Cigarette Production

Inside the factory:

When processed tobacco leaf arrives at the factory, it is checked for quality and carefully blended with other ingredients that the brand recipe may call for, such as flavourings or expanded tobacco.

Keeping track of the various types of tobacco and blend components in use is key and computers are increasingly used to track production runs. Moisture content is also crucial. Too dry and the tobacco leaf will crumble; too moist and it may spoil during storage. The blended tobacco is treated with just the right amount of steam and water to make it supple and is then cut into the form used in cigarettes. Excess moisture is then removed so the cut tobacco can be given a final blending and quality check.

The technology has advanced dramatically over the years. Cigarette making, once done entirely by hand, is now almost fully automated, with the cut tobacco, cigarette paper and filters continuously fed into the cigarette-making machines. Quality is a top priority. Each cigarette is automatically quality controlled to ensure that it meets every aspect of its specification.

Packing machines put them into the familiar brand packs, wrap the packs in protective film and
group them into cartons and cases. There is more testing at each stage to make sure the cigarettes are properly protected before the completed cases are ready for distribution.

About Filters:

The cellulose acetate tow in a filter is a web of fibres made from wood pulp. In manufacturing, the filter material arrives as a single long band of over 10,000 fibres pressed into large 750 kg bales.

In a filter maker, this band of compact fibres is mechanically stretched to open the fibres up, sprayed with a plasticizer to bind them together, wrapped with thin paper, cut, and fed into a cigarette-making machine.

Varying the taste and smoke yield:

Once the taste has been determined, other design features can vary the strength of the taste, and can reduce the yields of various smoke components, as measured by a standardised machine method.

Filter design: The design of the filter can be varied, for example by making perforations, by changing its length or its density (by using more fibres), by the fineness of the fibres and by the type of material used. All these filter variations can affect the amount of filtration, and thus the taste, smoking experience and smoke yields as measured by a standardised machine method.

Charcoal is sometimes combined with the standard cellulose acetate, as its adsorption properties can reduce some of the gas components in smoke. It is usually used in a filter with two sections: a plain white cellulose acetate section at the mouth end and a section that has been sprinkled with charcoal. Because charcoal is mainly elemental carbon, these are
sometimes called carbon filters.

Making small perforations in the filter is called filter ventilation, to reduce a cigarette’s yield and sensory strength. These dilute the smoke with air, leading to less smoke being produced in each puff. Filter ventilation is important in reducing smoke gases that are not trapped in the filter.

**Paper:** The paper around the tobacco rod and around the filtration zone can be adjusted. The porosity of the paper (the amount of air that can pass through it) will affect the yield, strength and taste of the cigarette. The more air that can pass through the paper, the more the smoke constituents passing through the cigarette are diluted, to make a lower yield, lighter tasting product.

**Expanded tobacco:** Another design feature to vary the taste, strength and delivery of smoke constituents is the use of expanded tobacco lamina, known as Dry Ice Expanded Tobacco (DIET). This is tobacco lamina that has been puffed-up and expanded.

As expanded tobacco takes up much more volume than ordinary tobacco lamina, less tobacco is needed to make the cigarette, resulting in a different taste and lower emissions, including of tar.

**Putting it all together:**

In manufacturing, each brand has a specific tobacco recipe, a designated paper, filter, level of filter ventilation, tipping and graphic printing.

All the machinery is pre-set to ensure product consistency. The tobacco recipe is conveyed to a cigarette making machine, which wraps the tobacco at high speed in a high quality flax-fibre paper to form a continuous rod. This is then cut to the right length and joined with the filter, to produce the finished cigarette ready for packing.