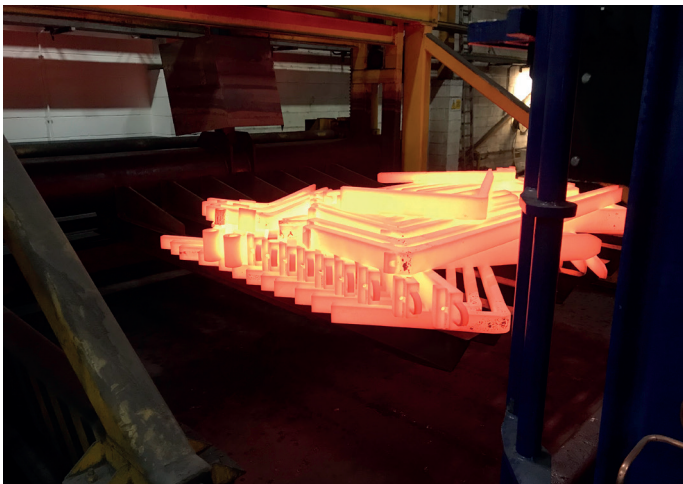


Heat Treatment Furnace



Cascade (UK) - Manchester



Heat treatment furnace for heat treating forklift forks

With the use of a clamshell style furnace with an outdated and inefficient burner system Northern Combustion Systems worked with the client to increase production with a new efficient burner system for hardening and tempering cycles. The replacement furnace style installed included a door operated in the vertical plane, counterbalanced and a motorised gearbox. A pneumatic door clamping and guide system included to allow quick access for rapid polymer quenching achieving the crucial grain structure of the maximum 4 tonne load.

The furnace is fired using four high velocity hot air burners mounted at high level. Exhaust gas is extracted using two flue gas recuperators mounted at low level below the burners. The well proven firing/fluing system used to provide optimum temperature uniformity. The waste gas recuperators provide an overall fuel saving of 20% compared to the existing cold air burner system operating under the same conditions.

Hardening at 925°C the burners operate in the stoichiometric mode. Tempering at 450 – 550°C the burners operate with fixed air & fuel only modulation to ensure a high mass flow of low temperature combustion products circulate within the furnace. The system designed to meet with current European safety standards EN746-2 2010.

Accompanying the first furnace installation a second furnace installed to complete with the facility including remote access (Industrial VPN) to provide offsite backup.