

# HOW WE MAKE PAPER

## ABOUT US

*Catalyst is a globally recognized Canadian manufacturing company that competes on a world-wide basis, manufacturing diverse specialty printing paper, newsprint, and pulp for retailing and publishing customers in North America, Asia, Latin America, and Europe. With three mills and a distribution facility in strategic proximity on the Pacific coast, Catalyst has a combined annual production capacity of 1.5 million tonnes.*

- » Crofton
- » Powell River
- » Port Alberni

## CONTACT

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For more information, visit [catalystpaper.com](http://catalystpaper.com)

Thousands of years ago, people learned they could combine fibre and water into a slurry to create paper. While the basic concept has remained the same throughout the ages, today we do it on a much larger scale and at a much more advanced level of technology.

## A SUSTAINABLE APPROACH FROM START TO FINISH

The main ingredient in all Catalyst paper products is renewable wood fibre that has been converted into pulp. We use responsibly sourced fibre in the form of wood chips, which are byproducts of lumber manufacturing, and pulp logs, which are poor quality logs that are unsuitable for lumber manufacturing.

We purchase fibre from suppliers in British Columbia and the US Pacific Northwest. Each of our mills has both a PEFC<sup>1</sup> and FSC<sup>2</sup> - certified chain-of-custody system, allowing us to provide customers with added assurance regarding the sustainability of the sources of supply.

We are a leader in manufacturing papers that weigh less per sheet than comparable grades. These "lighter basis weight" papers can be produced using fewer raw materials and transported using less energy. We also use low-carbon energy sources, consistently focus on minimizing our emissions and all of our products are recyclable.

## TURNING PULP INTO PAPER

Making paper entails mixing different pulp grades to produce product with specific end-use characteristics. We blend varying combinations of mechanical and kraft pulps along with fillers and pigments to make our papers.

Mechanical pulp is used to produce our lightweight newsprint and directory products, while kraft pulp is used in limited amounts to add strength to our specialty papers. And for brighter, whiter paper, we use higher brightness pulp, bleached using an elemental chlorine-free process.

## YOUR LOCAL PAPER COMPANY

Our paper products become many of the products you use every day. For example, newsprint becomes newspapers; directory paper becomes telephone and specialty directories; and specialty papers become print inserts, flyers, catalogues and magazines. No matter where you live, chances are you've read an article or looked up an address that was printed on our paper.

<sup>1</sup> Programme for the Endorsement of Forest Certification  
<sup>2</sup> Forest Stewardship Council

## CATALYST CARES ABOUT CERTIFICATION

Catalyst does not harvest forests on either public or private land. Instead, we buy the fibre we use to make paper from a large group of suppliers.

To serve our customers well, we believe we have an obligation to ensure the fibre we buy can be traced back to responsible practices. We strongly support forest management certification as a way to validate claims made about the fibre we use.



The mark of responsible forestry  
Cert no. SW-COC-003894  
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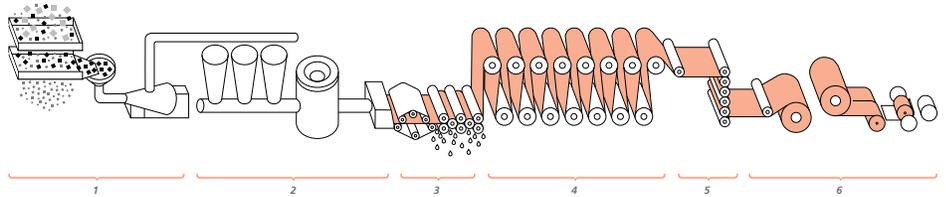
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## THE PAPER MAKING PROCESS



### 1. MECHANICAL PULPING

Paper making begins with the intermediate product known as pulp, and Catalyst products are made using pulp produced through a mechanical process (with the addition of limited amounts of kraft pulp to some grades). Wood chips are fed into a pressurized refiner, where steam and the mechanical action of rotating metal plates break down the lignin (a natural binding agent) and separate the wood into individual fibres.

### 2. POST-REFINING

The ground-up wood fibre now passes through several stages of cleaning and screening to remove dirt and other contaminants and to further loosen the fibres so that they are in optimal condition for use in paper-making. Bleach-free chemical solutions are used to brighten the colour of the fibre. Then varying combinations of pulps (specific to the paper being made) are mixed together in the head box, and diluted to form a thick slurry.

### 3. SHEET FORMERS

Fibres are distributed and aligned on the sheet formers to create an even pattern that will provide strength and printability. The next step is to remove some of the 99% of the mixture that is water at this stage. Using a combination of gravity, suction and centrifugal force, the water content is reduced to 85% before several stages of pressing and drying.

### 4. PRESSING AND DRYING

More water is removed at this stage. Water is first squeezed out on a press, then the sheets pass over and around dozens of steam-filled drums. By the time the sheets emerge, moisture content has been reduced to less than 10%.

### 5. CALENDER STACK

The now-dry paper is ironed between either polished steel rolls or specially designed soft rolls. This gives the paper a smooth finish and a precise and uniform thickness that reflects customers' specifications. What began as watery pulp in the head box is now finished paper – and the entire process takes less than one minute.

### 6. REELS AND ROLLS

In the final step, the paper is wound tightly onto a large reel that's as wide as a city street and weighs as much as 30 tonnes. The paper is then cut to customers' specified widths, wound onto small rolls and enveloped in a vapour-barrier wrap for storage and shipping. Each roll can hold up to 20 kilometres of paper.