



no pollution Industrial Systems Ltd.
heading silently towards zero emissions

Cardboard Industry - Energy Optimisation of the Wet End

Up to 30% of the energy use in a cardboard factory is at the Triplex pre-heaters.

Here the single face board needs to be reheated, sometimes up to 90°C, after it has cooled down more than 45°C on its travel from the Corrugating rolls. This reheating is necessary for the gluing process to happen successfully and to correct any warping derived from "thermal shocks" on the single face board.

A system was installed to enclose the entire length of the bridge, creating a tunnel with a carefully controlled atmosphere inside which the single face board travels, from the Corrugating rolls to the triplex. Temperature and humidity are continuously controlled through a combination of shutters and extraction fans, governed by a centralised control system.

In this way the single face board does not undergo any shocks, and the temperature drop is greatly reduced, meaning that less heat needs to be supplied by the cylinders of the triplex.

This translates in a reduction in steam pressure, with a net saving on the energy bill.



Pressure was reduced to below 1 bar for most board productions, with one cylinder being shut off completely.

Added benefits are increased quality of the board, less waste produced at startup and a truly soundproofed production.

- **Single Face Board loses less heat in it's travel to the Triplex**
- **No thermal shocks mean less warping and less waste**
- **More control means repeatable working conditions**
- **Less Steam used at the Triplex means reduction in production costs!**

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