



CORUS STEELWORKS

Llanelli, South Wales



Benefits

- Eliminated cost of replacing failed traps
- Short pay back
- Reduces energy & CO₂ emissions
- Remove unnecessary parts from system
- Significantly lowered condensate temperature
- Improved in the volume of condensate return

GEM® Traps Retrofitted to Steel Work

Thermal Energy International has installed its GEM Venturi orifice steam traps as part of the plant's continuous improvement programme into energy conservation and CO₂ reduction. A leading supplier of high quality light gauge steels, the site produces over 400,000 tonnes a year of packaging steels for the UK market.

As part of the steel making process, Trostre Works operates a continuous annealing (CAPL) process line to give the steel its required hardness. The CAPL process line uses around 600 tonnes a week of saturated steam supplied at 8 barg. The site had previously installed a GEM Venturi steam trap following a bucket test on a line drainage trap, which had provided 60 % savings. Following the appointment of Dr. Darryl Lewis as Energy Operations Manager, TEI was asked to survey the CAPL process line and V Stand Mill. This found that of the 12 steam traps surveyed 25 % had failed closed and 17 % had failed open. Not only was this increasing energy and having an environmental impact by creating additional amounts of CO₂ emissions each year. Now a total of 18 GEM Venturi orifice steam traps have replaced the existing mechanical steam traps on the CAPL process line.

Based on nominal consumption rates of 600 tonnes of steam a week, the GEM traps are providing around 5 % energy savings which equates to £0.5K a week based on a gas tariff of £4.4/GJ and condensate waste treatment costs. These savings will provide a payback on the GEM steam traps in around 30 weeks.

"I have been extremely pleased both with the operation of the traps and, equally importantly, the after sales service provided by TEI's engineers. The site was the first steel works and heavy industry in the UK to win a Carbon Trus Standard Accreditation in January 2010 in recognition of our commitment to reducing energy and CO₂ emissions. The trap improvement programme was an important element in achieving this".

- Energy Operations Manager