



ACCREDITATION DOCUMENT

F-06/02
Issue Date: 26/05/08
Rev. No: 05
LAB 015

Testing Laboratory

Accreditation Scope of Product Laboratory, Pakistan Tobacco Company Limited. Akora Khattak, Pakitsan

Permanent laboratory premises

Materials/P roducts Tested	Types of test/Properties measured	Range of Measurement	Minimum detection limit	Uncertainty of Measurement (where applicable) MU(+)	Standard specification / Techniques / equipment used
Cigarette	Total Particulate Matter and Puff No.	1 mg/cig - 40 mg/cig Puff No. 1-15	TPM: 0.01 mg Puff No. 0.01	0.53 mg	ISO 4387 BAT SMA C 5.8 Jul 1994 Gravimetrically using Smoking Machine SM 400
Smoke Extract	Total Nicotine Alkaloids in Smoke	0.05 mg/cig – 2.5 mg/cig	0.0001 mg	0.1 mg	ISO 10315 BAT SMA C.4.1 Aug 2001 Flame Ionisation Detection through Gas Chromatograph
Smoke Extract	Water in Smoke	0.20 mg/cig – 8.00 mg/cig	0.0001 mg	0.15 mg	ISO 10362-1 BAT SMA C.4.1 Aug 2001 Thermal Conductivity Detection through Gas Chromatograph
Cigarette	Cigarette Weight	0.001 g – 150 g	1 mg	0.001 g	BAT SMA A 1.1 Mar 2000 Using Weighing Scale
Cigarette	Circumference	22 mm – 26 mm	0.01 mm	0.0017 mm	BAT SMA A.14.2 Jan 2005 using QTM 2, 3 & 5U Single axis scanning laser micrometer 100 scans/sec/360 degree rotation
Cigarette	Pressure Drop	10 mm - 500 mm WG for cigarettes 10 mm WG - 1500 mmWG for Filters	1 mmWG	0.20 mm	BAT SMA A.14.2 Jan 2005 using QTM 2, 3 & 5U Vacuum induced flow
Cigarette	Ventilation	1% – 100 %	0.1 %	0.10 %	BAT SMA A.14.2 Jan 2005 using QTM 2, 3 & 5U Vacuum induced flow
Cigarette	Cigarette & Cig. Component lengths	1 mm - 150 mm	0.1 mm	10.2 mm	BAT SMA A.2.1 Mar 2000 using Steel ruler

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Cigarette	Paper Permeability	Approx 2ml/min – 65000 ml/min	0.01 cu	0.02 cu	ISO 2965 BAT SMA M044U Aug 2003 Measurement of linear air passes through a paper sample at a PD of 100mmWG
Cigarette	Ends Stability	Visual testing	Visual testing	Not applicable	BAT SMA C-11 Jan 1990 Using Borgwaldt Ends tester Cig Group is tumbled under controlled conditions and amount of tobacco is determined using Scale (1.0 mg)
Cigarette / Filters	Cigarette / Filter Firmness	1 mm – 10 mm	0.01 mm	0.001 mm	BAT SMA A.9.1 May 1995 & Q.25.1 A Oct 1991 using Digital Densimeter A standard weight is applied to cigarettes / filters of known diameter for 30 seconds and residual diameter is recorded. Results are calculated as Percentage of retained diameter.
Tobacco	Total Nicotine Alkaloids (as Nicotine) in tobacco	0.4 % - 4.0 %	0.01 %	0.17 %	ISO 15152 BAT SMA T023U Jul 2005 using SFA Total nicotine alkaloids is determined by reaction with sulphanilic acid and cynogen chloride calorimetrically and measured at 460 or 480 nm.
Tobacco	Reducing Sugars	2.5 % – 25 %	0.01 %	0.16 %	ISO 15154 BAT SMA T023U Jul 2005 using SFA Reducing sugars is determined by the reduction of cupric chelate of neocuproine in alkaline solution to the highly coloured cuprous form which is measured at 460 nm.

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Tobacco	Total Sugars	2.5 % – 25 %	0.01 %	0.16 %	BAT SMA T023U Jul 2005 using SFA The non- reducing sugars are hydrolysed by the action of the enzymes invertase within Flow system and the total reducing sugars then present determined in a similar manner.
Tobacco	Chlorides in tobacco	0.25% – 2.5 %	0.01 %	0.17 %	BAT SMA B.20.3. March 1987 using CFA Chloride content determined colour metrically after reaction with mercuric thiocyanate and ferric nitrate in a CFA.
Smoke Extract	Total Nicotine Alkaloids in Smoke	0.5 mg/cig - 2.5 mg/cig	0.01 mg/cig	0.10 mg/cig	BAT SMA C.3.2 June 1990 using SFA The total particulate matter of the smoke is collected on a Cambridge filter pad and extracted with propan-2-ol. The total nicotine alkaloids are determined (as nicotine) after dilution of this extract by reaction with sulphanilic acid and cynogen chloride. Cynogen chloride is generated in situ by the reaction of Potassium cyanide and chloramines T. the developed colour is measured at 460 nm or 480 nm

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Tobacco	Oven Volatiles in tobacco	1% - 40%	0.01 %	1.64 %	Q 5.7 / Nov 2002 using MK-V Oven Moisture content is defined as the percentage in loss in weight when a tobacco samples is dried in a ventilated hot air oven at a temperature of 110 (\pm 0.5) ⁰ C for 3 hours (+5, - 0 mines). The result is between 2% and 3%, (absolute) higher than the true water content due to loss of organic volatile materials from the tobacco.

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