

DEINKING (De-inking)

Waste paper received at the Mill goes through a process to remove ink particles from printed paper. This process is called deinking which is essentially the laundering or cleaning process. Chemicals, along with heat and mechanical energy, are used during the stage where the waste is converted back into pulp (The A-Line process in the Waste Paper Plant). The chemicals are used to dislodge the ink particles from the paper fibres and to suspend them in the watery ingredient of the pulp. The ink particles are then separated from the so-called 'grey stock' by a series of washing steps. Ink particles are ideally less than 10 microns in diameter. The dispersed/suspended ink is separated from the pulp by a multistage sequence using screens and screw press (see photo) equipment in which the pulp mass is diluted (adding water) and thickened (removing water) repeatedly. This process also removes ash and filler from the pulped waste paper, leaving clean fibre for the making of new paper.

The key chemicals used for our deinking plant a combination of a surfactant and dispersant in the pulping stage, which affects the surface tension of liquids and solids. Typically mills use agents which are chemically modified mineral oils such as:-

- Detergents – to remove ink from the fibre.
- Dispersants – to keep the ink particles dispersed and to prevent them depositing again on the fibre.

A modification to our A-line pulper rotor is occurring this week to enhance the de-inking characteristics of our process by ensuring greater dispersion and size reduction ink particles at the start of the process.

