



WHO FCTC's Position on Codentify – If it Wasn't Clear Before, It is Now



The WHO Framework Convention on Tobacco Control (FCTC) has released a series of frequently asked questions and corresponding answers relating to its *Protocol to Eliminate Illicit Trade in Tobacco Products*. The Q&As clearly spell out that the WHO FCTC Secretariat does not consider Codentify® to be an acceptable solution for governments to fulfill the track and trace requirements of the Protocol.

Whereas the text of the Protocol itself leaves room for interpretation over whether the Secretariat would accept the use of a tobacco industry system such as Codentify, the newly posted Q&As provide a firmer opinion, stating as they do that 'generation and encryption that is part of a tobacco industry patent should be excluded' from the Protocol.

Specifically, in answer to the question, 'what falsehoods on tracking and tracing are endorsed by the tobacco industry?' the Secretariat declares Codentify to be 'misleading and ineffective'. It continues to answer the question by stating:

'In fact, Codentify is not a tracking and tracing system, but a code generator system installed at the production line that creates unique codes on packs. Codentify

uses elements of production-related information (such as production line and time of production) to generate with a secret 'key' an unpredictable and unique encrypted 12-character combination of letters and numbers to identify and authenticate a pack of cigarettes. The number, linked to a digital signature, can be read by a human or by a computer'.

The Secretariat continues:

'Codentify was invented and developed by Philip Morris International, but has been endorsed by the three other transnational tobacco companies, BAT, JTI and Imperial Tobacco, since 2010. The Codentify system is not a transparent or open source system and might have features that only the tobacco industry is aware of. It serves the tobacco industry's interests, is managed and controlled by the tobacco industry and protected by a tobacco industry patent. Opting for Codentify would be opting for a 'black box' system with no guarantee that it is under the control of the parties. According to the WHO FCTC Secretariat, the Codentify system conflicts with the FCTC Protocol and does not meet the requirements of Article 8.2 that the tracking and tracing system should be controlled by the Party'.

More Indian States Adopt Tax Stamps

Two more states in India have decided to implement liquor tax stamps, bringing the total number of states using stamps to 24 (out of a total of 29 states and seven union territories).

The states in question are Assam and Maharashtra (whose capital is Mumbai). Assam has already invited a tender bid for approximately 400 million 'polyester-based tamper-evident high-security holograms' per annum.

According to a report from *dnaindia.com*, Maharashtra is working on a proposal that combines a security hologram and barcode with embedded covert and overt features, for the combined purposes of tax collection, product authentication and track and trace.

The programme will require retailers to stock special lenses for reading the covert security features on the hologram, thus verifying the liquor's authenticity. And scanning the barcode with a smartphone will enable consumers to know when and where the liquor was manufactured and when it was sent from the distillery to the wholesaler and finally to the retailer.

The stamps will also carry a human-readable 12- or 14-digit serial number which can be sent via SMS to a designated address, in order to allow even those without smartphones to obtain information on the product.

Furthermore, excise officials will be equipped with high-end readers to authenticate and trace the products.

According to Maharashtra's excise commissioner Vijay Singhal, once the state has granted its approval of the project, tenders will be floated for the design and manufacture of the stamps.

The Tax Stamp Cutting Process – Challenges and Current Methods

By Rolf Manser, Vice President Sales, Blumer Maschinenbau

In this feature, Rolf Manser of Blumer Maschinenbau – a leading manufacturer of finishing processes for labels and cards – describes the challenges of working with such tiny, security-packed labels as tax stamps, and looks at the best current methods for cutting, banding and packing stamps.

Blumer is a small – but globally represented – company located in Switzerland, close to Zurich, where we develop and produce our finishing machinery for cut-to-stack labels (including tax stamps), as well as cutting systems for high-security cards. All the research and development, as well as the manufacturing is done in-house, by us, so we really know these machines inside out.

The type of tax stamps we are involved with are wet glue-applied stamps that are either web- or sheet-printed. In most cases, the process starts with printed material on a web, which is cut into reams of 1,000 sheets; the sheets are then cut into strips, and the strips into individual stamps, which are subsequently banded together in stacks of 1,000 pieces.

