

# PAPERMAKING PROCESS

Today's high quality papers require a highly technical and accurate manufacturing process. This diagram details the paper making process and illustrates the use of wood and paper for recycling.

## MECHANICAL PULPING

Woodchips are ground to separate the fibres. Pulps are used to make high volume commodity printing products such as newsprint and magazine paper.

## CHEMICAL PULPING

The woodchips are cooked to remove lignin. Burning of the process by-products enables the whole pulping process to be energy self-sufficient.

## DE-BARKING AND CHIPPING

Bark which cannot be used for papermaking is stripped from the logs and used for energy. Stripped logs are chipped into small pieces and recovered.

## CLEANING

The fibres are then washed, screened and dried. The pulp is ready to be used directly or it can be bleached into white paper.

## HEADBOX

The headbox squirts a mixture of water and fibre through a thin horizontal slit across the machine's width onto an endless moving wire mesh.

## DE-INKING

Adhesives and ink are removed using a flotation process.

## COATING

In the coating process, coating color is spread onto the paper surface. The coating colour contains pigments, binding agents, and various additives. Coating the paper several times often improve its printing properties. High-grade printing paper is coated up to 3 times.

## WIRE SECTION

The water is then removed on this wire section. Here the fibres starts to spread and consolidate into a thin mat. This process is called "sheet formation".

## Paper Making

The wood pulp is diluted with 100 times its weight. The fibre liquid is then run through the machine.

## PRESS SECTION

The press section squeezes the web of wet papers and lowers water content to 50%.

## DRYING

A series of cast-iron cylinders, heated to a temperature in excess of 100°C, where the web of sheets pass through and drying takes place.

## PULPING

Paper for recycling is dissolved into pulp to separate the component fibres.

## PAPER FOR RECYCLING

Paper for recycling is an important material for the pulp and paper industry.

## CALENDERING

After coating, the paper can be calendered. A calender is a device with two or more rollers through which the paper is run. The compression of the rollers and the application of heat give the paper its smooth and glossy properties, like ironing shirts.

## FINISHING REELS AND SHEETS

The papers are then wound into a reel or cut into sheets, ready for printing and converting.

## WOOD

Wood is a renewable raw material for the pulp and paper industry and comes from sustainably managed forests.

