



Brussels, 15.12.2017
C(2017) 8435 final

ANNEX 1

ANNEX

to the

Commission Implementing Decision (EU) .../...

on technical standards for security features applied to tobacco products

ANNEX

TYPES OF AUTHENTICATION ELEMENTS

| Overt | Semi-covert | Covert |
|---|---|--|
| <p>Guilloche</p> <p><i>Ornamental pattern of two or more interlaced bands that are printed in multiple non-standard colours.</i></p> | <p>Laser images</p> <p><i>Image becomes visible to the human eye only when emblazed with a light of a specific wavelength, such as a laser pointer.</i></p> | <p>DNA taggants</p> <p><i>Forensic marker which uses combinatorial mathematical principles to define nucleotide sequences.</i></p> |
| <p>Rainbow printing</p> <p><i>Combination of two or more colours and subtly merging of colours into each other, which leads to the formation of intervening tints (taking on rainbow colours).</i></p> | <p>Polarised image</p> <p><i>Image becomes visible to the human eye only when a specific polarising filter is placed over it.</i></p> | <p>Molecular taggants</p> <p><i>Chemical marker which, often formulated in the base materials of the object tagged to, allows for the detection of dilution and mix ratios in materials. Uniquely encoded and incorporated at trace levels.</i></p> |
| <p>Latent image</p> <p><i>A line pattern printed by intaglio that reveals a different image when tilting the object on which it is printed. May be combined with colour-changing ink.</i></p> | <p>UV dull paper</p> <p><i>Special paper that will not reflect ultraviolet light. Suitable for printing with ultraviolet (UV) inks that will show up under special UV lamps.</i></p> | <p>Security fibres (covert)</p> <p><i>Invisible fluorescent fibres that are randomly placed on suitable paper. Cannot be scanned or photocopied and will only become visible under special UV lamps.</i></p> |
| <p>Colour-changing ink</p> <p><i>Reveals changing colours when viewed under different angles.</i></p> | <p>Security fibres (semi-covert)</p> <p><i>Visible fluorescent fibres fully or partially embedded in a random pattern that is non-reproducible. May come in a range of colours and shapes. Change their colour under UV light.</i></p> | <p>Magnetic elements</p> <p><i>Pattern of magnetic elements that generate a signal or a series of signals, which can be detected remotely by special identification devices.</i></p> |
| <p>Tactile patterns</p> <p><i>Intaglio printing producing a raised tactile relief, which can be authenticated under oblique light. May be combined with latent image.</i></p> | <p>Microprint</p> <p><i>Print using extremely small text that requires magnification to become readable with the naked eye.</i></p> | <p>Anti-Stokes inks</p> <p><i>Inks with Anti-Stokes properties that can be examined using a video spectral comparator (VSC instruments).</i></p> |
| <p>Hologram</p> <p><i>Display of a fully three-dimensional photographic recording of a light field with angle of observation.</i></p> | <p>Thermochromic ink</p> <p><i>Heat reactive ink that is sensitive to temperature change. Ink will change colour or disappear when exposed to temperature changes.</i></p> | <p>Reactive inks (covert)</p> <p><i>Colourless or transparent inks that become visible upon reaction with a specific solvent that is applied by means of purpose built tools under laboratory conditions.</i></p> |
| | <p>Reactive inks (semi-covert)</p> <p><i>Colourless or transparent inks that become visible upon reaction with a specific solvent that is applied by</i></p> | |

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| | <i>means of a special pen or marker.</i> | |
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