

A PPI SPECIAL REPORT

A coffee filter paper may look like a simple accessory but it's a highly sophisticated product which has taken years to refine

## IT'S NOT JUST ABOUT THE COFFEE



**Coffee filter paper has to have high porosity and and strength**

Just over 100 years ago, a German housewife named Melitta Bentz got tired of the bitterness and grounds in her coffee and came up with the idea of using paper to filter out unwanted residues. She punctured the bottom of a brass pot and lined it with blotting paper taken from her eldest son's notebook. When filtered coffee dripped out of the bottom, little did she know that she had just created a specialty paper market that would grow from strength to strength. A century on, the company which now

bears her name is a market leader in the full range of coffee preparation products.

Behind Melitta's success is a focus on constant optimization of its products. Being so close to the consumer and making a food-related product such as coffee filters means that legislation is at its toughest and consumers at their most demanding.

Ingolf Ewe, head of strategic purchasing for production materials at Melitta, has worked for the company for 35 years, some 22 of those in pulp procurement. He's seen a lot of changes to the coffee filter market in that time, but the overriding constant remains delivering a product that does the job for the consumer better than anything else on the market.

In the case of coffee filter paper, that means delivering a paper with high porosity (so the water can flow freely during the filtration process) and high strength (to prevent the paper breaking on the converting line and the filter breaking during filtration or removal from the machine for disposal). It's an exact and exacting science.

That's why Melitta makes its own paper, with two paper mills at Minden and Berlin, Germany. Converting operations are based at Minden which uses mother rolls from both sites. "We have a very short supply chain," Ewe remarks, "which means we are very close to both our customers and our pulp producers."

Working closely with Södra Cell, Melitta's main totally chlorine-free (TCF) pulp supplier, involves regular meetings at the company's site so Södra can see its pulp in action and keep asking the same question: How can filtration time be improved without losing any key strength properties? "The coffee filter business is too small for Södra to produce a specialized pulp solely for us," Ewe explains, "but they do get as close as possible to our needs and they're able to

## Not all coffee drinkers are equal...

Melitta's main markets for coffee filter paper reflect the market itself – demand for coffee filters is highest in Scandinavia and Western Europe, especially Austria, Germany and France. The Spanish and Portuguese are espresso drinkers rather than filter fans and North Americans prefer basket filters to cone filters – basket filters are cheaper to produce but they result in a much weaker coffee.

The German filter paper market is roughly 70% unbleached and 30% bleached.

**Studies have shown that paper filters play a crucial role in eliminating the cholesterol-raising factor of coffee**



Brazil is also home to a nation of filter coffee lovers and Melitta has a local division there, Celupa, which produces ECF-bleached filter papers. "We did think about shipping TCF pulp over to them briefly," says Ewe, "but that really didn't make sense in a country where there is no demand for TCF and where local pulp production is so strong."

In the long run, Melitta also has its sights on a wider range of speciality papers other than coffee filters. As well as the coffee preparation products for which the Melitta brand name is best known, the Melitta Group worldwide also makes a wide variety of

consumer products including foils and wraps, air cleaners and humidifiers, vacuum bags and cleaning products.

"The future of coffee filter papers will depend, as most things do, on the consumer," Ewe muses. "There is growing competition from fully automatic coffee machines which grind without paper, for example. If the younger generation decide they don't want to follow their parents' coffee-drinking habits, we'll have to rethink. For now, coffee demand is stable."

### MUCH MORE THAN THE COFFEE

Most coffee drinkers might be forgiven for thinking it's all about the coffee. But in fact, the type of coffee filter they choose plays as important a role as the brand of coffee or the water in the pot.

The shape of the filter is dictated by the shape of the filter holder within the coffee maker and can be either cone shaped or basket. Melitta generally recommends cone-shaped holders as these ensure optimal coffee saturation and improved extraction since the coffee is concentrated at the bottom of the filter, which then creates turbulence as the water hits the coffee grounds, and saturation occurs over the entire surface area of the ground coffee.

Good-quality paper filters are the most common and best way to brew coffee using the drip method, removing particulates and trapping bitter sediments. They also allow the use of any type of ground coffee whereas permanent filters require a coarser mix. Finer ground coffee has a large surface area exposed to the water so it provides a richer cup of coffee.

Other benefits of good paper filters include easy removal and disposal and they are biodegradable. They are potentially healthier too, according to Melitta: studies have shown that paper filters play a crucial role in eliminating the cholesterol-raising factor of coffee while permanent filters allow the cholesterol raising oils into the cup. Melitta's filters also have patented flavour-enhancing micro-perforations and are double crimped so they are guaranteed never to burst.

tailor their production campaigns to us. They know minute by minute what they have produced and they can select individual units which they know will best meet our needs. That's one of the reasons why we've been able to count on a stable quality for all these years."

## A LONG-TERM PARTNERSHIP

Södra and Melitta have been working together since 1992 when Melitta switched from elemental chlorine-free (ECF) to TCF pulp. Until 1988, Melitta had only used chlorine-bleached pine pulp from the southern US due to its high porosity. But in 1987, Greenpeace launched a campaign warning consumers of the detrimental environmental and health effects caused by bleaching with elemental chlorine. Melitta was quick to take action and began to offer the first unbleached filter papers in response to consumer demand.

By 1990, a few pulp mills could offer chlorine dioxide bleached (ECF) pulp, but it wasn't until the end of 1991 that TCF bleaching became available, from Södra's Mönsterås mill.

Melitta didn't hesitate. "Because we make a product that comes into contact with food, we have to ensure we are always delivering the best we can," Ewe says. "The German consumer is highly environmentally aware and legislation is stringent. We decided on a strategy of two suppliers to reduce our dependence on a single source for both unbleached and TCF pulp and to mix the grades to achieve optimum quality."

## THE PRIORITIES CHANGE

"TCF is no longer the big issue it once was," Ewe adds, "and I don't think the consumer would notice if we switched to ECF – forest certification is a much hotter topic these days – but we have chosen to stick with TCF for as long as it is available because we want to be proactive not reactive when it comes to the environment, to offer the most environmentally-friendly pulp possible.

"There are only a handful of TCF producers in the market today and of them only a few can produce pulp to make a great coffee filter. The further north you go, the thicker the wall of the fibre becomes, which is good for strength but not for porosity. Trees



**Melitta's Minden facility has both a paper mill and converting plant**

take longer to grow the further north they are, which means they can end up with a lot of annual rings, and the gap between them becomes too close to guarantee us a good filtration time in our end product. Our ideal is a 10-year old tree with a diameter of 40-50 cm, but you can only find them in places of high humidity such as the southern US – where there is no TCF. Today we use a mixture of pine, spruce and sawmill chips and we're constantly working with our suppliers to achieve the optimal balance."

Its market share secure, you'd be forgiven for thinking Melitta and its partners have done enough to make sure its customers can enjoy the perfect cup of coffee. But in the face of growing competition from other beverages and other coffee trends, there's no time for rest; Melitta and Södra work with the industry research cluster, Avancell, at Chalmers University in Sweden, to see if they can improve yet further the taste of the coffee through the filter paper. **PPI**



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