

tobacco

VOLUME 20 NUMBER 1

亚洲烟草

asia[®]

MARCH / APRIL 2016 第1期 3月/4月 ฉบับที่ 1/2559

Tháng 3-4/2016

TTM
On the Move

Yunnan
Smart Manufacturing

Vinataba
vs Smuggling

High Tech Filters

Photo courtesy of Hauni TIP program

www.tobaccoasia.com



inter
supply

16-18 September 2016

www.intertabac.com
Dortmund, Germany





Filters — A Sometimes Overlooked High-Tech Cigarette Component

By Thomas Schmid

Filter manufacturers and cigarette companies are inextricably intertwined and depend on each other. Cigarette sales volumes also affect filter suppliers and they have to come up with ingenious solutions to stay competitive.

When it comes to modern cigarettes, few consumers waste a thought on what is arguably the most high-tech component: the filter. Although non-filtered cigarette brands are still around, filter-tipped cigarettes reign supreme and currently make up the absolute majority of all cigarettes sold worldwide. While consumers may take filters for granted, they are in fact little technological marvels designed to not only enhance the overall smoking experience but to also remove varying proportions of larger smoke particles and water-soluble compounds like aldehydes and phenols.

Tobacco companies have the choice of being supplied with ready-to-use filter rods from a myriad of manufacturing companies or produce their filters in-house, taking deliveries of raw materials such as cellulose acetate (CA), polypropylene (PP) or — since relatively recently — polylactic acid (PLA) tow in addition to a range of plug wraps and tipping papers. Both options have advantages and disadvantages. Dedicated filter manufacturers usually boast invaluable expertise in cost-effective-

ly developing custom-designed filter solutions that can help a tobacco company to either boost the image of an existing cigarette brand, launch a new brand, or quickly respond to market or consumer preference changes.

Making filters in-house, on the other hand, may entail certain savings at the actual manufacturing end, but besides purchasing and installing the required expensive machinery and training operating personnel it potentially also entails shipping and storage costs, as well as duties and taxes for the imported raw materials. However, more often than not larger tobacco firms may decide to combine these two options, i.e. make simpler filters themselves while outsourcing more complex specialty filters.

An Old Favorite Still Going Strong

Relatively simple mono filters made of either CA or, occasionally, PP tow continue to dominate the global market. Essentra is one of the most innovative, proactive, and diversified filter manu-

facturers active today with production facilities in the United States, Paraguay, Hungary, United Arab Emirates, Thailand, India, and Indonesia in addition to three development centers in Hungary, US, and Indonesia, a research laboratory in the UK, and e-cigarette production also based in the UK. According to estimates, approximately 80% of all currently produced cigarette brands worldwide incorporate monoacetate filters. Considered standard and having been around since the late 1950s, they are the easiest to produce, which may explain their ongoing popularity.

Dual filters – a step up the evolutionary ladder – consist of two filter segments, each with different design parameters such as pressure drop, porosity, etc. This allows the design to be tailored to meet specific requirements. Instead of two tow segments, one of the segments can also include activated carbon or charcoal, a combination that is even more effective in terms of filtering out impurities, and also provides the smoker with a smoother, “cooler”, mellower tobacco taste.

The New Stars: Specialty Filters

With tobacco consumption going down in many regions, competition among tobacco companies is rapidly intensifying. To defend market shares and to capture new markets, innovation and providing consumers with more choice is becoming ever more important. While in the not too distant past mono and dual filters were practically the only options available, filter manufacturers – in tandem with their tobacco firm clients – are now offering a whole new generation of specialty filters that impress not only with enhanced functionality but often also truly imaginative and innovative design.

Cute Shapes, Flavorful Capsules

For example, Lithuanian company Nemuno Banga LLC manufactures a broad range of specialty filters with creative hollow tube segments that come in a variety of shapes from hearts to triangles to stars or any other shape the client suggests. The company also produces specialty filters with embedded flavor capsules, which when compressed and thus crushed by the smoker, release a variety of aromas that give a completely changed taste sensation within the same cigarette.



Mono filter with embedded single flavoring capsule



Dual filter with two embedded flavoring capsules

A SHAPE TO STAND OUT

The need to distinguish leads us forward.

Find out more at www.nemunobanga.lt

Innovative technologies and experience enable NEMUNO BANGA to make variety of shaped filters. Make your product unique and distinct with heart, circle, star, triangle or other shape filter.

NEMUNO BANGA



Essentra's Autograph filter

Spearheading Biodegradability

To say it right away, cellulose acetate (CA) tow, the currently most commonly used raw material for cigarette filters, is, in fact, biodegradable as it is manufactured from plant fibers. Yet the chemical process (esterification) deployed during manufacture "denatures" the end product considerably and studies have shown that a CA filter can take up to 10 years to completely decompose under ambient conditions. According to research, polypropylene (PP) tow takes even longer, a staggering 10,000 years (yes, you've read that right!).

