

FILE COPY

COMBINED QUARTERLY REPORT

OCTOBER, NOVEMBER, DECEMBER, 1967.

Development Engineering and Process Research Groups,
together with Manufacturing, Quality Control and Packaging.

FH/MJ.

27th December, 1967.

100257898

BATCo document for Province of British Columbia 11 November 1999

PROJECT 4200 THE OPTIMISATION AND CONTROL OF CIGARETTE MANUFACTURE

4210 The Effects of Tobacco Properties

AWC/FR. (1) Design of heating system agreed with Elliott Ltd. Material ordered for construction by R. & D.E. of chimney adaptation.

AWC. (2) and (3) A report has been issued on the interaction of strand length and tobacco moisture content on making machine performance.

4220 The effect of the machine

DBN. (6) The tests on the calibrated garnitures in Southampton Branch are continuing.

FR/NEW. (8) A report has been issued on the effect of modified rail design on Mk.8 SM. performance.

DBN. (9) The pneumatic device for paper tension measurement has been installed on a Mk.8 MCM. Preliminary tests show that the paper tension when the machine is running is of the order of 500-700 gm.

100257899

PROJECT 0006

AWC. The physical characteristics of the cigarettes were measured and a note was written.

PROJECT 1000 RESEARCH INVESTIGATIONS WITH SHORT-TERM OBJECTIVES

1300 Filter Studies

FH/HGH/CWA. (14 and 15). The examination of a method of including capsules in filters has been completed.

PROJECT 2000 ANALYTICAL RESEARCH STUDIES

2100 Tobacco

FH/AWC. (9) A study is being completed which compares the use of absolute and relative humidities in tobacco manufacture.

PROJECT 3300 SMOKE QUALITY

3310 The Establishment of Subjective Techniques for Assessing Smoke Quality

JDB/FR. (1) Construction of a smoke test and response apparatus is nearly completed, awaiting parts overdue from suppliers.

PROJECT 4100 THE OPTIMISATION AND CONTROL OF TOBACCO PROCESSING

4130 Cut Tobacco

RWH. (1) A replacement controller has been delivered and dryer control studies can continue.

4140 Instrumentation for Plant Control

EBW. (2) Further work is dependent on receipt of the instrument from the suppliers.

4150 Quality Measurement for Product Control

AWC/RWH. (1) A modified lamina milling technique is being evaluated for centrifuge filling valve applications.

RWH. (3) Collection of pycnometer results has been completed and these are being analysed.

AWC. (4) The review of Standard Test Procedures remains open.

AWC. (5) An examination of the shatter test has been completed. It is thought that the existing blades are unsatisfactory.

100257900

- 4220 The Effect of the Machine (continued)
- AWC. (10) Measurements are being made of the effect of high cigarette making machine speeds on the position of the condensed end.
- FR. (11) Work is continuing on the effect of air entry on Mk.8 SM. performance.
- AWC. (12) Vibration measurements are being made on cigarette making machines operating at 2,000 and 2,500 c.p.m.
- Unprogrammed. A meeting was held with representatives of Millbank and Molins at which the R. & D.E. work on the operation of high speed cigarette making machines was discussed. A note was written.
- AWC.
- 4230 Efficiency Improvement
- AWC. (1) The effect on tobacco blockages of various modifications to the Mk.8 MCM is being examined.
- 4240 Instrumentation and Machine Control
- AEY/DEBN. (1) The tests on the Gravimetric Control have been completed and a report issued.
- AEY/JKM. (2) A photo-electric system has been shown to give a signal the value of which is related to the amount of ecretage return. The way in which this signal should be compared with the variation of individual cigarette weights is being considered.
- AEY/JKM. (4) The combination of a differential transformer height measuring unit and a U.V. recorder give a good trace of ecretur knife movement. A pressure transducer and meter unit, which will give a similar comparable trace of the pressure in the pressure cell, are to be purchased and fitted.
- 4250 (1) The assessment of the performance of the Hydrostatic Firmness Tester has been completed.
- EBW/AEY.
- AWC. (2) A first report has been issued on the performance of the scintillation counter weight control.
- AWC. (6) The comparison between "Range of two cigarettes" and the Solartron Computer for measuring individual weight performance is now complete.
- AWC. (8) The Standard Test Procedure for simplified trough guides has been issued.
- AWC. (9) Measurements have been made of the variation of cork tipping overlap (or cork wander) and these have been reported.
- 4270 New Concepts
- FR/CNB. (1) A report has been issued describing the methods of annular cigarette manufacture which could be developed, if required.

100257901

PROJECT 4300 PACKAGING STUDIES AND PRODUCT DEVELOPMENT

4310 Study of the Overwrap

- NF/DEC. (4) The comparison of laboratory with machine results is continuing.
DEC. (6) The evaluation of the influence of external conditions on the flavour transmission of polypropylene-based films is continuing.
DEC/NF. (8) The work on tear tape adhesion to polypropylene-based film has been completed. Two solvents have been obtained which induce satisfactory bonding.