Regular guillotine has too much room for error

A very basic and manual cutting process for tax stamps is carried out with a regular guillotine. In this process, the sheets are first aligned (or jogged) so that the entire stack of 1,000 sheets can be cut at once.

The challenge begins with the actual cutting. The ream is put into the machine and cut first in one direction – into strips – and then turned around and cut into individual labels. This is a very difficult process because, as soon as the cutting knife drops, the labels are separated and may become loose from the stack. Importantly, the guillotine operator must be very experienced with this cutting process.

An advantage of cutting the stamps using a regular guillotine is that there is no big investment needed for machinery, since the guillotine itself is fairly inexpensive.

The advantages end here however, as there are many disadvantages to using a regular guillotine. Crucially, the handling of the tax stamps, at all stages of the cutting process, is extremely challenging and labour-intensive, and mainly depends on the performance of the guillotine operator.

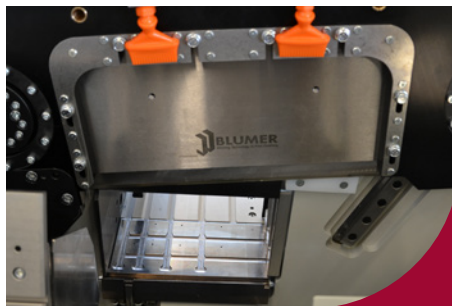
Additionally, the banding process is difficult to automate and keep to sequence, and is therefore not a secure process, with a lot of potential for errors.

Automatic process still uses guillotine

There exists a more automated, and therefore more secure, process for finishing tax stamps than a fully manual system. Although the automated process begins in the same way as the manual process (ie. with the use of a regular guillotine), the difference with the automated process is that the sheets are cut into strips only, so it is not necessary to turn the sheets around in order to cut the labels. In other words, depending on the sheet layout, the guillotining time can easily be reduced by 60%-80%.

Once cut, the strips are moved by the guillotine operator onto a 'buffer table' and, from there on, the process is automated.

The strips are buffered and cut with a special guillotine, and then the individual label stacks are moved immediately into the banding machine. The cutting of the individual strips is always guided from the top and the side, which is crucial for maintaining accuracy without losing any labels. Furthermore, the unique 'swing-cutting' system used by Blumer is very important for the accurate cutting of tiny labels like tax stamps.



Specially developed for tax stamps, the 'swing-cut' guillotine is crucial for an accurate cutting result.

The advantages of using an automated system are fairly obvious. The physical handling of the tax stamps is much reduced, as there are, in most cases, only two people involved (seven or more are needed for the manual system), meaning there is significantly less chance of a mistake on the guillotine.

This results in a high, constant and predictable performance, which ends with a perfect banding process to keep the stamps together.

With such a well-bound tax stamp package, automation of the packaging process can be achieved. All of this leads to a very secure system where the sequence of events can be maintained and controlled.



Rolf Manser

Double stream versus single stream production

There exist solutions that allow an automated system to handle a double stream of strip cutting, as opposed to the more common single stream, which can potentially double the production capacity. However, as far as tax stamps are concerned, there are a number of challenges in cutting two streams simultaneously that prevent double output from occurring and that, in fact, reduce double stream output to the level of a single stream.

With a single stream, performance is based on 1,000 labels per stack, and can reach 16-18 stacks per minute. This equates to between 16,000 and 18,000 tax stamps per minute, and over 1 million tax stamps per hour, all properly cut and banded.

With a double stream machine, on the other hand, performance is based on 500 labels per stack, running 28-34 stacks per minute. This equates to approximately 14,000 to 17,000 tax stamps cut per minute, and an hourly production of over 1 million stamps... the same production output as the single stream machine, simply because of the challenges of unevenness referred to below.

Further automation not ideal for tax stamps

Blumer's experience with cutting labels for the beer industry allows us to look to the future of a fully automated system for finishing tax stamps. Instead of cutting the web into sheets, it is first cut into individual strips. The challenge is then to collate these strips properly into stacks of 1,000 in order to move them to the tax stamp label finishing machine.

Continued on page 6 >

The Tax Stamp Cutting Process *(continued)*

What if there was no guillotine involved? We ask this question because, from our point of view, the guillotine is always the weakest point in the entire cutting chain. So, the possibility of removing the need for a guillotine would allow us to achieve, in most cases, higher performance and better quality.