Enter polylactic acid (PLA), a natural polymer discovered in the 1930 and derived from food plants such as corn or sugar beets, all of which are renewable sources in abundant supply. Used in a number of applications since, PLA has only recently found its way into the cigarette filter industry. While almost identical in its physical properties and filtration efficacy to CA and PP, PLA tow nevertheless fully biodegrades within less than three years, leaving behind only carbon dioxide and water. This makes PLA a most interesting "green" alternative for filter production, with government agencies and tobacco companies worldwide seriously looking into the possibility to greatly expand its use.

Established in 1966, Jiangsu Tianshengda Group Wuxi New Synthetic Fibre Co. Ltd. has been one of the first synthetic fiber companies in China to supply cigarette manufacturers with filter tow. For some time now, the company has also enthusiastically embarked on a concerted effort spearheading to promote PLA use both at home and abroad. "Although our PLA research goes back more than a decade, we first began commercially producing PLA tow for Chinese cigarette factories in 2010 to evaluate the economic feasibility and consumer feedback, especially in terms of cigarette flavor retention and filter biodegradability. The results were encouragingly positive and since 2015 we have started promoting PLA tow more aggressively to export markets, too," says overseas marketing manager Mandip Sandhu. Boasting an annual capacity of above 10,000 metric tons, the company has currently allocated more than half of that to PLA tow production. "And this is steadily increasing every year as we are generating more market awareness. We eventually aim to allocate 100% of plant capacity to PLA tow," Sandhu elaborates, stressing that PLA is the most promising filter material to effectively help reduce global environmental pollution caused by discarded cigarette filters. "About 5.6 trillion cigarettes are sold globally every year and at least one third of those are discarded in the environment, costing governments and municipalities countless millions of dollars for clean up. It is not only the Chinese authorities who are concerned over this ongoing situation, but, in fact, the whole world."



Essentra's Twin Tec filter

"We believe [that] specialty filters will play an increasingly prominent role in cigarette development in terms of product differentiation, unique appearance, and meeting regulatory requirements, while at the same time ensuring a well-balanced taste," says Gintautas Tučinskas, the company's executive director. He adds that Nemuno Banga can handle pretty much any filter type or design in accordance with the customer's requirements.

Slim, Slimmer, Slimmest

Meanwhile, United Arab Emirates-based ARD Filters FZC banks on the increasingly emerging consumer preference for slim, super slim, and nano format cigarettes, which according to Amirali Dharamsey, the company's director of operations, is particularly strong in its key market, the MENA region.

"Nano filters are the most popular in our market and it may be correct to say that [the] UAE is the hub of nano [filter] production with unmatched capacities across the world," he asserts. But of course, the company also offers standard filters as well as specialty filters with recess options and furthermore considers itself a leading supplier of capsule filter rods. "ARD is able to supply most standard and specialized filters... [and] we provide specialized solutions to our customers and ensure that we have the latest trends and technology at our disposal to serve [their] needs and expectations."

Innovation Workhorse

Yet when it comes to "thinking-out-of-the-box" innovation, perhaps few other filter manufacturers can rival Essentra. The Singapore-based company is today a veritable household name among tobacco firms near and far. Currently selling to more than 70 countries worldwide, Essentra claims to be "the only global independent cigarette filter supplier". During the last four to five years, it has

experienced significant volume growth particularly in capsule-embedded specialty filters, as well as those containing a hollow acetate tube segment. But the slim and super slim ranges are likewise increasingly popular, explains sales and marketing director, Hywel Thomas, as both Nemuno Banga and ARD Filters, also observe.

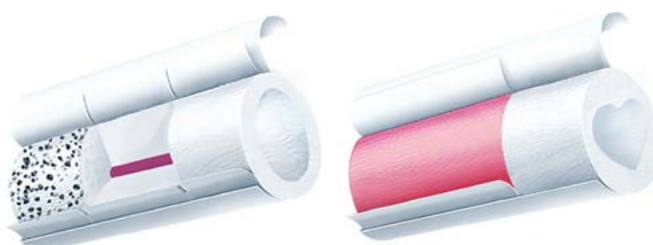
Essentra engages in extensive r&d work to serve tobacco firms' filter requirements and at the same time address newly emerging consumer trends. And its efforts really show. Just a few months ago, the company launched the *Corinthian* as the latest addition to its Icon range of filters. The *Corinthian* is an extraordinarily complex multi-segmented product featuring fluted recesses along the length of its CA core. Think of the marble columns of Athens' ancient Parthenon temple and you get the picture. It complements other exclusive filter types within the Icon range, including – but not restricted to – *Autograph* (featuring a thick extruded CA thread at its center), *Insight* (composed of two filter segments surrounding a cavity containing colored activated carbon granules), and *Twin Tec*, which uses two different material types in a coaxial configuration and with a shaped section forming the central core.