4320 Study of Carton Materials

- NF. (4) The subjective assessment of H.L. packs is continuing.

4330 Package Design

- DEC. (4) The survey of materials for a flexible pipe tobacco pouch is proceeding satisfactorily. The work is covering water and gas transmission and heat sealing characteristics.

4340 Bonding and Finishes

- NF. (1) No progress has been made on heat coated H.L. blanks due to the full time use of the packing machine under 4540(2).
NF. (2) The heat resistance of carton board lacquer testing device is now being assembled.

PROJECT 4400 FILTER MANUFACTURE

- FH/DEC/HGH. (3) Various methods of retaining water in filters are being examined. These include the previously mentioned use of additives to paper, such as lithium chloride, together with the use of various types of capsule and sachet.

- FH/DEC. (4) Preliminary trials on the manufacture of granular filters of low density materials have been completed.

- FH/PGC. (5) Low density granular filters have been made from milled rigid polyurethane foam but with tri-sodium orthophosphate as a bonding agent. The BONDEX machine has been used with an experimental feed system. The filters have been made with different concentrations and particle sizes of tri-sodium orthophosphate and different particle sizes of milled foam and samples taken for measurement of filtration efficiency.

It is also being found possible to manufacture these filters at high pressure drops using a conventional cigarette machine garniture system together with the above mentioned feeder.

4420 Improvement of Existing Process

- PGC. (2) The programme of work has been completed on the study of variables of cellulose acetate filter manufacture.

100257902

- 4430 Machine Development
PGG. (4) Initial tests have been completed on the Hot Melt Apparatus prior to production trials in Liverpool.
FH/PGG. (5) Viscose staple fibre has been handled on the Flock Filter Machine. A Legg Tobacco Cutter was also used for the feed of the staple fibre. Small numbers of filters were produced to show the system worked for experimental purposes.
PGG. (6) The evaluation of the SEITA assembler has been completed.

PROJECT 4500 ASSESSMENT OF NEW EQUIPMENT

4530 Cigarette Machines and Ancillaries

- JKM/CNB/AWG. (5) More samples of both printed and No.4 tipping with different heat seal coating weights have been received from Samuel Jones Ltd. and tested. Sample cigarettes have been sent to Millbank and a particular coating weight recommended. Another sample of printed tipping more likely to be acceptable by B.A.T. is expected from Samuel Jones Ltd. soon.
AWG. (6) Molins have fitted a back pressure compensated pneumatic/hydraulic weight control to a 1964 type Mk.8 to overcome the difficulties experienced with a cloth type filter. The performance is being evaluated.
JKM. (7) A compressor and filter combination is being tested for Southampton Branch to see if the oil content of the discharged air is sufficiently low to prevent the staining of cigarettes.

4540 Packaging Machines

- NF. (1) Work on the Molins H.L. packer with simplified drum is still awaiting delivery of the parts from Molins.
FH/DEC/NF. (2) Production cigarettes have been packed on the Molins H.L. packer fitted with the R. & D.F. seam forming system and the performance of the machine is being evaluated.

A.W.C. Unprogrammed

During a visit to Molins their firmness tester was examined. A note was written.

100257903

PROJECT 6000 APPLICATION OF NEW DEVELOPMENTS

6210 Primary Manufacture - Air Dryers

FH/RWH. (1) Further work on the C.R.S. air dryer for Southampton is dependent on Southampton Branch.

6220 Continuous Moisture Meters

AEY. (9) The continuous moisture meter for Hong Kong has been received and is undergoing final testing.

AEY. (10) The metering unit for R. & D.E. has been received.

AEY. (11) The continuous moisture meter for South Africa is nearing completion.

AEY. (12) The two continuous moisture meters for Australia are nearing completion.

6240 Tobacco Treatments

RWH. (1) A possible production method for spraying C.R.S. with water in the entry region of a rotary dryer has been tried. An improvement in F.P.I. comparable to that obtained by spraying onto C.R.S. on a conveyor has been detected.

6300 Secondary Manufacture

RWH. (3) A preliminary trolley design has been agreed and estimates are being sought.

6500 Cigar Manufacture

JKM. (2) The second filter inserter for Johannesburg was finished and despatched in November. This order has now been completed.

JKM. (3) Sample cigarlets made with heat seal anchor wrap on the R. & D.E. assembler have been sent to Millbank.

100257904

R.S. BUILDING MAINTENANCE AND SERVICES

Laboratory Block - Freeze dryer unit built for Laboratory 8.
Redecoration of corridors continuing.
Library units rebuilt and extended.

Development Halls - Hot water calorifiers scrapped in D.H.1.,
D.H.2. and Machine Shop (failed insurance
inspection). Replaced with electric storage
tanks. Extension to Q.C. Laboratory completed.

General - Lower car park surfaced and commissioned.

100257905