The fully automated, guillotine-less process is the most accurate one, because every cutting point is in register, plus there is much less paper-handling involved.

Although this process is very well proven for high-volume beer label production, there are disadvantages, the most obvious one being a very high initial investment in machines that don't use guillotines at all.

Also, some other limitations may apply as far as tax stamps are concerned, and this may be the reason why we have not seen these fully automated machines being used on stamps so far. Tax stamps are small – much smaller than beer labels – making accurate cutting and handling more difficult in an automated system. The orientation of the stamps could also have an influence, depending on, for example, the direction of the grain in the paper.

Factors that influence cutting

There are a multitude of factors, from material and embossing to holograms and printing methods, that may affect the tax stamp cutting process and cutting tolerances. In addition, the process is influenced by the number of tax stamps printed on one strip (which can be as many as 25 or more), as well as the size of the sheet (which can often carry more than 300 stamps).

With regard to the tax stamp strips, it is important that they are produced with an overhang of blank paper, roughly equivalent to the width of two stamps. Without this overhang, there could be cutting accuracy problems with the labels at the end of the strip.

Another problem that we see very often is when the stamps have various security features. If we have a stack of 1,000 labels that are clamped down during the cutting process, there is no problem as long as the height across the stack is equal. We may, however, have a problem if some parts of the stack are thicker than others, making it more difficult to secure the stack for cutting. This unevenness could be due to partial embossing, holograms and intaglio printing, for example, which add thickness to the stack.

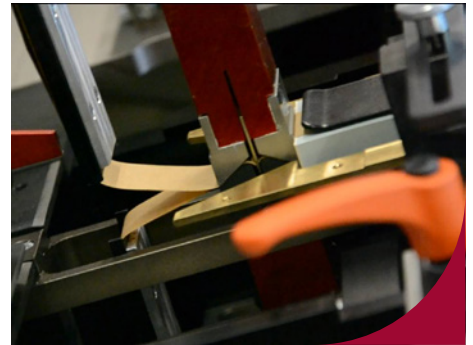
And when double stream strip-cutting systems are used, the problems of unevenness make it almost impossible to produce an accurate cut.

As far as cutting tolerances are concerned, a tolerance of +/- 0.1mm from the top to the bottom label is acceptable for a tax stamp in a stack of 1,000. Other tolerances are sometimes more difficult to maintain, such as print-to-cut tolerances, which are material-related and very challenging. The label finishing machine itself is extremely accurate, but paper shrinking can occur, which is dependent on the environment and therefore difficult to control.

Banding and packaging

The banding and packaging process comprises various banding systems, which use either heat-sealing or ultrasonic methods. Various band widths are available, and we can band with paper or a clear plastic band, or a combination of the two. The advantage with the combination is that it is very easy to open, and also easy to see through to check the labels with a camera, for example. We can also make a batch marking on the paper band, in the form of a number or logo.

When packaging the banded tax stamps together, one possibility is to place the stamps in a standing position into trays (which are not as high as the tax stamp stack), then shrinkwrap the entire tray, and stack the trays on top of each other. This approach is the best method for keeping the label stacks flat, due to the pressure created by stacking the trays. Packing the stamps in any other way is not advised, as they may move around during transportation.



An ingenious banding process ensures that no labels get lost and the sequence is maintained.

Not enough attention paid to tax stamp finishing

In summary, the tax stamp finishing process is not easy, and this is not helped by the fact that, in general, not enough attention is paid to the details of this process. For instance, it is common practice to add multiple layers of security features onto tax stamps, but to forget about the resulting difficulty in cutting them.

Without the proper finishing technology, the process itself can be very labour-intensive and costly, leading to a bottleneck in stamp production. Although automation is expensive, it helps to improve quality and to achieve a steady and reliable production, eventually bringing down finishing costs.

One final piece of advice is to involve label finishing specialists at an early stage in tax stamp design – we would be more than happy to help you.

For more information contact Rolf Manser at rolf.manser@blumerag.com.



Blumer's ATLAS-1200 automated label finishing system is specially designed for cutting and banding small square-cut labels such as tax stamps.