“Essentra works with customers on collaborative developments and also works proactively to develop our own proprietary products to sell to the market,” said Thomas. “As we have our own market research team, we can understand the industry pulse and develop the most appropriate filters to meet our customers' tastes and needs. The filters market [today] is so dynamic that we must continue to be a full solutions provider able to manufacture, test, and develop products in line



photos courtesy of Nemuno Banga LLC

Super slim filter rods



photos courtesy of Nemuno Banga LLC

Triple recess filter with flavoring thread and activated carbon compartment

Heart shape tube dual filter

CERULEAN

Cerulean's CETI 8, still the preferred e-cigarette testing solution

- Vape up to 8 e-cigarettes
- Up to 210ml puff volume
- “Easy Clean” vaping ports
- ISO and Square profiles
- 10.4” TFT LCD touchscreen
- Fixed puff termination

Now available with options such as:

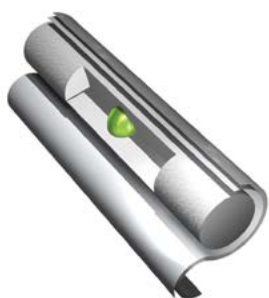
- Angled vaping kit (orientate the product from vertical up to vertical down)
- Impinger collection kit for collecting carbonyls and volatile organic compounds
- Button activated e-cigarette kit



Cerulean, Rockingham Drive,
Linford Wood East, Milton Keynes,
MK14 6LY, UK

Telephone: +44 (0) 1908 233833
Fax: +44 (0) 1908 235333
E-mail: info@cerulean.com

www.cerulean.com



photos courtesy of Essentra

Essentra's Superslim
Sensation™ filter
featuring an embed-
ded flavoring capsule
[filter is not mentioned
in the story]



with [customers'] needs – whether they are driven through consumer preference, legislation, cost, or other factors.”

Challenges Aplenty

Since all manufacturers interviewed by *Tobacco Asia* for this story are obviously perfectly capable to produce filters to their customers' exact specifications and also to routinely come up with exciting ideas for new filter designs, the devil appears to lurk somewhere else entirely. National anti-tobacco legislation is one such minefield for them. For instance, one of their many major challenges is the use of raw materials that in some markets are strictly regulated or perhaps even banned because they are seen as environmentally unfriendly or hazardous.

“Some materials are not acceptable in certain markets,” explains Essentra's Thomas, adding that “for example, in Germany, quantities must follow strict restrictions stipulated by the German Tobacco Ordinance (TVO).”

Another hurdle is a shortage or difficulty in procurement of raw materials. “Some of the challenges we always anticipate come from raw material supplies in terms of material availability and cost,” confirms Dharamsey. This point of view is expanded by Thomas, who says that it is “often the sheer volume of products required to support a launch and ensure that the appropriate supply chain is fully in place,” a situation which can pose veritable stumbling blocks. But he adds that Essentra is very experienced in introducing new products, which helps to mitigate such potential bottle necks. “We run a very structured process to try and ensure that new products pass all the chal-

lenges... and [that they] are addressed at the right stage, guaranteeing a robust solution when the new product is launched.”

Nemuno Banga, meanwhile, identifies possible complications coming from a completely different corner. “Generally speaking, the cigarette market is very conservative and strictly regulated, so launching any truly innovative product is rather challenging,” insists Tučinskas. Furthermore, restrictions in tobacco product advertising (and national anti-smoking campaigns) in an increasingly large number of countries place an indirect strain on filter manufacturers. As cigarette sales plummet, sales volumes of filters are inevitably bound to suffer too. This observation is echoed by Dharamsey, who says that “...restrictive advertising campaigns will adversely affect [our] sales volumes.”

Future Outlook

As long as there are cigarette consumers out there, not religiously staying on top of all things concerning filters will not necessarily cause manufacturers to “go the way of the dodo”, but vigilantly anticipating market movements, monitoring consumer trends, adjusting product ranges, and at the same time developing new designs will certainly prove crucial to remaining in business and be competitive. Tučinskas correctly points out, a little ambiguously, that “giving consumers a choice and meeting biodegradability requirements (see side box) will be strong trends.” Essentra likewise is rather hesitant to make definite projections, but Thomas nevertheless discloses that while it is difficult to predict for sure what the future will hold, “we fully expect that there will be more of the same trends that we are currently seeing – an even larger variety of visually different and interactive products, and [Essentra] are optimally positioned to respond to a continually changing backdrop.”

Further tightening of tobacco legislation as well as the advent of plain packaging are likewise going to play major roles in coming years. The United Kingdom and Ireland are both scheduled to introduce plain packaging in early 2016, with more countries expected to follow. “Changes [in the industry] will also be driven by further legislation like the EUTPD, government bodies like FDA, as well as the introduction of plain packaging,” says Thomas, and adds: “The impact of adjacent products such as e-cigarettes or heat-not-burn products will also be very interesting to see and will possibly trigger additional changes.”

It's certainly testing times for an industry that is inextricably intertwined with the tobacco product manufacturing sector, but as always the stronger players will find a way. Africa, for example, was mentioned by all contributors to this story as still a largely untapped and thus promising region where they eventually would like to become active. ➡