

Public consultation on the implementation
of an EU system for traceability and
security features pursuant to Articles 15
and 16 of the Tobacco Products Directive
2014/40/EU

SUBMISSION FROM IRPLAST S.P.A,
a company registered in Italy, in STRADA PROVINCIALE VAL D'ELSA SNC cap 50053, EMPOLI
(FI), [REDACTED]

**operating in the production of special BOPP wrapping films used in the cigarette industry all
over the world, and particularly in the UE, for the overwrap of cigarette packs.**

The findings of the Feasibility Study stated:

▪ ***Using clear wrap or tear tape packaging elements did not readily meet the
requirements for an irremovable security feature;***

Our organization is firmly convinced that clear wrap (by which we mean the transparent shrinkable BOPP wrapping film universally used for over-wrapping each packet of cigarettes on the market in all UE countries) should be considered as a potential ***irremovable*** and ***tamper-proof*** security feature. The clear wrap (referred to as BOPP wrapping film in the rest of this submission), could easily be designed to incorporate an invisible security feature to confirm authenticity, and which could additionally either incorporate “images” as a visible security feature OPTION S2, or could protect in a tamper-proof manner an affixed visible security feature OPTION S3.

Based on the concepts in Article 16 of TPD2, the ideal security feature according to our opinion should include:

- Features composed of visible and invisible elements
- Tamperproof
- Applied at unit packaging level

It should be noted that Article 16 of TPD2 speaks about a (security) *feature* bearing (invisible/visible) *elements*, which remain to be defined more clearly. For the purpose of this submission, we do not distinguish between security “element” and “feature” which we consider to be equivalent.

The BOPP film currently used to wrap cigarette packs, and designed to be removed by the action of the tear-tape mechanism, is inherently TAMPER-PROOF. It is sealed, and when the pack is opened, it cannot be re-sealed or re-used and the film cannot be technically recomposed once torn by the tear tape.

So it follows that, if the BOPP film used is intended to be used as a security feature, it must contain additional special properties which render it unique and identifiable to any controlling authorities through both simple laboratory or hand-held device checks, and as court-admissible forensic evidence of security feature authentication.

Our company operates a special system for extruding and stretching large industrial quantities of BOPP film, which is the only existing equipment of its kind in the world. The film produced on this LISIM production line has a “fingerprint” which is unique and clearly identifiable using methodologies which are being finalized through in studies commissioned by our company with leading international universities in Switzerland and Italy specialized in both forensic science and material physics. Together with these universities, we are currently testing portable devices with suitably modified software which would allow any controlling body (manufacturers, retailers, customs or police) to immediately identify authentic/non-authentic wrapping film, and a forensic method which provides court-admissible authentication.

We would also add that the kind of developments we are doing on all three features, while understandably specific and unique for our process, could be divulged for development, using slightly different parameters, for other qualified and specialist OPP producers.

PRODUCTION SECURITY

The capital cost of this LISIM equipment is very high compared to other technologies, several tens of millions of euros for a new installation, the length of time required for a new commissioning, and the limited number of potential equipment suppliers (only 1 UE-based company in the world has this equipment manufacturing capability) ensure a simple and efficient control to monitor proliferation of production capacity.

No other BOPP production installation in the world can replicate the fingerprinted characteristics of our LISIM line.

The LISIM line operated by our company currently produces BOPP destined for wrapping cigarette packs, and therefore a security film produced on the same technology would be immediately and easily adapted as a security clear wrap in the future, without any additional equipment or modifications required to existing cigarette pack wrapping equipment (both for the four major manufacturers and for the smaller and medium sized operators).

The production of security BOPP would take place within our single, secure and controlled facility in Italy where access is restricted. This allows effective secrecy of production equipment and techniques to safeguard against the security features of our product being compromised or analysed.

The 559 billion sticks produced for consumption in the UE in 2013 required approximately 10,500 tonnes of clear wrap film, calculating that they were all packed in 20-stick pack equivalents. The production capacity of our LISIM line today is 13,000 tonnes, and we are in the advanced stages of planning a second installation ready for 2018 which will bring our installed capacity to 30,000 tonnes, sufficient to comfortably wrap all the cigarette packs sold in the UE with security back-up.

VISIBLE SECURITY FEATURES

We understand the term “visible security feature (element)” to be observable with the naked eye without any tool (magnifying glass, UV light etc.). Despite wrapping film without further modification cannot be considered as a visible security feature, we can implement it to distinguish different wrapping films according to “visible” features. In order to achieve that, modification of films would be required to incorporate an “image” which will be applied to the film with special advanced techniques which cannot be replicated by existing printing technologies used by counterfeiters or unauthorized producers. We envisage this feature as a periodic “image” over the whole film which guarantees that, in a certain position (for instance localized in the area of the tear-tape or perforation), the feature becomes not only “tamperproof” but also “tamper-evident” as the feature will be destroyed while opening the pack (image will be cut in two parts). Furthermore, the technology we propose may allow the use of “public symmetric encryption” and “private asymmetric encryption” codes, which would offer an invisible security dimension to the visible feature.

INVISIBLE SECURITY FEATURES

Specific raw materials placed in the wrapping film during material production are an option which would allow incorporating security features from invisible category (more precisely on Level 2 field verification or Level 3 forensic laboratory). Incorporation of the material, rather than printed or sprayed applications, ensures that the amount of special material is sufficient for reliable detection.

Effectiveness of invisible security features depend on the level of confidentiality and shared information about the particular feature. Some invisible features might be available rather easily for “reverse engineering” by counterfeiters (for example micro-text in holograms and printing). Our chosen features will

require more or less sophisticated instrumentation to detect their presence, depending on the level of security required by the controllers designated by TPD2. Level 3 verification in forensic laboratories can be highly effective and their expected useful and secure lifetime will be longer. The solutions we are developing offer the possibility for security features to be personalized at a cigarette producer / factory / brand level.

ECONOMIC REASONING

Wrapping film is applied in the last stage of packaging process and from this point of view its potential as security feature should not be overlooked. Compared to the quantity of the materials used, wrapping film is of much smaller mass than paper or cartonboard, and this would have a lesser economic impact in the case of incorporation of special material (dispersed over whole matter). Also wrapping film will not be shielded by other objects while performing non-destructive inspection or examination (contrary to the paper or carton of the packs that is shielded by wrapping film). Also wrapping film containing visible security features can be considered as tamper-evident and thus protecting contents of the packs.

CONCLUSIONS

Our proposal is composed of three parts :

- Wrapping Film as a secure and uniquely identifiable material
- Visible security features (but not printed) applied during the secure film production process
- Invisible security features incorporated during the secure film production process

These features allow us to propose BOPP wrapping film as a viable and practical solution to be considered for article 16 of TPD2, and we would welcome and be willing to participate in any further discussions and exploration of the possibilities for implementation.