

A new Burghart innovation

Fully automated device to test “Ignition Strength of Cigarettes”

Starting from New York several US-States and subsequently countries like e.g. Canada or Australia have been addressing the issue of reduced ignition propensity cigarettes¹. Along with the public discussion methods have been developed to test the probability that a cigarette will generate sufficient heat to maintain the burning of the tobacco column, when placed on a substrate². The prescribed test procedure turns out to be both time consuming and requiring substantial manpower involvement. Testing one type of cigarette can easily involve one lab technician up to one full day. Therefore the engineers of Heinrich Burghart GmbH developed a fully automated test unit meeting the relevant ASTM standard. The brand new equipment is now ready for market. It produces reliable and repeatable results and saves time and costs.

The test procedure using the new Burghart LIPTB-01 follows strictly the ASTM standard but reduces manpower involvement considerably. It also avoids several individual steps of the current procedure. For instance, the marking of the cigarette to show the start and the completion of the burning becomes redundant because this is controlled by a sensor. The placing of the cigarette is no more a delicate procedure, as it is gently performed by a small robot unit. And the running of several test chambers in parallel is not limited due to unbiased detection of the burning and automatic recording of the test runs.

Prior to starting the test cabinet the cigarettes under investigation have to be placed into the integrated feed compartment which can store up to 50 cigarettes. The filter paper holder designed according to the standard condition is fed automatically from up to 10 different bobbins assembled with filter paper meeting the required specifications. The capacity of the bobbins is sufficient for one week in a one shift operation.

When starting the test a single cigarette is taken from the storage assembly with a handling device, positioning the cigarette seam upwards. Then an electrical lighter is moved towards the front end, and one puff is taken at the rear end of the cigarette. A burn detector controls whether the ignition procedure was successful. If not, it is repeated once again. As soon as the cigarette has been lit, the filter paper holder is lifted when the cigarette has reached the 15mm mark then the cigarette is placed on the substrate. The burn detector follows the burning zone of the cigarette and registers the time interval until its extinction. After completion of the test run the cigarette is removed from the filter paper holder and discarded. Then new filter paper is automatically fed into the holder, and the test device is ready for the next run. All data are stored on a computer and are ready for subsequent statistical analyses and documentation. Of course, the test chamber is equipped with an exhaust hood guaranteeing an uninfluenced combustion process of the cigarette.

The Burghart engineers conducted comprehensive verification series to check full compliance with the common, manual test procedures and to demonstrate performance and repeatability of the new device. All these tests resulted in full satisfaction and enable the release of the LIPTB-01 to the customers. “We are very happy to present this newly designed device as a tool to test novel cigarettes with respect to lower ignition propensity” says Kurt Burghart, CEO of the Hamburg-based company. “We offer reliability with a time and cost efficient procedure.” Burghart’s most recent development will be shown at Tabexpo in Paris. It is another element of the Burghart-philosophy: “We provide equipment for producing cigarettes

¹ *Reduced Ignition Propensity Cigarettes, April 2007, Department for Communities and Local Government: London*

² *Standard Test Method for Measuring the Ignition Strength of Cigarettes, ASTM Int’l, E 2187, July 1, 2004*

in laboratory scale and to test cigarettes both in the development stage as well as during the industrial production for quality assurance.”