Balfour On The **Right Track**

Balfour Beatty Rail Engineering have installed new energy efficient electric furnace was designed by Excel Heat who have incorporated the latest developments in thermal insulation and control system to meet demanding technical requirements. The new in house facility will be used to carry out stress relieving and annealing and will allow direct control over quality and delivery time. As well as this, the added flexibility makes it possible to quickly and economically reschedule production, if require, to meet any urgent demands.

David Moor, quality manager of the Midland Foundry said "The new installation is expected to greatly improve our production and ensure the high quality which is essential in our industry"





The furnace has a steel casing which is internally lined with low thermal mass insulation to save energy and minimise weight. The electric heating elements are arranged in four groups around the furnace which together with the high temperature recirculations fan mounted centrally in the roof ensure excellent temperature uniformity through out the furnace.

The base consists of high temperature hard wearing refractory bricks, the components are placed directly on to the base. The furnace cover is then guided into position ready for the cycle to begin.

This particular furnace is specifically designed to work with a inert Nitrogen atmosphere preventing scaling during the heating process avoiding the necessity of the additional shot blasting process. To achieve the best results when using an inert atmosphere the furnace must be sealed to prevent any ingress of oxygen, which requires a fully weld casing, specially designed mechanical seals at all the orifices such as element lead outs fan shafts thermocouples etc. The cover is sealed with a two stage seal the inner seal is formed as part of the integral design of the furnace lining and the refractory brick base the second is a compressible high temperature ceramic "tadpole" seal which is attached to the furnace cover and seats on the steelwork around the hearth base.

For more information on this product or our range of ovens, furnaces and spares contact Mike Kealy

